

# THE WILLIAM D. RUCKELSHAUS CENTER

UNIVERSITY OF WASHINGTON

## Managing Many Waters: An Assessment of Capacities for Implementing Water and Fish Improvements in the Walla Walla Basin

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# Preface

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# Contents

Preface.....	ii
Contents .....	iii
Executive Summary .....	iv
I. Introduction.....	1
A. Purpose of the Report.....	1
B. Focus on the Washington Side of the Basin .....	3
C. Brief History of Water Management in the Basin .....	4
D. Current Water Challenges.....	6
E. Water and Fish-Related Planning and Rule-Making Efforts .....	11
F. The Water Management Initiative .....	13
G. Water and Fish Efforts by the Confederated Tribes of the Umatilla Indian Reservation.	14
H. Summary .....	14
II. Conditions Influencing Implementation .....	16
A. Multiple Planning Documents .....	16
B. Multiple Entities Providing Coordination and Leadership.....	17
C. Independently Implemented Projects.....	21
D. Assessment of Conditions in the Basin.....	25
E. Summary .....	27
III. Objectives, Capacities, and Gaps .....	29
A. Implementing Water and Fish Improvements.....	30
B. Optimizing Water Resource Use .....	35
C. Creating a Shared Governance Mechanism for Water Management.....	37
D. Summary .....	40
IV. Considerations for Establishing a Shared Governance Mechanism.....	42
V. Conclusion .....	46
VI. Appendices .....	47
A. Abbreviations.....	47
B. References.....	48
C. Governance Lessons from Other Ecosystem Efforts .....	49
D. WRIA 32 Community-Supported Actions from the Detailed Implementation Plan.....	51
E. William D. Ruckelshaus Center.....	53

# Executive Summary

The Cayuse Indians gave the Walla Walla its name, which means “many small waters.” The Walla Walla Basin once contained plentiful water in springs, streams and rivers, but as people increasingly settled in the area, rising demand for water created a variety of water management challenges. Since the 1880s, more surface water has been appropriated during certain times of year than is available in the Walla Walla River. This has led to seasonal dewatering of some river stretches, declining groundwater levels, and harm to federally protected fish. As a result, many farming operations have been modified and irrigation has been curtailed in order to return water to the river and recover fish. Recent water policy proposals on the Washington side of the basin demonstrate that water restrictions will soon affect additional sectors of the community, including rural residential development and other economic activities.

To address the basin’s water management challenges, water users and watershed managers in the Walla Walla Basin—in conjunction with the Confederated Tribes of the Umatilla Indian Reservation and the Washington State Department of Ecology—are exploring ways to improve water, fish, and other environmental outcomes while supporting agriculture and other water-related activities that serve the local economy. Since 2000, basin entities have completed hundreds of projects resulting in increased instream flow, reintroduction of spring Chinook, and a monitoring framework to gain greater understanding of the hydrological system. They are now seeking ways to organize and focus their efforts to more effectively and efficiently achieve their goals. To do this, they have established three operational objectives: implement water and fish improvements, optimize water resource use, and create a shared governance mechanism to provide a forum for local involvement and support water and fish improvements. Primarily, they are seeking a mechanism that can integrate water and fish-related plans, policies and activities to create a consistent vision and mutually reinforcing implementation effort in the basin.

The purpose of this report is to provide information and analysis that will help watershed managers and the basin communities enhance existing coordination and governance efforts to achieve on-the-ground water and fish improvements in the basin. As a precursor to establishing a shared governance mechanism on the Washington side of the basin,<sup>1</sup> watershed managers are seeking to understand what capacities are currently present in the basin to support water and fish efforts and where gaps in capacities may exist. This study attempts to address these questions by providing insights and perceptions from more than fifty people familiar with water management in the Walla Walla Basin and integrating relevant research that could help watershed managers assess their current conditions and consider improvements. This report does not define what form a shared governance mechanism might take, as this will be the task of a future step in the process. However, this report does provide the outlines of what that mechanism might involve, and it offers essential information to begin designing it. This report is intended to spur discussion as the basin community, including the tribes and the state, considers how to effectively and efficiently address water and fish issues going forward.

This appears to be an opportune time to assess needs and capacities and consider improvements in the basin because many organizations and activities are currently undergoing transition. The first transition is a shift in focus from planning to implementation. Since 2000, members of the

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<sup>1</sup> The geographic focus of this report is on the Washington side of the basin. Separate but concurrent efforts are underway to link water management in the basin across the Oregon-Washington state line.

Walla Walla community—in conjunction with the Washington State Department of Ecology and Confederated Tribes of the Umatilla Indian Reservation—have been developing a variety of water and fish-related plans, initiatives, rules and policies. Now that much of the planning work is complete, watershed managers are shifting their focus to consider how to implement those plans, initiatives and policies to achieve their water and fish goals. These managers recognize that the functions, structures, and capacities needed to implement water management may be different from those that supported the planning processes. Second, water users and watershed managers are seeking to establish the Water Management Initiative, which is an emerging effort to create a local water management system in the Walla Walla Basin that will support fish recovery while maintaining the agricultural base and other economic drivers. The initiative would provide increased flexibility for water management in order to achieve flow and other performance measures. Implementing the initiative would involve undertaking additional decision-making and management responsibilities and functions at the local level. And third, a number of entities that have played central roles in water and fish planning and implementation efforts are making changes to their mission or activities. These include the WRIA 32 Planning Unit, Snake River Salmon Recovery Board, Walla Walla Watershed Alliance, and Walla Walla County. A new entity—the Water & Environmental Center—will also be opening soon. These organizational changes, coupled with the shift from planning to implementation and the additional local responsibilities envisioned under the Water Management Initiative, could influence the range of functions needed to achieve water and fish improvements and how basin entities are organized to achieve them.

## **Basin Capacities and Accomplishments**

Interviews and analysis suggest that the Walla Walla Basin has much of the capacities needed to implement water and fish improvements, optimize water resource use, and establish a shared governance mechanism. The basin's capacity to achieve its water and fish goals is demonstrated by a wide variety of accomplishments. These include:

- **Planning and assessment efforts.** At least 17 planning and assessment efforts have been undertaken in the basin, including four basin-level water and fish plans, a flow enhancement feasibility study, four Comprehensive Irrigation District Management Plans (CIDMPs), development of the Water Management Initiative, and others.
- **On-the-ground projects.** Numerous on-the-ground projects have been completed or are on-going, including many irrigation efficiency projects, water conveyance piping projects, shallow aquifer recharge projects, aquifer storage and recovery wells, and removal of at least 10 fish passage barriers. Basin entities have also installed more than 200 water meters, 310 fish screens, 180 miles of riparian buffer, and 300 in-stream structures to improve fish habitat. In addition, irrigation districts are by-passing about 30 percent of their legally divertible water to maintain streamflows in the Walla Walla River, and a fish acclimation facility has been established that releases about 500,000 spring Chinook smolts into the Walla Walla River each year.
- **Science, monitoring and data collection.** A wide variety of technical studies have been completed or are on-going in the basin related to instream flow, water quality, water storage, groundwater assessments, shallow aquifer recharge, and salmon and bull trout lifecycle needs.

Since 2000, these activities have returned water and fish to the Walla Walla River, increased and improved aquatic habitat, and provided knowledge to help guide future work. They have

reversed trends over the past century in water and fish conditions and they demonstrate the capacity of basin entities to work together to achieve water and fish goals. These accomplishments were recognized nationally at the 2005 White House Conference on Cooperative Conservation.

