



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

# **Final Cost Benefit and Least Burdensome Analyses**

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**Chapter 173-539A WAC  
Upper Kittitas Ground Water Rule**

December 2010  
Publication no. 10-11-033

## Publication and Contact Information

This report is available on the Department of Ecology's website at [www.ecy.wa.gov/biblio/1011033.html](http://www.ecy.wa.gov/biblio/1011033.html)

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# **Final Cost Benefit and Least Burdensome Analyses**

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## **Chapter 173-539A WAC Upper Kittitas Ground Water rule**

Water Resources Program  
Washington State Department of Ecology  
Olympia, Washington

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# Conclusions

Ecology determines that the probable benefits of the rule are far greater than the probable costs, taking into account both qualitative and quantitative benefits and costs and the specific directives of the statutes being implemented. Ecology also determines that the rule is the least burdensome alternative of the rule for those required to comply with it that will achieve the goals and objectives of the statutes being implemented.

## Quantified Values

- The estimated quantified benefit of the rule is \$153 million over a 20-year period.
- The estimated quantified cost of the rule is \$22.3 million over a 20-year period.

## Unquantified Values:

The following values were considered but not quantified in the analysis:

- Habitat benefits, including benefits for resident and anadromous fish, by withdrawing ground water from further appropriation. (qualitative benefit)
- Reduced litigation costs associated with managing groundwater users effectively. (qualitative benefit)
- Any person wanting to develop a new groundwater supply will need to seek mitigation. If mitigation is available via the water exchange, the use of that exchange and the related administrative process adds between a few weeks and a few months of time to a land development transaction. We are not able to place a cost value on this time, but we consider it to be a qualitative cost.
- Some landowners or developers in areas where Suncadia's mitigation credits will not effectively mitigate their impacts to streams may experience additional delay. This is most likely to occur on tributary streams that support resident or anadromous fish and their use would impact a riparian stock water and wildlife right, a federal instream flow right, or senior out-of-stream rights. We are not able to place a cost value on this time, but we consider it to be a qualitative cost.

Ecology does not believe that any of the unquantified values will alter its determination that the benefits of the rule exceed the costs of the rule.

## **Purpose of this Analysis**

The Washington State Department of Ecology (Ecology) is adopting Chapter 173-539A WAC - Water Resources Program for the Upper Kittitas Ground Water Rule. The Administrative Procedure Act (RCW 34.05.328(1)(d) & (e)) requires two types of analyses before adopting a significant legislative rule – a cost-benefit analysis, and a least burdensome alternative analysis. This report provides the results of these analyses and shows the potential economic impacts of the rule.

Ecology has used the information developed in these analyses to inform the agency's rule-making decision as required by RCW 34.05.328. Ecology has also developed and issued an updated Small Business Economic Impact Statement (SBEIS) as part of the rule-making process.

## **Background**

The surface water rights in the Yakima River Basin have been the subject of a superior court adjudication since 1977. Pursuant to this court proceeding and water law principles, these surface water rights are managed by priority of right as determined valid in the Yakima River Basin adjudication. During water short years, surface water right holders with priority dates of 1905 have been restricted in order to allow more senior water rights to be satisfied.

Groundwater rights are subject to the same water law principles and requirements as are surface water rights. The Groundwater Code, Chapter 90.44 RCW, is supplemental to Chapter 90.03 RCW, which regulates the surface waters of the state. The Legislature enacted the Groundwater Code to extend the application of surface water statutes to the appropriation and beneficial use of groundwater within the state.

In the Yakima River Basin, it has long been recognized that groundwater is connected to surface water. However, because the pending adjudication covers only surface water, groundwater rights have not been subject to regulation by the court. Nonetheless, as new groundwater rights have been developed in recent years, the impact of such uses on senior surface water rights (including rights that are more than 100 years old) and stream flows has become an issue.

In the 1990s the Yakama Nation and the U.S. Bureau of Reclamation (Reclamation) appealed a batch of new groundwater permits issued by Ecology. In 1999, the parties settled the appeals. The permit holders provided the Bureau with funds to mitigate for their permit's impacts on the Yakima River. Funding from the settlements totaled nearly \$900,000. Ecology and Reclamation also agreed to contribute \$2 million each toward developing a groundwater model to assist with developing effective water management and mitigation strategies. U.S. Geological Services also provided \$1.6 million, and Ecology's contributions now total \$2.7 million. To date, the total cost of the study and model is about \$6.3 million.

As part of the 1999 settlement agreement, Ecology also agreed that it would not issue any new groundwater permits until the groundwater study and model was complete.

As a result of the 1999 settlement, Ecology has not issued any new groundwater permits for more than a decade. However, water users have been able to develop new groundwater uses under the legal authority of the exemption from permitting for certain kinds of groundwater withdrawals found in RCW 90.44.050.

The groundwater studies performed to date have confirmed that groundwaters and surface waters are generally interconnected in the Yakima River Basin. This information suggests that pumping of groundwater in the upper reaches of the basin can reduce the amount of water available lower in the basin. However, to date, the studies have not examined the unique features of the upper basin.

From 2003 to 2007, Kittitas County created thousands of lots in subdivisions and forest lands that historically did not carry water rights. These developments planned to use groundwater to supply their water needs and they planned to rely on the authority of the exemption from permitting for certain kinds of groundwater withdrawals found in RCW 90.44.050 to establish their new groundwater withdrawals. These new groundwater withdrawals are situated in the headwaters of the Yakima River so they have the potential to impact sensitive areas with critical habitat for resident and anadromous fish and they have the potential to intercept waters that would otherwise travel downstream and be available for surface water rights.

In September 2007, a citizens group called Aqua Permanente petitioned Ecology under RCW 34.05.330, of the Administrative Procedures Act, to begin rule making. They requested that Ecology exercise its authority under RCW 90.54.050(2) and withdraw unappropriated groundwater resources of Kittitas County to new uses until enough is known to support sound decisions on future withdrawals.

Citizens cited concerns that serial short plats and subdivisions accessing water through the groundwater permit-exemption were negatively affecting existing water uses, that they had the potential to interfere with the Yakima River Basin target stream flows and that they could reduce the water available for junior surface water users (who were more senior to new groundwater users) who have been “pro-rated” when flows are low.

Ecology consulted with standing committees of the Washington State Legislature on the petition and proposed withdrawal. Ecology rejected the proposed unconditional withdrawal, and instead, on November 9, 2007, signed a memorandum of agreement (MOA) with Kittitas County which was aimed at developing an approach to regulating the development of new groundwater uses in the Upper County. Consistent with the MOA, Ecology proposed a rule in January 2009 that would have allowed for the development of some limited new groundwater uses. However, a subsequent opinion from the Attorney General’s Office concluded that Ecology lacked the legal authority to limit new groundwater uses as they would have been limited by the January 2009 proposed rule.

Ecology developed an alternative approach to regulating groundwater in the Upper County. The alternative approach was first enacted by emergency rule in July 2009. The same approach is the

subject of this rulemaking. This rulemaking withdraws all unappropriated groundwater under the authority of RCW 90.54.050(2) subject to an exception for new withdrawals that are determined to be “water budget neutral” (such that any impacts on total water supply available are fully offset.)

Meanwhile, Ecology recently commissioned a new groundwater study, the results of which are expected to be available in about three years, focused more specifically on the unique hydrogeology of the Upper Kittitas. The study is expected to provide more precise answers about the effects of groundwater pumping on tributary water supplies.

## Reason for this Rule

RCW 34.05.328(1)(a) requires that the agency state in detail the general goals and specific objectives of the statute that the rule implements.

This rule is enacted under the authority of RCW 90.54.050(2) and is intended to carry out the fundamentals listed in RCW 90.54.020. The fundamentals of particular importance in this rulemaking include: preserving and protecting adequate and safe water supplies to satisfy human domestic needs (RCW 90.54.020(5)); protecting the quality of the natural environment, including retaining base flows in rivers and streams to preserve fish, wildlife, and other environmental values (RCW 90.54.020(3)(a)); giving full recognition in the administration of water allocation and use programs to the natural interrelationships of surface and groundwaters. (RCW 90.54.020(9)).

The decision to withdraw groundwater from appropriation was based on the following interconnected factors:

- New developments and water systems were being permitted and constructed based on developers’ plans to supply water to new houses without obtaining water right permits required by law. Many of these developing lands were former railroad and forest land that historically did not carry water rights.
- The Upper Kittitas area is underlain by glacial and alluvial aquifers and bedrock aquifers that are, in part, recharged by or discharge groundwater to the Yakima River and its tributaries. Wells penetrating bedrock aquifers often have poor and sometimes unsustainable yields and pumping impacts on nearby surface waters are difficult to predict. Wells pumping from glacial or alluvial sediment aquifers will typically have a more immediate impact on surface waters than wells pumping from bedrock aquifers. The glacial and alluvial aquifers generally produce water in higher amounts than the bedrock aquifers, however there are many areas along or near the Yakima River where thick glacial lacustrine clay deposits result in wells with poor yields.

- High yield wells pumping from unconsolidated glacial and alluvial sediment aquifers will tend to result in larger impacts to surrounding surface water than wells pumping from bedrock aquifers. Poor yielding bedrock aquifer wells may not be sustainable.
- The groundwater and streams in this area make up the headwaters of the Yakima River system and are sensitive areas that serve as critical habitat for resident and anadromous fish.
- This area is part of a larger three-county wide water basin (surface and groundwater) system. Downstream senior water right holders depend on water in the surface and groundwater system. In dry years, the total water supply of the entire basin is inadequate to supply even all of the rights with priority dates of May 10, 1905 and earlier.

The rule is enacted based on available information (summarized in the bullets above) and because Ecology lacks sufficient information to make sound water resource decisions at this time. Although the ongoing USGS Yakima study confirms that groundwater and surface water are interconnected in the Yakima River basin, a more detailed hydrogeologic framework is needed for the Upper Kittitas. A study will begin soon to analyze the hydrogeology of the upper county. The objectives of this study are to: (1) define the hydrogeology of the study area, (2) provide information regarding groundwater occurrence and availability, (3) describe the potential extent of groundwater and surface water continuity in the study area, and (4) determine the extent of potential impairment resulting from well use. Until Ecology obtains results from these additional studies, Ecology has determined that the appropriate course of action is to stop any new unmitigated withdrawals under the authority of RCW 90.54.050(2) in order to prevent the current situation described in the bulleted information above from getting worse.

