

Section 10

Recommendations

10.1 Introduction

The primary goal of the Level 1 assessment is to collect and synthesize the available information concerning water quantity and quality in WRIA 35. This information can then be used by the Planning Unit to assess the adequacy of the data in defining the basic hydrologic elements of the watershed, as well as establish the range of uncertainties as they relate to the development of the watershed management plan. In addition, this work is to lead to a prioritization of the type of information that will be needed during the Level 2 assessment activities, including refinement of data and analyses and/or the collection of additional data and information necessary to complete the overall objectives of the watershed planning effort.

Having completed the review of available data in Sections 2 through 9 of this report, the final steps of the Level 1 Technical Assessment are to:

- Summarize the adequacy of that data in addressing the information needed in developing the watershed management plan for WRIA 35;
- Identify the important issue(s) that must be resolved to proceed to Phase 3 of the planning process; and
- Make recommendations for future work in order to achieve that plan.

The latter will be used to prioritize needs for future data collection and outline the tradeoffs that exist between the costs associated with additional information collection and increased understanding of the water quantity and quality limits within the WRIA. Accordingly, this section highlights those areas for which future work under Level 2 may be needed.

10.2 Adequacy of Existing Data

This section includes a discussion of the adequacy of data reviewed under this Level 1 assessment for completing the watershed plan. The primary data gaps associated with each data category is summarized along with recommended actions to address priority data gaps. Many of these data gaps involve long-term data collection and analysis, and will require an adaptive management framework for incorporating this new information. This should be addressed as part of the implementation of the watershed plan.

10.2.1 Climatological Data

Based on the assessment conducted, sufficient precipitation data is currently available for WRIA 35 to support future hydrologic modeling. This data will be useful in quantifying the long-term character of precipitation for the watershed and establishing a basis for quantifying the amount of net water available each year within each implementation area. The data poses limitations in that the periods of record are not the same, and spatial resolution is coarse, because there is generally only one station per implementation area. However, the annual mean precipitation isopleth GIS coverage obtained from the Washington Department of Ecology (DOE) provides an important starting point for understanding the watershed's basic water balance.

Evapotranspiration (ET) information is lacking and is an important element of the overall water balance for WRIA 35. ET estimates used in the water balance (Section 8) were based on preliminary empirical method. As a result, there may be a need to generate this data as part of any future refinements to the water balance. Estimates of ET may involve the following Level 2 Assessment activities as part of instream flow assessment:

- Compilation of vegetative transpiration data;
- Compilation of climatological data such as wind and humidity; and
- Potential for formal climatological modeling (including temperature).

10.2.2 Planning Data

There are essentially two main data areas covered under planning: (1) land use data and (2) future population and demand projections. Discussions concerning data adequacy for each are outlined in their respective subsections below.

Land Use Data

Understanding historic and future land use changes is an important aspect to the overall watershed planning process. Activities such as deforestation, urbanization, riparian area reduction, and agriculture can each have great impact on basin-scale water quantities and quality. In order to address these issues, one would like to have access to fairly detailed land use planning data. Under the Growth Management Act, Columbia and Garfield counties are required to develop a comprehensive plan with land use and zoning, while Asotin and Whitman counties are only required to have the critical areas and resource lands (CARL) designation portion of the GMA. Columbia and Garfield counties are in the process of developing their comprehensive plan and as a result, have limited available data regarding urban and rural land uses or projected land use changes. As additional information is made available, work should be established to examine more comprehensively the potential impacts on area water resources resulting from these plans. In particular, this work would be directed at improving the knowledge base with regards to point and non-point sources of pollution across the watershed.