## **Opportunities for Improvement**

Although much has been accomplished, many interviewees voiced aspirations to increase the basin's ability to address its water challenges. While the basin appears to have much of the capacity needed to achieve its water and fish goals, the analysis also suggests that those capacities are currently fragmented and not efficiently organized. Interviewees suggest that this has led to a variety of organizational and coordination challenges that reduce the effectiveness of efforts to implement water and fish improvements. The interviewees and analysis suggested areas where improvements could be made.

The basin has developed three water and fish plans (Watershed, Subbasin, and Salmon Recovery plans) and is currently developing a Habitat Conservation Plan and the Water Management Initiative. While watershed managers have striven to make these plans consistent with one another, each plan has its own sponsor, purpose, goals, geographic scope, and entities responsible for developing and implementing it. Consequently, the plans establish independent goals and mandates that can conflict at times. The basin does not have a unified plan that integrates water and fish goals, covers the entire basin, and prioritizes resource allocation and implementation actions across the range of needs. Some interviewees suggested that this has contributed to a fragmented and disconnected system for allocating resources and implementing projects that has reduced the effectiveness and impact of the efforts.

In addition, at least eight entities or groups appear to be independently performing coordination, priority setting and resource allocation roles in the basin. These include WRIA 32 Watershed Planning Unit, Snake River Salmon Recovery Board, Confederated Tribes of the Umatilla Indian Reservation, Walla Walla County Conservation District, Columbia Conservation District, Priority Projects Group, Walla Walla Watershed Alliance, and the Water & Environmental Center. Furthermore, more than 20 groups, boards or committees meet periodically in the basin to support specific dimensions of water and fish activities. Interviewees suggested that some of these entities and groups perform redundant functions, require excessive time to participate in, and therefore reduce the effectiveness of the participants—because participants spend time in redundant meetings, and of the entities—because entities have difficulty getting participation of key people. In addition, some entities and committees receive independent funding and are allocating resources for projects that some interviewees suggest are inconsistent with the publicly developed goals and priorities.

The large number of groups independently setting priorities and allocating resources led interviewees to express concern that projects are insufficiently coordinated and not always targeted toward the highest priorities. Thus the incremental benefits from some projects are less noticeable, and projects are less able to benefit from the cumulative improvements of other projects in priority areas. Some also noted that these conditions make it difficult to gain a basin-wide accounting of efforts and outcomes in order to demonstrate effectiveness and proper use of resources to the public and to funders. Funders are also reportedly unsure at times which groups to work with when seeking to support water and fish efforts in the basin. Many interviewees

expressed a preference for streamlining, simplifying, and merging entities and efforts to improve efficiency and focus operations.

## Considerations for Establishing a Shared Governance Mechanism

If watershed managers and institutional leaders conclude that the current structure can be improved, insights from interviewees and the experience of other watershed efforts suggest the following considerations for establishing a shared governance mechanism:

- **Focus on achieving water and fish improvements** to gain credibility and promote public perception of momentum and results.
- **Engage all the entities and interests that might be affected by the governance mechanism** to ensure inclusiveness, transparency and equitable outcomes.
- **Inform and engage the public** to help build public support for water and fish efforts and encourage greater participation in projects and activities that improve water and fish outcomes.
- **Ensure sufficient expertise and resources to perform the needed functions** so that capacity is available when needed.
- **Address concerns about risk and liability** to remove barriers for entities to support implementation of innovative projects.
- **Consider altering or merging some existing entities** to reduce redundancy and increase efficiency and effectiveness of water and fish efforts.
- **Consider how to establish appropriate representation and participation** to maintain credibility and accommodate the roles and interests of groups inside and outside the basin.
- **Beware of creating a resource intensive bureaucracy** that would consume energy and resources rather than promote effective and efficient actions toward water and fish goals.
- **Structure the governance mechanism to accommodate change** so that it can incorporate new functions, institutional relationships, and changing ecological and economic conditions.

## Conclusion

Watershed managers have established goals and aspirations for the basin that are unprecedented in Washington State. Not only are they seeking to implement a wide range of water and fish improvements, they are also seeking innovative ways to optimize water resource use and establish a shared governance mechanism to facilitate basin-wide water management. The results of this study suggest that although the basin appears to have much of the needed capacity to perform the functions of implementation, water resource optimization, and shared governance, this capacity is located in numerous entities dispersed throughout the basin. Consequently, many interviewees suggested that the basin's capacity is fragmented and not efficiently harnessed toward achieving its water and fish goals. This is not surprising, since the basin's complex organizational arrangement emerged in response to statewide mandates (Watershed Planning Act and Salmon Recovery Act) and incentives from major funders (Bonneville Power Administration and others). In addition, the basin has been oriented toward planning rather than implementation and efforts to optimize water resource use and create a shared governance mechanism are only

just beginning. Even under these circumstances the basin community has demonstrated its ability to successfully accomplish a wide range of activities that have returned streamflow and fish to the Walla Walla River and have made numerous habitat improvements for fish.

However, interviews and analysis suggest that there are a number of opportunities to streamline and strengthen the basin's existing capacities. As some entities in the basin consider altering their mission, structure and functions, the basin community has a unique opportunity to consider alternative mechanisms for achieving its water and fish goals. Many in the basin have indicated a willingness to consider alternatives to the current organizational structure in order to increase the efficiency and effectiveness of implementation and governance efforts. The experience in other watersheds around the country suggests that a bold, publicly supported and credible approach to water and fish improvements often leads to increases in financial support. If the basin can come to agreement on purposes, goals, and actions, and it can organize itself to efficiently and effectively achieve them, additional resources are likely to become available to support the efforts. The combination of organizational clarity and additional resources could enhance the basin's ability to achieve its water and fish goals while maintaining sufficient water for agriculture and other human uses.

# I. Introduction

## A. Purpose of the Report

The Walla Walla Basin community is seeking ways to improve water, fish, and other environmental outcomes in the basin while supporting agriculture and other water-related activities that serve the local economy. To achieve these goals, basin water users and watershed managers<sup>2</sup> are working with the Confederated Tribes of the Umatilla Indian Reservation and the Washington State Department of Ecology to explore ways to create a shared governance mechanism to support implementation of beneficial water and fish-related activities on the Washington side of the basin.<sup>3</sup> This study attempts to advance those efforts by soliciting input from the basin community and assembling relevant research that could help watershed managers develop a workable approach. This report is intended to spur discussion as the basin community, including the tribes and the state, considers how to address water and fish issues.

The report has three primary goals:

- To describe the vision, opportunities, and functions needed for more effective water management, as articulated by watershed managers, water users, and others in the basin.
- To assess the extent to which these functions are being performed or could reasonably be performed by existing agencies, organizations, and other entities.
- To identify any apparent gaps between the needed functions and existing capacities related to improving fish and water-related outcomes.

Since 2000, members of the Walla Walla Basin community have been developing water resource and watershed management plans that address water quantity, water quality, fish survival, habitat restoration, land use, and balancing water use to meet human and economic needs. More than seven water and fish-related plans or rule-making processes have recently been undertaken in the basin to satisfy state, regional, and federal watershed, salmon recovery, and water quality requirements. In addition, the Washington State Department of Ecology has supported efforts by the basin community to develop an approach for shared governance of water resources, known as the Walla Walla Water Management Initiative. This initiative is intended to achieve increased instream flow for fish through more flexible water management approaches. Its goal is to create a locally governed water management system that will support fish recovery while maintaining the agricultural base and other economic drivers.