## **Scope of Analysis**

This document contains the final Cost Benefit Analysis (CBA), and a Least Burdensome Alternative Analysis for the Upper Kittitas Groundwater Rule, Chapter 173-539A WAC.

The CBA measures the probable costs and benefits of the rule against current operating conditions. This takes the existing legal structure and its impacts into account.

The Least Burdensome Alternative Analysis examines whether the rule is the least burdensome option for those required to comply with the rule that will achieve the general goals and specific objectives of the statutes that the rule is implementing.

# Comparison of the Current Conditions to the Rule

This section describes how the rule would affect citizens in the Upper Kittitas Groundwater Area compared to the existing conditions (baseline) described below. The following analysis shows that the aspect of the rule that allows the establishment of new groundwater rights only if they are backed by mitigation is the most significant change from existing conditions. The analysis in this report will focus on this aspect of the regulation, and associated requirements, and will quantify the costs and benefits associated with the rule.

## Baseline for Analysis

For purposes of this analysis, the baseline is identified with reference to the current legal framework governing the administration and management of water resources in the basin and also includes what we assume would occur absent Ecology rulemaking action.

Without the rule, Ecology would expect that landowners would continue to develop groundwater supplies under the legal authority of the exemption from permitting found in RCW 90.44.050 and without any mitigation. At some point in the near future, Ecology would expect litigation in one of two forms. First, senior water right holders who are participating in the pending Yakima Basin surface water adjudication could seek to expand the adjudication to cover groundwater. In such an expanded adjudication, the priority of all groundwater rights, including those established under the authority of the exemption from permitting, would be determined. Ecology would expect the adjudication court addressing these groundwater rights to limit their use in water short years in order for more senior water rights to have their rights satisfied. Second, individual water right holders whose rights are impaired by new groundwater uses might bring legal actions against the groundwater users to restrict their use of groundwater. Under either scenario, without the rule, Ecology would expect that groundwater rights established in recent years and in the near future would soon become the subject of litigation and would thereafter very likely be restricted in water short years.

In defining the baseline, it is important to note that once the July 16, 2009 emergency rule went into effect a property owner who lacked a water right as of July 16, 2009, did not have a right to develop a new water supply in the future. The landowner may have been expecting to be able to develop a water right through use of a permit-exempt withdrawal, but until such landowner initiated water use, the landowner had no water right. Thus, the rule withdrawing the basin from new appropriations may have changed a landowner's expectation, but the rule did not change any water rights. This is because those water rights in existence before enactment of the July 2009 emergency rule are not subject to the rule; the rule applies only to the establishment of rights that occurred after its enactment.

In contrast, with the new rule, new users of groundwater have the upfront expense of obtaining mitigation, but because their water right will be backed by mitigation, it will not be subject to the risk of future interruption.

# Managing Groundwater Withdrawals

## The rule

This rule withdraws from new appropriations all Upper Kittitas groundwater subject to the exception for those new withdrawals where the consumptive portion is mitigated by an equal amount of foregone consumptive use under a senior surface water right. To facilitate the process of obtaining mitigation, Ecology has established the Upper Kittitas Water Exchange.

## Baseline

Without the rule, Ecology would expect that landowners would have continued to develop groundwater supplies under the legal authority of the exemption from permitting found in RCW 90.44.050 and without any mitigation. At some point in the near future, Ecology would expect litigation in one of two forms described above. Thus, the baseline involves the continued development of new unmitigated groundwater rights which would soon become the subject of litigation and would thereafter very likely be restricted in water short years.

## Primary change

In order to establish a new groundwater right after the rule, a developer or other landowner must secure mitigation. Because these new groundwater users will be backed by mitigation, litigation seeking to restrict these new groundwater uses would be unlikely and curtailment of new groundwater rights in water short years would also be unlikely.

# Measuring Groundwater Withdrawals

## The rule

This rule requires measurement and reporting of all new groundwater withdrawals in the Upper Kittitas County Groundwater Area after July 8, 2008<sup>1</sup>.

## Baseline

WAC 173-173-040 requires measuring of all new and existing groundwater rights where the department concludes that the withdrawal of any volume of water may affect surface waters containing depressed or critical salmonid stocks. The requirements of WAC 173-173-040 would have been applied to any permit Ecology issued within the Upper Kittitas area. However, WAC 173-173-040(2)(c) is not self implementing as it requires Ecology to first make a determination that groundwater withdrawals within the Upper Kittitas would affect surface water containing depressed or critical salmonid stocks. The new rule amounts to a determination that any new use of groundwater would affect surface water containing depressed or critical salmonid stocks and must therefore be metered. This rule does not make any determination on this topic for existing users. Ecology intends to make that determination once the Upper Kittitas groundwater study is complete. To the extent that groundwater flows to or from (is hydraulically connected to) the

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<sup>1</sup> Emergency rule #1

Yakima River and its tributaries, RCW 90.03.360 requires all existing and any new uses to be measured.

### **Primary change**

Permit-exempt ground water withdrawals were not required to measure and report their use of water prior to July 8, 2008. All new permit-exempt withdrawals within the upper Kittitas area must now meter and report their water use.

## **Analysis of Costs & Benefits**

Ecology provides this final cost-benefit analysis as required under RCW 34.05.328(1)(d). The analysis concludes that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs, and the specific directives of the statutes implemented.

This analysis includes quantitative information where available. The analysis supplements the quantitative analysis with qualitative information.

### **Time Horizon**

The costs and benefits associated with these rule depends on the time horizon used in the analysis. For this rule, the cost-benefit analysis uses a 20-year horizon in order to analyze the costs and benefits. The reasons are:

- The reliability of the probable benefits and costs estimations are determined by the accuracy of our forecast into the future. Forecasts that use a shorter period are more reliable. Longer periods would significantly increase the uncertainty, and may result in misleading conclusions.
- The basis of the analysis is to examine permit-exempt groundwater withdrawals to meet the water needs of the 20-year predicted subdivision and development demand.

Changes in water management policy are inevitable. Science advances, population shifts, and technology changes all influence water management policy. This rule is the direct result of such changes. Historical evidence shows that changes in how we manage water can be significant. Although this rule considers a 20 year horizon, it is expected that once the Upper Kittitas Groundwater Study is complete, a new rule would be proposed and adopted to replace this rule.

### **Discounting Future Values**

We must discount the value of benefits and costs accruing in the future. Future costs and benefits are not as valuable as current costs and benefits even when adjusted for inflation.

Ecology uses a real discount rate of three percent for water resource related projects to discount future dollars.<sup>2</sup> For the selected 20 year span, this means the 20 annual inflation-adjusted payments of \$1 are currently worth \$14.88. This is equivalent to multiplying the sum of the 20 annual increments by 0.744 (14.88/20).

It should be noted that the time horizon and any use of a discount rate for this analysis does not affect the outcome as described in RCW 34.05.328 (1)(d)

## The Probable Costs

The probable costs of the rule will focus on:

- Mitigation costs
- Metering and reporting costs
- Costs of recording covenants
- Administrative costs

### Mitigation costs

Ecology estimates 3,000 new residences will be seeking to develop new groundwater uses in the Upper Kittitas Groundwater Area in the next 20 years<sup>3</sup>. Mitigation water credits are estimated to cost \$7,000<sup>4</sup> per residence over the next 20 years. Total costs are estimated at \$21,000,000 or a present value of **\$15,624,000**.

### Metering and reporting costs

All new groundwater users will be required to meter. Ecology estimates that permit-exempt wells could serve from 1 to 14 homes but expects the average to be 3 users per well. Ecology assumes 1,000 wells will go in during the next 20 years throughout the upper county. The estimated cost of metering for small to medium water systems ranges from \$300 to \$750.<sup>5</sup> Ecology chose to use \$500 per meter, and \$500 in reporting costs over the 20 year time frame. Although not all wells and connections will require reporting, Ecology uses \$1,000 as the total estimate for costs associated with metering, reporting and recording of any covenants listed below. Total costs are estimated at \$1,000,000 or a present value of **\$744,000**.

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<sup>2</sup> For each year 1998 - 2008, we calculated the real rate by subtracting annual inflation from the nominal rate for water. These real rates were then averaged to calculate the 3% real interest rate as an average expectation for the future. Inflation rates as paid out on I bonds came from today's values at [http://www.treasurydirect.gov/indiv/research/indepth/ibonds/res\\_ibonds\\_iratesandterms.htm](http://www.treasurydirect.gov/indiv/research/indepth/ibonds/res_ibonds_iratesandterms.htm). Nominal rates for water projects were obtained today at <http://www.economics.nrcs.usda.gov/cost/discountrates.html>.

<sup>3</sup> Ecology uses a more conservative estimate for new residences that may benefit from permit exempt well uses as some buildable lots may already be in existence prior to the effective date of the rule.

<sup>4</sup> Using Suncadia's price for mitigation, a residential unit with service at 350 gpd and 500 ft<sup>2</sup> of outdoor watering (incidental or minimal), the total cost is about \$6500-\$7000. The breakdown is \$5700 for the mitigation credit. Ecology estimates total mitigation costs at \$7000 which includes all expected taxes and fees.

<sup>5</sup> Survey of well drillers, pump installers, and Ecology's metering coordinator.

## Recording covenants

Ecology foresees small recording costs to individuals or businesses doing residential land development and is included in the costs listed above. The rule requires that property owners create a covenant prohibiting trees and shrubs over septic drain fields. See WAC 173-539A-050(2)(e).

## Administrative costs

The administrative costs to process water budget neutral requests include the costs of:

- Reviewing the request for completeness.
- Reviewing the request to determine whether the request is part of a group use and whether a permit is required.
- Verifying the suitability of the trust water right proposed for mitigation to serve as mitigation for the proposed new use.
- Identifying the need for assignment of some of the trust water right to the USBR contract.
- Calculating costs for the USBR contract assignment.
- Preparing the WBN determination.
- Entering data into Ecology's Water right Tracking System.
- Presenting the request to the Water Transfer Working group.
- Notifying interested parties of the status of the requests and the accounting of the trust water rights that serve as mitigation.