There is relatively limited urban development projected in the watershed, but agricultural land uses may change. Priorities for further assessment are related to areas adjacent to streams with instream flow and habitat needs, specifically in the following areas:

- Clarkston municipal area where urbanization impacts are most likely
- Land use along priority streams based on instream flow, habitat, and water quality concerns (priority areas are further discussed in the Instream Flow Studies section below)
- Agricultural land use practices (e.g. number of irrigated acres) along priority streams, including irrigation practices and inventorying crop types where water is being used

Future Population and Demand Projections

In general, adequate data was available for quantifying present and future populations in the WRIA. The approach to project population in the unincorporated areas of WRIA 35 relies on county data published by Washington State's Office of Financial Management (OFM). A percentage of total unincorporated county population was attributed to the portions of each county within WRIA 35, and a similar apportionment of unincorporated population was performed for each implementation area. The population numbers were used to derive water demand projections in the WRIA. Basic assumptions had to be made with regards to the future demands for water in the unincorporated areas. Notwithstanding, the overall demand for water within WRIA 35 is so small compared to the net available water that the need to further refine these numbers is not of particular importance. The numbers produced as part of the summaries presented in Section 2 are thought adequate for future watershed planning efforts. Future revisions of these numbers may be justified if planning resources are available after more important issues have been addressed. More specific and detailed analysis of usage and practices may be needed to develop management strategies appropriate for local areas along or adjacent to priority streams.

10.2.3 Water Rights

In general, the information contained in the WRATS database provides adequate information to determine the water rights (both primary and supplemental) assigned throughout the WRIA. The database itself provides comprehensive summaries of the permits, certificates, and claims that are currently on file for each implementation area. These numbers, however, do not necessarily reflect actual use nor do they define the potential for future appropriation either through resolution of claims or authorization of outstanding applications. In addition, the database does not provide detail as to the restrictions regarding the use of supplemental rights. Aside from the issue of unresolved claims, the lack of knowledge indicated by these missing elements does not constitute a significant fraction of the overall available water within the watershed. Accordingly, as suggested for the refinement of the demand projects, additional work in resolving the water rights may be done after more important elements have been addressed. Moreover, that claims data and applications should be monitored and periodically added to the existing water rights information as they are resolved and a formal right authorized.

10.2.4 Surface Water Data

There are two main data areas covered under surface water data: (1) addressing actual gauged stream flow and (2) reviewing the status of the instream flow setting process and instream flow studies. Discussions concerning the data adequacy for each are outlined below.

Gauged Stream Flow

The two factors determining the usefulness of stream flow data include its location and its period of record. In general, historical gauged stream flow data exists throughout the WRIA. However, few of these stations are still in use (see Sections 3 – 6) and some of the locations may not be appropriate for the emerging management priorities of the basin. Several new gauges have recently been installed by Ecology and Washington State University, but the periods of record are short. The mainstems generally have adequate data for estimating stream flows, but many of the tributaries either have no gauges or new gauges have a very short period of record.

From information collected under the Level 1 Assessment, priority streams will be identified for stream flow management and setting instream flow levels where sufficient information exist to do so (refer to “Instream Flow Studies” section below). With this in mind, Level 2 Assessment and Phase 3 planning work should focus on the following activities and considerations:

- Several stream gauges have been installed by the Washington Department of Ecology in partnership Basin stakeholders to facilitate management of important surface water resources. An extended period of record is needed for the stream gauge data to be useful in statistically estimating expected flows in a given stream. Therefore, immediate application of data collected from newly installed gauges will be limited to model calibration purposes and instantaneous flow comparisons.
- Adaptive management techniques will need to be developed as gauge stream flow data period of record increases and more meaningful estimates of expected flows are generated. Future data analysis can also be conducted to address specific management issues surrounding seasonal variation in flow and historical occurrences of flooding and drought.
- Finally, there is a need to further examine the stream flow data in assessing the baseflow component from ground water returns, as well as to potentially identify gaining and losing reaches within the major basins in the WRIA. Further resolution of the ground and surface water interaction will greatly enhance the knowledge base surrounding the overall water balance in each implementation area.