Until recently, many of those involved in water and fish issues have been oriented toward planning. Now that most of the planning processes are complete, watershed managers are considering how to orient the basin's entities and structures toward implementation. Watershed managers are seeking ways to organize and coordinate efforts to implement the watershed and salmon recovery plans and achieve needed improvements in water management and environmental outcomes. They are seeking a mechanism that can merge the water-related plans, processes, policies, and activities to create a consistent, comprehensive, and mutually reinforcing

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<sup>2</sup> *Watershed managers* is used in this report to describe the entities, agencies and organizations that are responsible for watershed, water and fish-related planning and restoration in the Walla Walla Basin.

<sup>3</sup> This report focuses on the Washington side of the basin and all references to the "basin" refer to the Washington side of the basin unless otherwise stated. Concurrent efforts are in progress to link water management in the basin across the Oregon-Washington state line.

vision and implementation structure for water management in the basin that will lead to demonstrable water and fish improvements. These managers recognize that the functions, structures, and capacities needed to implement water management may be different from those that supported the planning processes.

While developing an effective and efficient implementation mechanism is a significant undertaking, watershed managers are seeking to do more. They have proposed that the implementation mechanism also seek to integrate water management among irrigators, municipalities, and other water users. Watershed managers believe that by managing water comprehensively across the entire basin, they can achieve superior environmental outcomes while still providing sufficient water for agriculture and other economic and human uses. This would build on the concepts of the Water Management Initiative but would not be dependent on changes that might be required to implement the initiative.

This report takes an interim step toward considering a mechanism that can enhance existing efforts to achieve on-the-ground water and fish improvements in the basin. The report is intended to provide insight into ways to integrate and implement the water and fish-related plans, WRIA 32 Water Resources Program Rule<sup>4</sup> and its instream flow provisions, water quality programs, and other water and fish-related efforts, as well as how to integrate water management to support municipal, agricultural, and other water uses while also providing for the needs of federally protected fish species and other cultural, social, economic, and ecologically important aquatic species. It is intended to identify factors that would have to be considered by the community, particularly those responsible for water and fish management, as they consider how to adapt to new needs and functions.

This report does not define what form the implementation structure might take. This will be the task of a future step in the process. However, this report does provide the outlines of what that mechanism might involve, and it offers essential information to begin designing it. The intention of this report is to amalgamate community input to identify where consensus may exist and to identify where concerns may need to be addressed in order to effectively and efficiently implement water and fish improvements and achieve the goals of the Water Management Initiative. Although the report makes no recommendations, it is designed to inform those in the basin and at the Department of Ecology as they consider ways to coordinate and integrate water and fish improvements in the basin.

This project is jointly sponsored by the Walla Walla Watershed Planning Unit (administered by Walla Walla County), Walla Walla Community College, and the Washington State Department of Ecology. The report was jointly prepared by Martin Consulting Service and the William D. Ruckelshaus Center at Washington State University and the University of Washington. To provide guidance on the project, an ad hoc group known as the Project Management Team was engaged to advise the authors and support production of the report. The Project Management Team consists of representatives from the Walla Walla Watershed Planning Unit, Confederated Tribes of the Umatilla Indian Reservation, Walla Walla Watershed Alliance, Walla Walla Basin Watershed Council in Oregon, Walla Walla Community College Water & Environmental Center, Washington State Department of Ecology, Washington State Department of Fish and Wildlife, Oregon Water Resources Department, and Oregon Department of Environmental Quality.

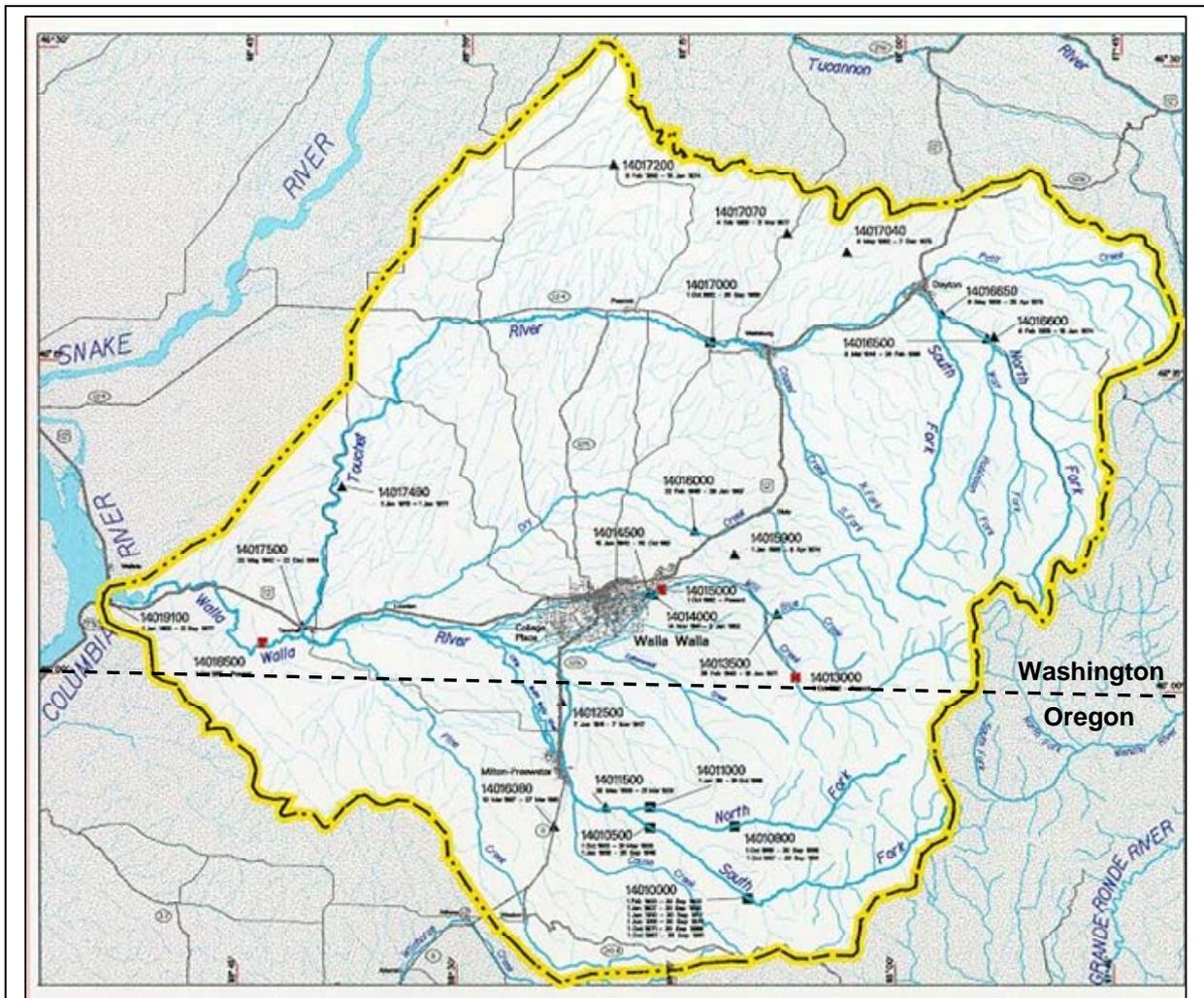
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<sup>4</sup> The WRIA 32 Water Resources Program Rule (RCW 173-532) is currently being updated under the proposed title WRIA 32 Water Management Rule. WRIA stands for Water Resource Inventory Area in Washington State.