The estimated costs to administer the rule include a total of four Full Time Equivalent positions: 2.5 FTE for permit writing and water budget neutral determinations, 1 FTE for hydrogeology or hydrology, and 0.5 fisheries biology. These operational costs will be approximately \$400,000 per year. The administrative costs in the upper Kittitas area over the next 20 years are estimated at \$8,000,000 or a present value of **\$5,952,000**.

## Cost summary

We estimate total costs at around \$22.3 million over the 20-year period.

Table 1. Cost Summary

<b>Rule Impacts</b>	<b>Costs</b>
Mitigation	\$15,624,000
Metering/Reporting	\$744,000
Administrative costs	\$5,952,000
<b>Total Estimated Costs</b>	<b>\$22,320,000</b>

## Qualitative Costs

The probable costs of the rule that were considered but not quantified are:

- Any person wanting to develop a new groundwater supply will need to seek mitigation. If mitigation is available via the water exchange, the use of that exchange and the related administrative process adds between a few weeks and a few months of time to a land development transaction. We are not able to place a cost value on this time, but we consider it to be a qualitative cost,
- Some landowners or developers in areas where Suncadia’s mitigation credits will not effectively mitigate their impacts to streams may experience additional delay. This is most likely to occur on tributary streams that support resident or anadromous fish and their use would impact a riparian stock water and wildlife right, a federal instream flow right, or senior out-of-stream rights. It will be necessary for the landowner or developer to either wait for a seller with senior water rights to the tributary stream to announce themselves or the buyer will need to incur the cost to find a seller and negotiate an agreement. The cost to purchase the water right would likely be no greater than the cost of Suncadia’s mitigation credits, but there would be additional costs to negotiate an agreement and then acquire and transfer the new water right. Alternatively, if landowner or developer waits for a seller to announce the availability of a senior right to meet his or her need, then their project would be delayed. We are not able to place a cost value on this time, but we consider it to be a qualitative cost.

## **Probable Benefits**

The quantified probable benefits of the rule will focus on:

- Protections for flow and habitat restoration investments.
- Increase in value to properties that will be able to develop groundwater supply with mitigation

### **Protecting flow and habitat restoration investments**

The State Salmon Recovery Funding Board has committed significant financial investment to salmon recovery projects in the watershed. These projects are intended to help sustain salmon productivity by providing wild spawner escapement, conserving genetic diversity, and meeting basic needs of salmon for spawning rearing and migration. These efforts have provided a wide range of benefits to salmon including:

- Restoring riparian habitat.
- Reestablishing fish passage.
- Enhancing stream channels.
- Restoring estuaries.
- Acquiring habitat.

The cost of these projects in WRIA 39 has been more than \$2,980,000 (see Appendix 2). This value does not account for projects funded through other sources or any future restoration projects throughout the basin. Ecology and other entities have spent over \$1,050,000 in grants directly to WRIA 39 projects and through the watershed planning process. This value also does

not account for all projects funded through other sources or future restoration projects throughout this basin. Salmon restoration projects in just the upper Kittitas rule area exceed **\$4,030,000**. WRIA 39 activities also affect downstream investments. Flow restoration investments downstream in the Yakima basin exceed \$130 million.

This rule will ensure protection of the tremendous investments in salmon restoration made by the state, local agencies, tribes, and private entities. This is done by withdrawing all unappropriated groundwater in the sub-basin from any new withdrawals that are not fully mitigated.

## **Future groundwater withdrawals**

In order to establish a new groundwater right after the rule, a developer or other landowner must secure mitigation. Because these new groundwater users will be backed by mitigation, litigation seeking to restrict these new groundwater uses would be unlikely and they will also be unlikely to be curtailed in water short years. Thus, one of the benefits of the rule is that new groundwater users' rights will be more secure and more valuable.

New groundwater appropriations cannot occur unless mitigation is provided. Developers needing a new uninterrupted supply of water could choose among the following options:

- **Purchasing and transferring pre-1905 water rights:** In some areas, persons seeking new water rights can purchase agricultural farmland with uninterrupted water rights. They can then transfer the right for their water supply. Where viable, the loss is from degrading irrigated farmland into non-irrigated farmland. This scenario has not been commonly used in the past, but has been used more frequently recently.
- **Taking part in the Yakima Pilot Water Bank:** Water users could purchase a water right held in the bank, if available, or they may acquire a water right and place it in the bank, as mitigation for a new groundwater permit.
- **Taking part in the Upper Kittitas Water Exchange:** Water users could purchase a mitigation credit associated with a water right held in the Yakima basin Trust Water Right Program, to mitigate for a new groundwater permit or permit-exempt use.
- **Storing water:** If users can store enough excess flow during high flow periods, it would be available throughout the year. However, in order to ensure sufficient water is available to sustain their needs, most users would need to store tens of thousands of gallons of water. Large scale water storage can be costly.

This rule provides access to groundwater for those who may build residences in the Upper Kittitas County Groundwater Area in the next 20 years. This saves the undeveloped property from being unbuildable.

## **Value of property that is able to develop new groundwater supply that has a low risk of litigation and curtailment**

The Cascade Land Conservancy estimates development right values from assessed land values average \$61,000 per parcel in the Kittitas area.<sup>6</sup> To provide a better estimate of current market prices for land, they adjusted the data upward to reflect this undervaluation.

Using an adjustment factor provided by the Washington State Department of Revenue, Table 2, below, shows estimates of the distribution of development right values at current market rates.

**Table 2: Estimated Market Development Right Values (Adjusted)**

Median Value		\$83,780
Minimum Value		\$1,629
Maximum Value		\$519,066
Percentiles	25	\$44,214
	50	\$83,780
	75	\$119,356

Ecology estimates 3,000 new residences will be seeking water, many through permit-exempt withdrawals, in the Upper Kittitas Groundwater Area in the next 20 years<sup>7</sup>.

Because these properties do not currently have water rights associated with them, in the absence of an Ecology rule, if unmitigated new groundwater supplies were developed on these properties, the water supply would be at risk of being the subject of litigation and of being interrupted. Thus, without the rule, any new groundwater right would be of limited value to the landowner. With the rule, the landowner must pay the cost of mitigation, but the result of mitigation is that the landowner will be able to develop a new groundwater right which will be secure (with a low risk of litigation and curtailment).

Allowing this opportunity to develop could allow 3,000 new lots at \$83,780 in increased land value (developable land with water right certainty). This sums to a \$251,340,000 benefit to current landholders that wish to develop. The present value of this benefit is \$186,996,960. If this development was 80 percent more likely to occur under the rule than without the rule, then the value would be **\$149,597,568**.

<sup>6</sup> CLC Market Supplement September 08 to Final report  
[http://www.cascadeagenda.com/files/tdr/Kittitas%20County%20TDR%20Program%20-%20CLC%20Findings%20and%20Recommendations%20jul25\\_08.pdf](http://www.cascadeagenda.com/files/tdr/Kittitas%20County%20TDR%20Program%20-%20CLC%20Findings%20and%20Recommendations%20jul25_08.pdf)

<sup>7</sup> Ecology uses a more conservative estimate for new residences that may benefit from permit exempt well uses as some buildable lots may already be in existence prior to the effective date of the rule.

## Unquantified benefits

### Litigation Reduction

By better managing the risk of curtailment to these junior residential water users, it is more likely that the 20-year growth projection and the associated economic benefits will occur. Without improved coordination, disclosure, and accountability, it is very likely that senior water right users will file suit, seeking to prevent new water uses of water and curtail some current groundwater use.

Ecology can estimate benefits of avoiding groundwater litigation by examining the Yakima basin surface water adjudication. We estimate that this adjudication costs \$1 million per year, plus private party legal costs. For a 20-year period, litigation costs alone could amount to over \$50 million. Although Ecology does not recognize this as a quantified benefit, it is a very real threat and avoidable cost to the Upper Kittitas sub-basin. Costs of litigation can vary widely. This information can be used to give a reasonable approximation of what costs would likely exist should this sub-basin start down the path of legal challenges.

### Increased Certainty

Better management of the groundwater resource will allow developers and others to effectively plan for meeting their development needs.

If new supplies of unmitigated water continued to be developed in the upper Kittitas sub-basin, litigation by senior users against these more junior groundwater users, and/or a groundwater adjudication, is likely. Such litigation would cause a wide variety of additional costs and unpredictable disruption to the citizens of the county.

Many streams in the Upper Kittitas support populations of resident and anadromous fish. Some species, like bull trout, steelhead trout, and salmon are listed as threatened or endangered under the Endangered Species Act. Where new permit-exempt groundwater use would have reduced flows in the streams, it results in a loss to the resident and anadromous fish populations that rely on that habitat. Withdrawing ground water from appropriation as provided by the emergency rules and this rule provides that either the impact is mitigated, or it is avoided. Federal rights to protect fisheries and the riparian right confirmed by the Superior Court for wildlife purposes are protected.

Table 3. Benefit Summary

<b>Rule Impacts</b>	<b>Benefits</b>
Instream Values (fish and wildlife)	Unquantified
Restoration Protection	\$4,032,953
Increased value of property with legal water availability and certainty	\$149,597,568
<b>Total Benefits</b>	<b>\$153,630,521</b>

## **Total probable quantified benefits**

The estimated probable quantified benefit of the rule is \$153 million over a 20-year period plus reduced litigation through better management of the resource. The estimated value is based on the following assumptions:

- 3,000 new households will seek new water.
- To determine present value, the benefit should be discounted 3 percent each year

## **Summary of the Cost Benefit Analysis**

The quantified benefit estimate is \$153 million over a 20-year period.

The estimated quantified costs of the rule are \$22.3 million for 20 years.

In addition to the quantified costs and quantified benefits, Ecology considered qualitative costs and qualitative benefits.

- Habitat benefits from withdrawing further appropriations of groundwater. (qualitative benefit)
- Reduced litigation costs associated with managing groundwater users effectively. (qualitative benefit)
- Any person wanting to develop a new groundwater supply will need to seek mitigation. If mitigation is available via the water exchange, the use of that exchange and the related administrative process adds between a few weeks and a few months of time to a land development transaction. We are not able to place a cost value on this time, but we consider it to be a qualitative cost. (qualitative cost)
- Some landowners or developers in areas where Suncadia's mitigation credits will not effectively mitigate their impacts to streams may experience additional delay. This is most likely to occur on tributary streams that support resident or anadromous fish and their use would impact a riparian stock water and wildlife right, a federal instream flow right, or senior out-of-stream rights. We are not able to place a cost value on this time, but we consider it to be a qualitative cost. (qualitative cost)

Ecology has determined the probable benefits of the rule are far greater than the probable costs, considering both qualitative and quantitative costs and benefits and considering the fundamentals of RCW 90.54.020 and the provisions of RCW 90.54.050(2).