Instream Flows

No formal minimum instream flows have been set in WRIA 35 by State rule. However, surface water source limitations (SWSL) closing or defining low flow limits have been established in several streams. Instream flow studies have been conducted for Tucannon River and Asotin Creek. The Tucannon studies are summarized in Section 9, while the Asotin Creek study is

pending from Ecology. The out-of-stream and instream demands, instream flow studies, SWSLs and gauging information described above provide a starting point for *identifying* priority areas for establishing minimum instream flows in the Basin. However, the existing quantity and quality of available data limits the ability *to set* instream flows in much of the Basin at this time. Setting meaningful and technically defensible instream flows requires some basic components: (1) an active stream gauge; (2) historical flow data; and (3) instream flow study (e.g. IFIM or other method). In essence, instream flows can potentially be established for Tucannon River and Asotin Creek. To determine other locations where minimum instream flows could be set, information from the Level 1 Assessment should be further examined, along with fish distribution information, habitat needs, and fish priorities. The subbasin planning efforts within WRIA 35 and existing IFIM studies by Ecology and WDFW provide a foundation to prioritize reaches and identify areas for additional instream flow study in the Level 2 assessment.

The following activities are recommended to address the instream flow assessment needs:

- A comprehensive strategy for managing stream flows should be developed including whether or not setting instream flow levels are required to implement the strategy.
- Collect and analyze water quantity information relevant to implementing the flow management strategies for the priority streams. This includes improved understanding of existing surface water diversions, ground water withdrawals and aquifer properties, and existing land uses and planned changes in land. Part of this new information will come in the form of expanded or extended periods of record for stream flow monitoring.
- Conduct additional instream flow studies on priority reaches that currently do not have results. These studies may involve methods other than IFIM.
- As part of developing an adaptive management strategy, an initial investigation should be conducted to identify potential long-term water supply options, including off-stream storage, shallow aquifer recharge (untreated water), aquifer storage and recovery (treated water), conservation, and reuse (treated water). This work should identify possible strategies and locations for implementation as well as anticipated planning level cost estimates that may be required for program development or capital improvements. This work can be completed with existing data and revised as new information becomes available, e.g. from the Level 2 storage assessment.

10.2.5 Ground Water Data

The majority of existing geologic and hydrogeologic information utilized in the ground water resource assessment is based on existing regional studies of the Columbia River Basin. Significant resources are often necessary to improve understanding of ground water systems. Thus, although several recommendations for additional data is presented below, it should be kept in mind that these are important only in cases where ground water resources are critical for water supply or where instream flows are critical. Where there is minimal future demand for ground water as baseflow or for withdrawal, these recommendations for further work are less important.

Primary data needed to support planning objectives and improve the ability to better understand the effects of future demands include the following:

- Local-scale hydraulic properties of the water bearing strata including porosity, specific yield, and storativity values, as well as water levels to estimate extent of 1) potentially developable groundwater that resides in storage, and 2) inter-basin groundwater movement between implementation areas and extent of upward flow of groundwater from deeper to shallower aquifers.
- Distribution and pumping rates from wells other than Group A and B wells to allow a more accurate assessment of total groundwater pumping rates within each sub-basin and the distribution of pumping wells. Information regarding recent water levels within wells should be augmented and refined based on analysis of available raw data
- Additional data can be collected to determine the hydraulic continuity between surface water and ground water. Particular streams can be identified based on where stream flow protection is prioritized, as discussed earlier. This includes identification and future examination of canal and streambed leakage. Periodic ground water level data should be collected to assess seasonal changes due to recharge and discharge along priority surface streams for habitat. Any proposed locations for new stream gauges for stream flow measurement should be coordinated with locations for ground water level monitoring.
- Review site-specific well logs in locations of unique concern with respect to groundwater resources, including areas of intensive groundwater usage and areas where data on hydraulic continuity is limited. This will increase understanding of the physical extent of the aquifers and will enhance the accuracy of estimates of aquifer properties, including yield, flow fluctuations, and interaction with surface waters.
- Improve estimates of discharge from the basalt aquifer to the mainstem rivers including Tucannon, Snake and Grande Ronde Rivers. This information is not as critical to protection of stream flows, but would be useful in improving and updating the water balance for the basin as a whole.
- As part of the Level 2 storage assessment, the ability to manipulate recharge and discharge in the basalt aquifer should be considered. Well logs from the Ecology have been downloaded, but only a cursory review has been conducted under this Level 1 Assessment. As part of the Level 2 assessments for storage and/or instream flow, these well logs can be further evaluated as part of this effort.