Information for this report was gathered through extensive interviews with more than 50 farmers, landowners, policy makers, project managers, scientists, and others involved with or familiar with water management in the Walla Walla Basin. Early interviews were conducted with individuals involved in water resources and watershed management planning in the basin, including municipalities, tribes, agriculturalists, irrigators, environmentalists, and elected officials. Consultations then expanded to other groups and individuals whose work or interests involve water issues, including municipal planning and economic development interests, land and habitat conservation groups, state and federal agencies, and out-of-basin groups with interests in water policy and related issues. The report also draws from previous written work, including water-related planning documents as well as legal, policy, technical, and conceptual reports related to scientific studies and the Water Management Initiative. Many of the concepts described in the report are the subject of ongoing deliberation and development. The report provides a snapshot of current basin conditions and perceptions and is intended to spur further discussion as the basin community continues to seek an effective and efficient approach to achieving its water and fish goals.

### ***B. Focus on the Washington Side of the Basin***

The Walla Walla River Basin is a two-state watershed spanning portions of southeast Washington and northeast Oregon. The basin covers 1,758 square miles, and most of it—73



**Figure 1:** Map of the Walla Walla Basin (Source: Curtis, 1997).

percent—is located in Washington’s Walla Walla and Columbia counties. The remainder is in Oregon’s Umatilla, Union, and Wallowa counties. (See map, Figure 1.)

The basin features a complex array of entities with water and fish management interests, authorities, and knowledge, including tribes, municipalities, irrigation districts, ditch companies, individual irrigators, conservation districts, and environmental groups. Some of these are divided by city, county, and state jurisdictions. To knit together these various entities, those leading the water management effort have distinguished three separate but interrelated levels of organization:

- **Level 1: Agricultural water users on the Washington side of the basin.** This level seeks to connect or coordinate among the various categories of agricultural water users, such as irrigation districts, ditch companies, individual irrigators, and senior and junior water right holders. Efforts are underway, separate from this study, to identify appropriate mechanisms to achieve this goal.
- **Level 2: All water users on the Washington side of the basin.** This level seeks to coordinate water management for water flow, quantity, and quality among all basin water users within Washington State. These include agricultural water users (Level 1), municipalities, and self-supplied (exempt well) water users. This level is the focus of this report.
- **Level 3: Bi-state water management.** This level seeks to facilitate technical and data management across the two states and to coordinate basin-wide water management involving water users in both Oregon and Washington. Efforts are underway, separate from this study, to identify mechanisms to achieve this goal. The bi-state Walla Walla River Habitat Conservation Plan (HCP) process is contributing to these efforts.

This report focuses on organizing water management on the Washington State side of the basin only (Level 2) and is part of a larger effort to comprehensively manage water in the entire basin. Parallel efforts to address Levels 1 and 3 are also in progress. Each of these organizational levels presents unique challenges and requires different approaches. While this study focuses on water users on the Washington side of the basin only, it takes into account potential coordination with Level 1 as well as a possible future role in bi-state water management (Level 3).

### ***C. Brief History of Water Management in the Basin***

Before Europeans arrived in the area, the Walla Walla Basin was home to the Cayuse, Umatilla, and Walla Walla Indian Tribes. The tribes relied on salmon and other fish, as well as wildlife and plants in the basin, for a significant portion of their diet. Soon after Lewis and Clark passed through the basin in 1806, missionaries and other Europeans began to settle there. As they did, they began diverting water from streams to irrigate crops. The first irrigation was believed to have occurred in 1846. The earliest water rights on record date to the early 1860s.

In 1855, the Cayuse, Umatilla, and Walla Walla Tribes signed a treaty with the United States in which they ceded more than 6.4 million acres of land, including the entire Walla Walla Basin. In the treaty, they retained a parcel of land in the Umatilla Basin in northeast Oregon that was designated as the Umatilla Indian Reservation, and they also retained their rights to fish, hunt, and gather traditional foods and medicines throughout the ceded lands. The three tribes are now collectively known as the Confederated Tribes of the Umatilla Indian Reservation.

By the 1860s, Walla Walla was experiencing the effects of the Idaho gold rush and population growth. Thriving commercial, banking, and manufacturing activities made it the largest city in the Washington Territory. Following the gold rush, farming became the economic foundation of the community and has remained so ever since. As more farmers diverted water from the streams for irrigation, so much water was used for irrigation that by the mid-1880s, some stretches of the Walla Walla River from Milton-Freewater almost to the Columbia River were partially dewatered during the summer months, meaning that they had no water or minimal water during the peak irrigation season. This seasonal dewatering continued for more than 110 years, until irrigation changes mandated in 2000 reestablished year-round flows.

In the late 1800s, federal land programs encouraged rapid settlement of the basin by non-Indians, which further increased water demand and diversion. Conflicts between water users over the limited supply led to determination of the extent and validity of most surface water rights in the basin through court adjudications between 1923 and 1929. However, by the 1930s water was so scarce that Washington filed suit against Oregon regarding allocation of water between the states in the basin.<sup>5</sup> In 1936, the U.S. Supreme Court ruled that Oregon could divert all of the mainstem Walla Walla River water, in part because the hydrology near the state line made leaving water in the stream futile.

The Walla Walla River historically supported significant runs of spring Chinook salmon and summer steelhead, as well as bull trout and rainbow trout. Fall Chinook, chum, and Coho salmon are believed to have been present in the Walla Walla River in smaller numbers. A combination of dewatering and lack of fish passage likely led to the demise of the basin's salmon run sometime between 1915 and 1925.

Water management in the basin has come under increasing scrutiny by state and federal agencies due to limited water resources and impacts on fish species of concern. In 1977, the Department of Ecology adopted the Water Resources Program Rule for the Washington side of the Walla Walla River Basin, seasonally closing most streams and rivers and limiting future water withdrawals. Due to potential impairment of existing water rights, no new surface or groundwater rights have been issued in the basin since 1996.<sup>6</sup>

On June 10, 1998, the U.S. Fish & Wildlife Service listed the bull trout (*Salvelinus confluentus*) as threatened under the Endangered Species Act (ESA), and on March 25, 1999, the National Marine Fisheries Service (now known as NOAA Fisheries) listed the Middle Columbia River summer steelhead (*Oncorhynchus mykiss*) as threatened under the ESA.

The ESA listings were followed in January 2000 by a U.S. Fish & Wildlife Service letter serving notice to irrigation districts in the basin of potential violations of the ESA due to their water delivery operations. In June 2000, three irrigation districts—Hudson Bay District Improvement Company, Walla Walla River Irrigation District, and Gardena Farms Irrigation District #13—entered into a settlement agreement with the Fish & Wildlife Service to address potential civil

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<sup>5</sup> State of Washington v. State of Oregon, 297 U.S. 517 (1936).

<sup>6</sup> Where groundwater and surface water are directly connected, pumping of additional groundwater may reduce river flows. Pumping of the gravel aquifer may reduce streamflows in the Walla Walla River and other local streams. Pumping from the basalt aquifer system has resulted in significant declines in groundwater levels and has likely reduced groundwater discharge to the Columbia and Snake rivers. Source: Initial Watershed Assessment Water Resources Inventory Area 32 Walla Walla River Watershed Open-File Technical Report 95-11. Prepared by Pacific Groundwater Group in cooperation with the Washington State Department of Ecology Eastern Regional Office Water Resources Program. May 5, 1995.

liability for the take of listed bull trout resulting from the legal diversion of irrigation water in 1998 and 1999 from the Walla Walla River. The settlement agreement required specified instream flow levels at certain points in the river and led to a range of changes, including investments in efficient irrigation technologies, piping of delivery canals, drilling of new wells to replace surface water diversions, and reductions in water allocation for irrigators.