# Least Burdensome Analysis

RCW 34.05.328 (1)(e) requires Ecology to perform a Least Burdensome Analysis to:

*“Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection.”*

RCW 34.05.328(1)(a) requires that Ecology state in detail the general goals and specific statutory objectives that the rule will implement.

This rule is enacted under the authority of RCW 90.54.050(2) and is intended to carry out the fundamentals listed in RCW 90.54.050(2). The fundamentals of particular importance in this rulemaking include: preserving and protecting adequate and safe water supplies to satisfy human domestic needs (RCW 90.54.020(5)); protecting the quality of the natural environment, including retaining base flows in rivers and streams to preserve fish, wildlife, and other environmental values (RCW 90.54.020(3)(a)); giving full recognition in the administration of water allocation and use programs to the natural interrelationships of surface and groundwaters. (RCW 90.54.020(9)).

RCW 90.54.050 (2) states:

*“When sufficient information and data are lacking to allow for the making of sound decisions, withdraw various waters of the state from additional appropriations until such data and information are available. Before proposing the adoption of rule to withdraw waters of the state from additional appropriation, the department shall consult with the standing committees of the house of representatives and the senate having jurisdiction over water resource management issues.”*

The decision to withdraw ground water from appropriation was based on the following interconnected factors:

- New developments and water systems were being permitted and constructed based on developers’ plans to supply water to new houses without obtaining water right permits required by law. Many of these developing lands were former railroad and forest land that historically did not carry water rights.
- The Upper Kittitas area is underlain by glacial, fluvial and bedrock aquifer systems that are hydraulically connected to the Yakima River and its tributaries. Wells penetrating bedrock aquifers often have poor yields and impacts to nearby surface waters are difficult to predict due to the nature of the bedrock. Wells penetrating the glacial or alluvial aquifers typically have a more immediate impact on surface waters and generally produce water in higher amounts, but there are many areas even along the Yakima River where wells have poor yields.

- Aquifers that support high yield wells will tend to result in larger impacts to surrounding surface water. Aquifers that support wells with poor yields will be prone to well interference problems.
- The groundwater and streams in this area make up the headwaters of the Yakima River system and are sensitive areas that serve as critical habitat for resident and anadromous fish.
- This area is part of a larger three-county wide water basin (surface and groundwater) system. Downstream senior water right holders depend on water in the surface and groundwater system. In dry years, the total water supply of the entire basin is inadequate to supply even all of the rights with priority dates of May 10, 1905 and earlier.

The rule is adopted based on available information (summarized in the bullets above) and because Ecology lacks sufficient information to make sound water resource decisions at this time. Although the ongoing USGS Yakima study confirms that groundwater and surface water are interconnected in the Yakima River basin, a more detailed hydrogeologic framework is needed for the Upper Kittitas. A study will begin soon to analyze the hydrogeology of the upper county. The objectives of this study are to: (1) define the hydrogeology of the study area, (2) provide information regarding groundwater occurrence and availability, (3) describe the potential extent of groundwater and surface water continuity in the study area, and (4) determine the extent of potential impairment resulting from well use. Until Ecology obtains results from these additional studies, Ecology has determined that the appropriate course of action is to stop any new unmitigated withdrawals under the authority of RCW 90.54.050(2) in order to prevent the current situation described in the bulleted information above from getting worse.

Ecology considered four alternative approaches to addressing the above concerns through rulemaking:

1. No action.
2. Ecology proposed a rule in January 2009 that would have allowed for the development of some limited new groundwater uses but, under the authority of RCW 90.54.050(2), the rule would have restricted the use of the groundwater permit exemption to quantities less than set forth in RCW 90.44.050.
3. Ecology considered withdrawing all unappropriated groundwater from new appropriations without any exceptions.
4. Ecology considered withdrawing all unappropriated groundwater from new appropriations subject to an exception that allows development of new uses that are mitigated.

Ecology determined that alternative # 1 was not appropriate because it would not address the fundamentals of RCW 90.54.020, nor would it address the concerns summarized in the five bullets above.

The remaining three alternatives (2-4) would each achieve the general goals and specific objectives of RCW 90.54.020 and 90.54.050(2). However, a 2009 Attorney General's Opinion concluded that Ecology lacked the legal authority to limit new groundwater uses as they would have been limited by the January 2009 proposed rule, making alternative # 2 unavailable to the agency.

Alternative #3 (withdrawal without mitigation) would preclude issuance of new water right permits or development of any permit-exempt uses while the rule is in effect. The way a prospective groundwater use could be authorized to use water would be to acquire an existing water right and change the purpose and place of use of the water right (a transfer) to the new purpose and place of use.

Alternative #4 (withdrawal with mitigation) allows new water uses to be authorized by permit and for the groundwater permit exemption to be used to meet new need if mitigation to protect existing out-of-stream rights, stock water and wildlife riparian rights, and federal instream fisheries rights are not impaired. This alternative relies on the 2003 water banking provisions in the State's Trust Water Right Program to hold and manage senior water rights that serve as the consumptive use offset (mitigation) for the new groundwater withdrawals. This alternative allows mitigation to be acquired in large amounts that can then be assigned through a crediting system for individual water users to purchase.

As between alternatives # 3 (withdrawal without mitigation) and # 4 (withdrawal with mitigation), Ecology selected the least burdensome alternative for those required to comply with the rule.

Allowing the use of mitigation when Ecology determines a water body should be withdrawn from new appropriations is the least burdensome alternative for those required to comply.

# References

Kittitas County Economic Update

[www.workforceexplorer.com/admin/uploadedPublications/9305\\_KittEconUpdate\\_908.pdf](http://www.workforceexplorer.com/admin/uploadedPublications/9305_KittEconUpdate_908.pdf)

Kittitas County Labor Area Summary

[www.workforceexplorer.com/admin/uploadedPublications/8769\\_Kit1207.pdf](http://www.workforceexplorer.com/admin/uploadedPublications/8769_Kit1207.pdf)

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# Appendix 1: Final Rule (Chapter 173-539A WAC)

The complete rule language for the Kittitas County Groundwater Area can be found in Chapter 173-539A WAC. The following provides a brief description of the rule and further discussion of those specific rule provisions.

## CHAPTER 173-539A WAC RULE MATRIX – NET CHANGES FROM NEW RULES TO ECOLOGY’S EXISTING REGULATORY PRACTICES

CURRENT STATUTE/REGULATION	RULE LANGUAGE	EFFECT OF CHANGE
<p>None specific to Upper Kittitas County however, RCW 90.44 addresses regulation of public groundwaters.</p> <p><b>Chapter 90.44 RCW Regulation of public groundwaters</b></p> <p><b>RCW 90.44.020 Purpose of chapter.</b></p> <p>This chapter regulating and controlling groundwaters of the state of Washington shall be supplemental to chapter <a href="#">90.03</a> RCW, which regulates the surface waters of the state, and enacted for the purpose of extending the application of such surface water statutes to appropriation and beneficial use of groundwaters within the state.</p> <p><b>RCW 90.44.030 Chapter not to affect surface water rights.</b></p> <p>The rights to appropriate the surface waters of the state and the rights acquired by the appropriation and use of surface waters shall not be affected or impaired by any of the provisions of this supplementary chapter and, to the extent that the withdrawal of groundwater may affect the flow of any spring, water course, lake, or other body of surface water, the right of an appropriator as owner of surface water <u>shall be superior to any subsequent right hereby authorized to be acquired in or to groundwater.</u></p>	<p>Chapter 173-539A WAC-New rule</p> <p><b>WAC 173-539A-010 Purpose.</b></p> <p>The purpose of this rule is to withdraw from appropriation all unappropriated ground water within upper Kittitas County pending completion of a ground water study. New ground water withdrawals will be limited to those that are water budget neutral, as defined in this rule.</p> <p><b>WAC 173-539A-020 Authority.</b></p> <p>RCW 90.54.050 provides that when lacking enough information to support sound decisions, ecology may withdraw waters of the state from new appropriations until sufficient information is available. Before withdrawing waters of the state, ecology must consult with standing committees of the legislature on water management. Further, RCW</p>	<p>The proposed rule allows new uses of ground water where mitigation of consumptive quantity is offset by acquisition of a pre-1905 water right held in the trust water right reduce the number of new source ground water wells serving suburban residential development in rural upper Kittitas County.</p> <p>The rule withdraws from appropriation any ground water that that may exist above and beyond current appropriations. The effect compared to the pre-July 2009 baseline is to make new appropriation</p>