10.2.6 Water Balance

The purpose of developing a preliminary water balance is to enable the Planning Unit to determine water availability and water uses throughout WRIA 35. From this, one is able to assess the need to further refine these estimates and the relative importance of each hydrologic pathway. Only a crude estimate of the water balance within the WRIA could be generated primarily because of the limited information on evapotranspiration and the ground water system,

especially as it relates to hydraulic continuity (transfer of water between the surface and groundwater systems). These two components among all others are the dominant source of error in the present water balance estimate. Given the noted data limitations, the numbers presented in Section 8 represent a framework around which to direct future data collection and improve the basic understanding of water resources in each sub-basin.

One other important factor precluding an accurate water balance at the drainage basin scale is the limited stream flow gauging data. Gauges recently installed provide the ability to quantify stream flows over more areas throughout the basin, but periods of record are still limited. This information will be useful in setting future flows and monitoring benefits achieved through water management strategies.

In addition, there is a need to further examine the stream flow data to better understand the hydraulic continuity between surface and groundwater resources, specifically to identify gaining and losing reaches within the WRIA. In general, the stream flow gauge data currently available, in conjunction with the new gauging stations should provide an adequate platform for addressing the various surface water planning issues in the WRIA. However, several years of data are needed to be able to develop hydrologically valid estimates of available flow on newly gauged streams, and therefore the water balance estimate should be reviewed and updated over time.

10.2.7 Water Quality Data

Water quality data are covered under two main elements: surface water and ground water, each with distinctive data sets identified as part of this assessment. For surface waters, the amount of data is relatively abundant. By contrast, the ground water data is limited. Discussions concerning the data adequacy for each are outlined in their respective subsections below.

Surface Water Quality Data

Adequacy of the surface water quality data can be viewed in terms of defining impairment with respect to: (1) the Clean Water Act (303[d]), i.e. drinking water supply; and (2) the Endangered Species Act, i.e. impacts on fish habitat. With respect to drinking water supply, primary water quality parameters of concern include chemical pollution and bacteria, while principal parameters of interest for fish habitat are those of temperature, dissolved oxygen, and sediment (turbidity). Data on temperature is available from various gauging stations throughout the WRIA, while data on other surface water quality parameters such as chemical pollution, sediment, dissolved oxygen levels, etc. is primarily available from Ecology monitoring stations and consequently is very limited in scope. Specifically, the availability of toxics monitoring is most limited in the basin.

Based on the available water quality data, temperature and sediment are the primary issues affecting habitat, while fecal coliform issues have been identified as issues for drinking water use. Specifically, elevated temperatures and sediment loadings in Pataha, Tucannon, and the Snake River have been identified. Water quality deficiencies in the watershed also affect

drinking water supplies. Fecal coliform has been identified as a concern in Asotin and Pataha Creeks, requiring TMDLs and clean-up plans.

Besides overall data availability, the major question surrounds the manner and location in which that data is being collected. In particular, the general collection of water quality data is relatively scattered and lacking in definitive rationale with regards to actual pollution sources. There are numerous state and federal agencies involved, each collecting their own data under their own management standards, protocols, record-keeping, and geographical units of organization. As a result, accessibility and coordination of data sets is lacking.