Agriculture remains a significant economic driver in the basin even as the population grows (at about 1 percent per year). Vineyards and winemaking have become prominent activities in the region, but wheat remains the most significant crop in terms of acreage and revenue, followed by alfalfa, asparagus, spinach, potatoes, green peas, onions and others. Seventy-five percent of the Washington side of the basin is used for cropland,<sup>7</sup> although less than ten percent of that is irrigated. Irrigation requires substantial surface water and groundwater withdrawals during the growing season, while municipal, industrial, and domestic uses require year-round supplies that are generally obtained from groundwater. Agriculture has been allocated 99 percent of the surface water rights and 62 percent of the groundwater rights.<sup>8</sup> The remaining groundwater rights have been allocated to municipal (13 percent) and domestic (12 percent) purposes.<sup>9</sup> Most rural residents get their water from exempt wells, which are currently allowed to pump up to 5,000 gallons per day and are primarily for domestic use. The City of Walla Walla is the largest municipal water supplier. Its water supplies derive from surface sources in Mill Creek and from groundwater wells. The city is concerned about protecting its surface water supply from forest fires and other catastrophic events and has had an active aquifer storage and recovery program in place since 1999. This program allows the city to withdraw, treat and inject winter surface water during high instream flow periods into the deep aquifer and then extract the augmented groundwater as part of a conjunctive water resource management program. This program allows the city flexibility to meet its water needs from both surface and ground water sources while minimizing the negative impacts on both resources.

#### ***D. Current Water Challenges***

The Walla Walla Basin faces several significant water management challenges. First, surface water in the basin is over-allocated at certain times of the year, which means that more water has been allocated on paper than is available to be diverted. Before the ESA settlement agreement, this condition led to seasonal dewatering of the Walla Walla River and loss of some fish runs in the basin. In 1977, Washington State adopted a Water Resources Program Rule for its portion of the basin and is currently updating this as the Water Management Rule. Both these rules serve to prevent further degradation of instream flows, but because the basin was over-allocated before the establishment of either rule, the rules by themselves are unlikely to restore water in the

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<sup>7</sup> Municipal, industrial, and domestic water use occupies 4 percent of the watershed and is concentrated around Walla Walla, College Place, Dayton, and Waitsburg. The remaining 21 percent of the watershed is range and forest land. Source: Ibid.

<sup>8</sup> Although much of the City of Walla Walla's municipal water supply derives from surface sources, it is supplied through an 1865 Oregon surface water right. The City also has an unperfected Washington water right on Mill Creek. Thus, these are not included when calculating the percentage of surface water rights allocated to agriculture on the Washington side of the basin.

<sup>9</sup> Ibid.

stream.<sup>10</sup> Because water is over-allocated, many junior water right holders might not be able to access water and thus cannot reliably irrigate crops or engage in other economically beneficial water-related activities. For the tribes, over-allocation and reduced instream flows have had significant effects on commercial, recreational, cultural, and subsistence fisheries. For all water users and resource managers, it leads to problems and conflicts that require time and financial resources to address. The significant financial investments and thousands of staff and volunteer hours involved in developing and implementing the watershed plans in the basin are but one example of these costs.

A second challenge is the difficulty of managing water across the state line. Because the basin is located in both Oregon and Washington and water rights are managed independently by each state (rather than being managed as a single resource across the basin), conflicts among water uses across the border are common and are not easily addressed. Examples of these conflicts date back to the 1800s and were only partially resolved by the 1936 U. S. Supreme Court suit brought by Washington against Oregon regarding access to water from the Walla Walla River. At least two prominent water use issues are currently affected by the state line. One is the dewatering of the Little Walla Walla River during summer months and loss of irrigation water along spring branches in Washington. This has occurred as less water has been diverted into the Little Walla Walla River system by Oregon irrigators to support the ESA Settlement Agreement to bypass water and meet instream flow targets in the mainstem Walla Walla River. Another is that water bypassed by Oregon irrigators under the Settlement Agreement—some of it protected under the Oregon Trust Water Program—is being diverted by junior water right holders in Washington who did not receive water before the Settlement Agreement. Since water protected in Oregon loses its identity and priority when it crosses the state line, there is no mechanism in place to protect this water once it flows into Washington.<sup>11</sup>

A third challenge is that the ESA listings of bull trout and steelhead have placed many water users at risk of liability for take of protected species.<sup>12</sup> Although the U.S. Fish & Wildlife Service initially served notice only to major irrigation districts, many others could be affected if streamflows and habitat do not improve sufficiently. Through the settlement agreement, three irrigation districts (two in Oregon and one in Washington) agreed to bypass about 30 percent of their water rights during certain months of the year. Many irrigators also made significant

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<sup>10</sup> The effective date (also called a “priority date”) for instream flows set in the Water Management Rule is 30 days after the date of rule adoption. An instream flow is, in essence, a water right for fish and other instream resources. While an instream flow does not affect existing water rights, water rights issued after the rule adoption are junior to the instream flow rule and can be exercised only when the instream flow is being met. The rule does provide mechanisms through which instream flow improvements can be achieved, but they must occur through separate actions. Source: Washington State Department of Ecology website: <http://ecystage.ecy.wa.gov/programs/wr/instream-flows/isfrul.html>.

<sup>11</sup> Gardena Farms Irrigation District #13, which operates in both Oregon and Washington, has successfully protected some of its bypassed flows by placing them into the Washington Trust Water Rights Program. However, the water bypassed by the Hudson Bay District Improvement Company and Walla Walla River Irrigation District and protected by the Oregon Conserved Water Program loses its protection and is legally divertible once it enters Washington State.

<sup>12</sup> The term *take* is defined under the ESA to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)). *Harm* is defined by the U.S. Fish & Wildlife Service to include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (50CFR17.3). NOAA Fisheries’ definition of *harm* includes significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, spawning, migrating, rearing, and sheltering (64 FR 60727, November 8, 1999). Source: Federal Register: March 17, 2003 (Volume 68, Number 51), pp. 12676-78. <http://www.fws.gov/policy/library/03-6325.html>.

financial investments to improve irrigation efficiencies and drill new wells.<sup>13</sup> Similar costs and reduced access to water could be required of others in the future. This places a cloud of uncertainty and risk over irrigators and other water users.

Fourth, fear of relinquishment<sup>14</sup> among many Washington water right holders<sup>15</sup> creates perceived disincentives to reduce water use or consider environmentally beneficial water use changes. Most water right holders believe that under Washington law they must put their full allotment of water to beneficial use at least once every five years or their water right is relinquished.<sup>16</sup> Anecdotal evidence<sup>17</sup> suggests that this situation encourages water right holders to use more water than they need (and therefore withdraw water unnecessarily from the stream) in the sometimes mistaken belief that they are preserving their water right.<sup>18</sup> In addition, fear of relinquishment also creates a barrier for water right holders to interact with Ecology (for example, to request a change in the point of diversion to benefit streamflow, to transfer water to trust or to a water bank, or to install a fish screen). Many fear that the review process required to make water management changes (known as a *water right extent and validity determination*) will reveal that some or all of their water right has not been beneficially used without sufficient cause. If this is the case, the right or a portion of it would be relinquished and Ecology would be compelled to initiate the relinquishment process.<sup>19</sup> Since water rights are typically tied to a parcel of land and are defined by a specific source (groundwater or surface water) and a specific location (such as the well or point of diversion), these concerns impede efforts to share, exchange, or conserve water and prevent some users from making environmentally beneficial changes to their water systems. This further makes it difficult to optimize water management

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<sup>13</sup> Much of the funding for these improvements was provided by state and federal sources.