<p>Current exempt well regulatory framework under RCW 90.44.050</p> <p>After June 6, 1945, no withdrawal of public groundwaters of the state shall be begun, nor shall any well or other works for such withdrawal be constructed, unless an application to appropriate such waters has been made to the department and a permit has been granted by it as herein provided: EXCEPT, HOWEVER, That any withdrawal of public groundwaters for stock-watering purposes, or for the watering of a lawn or of a noncommercial garden not exceeding one-half acre in area, or for single or group domestic uses in an amount not exceeding five thousand gallons a day, or as provided in RCW <a href="#">90.44.052</a>, or for an industrial purpose in an amount not exceeding five thousand gallons a day, is and shall be exempt from the provisions of this section, but, to the extent that it is regularly used beneficially, shall be entitled to a right equal to that established by a permit issued under the provisions of this chapter: PROVIDED, HOWEVER, That the department from time to time may require the person or agency making any such small withdrawal to furnish information as to the means for and the quantity of that withdrawal: PROVIDED, FURTHER, That at the option of the party making withdrawals of groundwaters of the state not exceeding five thousand gallons per day, applications under this section or declarations under RCW <a href="#">90.44.090</a> may be filed and permits and certificates obtained in the same manner and under the same requirements as is in this chapter provided in the case of withdrawals in excess of five thousand gallons a day.</p>	<p>90.44.050 authorizes ecology to establish metering requirements for permit-exempt wells where needed.</p>	
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	<p><b>WAC 173-539A-025 Applicability.</b>  This rule applies to new uses of ground water relying on the authority of the exemption from permitting found at RCW 90.44.050, as defined in WAC 173-539A-030, and to any new permit authorizing the withdrawal of public ground water within the upper Kittitas area boundaries issued on or after July 16, 2009.</p> <p><b>WAC 173-539A-030 Definitions.</b>  The definitions provided below apply only to this chapter.</p> <p><b>"Applicant"</b> includes the owner(s) of parcels that are the subject of a land use application, a person making a request for water budget neutral determination, or a person requesting a permit to appropriate public ground water.</p> <p><b>"Common ownership"</b> means any type or degree of legal or equitable property interest held by an applicant in any proximate parcel. Common ownership also includes a joint development arrangement between an applicant and any owner of a proximate parcel. A joint development arrangement is defined as involving significant voluntary joint activity and cooperation between the applicant and the owner(s) of one or more proximate parcels with respect to the development of parcels in question. Joint activity and</p>	<p>This rule affects all new appropriations of ground water in the Upper Kittitas area, whether they are based on the ground water permit exemption or a permit to appropriate ground water. Prior to the July 2009 emergency rule, no limitations other than the statutory limits were placed on users relying the ground water permit exemption.</p> <p>Clarifies new residential development requestor's or applicant's relationship with adjacent or proximate residential development(s) to determine whether the applicant's proposal is part of a group or project.</p>
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	<p>cooperation that is customary or required by land use or other legal requirements does not itself constitute a joint development arrangement. A joint development arrangement may be evidenced by, but is not limited to, agreements for coordinated development and shared use of services or materials for permitting, design, engineering, architecture, plat or legal documents, financing, marketing, environmental review, clearing or preparing land, or construction (including road construction); covenants; agreements for common use of building materials, equipment, structures, facilities, lands, water, sewer, or other infrastructure.</p> <p><b>"Consumptive use"</b> of a proposed withdrawal is the total depletion that the withdrawal has on any affected surface water bodies.</p> <p><b>"Ecology"</b> means the department of ecology.</p> <p><b>"Exemption" or "ground water exemption"</b> means the exemption from the permit requirement for a withdrawal of ground water provided under RCW 90.44.050.</p> <p><b>"Existing use of the ground water exemption"</b> means a use of ground water under the authority of the exemption from permitting where water was:</p> <p>(a) First regularly and beneficially used prior to July 16, 2009; and</p> <p>(b) The water right is perfected within the five years following the first regular beneficial use for that purpose. Water to serve a parcel that is part of a group use begun within five years of the date water was first regularly and beneficially used on one or more parcels in the group is an existing use if the group use remains within the limit of the permit exemption.</p> <p><b>"Group use"</b> means use of</p>	<p>Clarifies Ecology's interpretation of the applicability of the proposed rule and how existing uses of the ground water permit exemption relate to applicability of the rule.</p>
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	<p>the ground water exemption for two or more parcels. A group use includes use of the exemption for all parcels of a proposed development. It further includes use of the exemption for all parcels that are proximate and held in common ownership with a proposed new development. If a parcel that is part of a group use is later divided into multiple parcels more than five years following the first use, the new uses of the exemption on the resulting multiple parcels will be considered a separate group use distinct from the original group.</p> <p><b>"Land use application"</b> means an application to Kittitas County requesting a:</p> <ul style="list-style-type: none"> <li>. Subdivision;</li> <li>. Short subdivision;</li> <li>. Large lot subdivision;</li> <li>. Administrative or exempt segregation;</li> <li>. Binding site plan; or</li> <li>. Performance based cluster plat.</li> </ul> <p><b>"New use of the ground water exemption"</b> means a valid permit-exempt use of ground water begun on or after July 16, 2009. When an existing group use is expanded to serve a parcel in the future, the expanded use is a new use if it begins more than five years after the date water was first regularly and beneficially used for that purpose on any parcel in the group.</p> <p><b>"Parcel"</b> means any parcel, land, lot, tract or other unit of land.</p> <p><b>"Proximate"</b> means all parcels that have at least one of the following attributes:</p> <ul style="list-style-type: none"> <li>. Share any common boundary; or</li> <li>. Are separated only by roads, easements, or parcels in common ownership; or</li> <li>. Are within five hundred feet of each other at the nearest point.</li> </ul> <p><b>"Proximate shortplat"</b></p>	
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	<p>means a shortplat that would be considered a group use with another subdivision or shortplat.</p> <p><b>"Regular beneficial use"</b> means a use of water under the ground water permit exemption that is recurring or functioning at fixed, uniform, or normal intervals and is done in conformity with established usages, rules, or discipline.</p> <p><b>"Total water supply available"</b> means the amount of water available in any year from natural flow of the Yakima River, and its tributaries, from storage in the various government reservoirs on the Yakima watershed and from other sources, to supply the contract obligations of the United States to deliver water and to supply claimed rights to the use of water on the Yakima River, and its tributaries, heretofore recognized by the United States.</p> <p><b>"Upper Kittitas County"</b> is the area of Kittitas County delineated in WAC 173-539A-990.</p> <p><b>"Water budget neutral project"</b> means an appropriation or project where withdrawals of public ground water are proposed in exchange for placement of other water rights into the trust water right program that are at least equivalent to the amount of consumptive use.</p> <p><b>WAC 173-539A-040 Withdrawal of unappropriated water in upper Kittitas County.</b> (1) Beginning on the effective date of this rule, all public ground waters within the upper Kittitas County are withdrawn from appropriation. No new appropriation or withdrawal of ground water may occur, including those exempt from permitting, except:</p> <p>(a) Uses of ground water for a structure for which a building permit is granted and the building permit application vested prior to July 16, 2009; and</p>	<p>New appropriations of</p>
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	<p>(b) Uses determined to be water budget neutral under WAC 173-539A-050.</p> <p>(2) The exception for water used at structures provided in subsection (1)(a) of this section shall not apply or shall cease to apply if the structure is not completed and a water system that uses the new appropriation is not operable within the time allowed under the building permit. This shall not in any case exceed three years from the date the permit application vested. The exception is to avoid potential hardship and does not reflect ecology's view on when the priority date for a permit-exempt water right is established.</p> <p>(3) Water to serve a parcel that is part of an existing group use is not a new appropriation or withdrawal if the water use to serve such parcel began within five years of the date water was first beneficially used on any parcel in the group, if the first use was prior to July 16, 2009, and the group use remains within the limit of the permit exemption.</p>	<p>ground water are not allowed unless they fall under one of the exceptions to the rule in subsection (1)(a), (2), or (3).</p>
	<p><b>WAC 173-539A-050 Water budget neutral projects.</b> (1) Persons proposing a new use of ground water shall apply to ecology for a permit to appropriate public ground water or, if seeking to rely on the ground water permit-exemption, shall submit to ecology a request for determination that the proposed permit-exempt use would be water budget neutral.</p> <p>(2) As part of a permit application to appropriate public ground water or a request for a determination of water budget neutrality, applicants or requestors shall include the following information:</p> <p>(a) Identification of one or more water rights that would be placed into the trust water right program to offset the consumptive use (as calculated pursuant to subsection</p>	<p>New appropriations of water are allowed only if they demonstrate water budget neutrality. Mitigation for consumptive losses by acquisition of a pre-1905 water right is required.</p>

	<p>(3) of this section) associated with the proposed new use of ground water;</p> <ul style="list-style-type: none"><li>(b) A site map;</li><li>(c) The area to be irrigated (in acres);</li><li>(d) A soil report, if proposed discharge is to a septic system and the applicant or requestor proposes to deviate from the values in subsection (3) of this section;</li><li>(e) A property covenant that prohibits trees or shrubs over the septic drain field; and</li><li>(f) A copy of the sewer utility agreement, if the proposed wastewater discharge is to a sanitary sewer system.</li></ul> <p>(3) Consumptive use will be calculated using the following assumptions: Thirty percent of domestic in-house use on a septic system is consumptively used; ninety percent of outdoor use is consumptively used; twenty percent of domestic in-house use treated through a wastewater treatment plant which discharges to surface water is consumptively used.</p> <p>(4) Applications for public ground water or requests for a determination of water budget neutrality will be processed concurrent with trust water right applications necessary to achieve water budget neutrality, unless:</p> <ul style="list-style-type: none"><li>(a) A suitable trust water right is already held by the state in the trust water right program; and</li><li>(b) The applicant or requestor has executed an agreement to designate a portion of the trust water right for mitigation of the applicant's proposed use.</li></ul> <p>(5) Applications to appropriate public ground water or requests for determination of water budget neutrality that do not include the information listed in subsection (2) of this section will be rejected and returned to the applicant.</p> <p>(6) To the extent that ecology</p>	
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	<p>determines that the mitigation offered would not reliably mitigate to be water budget neutral, ecology may deny the request or limit its approval to a lesser amount.</p>	
<p><b>WAC 173-52-050 -Criteria for priority processing of competing applications.</b></p> <p>(1) An application may be processed prior to competing applications if the application resolves or alleviates a public health or safety emergency caused by a failing public water supply system currently providing potable water to existing users. Inadequate water rights for a public water system to serve existing hook-ups or to accommodate future population growth or other future uses do not constitute a public health or safety emergency. The application must be filed specifically to correct the actual or anticipated cause(s) of the public water system failure. To be considered a failing public water system, the system must meet one or more of the following conditions:</p> <p>(a) The department, upon notification by and in consultation with the department of health or local health authority, determines a public water system has failed, or is in danger of failing within one year, to meet state board of health standards for the delivery of potable water to existing users in adequate quantity or quality to meet basic human drinking, cooking and sanitation needs;</p> <p>(b) The current water source has failed or will fail so that the public water system is or will become incapable of exercising its existing water right to meet existing needs for drinking, cooking and sanitation purposes after all reasonable conservation efforts have been implemented; or</p> <p>(c) A change in source is required to meet drinking water quality standards and avoid unreasonable treatment costs, or the state department of health determines that the existing source of supply is unacceptable for human use.</p> <p>(2) An application may be processed</p>	<p><b>WAC 173-539A-060 Expedited processing of trust water applications, and new water right applications or requests for a determination of water budget neutrality associated with trust water rights.</b> (1) RCW 90.42.100 authorizes ecology to use the trust water right program for water banking purposes within the Yakima River Basin.</p> <p>(2) Ecology may expedite the processing of an application for a new water right or a request for a determination of water budget neutrality under Water Resources Program Procedures PRO-1000, Chapter One, including any amendments thereof, if the following requirements are met:</p> <p>(a) The application or request must identify an existing trust water right or pending application to place a water right in trust, and such trust water right would have an equal or greater contribution to flow during the irrigation season, as measured on the Yakima River at Parker that would serve to mitigate the proposed use. This trust water right must have priority earlier than May 10, 1905, and be eligible to be used for instream flow protection and mitigation of out-of-priority uses.</p> <p>(b) The proposed use on the new application or request must be for domestic, group domestic, lawn or noncommercial garden, municipal water supply, stock watering, or industrial purposes within the Yakima River Basin. The proposed use must be consistent with any agreement governing the use of the trust water right.</p> <p>(3) If an application for a new water right or a request for a</p>	<p>Ecology may expedite processing of new applications, water right transfers, and water budget neutral requests in conjunction with management of this rule. Provides for expedited processing of: trust water right applications, and water budget neutral determination requests and new water right applications associated with mitigation of the consumptive impacts of a new water appropriation. The proposed use must be consistent with any agreement governing the use of the trust water rights. Currently, prior to July 9, 2009 Ecology was unable to process applications associated with trust water rights for the purpose of mitigating new uses. This is due to the large backlog of existing water right applications. This new provision will allow Ecology to priority process these applications and allow new water rights to be processed based on trust water right mitigation.</p>