Finally, the connection between land use and water quality needs to be clarified for planning purposes. To determine effective strategies for water quality enhancement, watershed plan elements will focus on limiting water quality impacts from various types of land use. Thus, a greater understanding of this connection will enable determination of potential improvements.

In order to improve understanding of water quality impacts and ways to address these issues in the watershed management plan, the following further assessments can be done:

- Temperature issues throughout the watershed and sediment in the Tucannon River and Asotin Creek is being addressed through implementation of the Asotin, Lower Snake, and Tucannon Subbasin Plans. However, these subbasin plans have not proposed objectives to address sediment in the Pataha nor fecal coliforms in lower Asotin Creek. Therefore, it is recommended that the Level 2 assessment focus on sediment and fecal coliform issues in those areas where 303(d) listings are present, but where subbasin planning will not be implementing enhancement actions. Specifically, the focus should be on sediment loading on Pataha Creek and fecal coliform in both Asotin and Pataha Creeks.
- Establishment of a comprehensive monitoring strategy for the basin with a centralized data clearinghouse (building off existing work being conducted by Paladin, Inc. for the Conservation Districts) to meet future regulatory demands and support watershed plan development, implementation, and progress monitoring. This strategy should identify both short- and long-term monitoring objectives and coordinate on-going monitoring efforts across multiple agencies and participants. This work could also address informational needs for complying with the CWA and ESA. Specifically, data collection efforts should be coordinated by the Washington Department of Fish and Wildlife (primarily temperature data) and the Washington Department of Ecology (temperature, fecal coliform, pH, and toxics).
- Review of Ecology's TMDL program to identify areas where monitoring currently exists in comparison to the basin's needs as identified in the Level 1 Assessment. Recommendations can be made to the TMDL program for expanded monitoring throughout the WRIA. TMDL water quality monitoring and Level 2 data collection efforts can be closely tied to avoid overlap, including both the monitoring locations and factors of interest.
- Additional data needs outside the scope of the TMDL program could be identified and an additional monitoring program can be developed specifically as part of the recommendations of the Watershed Plan.

Ground Water Quality Data

With the exception of monitoring data from city production wells, most of the ground water quality data is regional in nature. Information reviewed in this Level 1 Assessment is based on knowledge of ground water quality of the Columbia River Basalt aquifers. Asotin PUD has collected ample ground water quality data from their production wells, which indicates generally good water quality for drinking water purposes. Information is also available from city production wells and private irrigation wells, although these were not reviewed as part of this Level 1 assessment. Consequently, plans should be put into place to seek additional data sources and identify critical points of interest where actual field sampling efforts may be needed. Such efforts should focus only on those areas where ground water is most readily available and used or where known ground water quality issues exist, such as near Anatone and Ten-mile Creek.

To address these potential ground water quality issues the following should be considered as part of the Level 2 Assessment:

- Ecology and USGS databases or county records could be researched further to identify any sampling from private domestic or irrigation wells or municipal production wells that may have been sampled for water quality. If needed during the planning phase, this data should be located and reviewed. This activity should be coordinated with all sampling efforts conducted to enhance the understanding of ground water quantity, including any proposed water level monitoring.
- Locations for collecting any additional ground water quality data should be coordinated with priority areas for drinking water supply and those areas where ground water discharge may impact surface water quality and fish habitat. This activity should be coordinated with all sampling efforts conducted to enhance the understanding of ground water quantity, including any proposed water level monitoring.

10.2.8 Habitat

Habitat conditions were not reviewed as part of this Level 1 Assessment document. The Planning Unit is relying on the subbasin planning efforts for the Lower Snake River, Tucannon River, and Asotin Creek subbasins for the habitat assessment, along with the state salmon recovery planning currently underway. Generally, subbasin planning has identified flow conditions in some streams as a limiting factor for fish habitat. Temperature has also been identified in many parts of the basin as a limiting factor. Since temperature is strongly related to the amount of flow in the streams, this is an indication that limited flows occur in these areas as well. However, flow has not been identified as a priority limiting factor. Additional assessment needs to occur to determine the priority instream flow needs and conflicts in the basin. Further assessment is needed to prioritize the locations in the basin where instream flow management is most important.