<sup>14</sup> Washington's water law includes the principle that a water right is confirmed and maintained through beneficial use. A water right may be wholly or partially lost through extended periods of voluntary nonuse. The return of unused water to the state is called *relinquishment*. The relinquishment policy is intended to ensure that Washington's limited water resources are put to maximum beneficial use for all of the state's citizens. Source: Washington State Department of Ecology, "Focus on Water Right Relinquishment from Ecology's Water Resources Program," Document 98-1812-WR. Revised June 2006.

<sup>15</sup> Relinquishment is a concern primarily for Washington water right holders. Due to differences in water law, Oregon water right holders must demonstrate beneficial use but are not required to use their full rate or duty in order to maintain their water right. If an Oregon water right holder switches to a crop that does not require their full rate or duty, their water right or portion of their rate and duty is not lost for non-use.

<sup>16</sup> In fact, the Washington Trust Water Rights Program allows water right holders to temporarily or permanently place their excess water rights in the program. The priority date is retained, and under a temporary placement, the water rights can be returned at a specified time in the future. For those with perfected water rights, the program provides an alternative to using water simply to maintain the water right. However, application to the program currently requires a determination of water use because the program can accept only certified "wet" water (as opposed to paper water rights). For those whose water rights are not "certain," the determination creates the potential for discovery of a lapse of beneficial use and possible relinquishment.

<sup>17</sup> A number of those interviewed for this study asserted that some irrigators divert excess water for the sole purpose of maintaining their water rights. Dick DuCharme, a landowner and farmer in the basin, reported similar observations in his public remarks at the Community Action & Innovation for Watershed Sustainability Conference held in Walla Walla on October 18, 2006.

<sup>18</sup> "Beneficial use" involves the application of a reasonable quantity of water to a non-wasteful use. Applying water quantities beyond what is needed for a particular crop is considered wasteful and does not qualify as a beneficial use.

<sup>19</sup> The Washington State Department of Fish & Wildlife's Cooperative Compliance Program is a tangible example of this fear being realized. In 2000-2001, the department offered incentives to farmers to voluntarily participate in a fish screening program. In some cases, the point of diversion was changed, and this triggered a water right change by Ecology, which requires a determination of the extent and validity of the right and impairment analysis. As a result, some water rights were relinquished.

among instream and out-of-stream uses so that instream flows are maintained for fish and human needs and economic opportunities are maximized.

Fifth, groundwater levels in both the deep and shallow aquifers appear to be dropping, leading some users to drill deeper wells and others to seek alternative well locations. Since groundwater is connected to surface water in many locations, many are concerned that these changes are affecting instream flows. A recent groundwater analysis sponsored by the City of Walla Walla found that groundwater levels in one region of the deep basalt aquifer declined 50 to 100 feet between the 1960s and 1980s.<sup>20</sup> Data from the McKnight well downgradient from Milton Freewater in Oregon show a continuous drop in the static level of the shallow aquifer from 8 feet below surface in 1933 to about 27 feet below surface in 1995.<sup>21</sup> The declining well levels are raising concerns and leading to actions and policy changes. The wells supplying drinking water to the City of College Place are declining, and the city estimates that it will need to find new drinking water supplies by 2025. Other municipal water suppliers are also concerned about their ability to supply sufficient water for new growth. The City of Walla Walla is pumping water into the deep aquifer to replenish it and store surface water for later withdrawal as part of an active conjunctive water resource management program. The Washington State Department of Ecology has also proposed restrictions on new exempt wells to limit their impact on instream flows.

Sixth, water resources in the basin appear to be adversely affected by rising temperature trends in the region. Average temperatures in the Pacific Northwest have increased about 1.5 degrees Fahrenheit in the past 100 years and are currently increasing at about 0.5 degrees per decade.<sup>22</sup> This is causing more precipitation to fall as rain than as snow, and it is reducing the quantity of mountain snowpack and leading to earlier snowmelt. As a result, the timing of the freshet (spring snow-melt sequence) appears to be occurring more than two weeks earlier than it did 100 years ago.<sup>23</sup> This suggests that less water will be available in the summer months in the future. These trends and projections suggest that water management during the peak demand times for agriculture and fish might become increasingly challenging over time.

Seventh, there are gaps in knowledge regarding the hydrological system, the needs of fish, and how the two interact. At a broad level, scientists generally agree that fish would benefit from more water in all streams at all times. More water increases the range of habitats, typically maintains cooler water temperatures (which is beneficial for fish), and dilutes concentrations of pollutants. Scientists also agree that additional instream flow would benefit bull trout in June and July and that additional flow from September to December would benefit steelhead migration. However, fish also require additional water at other times of the year to provide lifecycle options. Unfortunately, scientific consensus regarding the specific periods when fish need the water, in what locations, and precisely how much has yet to be achieved. Scientists in the basin

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<sup>20</sup> Golder Associates Inc. Updated Conceptual Hydrogeologic Model for Extended Area Aquifer Storage and Recovery Evaluation. 2006.

<sup>21</sup> Data compiled by Bob Bower, as presented in "Strategic Plan: Shallow Aquifer Recharge." Strategy for restoring and seasonally recharging shallow gravel aquifer(s) and spring-fed streams of the Walla Walla Watershed. Compiled by John Warinner, PE. Fountainhead. June 2006.

<sup>22</sup> Source: Climate Impacts Group, University of Washington. See website: <http://www.cses.washington.edu/cig/pnwc/pnwc.shtml>.

<sup>23</sup> The preliminary analysis suggests the freshet is occurring 16.6 days earlier than 100 years ago. However, this data has not yet been naturalized to account for irrigation and municipal diversions above the gauge on Mill Creek used for this analysis. Sources: Kyle Dittmer, hydrologist and meteorologist with the Columbia River Inter-Tribal Fish Commission, and Bob Bower, hydrologist, Walla Walla Basin Watershed Council, via e-mail.

are collecting data and conducting studies to help answer these questions, but conclusive results are not yet available.