<p>prior to competing applications if the department determines:</p> <p>(a) Immediate action is necessary for preservation of public health or safety; or</p> <p>(b) The proposed water use is nonconsumptive and if approved would substantially enhance or protect the quality of the natural environment.</p> <p>(3) An application for change or transfer to an existing water right may be processed prior to competing applications provided one or more of the following criteria are satisfied:</p> <p>(a) The change or transfer if approved would substantially enhance the quality of the natural environment; or</p> <p>(b) The change or transfer if approved would result in providing public water supplies to meet general needs of the public for regional areas;</p> <p>(c) The change or transfer was filed by water right holders participating in an adjudication, and a decision is needed expeditiously to ensure that orders or decrees of the superior court will be representative of the current water use situation.</p> <p>(4) Within each regional office, the department shall process applications satisfying the criteria in subsections (1) through (3) of this section in the following priority:</p> <p>(a) Public health and safety emergencies under subsection (1) of this section;</p> <p>(b) Preservation of other public health and safety concerns under subsection (2)(a) of this section;</p> <p>(c) Transfers or changes under subsection (3)(a) of this section;</p> <p>(d) Transfers or changes under subsection (3)(b) of this section;</p> <p>(e) Transfers or changes under subsection (3)(c) of this section; and</p> <p>(f) Nonconsumptive uses under subsection (2)(b) of this section.</p> <p>[Statutory Authority: RCW 43.21A.064(8) and 43.27A.090(11). 98-06-042 (Order 97-14), § 173-152-050, filed 2/27/98, effective 3/30/98.]</p>	<p>determination of water budget neutrality is eligible for expedited processing under subsection (2) of this section and is based upon one or more pending applications to place one or more water rights in trust, processing of the pending trust water right application(s) shall also be expedited.</p> <p>(4) Upon determining that the application or request is eligible for expedited processing, ecology will do the following:</p> <p>(a) Review the application or request to withdraw ground water to ensure that ground water is available from the aquifer without detriment or injury to existing rights, considering the mitigation offered.</p> <p>(b) Condition the permit or determination to ensure that existing water rights, including instream flow water rights, are not impaired if the trust water right is from a different source or located downstream of the proposed diversion or withdrawal. The applicant or requestor also has the option to change their application to prevent the impairment. If impairment cannot be prevented, ecology must deny the permit or determination.</p> <p>(c) Condition each permit or determination to ensure that the tie to the trust water right is clear, and to accurately reflect any limitations or constraints in the trust water right.</p> <p>(d) Condition or otherwise require that the trust water right will serve as mitigation for impacts to "total water supply available."</p>	
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**RCW 90.03.360 Controlling works and measuring devices — Metering of diversions — Impact on fish stock.**

(1) The owner or owners of any water diversion shall maintain, to the satisfaction of the department of ecology, substantial controlling works and a measuring device constructed and maintained to permit accurate measurement and practical regulation of the flow of water diversion. Every owner or manager of a reservoir for the storage of water shall construct and maintain when required by the department, any measuring device necessary to ascertain the natural flow and out of said reservoir.

Metering of diversions or measurement by other approved methods shall be required as a condition for all new surface water right permits and except as provided in subsection (2) of this section, may be required as a condition for previously existing surface water rights. The department may also require, as a condition for water rights, metering of diversions, and reporting regarding such metered diversions as to the amount of water being diverted. Such reports shall be in a form prescribed by the department.

(2) Where water diversions are from watersheds in which the salmonid stock status is depressed, critical, as determined by the department of ecology and wildlife, or where the volume of water diverted exceeds one cubic foot per second, the department shall require metering or measurement by other approved methods as a condition for new and previously existing water rights or claims. The department shall attempt to integrate the requirements of this subsection into its existing compliance workload priorities, but shall not prioritize the requirements of this subsection ahead of the existing compliance workload. A delay may cause the decline of wild salmon. The department shall notify the department of ecology and wildlife of the status of fish screens associated with these diversions.

This subsection (2) shall not apply to diversions for public or private hatcheries or rearing facilities if the diverted water is returned directly to the waters from which it was diverted.

**RCW 90.44.450 Metering or**

**WAC 173-539A-070 Measuring and reporting water use.** (1) For residential uses (domestic use and irrigation of not more than 1/2 acre of noncommercial lawn and garden) of ground water within upper Kittitas County that begin after July 8, 2008, a meter must be installed for each residential connection or each source well that serves multiple residential connections in compliance with the requirements of WAC 173-173-100.

(2) For all other uses within upper Kittitas County that begin after November 25, 2009, including permit-exempt uses, a meter must be installed for each source well in compliance with such requirements as prescribed in WAC 173-173-100.

(3) Water users must collect metering data for each recording period. The following table shows the five recording periods during each water year (October 1 through September 30):

Recording Period
October 1 - March 31
April 1 - June 30
July 1 - July 31
August 1 - August 31
September 1 - September 30

(4) Water users must report their measurement data as follows:

Recording and Reporting Requirements			
Average diversion rate in gallons per minute	< 10 gpm	10-49 gpm	> 50 gpm
Recording frequency	Monthly	Biweekly	Weekly
Volume or rate to report	Maximum rate of diversion	Maximum rate of diversion	Maximum rate of diversion
	Annual total volume	Annual total volume	Annual total volume
Date data must be reported to department	By Jan. 31 of the following calendar year	By Jan. 31 of the following calendar year	By Jan. 31 of the following calendar year

Monthly means calendar month  
 Weekly means Monday 12:01 a.m. to Sunday 12:00 p.m.  
 Biweekly means once every two weeks  
 Daily means 12:01 a.m. to 12:00 p.m.

Requires new permit exempt withdrawals to meter and report after adoption of the rule.

The new provision will require new permitted uses to meter and report.

Current laws and rules exist for metering and reporting water use. However, these laws and regulations have rarely been applied to permit-exempt ground water uses.

<p><b>measuring groundwater withdrawals — Reports.</b></p> <p>The department of ecology may require withdrawals of groundwater to be metered, measured by other approved methods, as a condition for a new water right permit. The department may also require, as a condition such permits, reports regarding such withdrawals as to the amount of water being withdrawn. reports shall be in a form prescribed by the department.</p> <p>[1989 c 348 § 7.]</p>	<p>1 gallon per minute is equivalent to .002 cubic feet per second</p>	
	<p><b>WAC 173-539A-080 Expedited processing of trust water right applications and new water right applications associated with trust water rights</b></p> <p>(1) RCW 90.42.100 authorizes ecology to use the trust water right program for water banking purposes within the Yakima River Basin.</p> <p>(2) Ecology may expedite the processing of an application for a new surface water right or a ground water right hydraulically related to the Yakima River, under Water Resources Program Procedures PRO-1000, Chapter One, including any amendments thereof, if the following requirements are met:</p> <p>(a) The application must identify an existing trust water right or pending application to place a water right in trust, if that such trust water right would have an equal or greater contribution to flow during the irrigation season, as measured on the Yakima River at Parker that would serve to mitigate the proposed use. This trust water right must have priority earlier than May 10, 1905, and be eligible to be used for instream flow protection and mitigation of out-of-priority uses.</p> <p>(b) The proposed use on the new application must be for domestic, group domestic, lawn or noncommercial garden, and/or municipal water supply purposes of use within the Yakima River Basin.</p>	

	<p>The proposed use must be consistent with any agreement governing the use of the trust water rights.</p> <p>(3) If an application for a new water right is eligible for expedited processing under subsection (2) of this section and is based upon one or more pending applications to place one or more water rights in trust, processing of the pending trust water right application(s) shall also be expedited.</p> <p>(4) Upon determining that the application is eligible for expedited processing ecology will do the following:</p> <p>(a) Review the application to withdraw ground water to ensure that ground water is available from the aquifer without detriment or injury to existing rights, considering the mitigation offered.</p> <p>(b) Condition the permit to ensure that existing water rights, including instream flow water rights, are not impaired if the trust water right is from a different source or located downstream of the proposed diversion or withdrawal. The applicant also has the option to change their application to prevent the impairment. If impairment cannot be prevented, ecology must deny the permit.</p> <p>(c) Condition each permit to ensure that the tie to the trust water right is clear, and that any constraints in the trust water right are accurately reflected.</p> <p>(d) Condition or otherwise require that the trust water right will serve as mitigation for impacts to "total water supply available."</p>	
<p><b>RCW 90.03.605</b>  <b>Compliance — Sequence of enforcement measures — Location of compliance personnel.</b>  (1) The department shall, through a network of water masters appointed under this chapter, stream patrollers appointed under chapter 90.08 RCW,</p>	<p><b>WAC 173-539A-080 Educational information, technical assistance and enforcement.</b> (1) To help the public comply with this chapter, ecology may prepare and distribute technical and educational information on the scope and requirements of this chapter.</p>	<p>Provides for Educational information, technical assistance, and enforcement.</p>