Areas where some flow limited conditions may exist include reaches in the Tucannon River and Asotin Creek subbasins. However, the relative impact of water withdrawals versus natural conditions in these reaches is unknown. Within the Tucannon River subbasin, the specific priority areas for increasing base flows are on the mainstem Tucannon from the confluence with Pataha Creek up to the hatchery. In the Asotin Creek subbasin the specific priority area for increasing base flows are in Lower George Creek. There are also elevated temperature issues in Lower George Creek and in Upper Asotin Creek and Lower South Fork Asotin. There may be other important areas for flow management from an instream and out-of-stream considerations.

10.3 Recommendations for Future Work

Although the list of proposed needs identified in the previous sections may not be exhaustive, it does identify the more relevant work needed in moving forward with a long-term watershed management plan for WRIA 35. Because of limited economic resources available under Level 2 assessment and Phase 3 planning, not all of the work can be completed. Hence, some form of priority must be established in comparing the benefits derived from those projects in relation to the resources required for their completion. Table 10-1 outlines the recommended priorities and relative comparison of costs. Several of the data gaps have already been funded for further work under the Level 2 assessment for instream flows, storage, or water quality. These are also noted in Table 10-1.

The priority rating in Table 10-1 is presented in terms of “Low,” “Medium,” or “High.” The rating is based on a qualitative assessment of how necessary the data is for completing the watershed management plan. In some cases, the data is not available, but current understanding of the watershed suggests that management recommendations and policies can still be developed. A “low” rating generally means that related information was reviewed and it will not likely impact recommendations within the watershed plan. A “medium” rating is generally given when the data was not evaluated at all under the Level 1 Assessment and would provide information to complete the overall assessment. A “high” rating would be given to any data gap that precludes the management plan from being developed. Note that no “high” priorities were given.

**Table 10-1
Summary of Recommended Priorities for Additional Work**

Data Category	Description	Relative Costs ⁽¹⁾	Priority	Funded in Level 2 Assessment?
Evapotranspiration	Conduct a more detailed estimate of evapotranspiration. Information could be synthesized (or modeled) from other existing climatological data (e.g. wind speed and humidity) to create local estimates on a sub-basin scale.	Medium	Low	No
Land Use	Quantify the impacts from changing timber and agricultural practices, as well as growth (or decline) of municipal and industrial activity. The focus of this work would be to examine historical changes in land use and link those potentially to changes in water quantity or quality. Conduct a detailed land use review along priority streams based on instream flow, habitat, and water quality concerns.	Low	Low	Partial – Under Instream Flow Assessment
Water Use	More specific and detailed analysis of usage and practices may be needed to develop management strategies appropriate for local areas along or adjacent to priority streams; improved understanding of existing surface water diversions and ground water withdrawals	Low	Medium	Partial – Under Instream Flow Assessment
Water Rights	Additional work in resolving the water rights may be done after more important elements have been addressed. Claims data and applications could be monitored and periodically added to the existing water rights information as they are resolved and a formal right authorized.	Low	Medium	Partial – Under Instream Flow Assessment
Stream Flow	Further examine stream flow data in assessing the baseflow component from ground water returns, as well as identify gaining and losing reaches within the major basins in the WRIA.	Medium-High	Medium	Partial – Under Instream Flow and Storage Assessments
Instream Flow	Conduct additional instream flow studies on priority reaches that currently do not have results. Instream flow studies may involve IFIM method or other methods approved by Ecology. Costs will depend on the type of method used and the number of locations	Low-Medium	Medium	Potential – Under Instream Flow Assessment