In addition to the natural hydrological system, many interviewees noted gaps in knowledge about on-farm water systems and how water is used. Most identified the need for water meters that can track water usage at diversion points and wells. Many irrigation systems were not historically metered, making it difficult to determine how much water is being diverted and where it is going.<sup>24</sup> By combining knowledge of water usage with fish and hydrological sciences, it may be possible to find creative ways to accommodate the needs of both fish and farmers.<sup>25</sup>

Finally, although Washington State manages water on the Washington side of the basin, the state has limited ability to improve water and fish outcomes through regulatory means. The state's two primary regulatory mechanisms are the Water Management Rule and relinquishment. However, because surface water in the basin is over-allocated and instream flow levels set under the Water Management Rule are junior to many water rights that are typically not served, any water not used by senior water right holders would be diverted by the next junior water user and would not be protected instream.<sup>26</sup>

In sum, surface water is over-allocated, aquifer levels appear to be dropping, and increasing regional temperatures have the potential to further reduce water supplies during high-demand periods. Municipalities are seeking new sources of water to support growth as well as existing populations, while the ESA is requiring additional water in the river and streams to support protected fish. While some understanding of the hydrologic system and lifecycle needs of fish has developed, more information is necessary to effectively identify priority actions and locations to achieve water and fish goals. And while water is managed by the states, it is managed independently on each side of the state line rather than as a single resource across the basin. Although Washington State has regulatory authorities regarding water, these are unlikely to restore sufficient instream flows to recover fish.<sup>27</sup>

In response to these challenges, the basin community has begun to develop its own locally led approach to improving water and fish conditions. The ESA listings and 2000 settlement agreement led diverse interests in the basin to come together and jointly initiate a proactive approach to addressing water-related problems in the basin. With the support of Ecology and the leadership of the Confederated Tribes of the Umatilla Indian Reservation, a collaborative effort has emerged involving tribes, irrigators, conservationists, business interests, public officials, and others. Together, they have developed a range of plans and mechanisms to achieve water and fish goals and have demonstrated their interest in leading the restoration effort. Their intent is to create a cooperative alternative to traditional regulatory water management approaches. Through

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<sup>24</sup> Ecology recently enacted rule WAC 173-173 which establishes requirements for measuring and reporting water use for source water diversion and withdrawal. The Walla Walla County Conservation District has installed more than 200 water meters in recent years, but estimates 500-600 diversions in the basin remain without meters.

<sup>25</sup> The Dungeness Basin in Western Washington offers an example in which hydrology, fish, and irrigation knowledge were combined to identify peak needs for farming and fish and to develop an agreement that accommodated both. See: Ruckelshaus Center. The Walla Walla Water Management Initiative: Insights on Design and Implementation from Innovative Water Management Efforts. January 2007.

<sup>26</sup> At the time statutory relinquishment is taken, nonuse of water has already occurred over a period of 5 years or longer, so the net effect of a relinquishment action is to reduce a paper water right. It does not introduce any water instream.

<sup>27</sup> The state is also supporting voluntary, organizational, and incentive-based approaches to restore flows, such as water acquisition, irrigation efficiencies, watershed planning, and development of the Water Management Initiative. Integrated water management and development of this study are also being supported by Ecology.

locally initiated approaches, members of the basin are attempting to return real water to the stream in ways that have not been possible under current management approaches. These efforts began with development of the watershed plans and continued with development of the Water Management Initiative. In addition, the Confederated Tribes of the Umatilla Indian Reservation have initiated a Flow Enhancement effort to bring significant quantities of new water to the basin, and they have initiated a salmon reintroduction program that has returned spring Chinook to the Walla Walla River.

### ***E. Water and Fish-Related Planning and Rule-Making Efforts***

Since 2000, the basin community has engaged in four major watershed planning activities and a variety of water and fish-related rule-making processes, studies, and initiatives. While each successive plan has been developed to be consistent with the others, they were each sponsored by a different entity, developed to comply with specific requirements, and address distinct issues and geographic areas. The four major plans are:

- **Walla Walla Watershed Plan.** Prepared by the WRIA 32 Planning Unit and produced under Washington State's Watershed Management Act,<sup>28</sup> this plan focuses on water quantity, water quality, aquatic habitat, and instream flow for the Washington side of the basin only. It was produced in four phases as defined by the Watershed Management Act. The Phase I organizational element was completed in 2001; Phase II assessments involving water quality, instream flow, and multipurpose water storage were completed between June 2003 and February 2005; Phase III involved a comprehensive Walla Walla Watershed Plan (completed in May 2005); and Phase IV involved a Detailed Implementation Plan (completed in June 2006), which was jointly produced to support the Walla Walla Watershed Plan and the Snake River Salmon Recovery Plan (WRIAs 32 and 35). The WRIA 32 Planning Unit allocates funds from the Washington State Department of Ecology to support actions identified by the Detailed Implementation Plan.
- **Snake River Salmon Recovery Plan for SE Washington.** Prepared by the Snake River Salmon Recovery Board for the Washington State Governor's Salmon Recovery Office, this plan, completed in December 2006, addresses habitat, hatcheries, hydropower, and harvest issues relative to salmon recovery in both the Walla Walla and the Middle Snake River basins (WRIAs 32 and 35) in Washington State. The Snake River Salmon Recovery Board allocates funds provided by the Salmon Recovery Funding Board to support actions identified in the Detailed Implementation Plan related to salmon recovery.
- **Walla Walla Subbasin Plan.** Prepared by the WRIA 32 Planning Unit and the Walla Walla Basin Watershed Council in May 2004, this bi-state plan was sponsored by the Northwest Power and Conservation Council. It addresses aquatic and terrestrial habitat concerns across the entire basin and identifies appropriate actions to mitigate for Columbia and Snake River hydropower production. The Snake River Salmon Recovery Board helps allocate funds provided by the Northwest Power and Conservation Council to support actions identified in the Subbasin Plan.
- **Bi-State Habitat Conservation Plan.** This plan, still in development, is led by the Bi-State HCP Coordinating Committee, a group of basin-wide representatives organized under a Memorandum of Understanding to include the WRIA 32 Planning Unit, Walla

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<sup>28</sup> Chapter 90.82 RCW, also known as Washington State HB2514 from 1998.

Walla Basin Watershed Council, Walla Walla Watershed Alliance, and others. The planning effort spans the entire watershed in both Oregon and Washington and addresses incidental take of federally protected fish under the ESA.

Currently, the Detailed Implementation Plan (Phase IV of the Walla Walla Watershed Plan), completed in June 2006, provides the most up-to-date and comprehensive recommendations for water, salmon, and habitat improvement. A summary of these recommendations is provided in Appendix D.

In addition to these major plans, the basin community is involved in a number of water-related rule-making processes, studies, and initiatives. These include:

- **WRIA 32 Water Management Rule (RCW 173-532)**, which is currently in the late stages of development and review by Ecology. This rule for the Washington side of the basin establishes instream flow levels, modifies existing stream closures, and provides for use of winter and spring high flows for water storage projects that improve streamflows for fish. The proposed rule also closes the gravel aquifer to future withdrawals (except for nonconsumptive uses, stock watering, domestic uses and irrigation of lawn and gardens), and limits future permit-exempt (RCW 90.44.050) groundwater use from the gravel aquifer in highly populated areas.
- **Total Maximum Daily Load (TMDL) Studies**, which address water quality concerns on both the Washington and Oregon sides of the basin. These Oregon and Washington studies began in 2000 and 2002, respectively. The Oregon Department of Environmental Quality temperature TMDL was completed in 2005 and Ecology's TMDLs (temperature, bacteria, toxic constituents and pH) are currently being finalized.
- **Flow Enhancement Feasibility Study**, which is being jointly conducted by the Confederated Tribes of the Umatilla Indian Reservation and the U.S. Army Corps of Engineers. The expected completion date is December 2008.
- **Comprehensive Irrigation District Management Plans**, which are supported by Washington State Department of Agriculture and Natural Resources Conservation Service funding to assess and identify management of ESA and Clean Water Act requirements within irrigation districts and ditch companies.

When the Water Management Rule and the TMDL rules are finalized, they will become additional components of water management in the basin. The Flow Enhancement Feasibility Study and the Comprehensive Irrigation District Management Plans are being coordinated with and will contribute to actions under development through the bi-state HCP effort.