<p>and other assigned compliance staff to the extent such a network is funded, achieve compliance with the water laws and rules of the state of Washington in the following sequence:</p> <p>(a) The department shall prepare and distribute technical and educational information to the general public to assist the public in complying with the requirements of their water rights and applicable water laws;</p> <p>(b) When the department determines that a violation has occurred or is about to occur, it shall first attempt to achieve voluntary compliance. As part of this first response, the department shall offer information and technical assistance to the person in writing identifying one or more means to accomplish the person's purposes within the framework of the law; and</p> <p>(c) If education and technical assistance do not achieve compliance the department shall issue a notice of violation, a formal administrative order under RCW 43.27A.190, or assess penalties under RCW 90.03.600 unless the noncompliance is corrected expeditiously or the department determines no impairment or harm.</p> <p>(2) Nothing in the section is intended to prevent the department of ecology from taking immediate action to cause a violation to be ceased immediately if in the opinion of the department the nature of the violation is causing harm to other water rights or to public resources.</p> <p>(3) The department of ecology shall to the extent practicable station its compliance personnel within the watershed communities they serve. To the extent practicable, compliance personnel shall be distributed evenly among the regions of the state.</p> <p>[2002 c 329 § 2.]  <b>RCW 43.27A.190</b>  <b>Water resource orders.</b>  Notwithstanding and in addition to any other powers granted to the department of ecology, whenever it appears to the department that a person is violating or</p>	<p>(2) When ecology finds that a violation of this rule has occurred, we shall first attempt to achieve voluntary compliance. One approach is to offer information and technical assistance to the person, in writing, identifying one or more means to legally carry out the person's purposes.</p> <p>(3) To obtain compliance and enforce this chapter, ecology may impose such sanctions as suitable, including, but not limited to, issuing regulatory orders under RCW 43.27A.190 and imposing civil penalties under RCW 90.03.600.</p>	
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<p>is about to violate any of the provisions of the following:</p> <ul style="list-style-type: none"> <li>(1) Chapter 90.03 RCW; or</li> <li>(2) Chapter 90.44 RCW; or</li> <li>(3) Chapter 86.16 RCW; or</li> <li>(4) Chapter 43.37 RCW; or</li> <li>(5) Chapter 43.27A RCW; or</li> <li>(6) Any other law relating to water resources administered by the department; or</li> <li>(7) A rule or regulation adopted, or a directive or order issued by the department relating to subsections (1) through (6) of this section; the department may cause a written regulatory order to be served upon said person either personally, or by registered or certified mail delivered to addressee only with return receipt requested and acknowledged by him. The order shall specify the provision of the statute, rule, regulation, directive or order alleged to be or about to be violated, and the facts upon which the conclusion of violating or potential violation is based, and shall order the act constituting the violation or the potential violation to cease and desist or, in appropriate cases, shall order necessary corrective action to be taken with regard to such acts within a specific and reasonable time. The regulation of a headgate or controlling works as provided in RCW 90.03.070, by a watermaster, stream patrolman, or other person so authorized by the department shall constitute a regulatory order within the meaning of this section. A regulatory order issued hereunder shall become effective immediately upon receipt by the person to whom the order is directed, except for regulations under RCW 90.03.070 which shall become effective when a written notice is attached as provided therein. Any person aggrieved by such order may appeal the order pursuant to RCW 43.21B.310.</li> </ul> <p>[1987 c 109 § 11; 1969 ex.s. c 284 § 7.]</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>Purpose -- Short title --</li> <li>Construction -- Rules -- Severability -</li> <li>- Captions -- 1987 c 109: See notes</li> </ul>		
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<p>following RCW 43.21B.001.  <b>Severability -- 1969 ex.s. c 284:</b>  See note following RCW 90.48.290.</p>		
<p><b>RCW 43.21B.310</b>  <b>Appeal of orders, permits, and licenses.</b>  (1) Except as provided in RCW 90.03.210(2), any order issued by the department or local air authority pursuant to RCW 70.94.211, 70.94.332, 70.105.095, 43.27A.190, 86.16.020, 88.46.070, or 90.48.120(2) or any provision enacted after July 26, 1987, or any permit, certificate, or license issued by the department may be appealed to the pollution control hearings board if the appeal is filed with the board and served on the department or authority within thirty days after the date of receipt of the order. Except as provided under chapter 70.105D RCW and RCW 90.03.210(2), this is the exclusive means of appeal of such an order.  (2) The department or the authority in its discretion may stay the effectiveness of an order during the pendency of such an appeal.  (3) At any time during the pendency of an appeal of such an order to the board, the appellant may apply pursuant to RCW 43.21B.320 to the hearings board for a stay of the order or for the removal thereof.  (4) Any appeal must contain the following in accordance with the rules of the hearings board:  (a) The appellant's name and address;  (b) The date and docket number of the order, permit, or license appealed;  (c) A description of the substance of the order, permit, or license that is the subject of the appeal;  (d) A clear, separate, and concise statement of every error alleged to have been committed;  (e) A clear and concise statement of facts upon which the requester relies to sustain his or her statements of error; and</p>	<p><b>WAC 173-539A-090 Appeals</b>   All of ecology's final written decisions pertaining to permits, regulatory orders, and other related decisions made under this chapter are subject to review by the pollution control hearings board in accordance with chapter 43.21B RCW.</p>	<p>Opportunity and process for appeal of Ecology decisions.</p>

<p>(f) A statement setting forth the relief sought.</p> <p>(5) Upon failure to comply with any final order of the department, the attorney general, on request of the department, may bring an action in the superior court of the county where the violation occurred or the potential violation is about to occur to obtain such relief as necessary, including injunctive relief, to insure compliance with the order. The air authorities may bring similar actions to enforce their orders.</p> <p>(6) An appealable decision or order shall be identified as such and shall contain a conspicuous notice to the recipient that it may be appealed only by filing an appeal with the hearings board and serving it on the department within thirty days of the date of receipt.  [2004 c 204 § 5. Prior: 2001 c 220 § 4; 2001 c 36 § 3; 1992 c 73 § 3; 1989 c 2 § 14 (Initiative Measure No. 97, approved November 8, 1988); (1987 3rd ex.s. c 2 § 49 repealed by 1989 c 2 § 24, effective March 1, 1989); 1987 c 109 § 6.]</p> <p>Notes:</p> <p>Intent -- Construction -- Effective date -- 2001 c 220: See notes following RCW 43.21B.110.</p> <p>Effective dates -- Severability -- 1992 c 73: See RCW 82.23B.902 and 90.56.905.</p> <p>Short title -- Construction -- Existing agreements -- Effective date - - Severability -- 1989 c 2: See RCW 70.105D.900 and 70.105D.910 through 70.105D.921, respectively.</p> <p>Purpose -- Short title -- Construction -- Rules -- Severability -- Captions -- 1987 c 109: See notes following RCW 43.21B.001.</p>		
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## Appendix 2:

Sponsor	Project Name	Program	Program Amount	Sponsor Amount	Total
<b>UPPER KITTITAS AREA WRIA 39</b>					
Kittitas Co Conservation Dist	Dry/Cabin Crk Fish Passage & Screening	SALMON FED PROJ	126,873	62,631	189,504
Kittitas Conservation Trust	Cle Elum River Instream Habitat	SALMON FED PROJ	320,120	178,600	498,720
Kittitas Conservation Trust	Upper Yakima Protection-Hundley	SALMON FED PROJ	300,000	100,000	400,000
Kittitas Co Conservation Dist	Indian & Jack Creeks Culvert Replacements	SALMON ST PROJ	494,040	250,000	744,040
Yakima Basin FWRB	Yakima Regional Plan - 2007-2009	SALMON FED ACT	147,343		147,343
Cascade Land Conservancy	Big Creek Habitat Protection	SALMON ST PROJ	355,000	65,000	420,000
Mid-Columbia RFEG	Jack Creek Restoration Design	SALMON FED PROJ	58,320	10,450	68,770
Mid-Columbia RFEG	Swauk and Iron Creek Restoration Design	SALMON FED PROJ	71,862	12,700	84,562
Kittitas Co Conservation Dist	Teanaway- 3M Ditch Project	SALMON FED PROJ	328,500	57,970	386,470
Kittitas Conservation Trust	Nelson Creek Fish Passage Project R5	FFPPP-Grants	39,871	1,999	41,870
<b>TOTAL WRIA 39</b>					<b>\$2,981,278</b>

**Lead Entity Org: Yakima Basin FWRB LE**

Yakima County Corrections	Riparian Enhancement Team - Phase 2	SALMON FED PROJ	159,141	329,351	488,492
Yakima County Corrections	Riparian Enhancement Team - Phase 2	SALMON FED PROJ	159,141	329,351	488,492
Kittitas Co Conservation Dist	YTAHP Lower Reecer Creek Fish Passage	SALMON FED PROJ	216,220	75,944	292,164
Kittitas Co Conservation Dist	YTAHP Wilson Creek Riparian Restoration	SALMON FED PROJ	18,378	7,652	26,030
Kittitas Conservation Trust	Currier Creek Passage & Riparian	SALMON FED PROJ	371,688	141,000	512,688
Kittitas Co Conservation Dist	Cherry Ck Barrier Removal and Screening	SALMON FED PROJ	316,900	145,000	461,900
Kittitas Co Conservation Dist	Currier Creek-EWC Siphon & Screen	SALMON FED PROJ	255,050	444,174	699,224
Yakima County of	Naches River Floodplain Acquisition	SALMON FED PROJ	141,175	25,000	166,175
North Yakima Conserv Dist	Schneider Habitat Project Cowiche Creek	SALMON FED PROJ	112,701	60,299	173,000
South Central WA RC&D	Reecer Creek Floodplain Restoration	SALMON FED PROJ	403,730	488,506	892,236
Kittitas Conservation Trust	Taneum Creek Fish Passage	SALMON FED PROJ	281,429	440,000	721,429
Benton Co Conservation Dist	Lower Yakima River Assessment	SALMON FED PROJ	36,427	28,623	65,050
North Yakima Conserv Dist	NF Ahtanum Gauging Station Fish Passage	SALMON FED PROJ	152,471	28,083	180,554
North Yakima Conserv Dist	North Yakima County Fish Screening	SALMON FED PROJ	88,294	50,000	138,294
Cowiche Canyon Conservancy	Cowiche Creek Protection & Restoration	SALMON FED PROJ	277,140	200,060	477,200
Benton Co Conservation Dist	Lower Yakima River Restoration	SALMON FED PROJ	54,676	13,124	67,800
Cascade Land Conservancy	Wade Road Farm	SALMON FED PROJ	100,000	19,000	119,000
Yakima County Public Services	Upper Wapato Reach Restoration	SALMON FED PROJ	123,000	100,000	223,000
Kittitas Co Conservation Dist	Coleman Creek Irrigation Redesign	SALMON FED PROJ	110,755	19,545	130,300
Kittitas Co Conservation Dist	Manastash Creek Diversion Consolidation	SALMON FED PROJ	599,408	1,622,392	2,221,800
Fish & Wildlife Dept of	Wapato Reach Assessment	SALMON FED PROJ	142,630	25,175	167,805
Mid-Columbia RFEG	Large Wood Replenishment	SALMON FED PROJ	86,025	21,700	131,725
Benton Co Conservation Dist	Lower Yakima River Fish Screening	SALMON FED PROJ	115,362	32,368	147,730
North Yakima Conserv Dist	CCWUA Barrier Removal & Trust Water Project	SALMON FED PROJ	413,133	73,260	486,393