**Table 10-1
Summary of Recommended Priorities for Additional Work**

Data Category	Description	Relative Costs ⁽¹⁾	Priority	Funded in Level 2 Assessment?
Stream Flow Management	Initial investigation should be conducted to identify potential long-term water supply options, including off-stream storage, shallow aquifer storage and recovery (treated), conservation, and reuse (treated). This work should identify possible strategies and locations for implementation as well as anticipated planning level costs estimates that may be required for program development or capital improvements.	Medium	Medium	Partial – Under Instream Flow and Storage Assessments
Ground Water – Aquifer properties	Local-scale hydraulic properties of the water bearing strata including porosity, specific yield, and storativity values, as well as water levels to estimate extent of 1) potentially developable groundwater that resides in storage, and 2) inter-basin groundwater movement between implementation areas.	High	Medium	No
Ground Water Pumping	Distribution and pumping rates from wells to allow a more accurate assessment of total groundwater pumping rates within each sub-basin and the distribution of pumping wells. Information regarding recent water levels within wells should be augmented and refined based on analysis of available raw data	Low	Medium	No
Ground Water – Hydraulic Continuity	Additional data needs to be collected to determine the hydraulic continuity between surface water and ground water. Better estimates are needed in the regional water balance of the amount of recharged water that actually returns locally to adjacent streams or infiltrates further to become part of a deeper regional ground water flow system. This work can be conducted by detailed analysis of ground water monitoring data (water levels) and stream flow records that would be incorporated into a comprehensive computer modeling for the WRIA. The usefulness of such a tool would largely depend on the calibration effort used to verify the model and the availability of associated data.	High	Medium	No
Ground Water – Recharge and Discharge Patterns	Improve estimates of discharge from the basalt aquifer to the mainstem rivers including Tucannon, Snake and Grande Ronde Rivers. This information is not as critical to protection of stream flows, but would be useful in improving and updating the water balance for the basin as a whole.	High	Medium	No

**Table 10-1
Summary of Recommended Priorities for Additional Work**

Data Category	Description	Relative Costs ⁽¹⁾	Priority	Funded in Level 2 Assessment?
Ground Water – Storage	Also, as part of the Level 2 storage assessment, the ability to manipulate recharge and discharge in the basalt aquifer should be considered. Well logs from the Ecology have been downloaded, but only a cursory review has been conducted under this Level 1 Assessment. As part of the Level 2 assessments for storage and/or instream flow, these well logs can be further evaluated as part of this effort.	Medium	Medium	Partial – Under Storage Assessment
Water Quality – Source assessment	Level 2 assessment focus on sediment and fecal coliform issues in those areas where 303(d) listings are present, but where subbasin planning will not be implementing enhancement actions. Specifically, the focus should be on sediment loading on Pataha Creek and fecal coliform in both Asotin and Pataha Creeks.	Medium	Low	N
Water Quality – Monitoring strategy	Establishment of a comprehensive monitoring strategy for the basin with a centralized data clearinghouse to meet future regulatory demands and support watershed plan development, implementation, and progress monitoring; Additional data needs outside the scope of the TMDL program could be identified and an additional monitoring program can be developed specifically as part of the recommendations of the Watershed Plan	Medium	Medium	Partial – Under Water Quality Assessment
Water Quality – TMDL prioritization	Review of Ecology’s TMDL program to identify areas where monitoring currently exists in comparison to the basin’s needs as identified in the Level 1 Assessment. Recommendations can made to the TMDL program for expanded monitoring throughout the WRIA.	Medium	Medium	No
Water Quality – Ground water data	Ecology and USGS databases or county records could be researched further to identify any sampling from private domestic or irrigation wells or municipal production wells that may have been sampled for water quality. Locations for collecting any additional ground water quality data should be coordinated with priority areas for drinking water supply and those areas where ground water discharge may impact surface water quality and fish habitat.	Medium	Low	No

(1) Relative costs are based on planning level estimates as follows: Low: \$5,000 - \$15,000; Medium: \$15,000 - \$50,000; and High: >\$50,000