North Yakima Conserv Dist	Matson Barrier Removal and Trust Water	SALMON FED PROJ	201,702	40,000	241,702
Yakima County Public Services	Eschbach Park Levee Setback & Restoration	SALMON FED PROJ	122,608		122,608
					<b>\$9,842,791</b>

Sponsor	Project Name	Program	Program	Sponsor	Total
<b>Lead Entity Org: Yakima River Basin LE</b>					
Selah City of	Stormwater Management Plan	SALMON FED PROJ	95,000	3,000	98,000
Yakama Nation	Taylor Ditch Assessment & Restoration	SALMON FED PROJ	35,571	6,681	42,252
Kittitas Co Conservation Dist	Reestablish Access to Lower Wilson Creek	SALMON ST PROJ	108,266	179,355	287,622
Yakima County Parks & Rec	West Valley Community Park	SALMON ST PROJ	22,098	9,107	31,205
Tree Top Inc	Sprayfield Riparian Enhancement Project	SALMON FED PROJ	92,300	41,500	133,800
Fish & Wildlife Dopt of	Yakima & Naches Tributaries Rootwad	SALMON ST PROJ	32,112	93,397	125,509
North Yakima Conserv Dist	Buchanan Ranch Restoration Project	SALMON FED PROJ	215,065	63,252	278,317
Yakima County of	Floodplain Mining Study	SALMON FED PROJ	40,020	243,165	283,185
Yakima Valley Restitution Ctr	Yakima Corrections Ripar. Enhance. Team	SALMON ST PROJ	139,509	304,421	443,930
North Yakima Conserv Dist	Ahtanum Creek Fish Screens	SALMON FED PROJ	142,179	100,000	242,179
Northwest Service Academy	Lmmuma Restoration	SALMON FED PROJ	31,903	27,220	59,124
North Yakima Conserv Dist	Cowiche Creek Barrier Removal	SALMON FED PROJ	51,867	21,045	72,912
Yakima City of	Naches River Water Treat. Plant Screen	SALMON FED PROJ	300,000	1,534,357	1,834,357
Kittitas Co Conservation Dist	Coleman Creek Fish Access	SALMON FED PROJ	101,774	31,564	133,338
North Yakima Conserv Dist	Diversion 14 Fish Screen - Ahtanum Cr.	SALMON FED PROJ	218,900	48,524	267,424
Cowiche Canyon Conservancy	Snow Mtn Ranch Acq & Barrier Removal	SALMON FED PROJ	670,000	120,000	790,000
Yakama Nation	Lower Naches Critical Habitat Protection	SALMON FED PROJ	114,593	514	115,107
Yakima County of	Mid-Columbia Recovery Planning 03-05	SALMON FED ACT	386,922		386,922
Yakama Nation	Holmes Floodplain Property Protection	SALMON ST PROJ	123,000	22,346	145,346
					<b>\$5,770,529</b>

**Yakima Capital Investment**

Recipient	Project Name	Funding	Ecology Funds	Recipient Funds	Total funds
<b>UPPER KITTITAS WRIA 39 Capital investment</b>					
Irrigation Efficiencies	Big Creek WUA	Irrigation Efficiencies	\$ 312,500.00	\$ 55,147.06	\$ 367,647.06
City of Roslyn	Water Acquisition	Watershed Planning	\$ 400,000.00	\$ -	\$ 400,000.00
Kittitas Co CD	Upper Yakima Efficiencies	Watershed Planning	\$ 284,028.00	\$ -	\$ 284,028.00
<b>TOTAL</b>					<b>\$ 1,051,675.06</b>

**Upper Yakima**

Irrigation Efficiencies	Level Best Land	Irrigation Efficiencies	\$ 312,500.00	\$ 73,504.00	\$ 386,004.00
Irrigation Efficiencies	Vern Myer	Irrigation Efficiencies	\$ 150,000.00	\$ 26,471.00	\$ 176,471.00
Irrigation Efficiencies	Level Best Land	Irrigation Efficiencies	\$ 209,200.00	\$ 37,411.00	\$ 246,611.00
Irrigation Efficiencies	Jeff Brunson	Irrigation Efficiencies	\$ 312,000.00	\$ 71,722.00	\$ 383,722.00
Irrigation Efficiencies	Jack Eaton	Irrigation Efficiencies	\$ 125,000.00	\$ 22,059.00	\$ 147,059.00
Irrigation Efficiencies	John Wheatly	Irrigation Efficiencies	\$ 157,800.00	\$ 28,200.00	\$ 186,000.00
Irrigation Efficiencies	Burris Farms	Irrigation Efficiencies	\$ 114,900.00	\$ 20,300.00	\$ 135,200.00
Irrigation Efficiencies	Burris Farms	Irrigation Efficiencies	\$ 215,000.00	\$ 38,000.00	\$ 253,000.00
Irrigation Efficiencies	Steve Rosbach	Irrigation Efficiencies	\$ 413,125.00	\$ 96,768.00	\$ 509,893.00
Irrigation Efficiencies	Bull Canal	Irrigation Efficiencies	\$ 302,917.78	\$ 53,456.08	\$ 356,373.86
Irrigation Efficiencies	John Eaton	Irrigation Efficiencies	\$ 142,300.00	\$ 94,865.00	\$ 237,165.00
Irrigation Efficiencies	Jeff Brunson	Irrigation Efficiencies	\$ 218,365.00	\$ 38,535.00	\$ 256,900.00
USBR	Heart K Ranch	Water Acquisition	\$ 100,000.00	\$ 822,000.00	\$ 922,000.00
USBR	Buchanan	Water Acquisition	\$ 100,000.00	\$ 1,524,000.00	\$ 1,624,000.00
Kittitas Co CD	Manatash piping	Watershed Planning	\$ 1,980,000.00	\$ 850,000.00	\$ 2,830,000.00
Kittitas Co Conserv Trust	Tanenum fish passage	Watershed Planning	\$ 400,000.00	\$ -	\$ 400,000.00
Kittitas Co CD	Coleman Creek Efficiencies	Watershed Planning	\$ 290,000.00	\$ -	\$ 290,000.00
Kittitas Co CD	Lmuma Creek Efficiencies	Watershed Planning	\$ 210,000.00	\$ -	\$ 210,000.00
Yakama Nation	Simcoe Creek Efficiencies	Watershed Planning	\$ 119,912.00	\$ -	\$ 119,912.00
Kittitas Co CD	Manatash Intake replacement	Watershed Planning	\$ 2,240,000.00	\$ -	\$ 2,240,000.00
Kittitas Co Conserv Trust	Currierfish passage	Watershed Planning	\$ 147,000.00	\$ -	\$ 147,000.00
Kittitas Co CD	Currier Siphon	Watershed Planning	\$ 250,000.00	\$ 374,226.67	\$ 624,226.67
Wash Rivers Conserv	English Manatash WA	Drought Mitigation	\$ 11,130.00	\$ 9,375.00	\$ 20,505.00
Wash Rivers Conserv	Miller Manatash WA	Drought Mitigation	\$ 21,984.00	\$ 13,532.00	\$ 35,516.00
Wash Rivers Conserv	Graf Manatash WA	Drought Mitigation	\$ 16,923.00	\$ 10,417.00	\$ 27,340.00
Wash Rivers Conserv	Allon Manatash WA	Drought Mitigation	\$ 27,078.00	\$ 13,532.00	\$ 40,610.00
Wash Rivers Conserv	High Valley Ranch Manastash	Drought Mitigation	\$ 522,578.00	\$ 321,652.00	\$ 844,230.00
Kittitas Co CD	Little Naeum Siphon	Watershed Planning	\$ 64,693.87	\$ -	\$ 64,693.87
Kittitas Co Public Works	Naneum Siphon	Watershed Planning	\$ 213,331.00	\$ -	\$ 213,331.00

**Subtotal Upper Yakima** \$ 9,387,737.65 \$ 4,540,025.75 \$ 13,927,763.40

**Lower Yakima**

Irrigation Efficiencies	Selah-Moxee ID	Irrigation Efficiencies	\$ 413,125.00	\$ 181,468.00	\$ 594,593.00
USBR	Benton ID	YRBWEP	\$ 2,410,222.00	\$ 22,120,210.00	\$ 24,530,432.00
USBR	SVID Phase 2	YRBWEP	\$ 5,761,538.00	\$ 27,161,538.00	\$ 32,923,076.00
USBR	SVID Phase 2	YRBWEP	\$ 6,932,653.00	\$ 32,682,654.00	\$ 39,615,307.00

**Subtotal Lower Yakima** \$ 15,517,538.00 \$ 82,145,870.00 \$ 97,663,408.00

**Naches**

USBR	Wapatox Water Acquisition	Water Acquisition	\$ 1,000,000.00	\$ 6,000,000.00	\$ 7,000,000.00
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**Subtotal Naches** \$ 1,000,000.00 \$ 6,000,000.00 \$ 7,000,000.00

**Total Yakima** \$ 25,905,275.65 \$ 92,685,895.75 \$ 119,642,846.46