Currently, Walla Walla County (guided by the WRIA 32 Planning Unit) has the lead role in overseeing implementation of the watershed plans and reporting on results. The Planning Unit has established the Walla Walla Basin Implementation Working Group to help determine watershed enhancement and restoration funding allocations and has developed a draft Memorandum of Agreement among key parties to advance the implementation strategies identified in the plans.<sup>29</sup>

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<sup>29</sup> Parties considering the draft Memorandum of Agreement are the Confederated Tribes of the Umatilla Indian Reservation and the initiating governments of WRIA 32 Watershed Planning: Gardena Farms Irrigation District #13, the City of Walla Walla, and Walla Walla and Columbia counties.

## ***F. The Water Management Initiative***

In addition to the plans and activities just described, the basin community is developing an innovative approach to water management on the Washington side of the basin known as the Walla Walla Water Management Initiative. The initiative is an emerging effort to create a locally governed water management system in the Walla Walla Basin that will support fish recovery while maintaining the agricultural base and other economic drivers. It is intended to significantly contribute to the restoration and protection of streamflows, aquifers, and water quality to support recovery of ESA listed species (steelhead and bull trout). It is also intended to provide a degree of local autonomy and responsibility for water management, giving those with the most at stake greater influence over their own destiny. Although it is in the early stages of development, the Water Management Initiative has three primary goals:

- **Flow.** Achieving instream flow targets and temperature conditions in streams throughout the basin to support fish recovery. This includes protecting aquifers and the bypassed flows from Oregon as they flow through the Washington portion of the basin.
- **Flexibility.** Allowing the basin community to govern water resources locally and offer flexibility in how water is withdrawn, conveyed, and applied. This can help optimize out-of-stream uses and achieve instream flow targets. It might involve altering water laws that can serve as a disincentive to reduced water usage.
- **Reduced regulatory risk.** Reducing uncertainties faced by water users under current federal and state regulations. This might involve suspending or altering Washington State relinquishment laws going forward. At the federal level, this might involve developing a Habitat Conservation Plan to address ESA requirements.

The Water Management Initiative is premised on the concept of “flow from flexibility.” Irrigators on the Washington side of the basin would be given broad latitude to propose water management changes intended to contribute to meeting measurable flow standards. This approach aims to give water users flexibility to design and implement solutions that are more efficient and environmentally effective than the traditional system of external rules governing water management and instream flow. Ecology has said that if the basin community can commit to delivering prescribed flows and can design an acceptable and workable plan to do so, it will seek the needed authority to allow water to be managed locally and more flexibly.

Any shared authority to manage water in Washington State must be conferred by the state, so the Water Management Initiative will not supersede tribal rights or federal laws such as the ESA. In addition, Ecology has stated that it does not intend to abdicate its water management responsibilities and that the Ecology Water Master is expected to continue in the basin. The initiative covers only the Walla Walla Basin in Washington State, and water policy changes associated with the initiative will apply only to the basin.

The Water Management Initiative is currently under development, and additional steps would likely be required for it to become operational. If the initiative is implemented, it may be appropriate to combine its operation with the implementation and governance efforts described in this report. However, the Water Management Initiative has a separate process for development, and efforts to achieve the objectives described in this report are not dependent on implementation of the initiative. Regardless of whether the Water Management Initiative is implemented, the goals and needed capacities described in this report will still be relevant to achieving water and fish-related goals in the basin.

## **G. Water and Fish Efforts by the Confederated Tribes of the Umatilla Indian Reservation<sup>30</sup>**

The Walla Walla Basin was part of the Confederated Tribes of the Umatilla Indian Reservation's original lands, and their treaty reserves their rights to fish in the area. Salmon provide subsistence, economic, religious and cultural values for the tribes and they have invested significant effort and resources to bring salmon back to the basin.

To address water issues, the tribes have joined with U.S. Army Corps of Engineers to bring significant quantities of new water to the basin to support fish and agriculture. The current phase of the project is known as the Flow Enhancement Feasibility Study, which will evaluate and recommend alternatives to increase flows in the Walla Walla River. The study is focusing primarily on two options: a new water storage facility on Pine Creek in Oregon that may store up to 50,000 acre feet of water that could be released during periods of low flow; and water exchange from the Columbia River that would pipe water to irrigation canals in the basin for agriculture in exchange for irrigators leaving an equal amount of water in the Walla Walla River to support fish. The feasibility study is due to be completed in December 2008, and the flow enhancement project is estimated to be completed in 8-10 years.

The tribes have also been active in returning salmon to the basin. The tribes established a fish acclimation facility on South Fork Walla Walla River to prepare spring Chinook salmon for release into the river. Beginning in 2000, the tribes and Oregon Department of Fish and Wildlife released surplus adult spring Chinook into the Walla Walla River to begin reintroduction and conduct monitoring to guide future fish management. In 2004, almost 300 spring Chinook returned from the adult outplanting efforts. It was the first time in eighty years that Chinook returned to the Basin. In 2005 the tribes released 250,000 Chinook smolts as they continue to expand their fisheries efforts in the basin.

In addition to the flow enhancement and salmon reintroduction efforts, the tribes have participated in a wide variety of other activities to address water and fish concerns. They have been active in basin-wide planning process as voting members of the WRIA 32 Planning Unit and the Snake River Salmon Recovery Board and they helped develop the Water Management Initiative in their role as board member of the Walla Walla Watershed Alliance. They have also implemented on-the-ground improvements such as removal or laddering of diversion structures to aid fish passage, screening of irrigation canals to prevent fish entry, and stream habitat enhancement. The tribes were also instrumental during negotiations regarding the 2000 Settlement Agreement between U. S. Fish & Wildlife Service and irrigation districts. During that time, irrigators reached out to the tribes and pledged to "help bring back their fish." This prompted a partnership with the tribe's Board of Trustees to "keep farmers farming." The tribes continue to work with the local agricultural community and others to cooperatively identify improvements and funding necessary to restore flows and reestablish salmon runs in the Walla Walla River.

## **H. Summary**

The Walla Walla Basin faces a number of water management challenges. Water is over-appropriated, and water diversions for irrigation have harmed fish and habitat. Because of insufficient flow in the Walla Walla River, the Endangered Species Act has placed restrictions on

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<sup>30</sup> Information and text for this section drawn from the Confederated Tribes of the Umatilla Indian Reservation website: <http://www.umatilla.nsn.us/w2river.html>.

some irrigation operations and has highlighted the costs that others may face if fish and habitat problems are not sufficiently addressed. The state, which manages water through the water rights system, has minimal ability to improve flows through regulatory means.<sup>31</sup> Thus, the state has offered the Walla Walla Basin the opportunity to develop locally generated solutions to these challenges.

The basin has responded to this offer by developing water and fish recovery plans, the Water Management Initiative, and other water-related rules and policies. The Confederated Tribes of the Umatilla Indian Reservation and U.S. Army Corps of Engineers have begun investigating ways to bring significant new water to the basin through storage or other means. And numerous agencies, organizations, committees, and other entities are involved in implementing projects, developing innovative approaches to water management, and otherwise contributing to the effort. As water, watershed, and fish managers shift their focus from planning to implementation, they are asking whether their current guidance documents, institutional arrangements, and implementation mechanisms are adequately designed to achieve their goals. The next section addresses these questions.

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<sup>31</sup> Relinquishment can prevent reactivation of dormant water rights, and the instream flow rule can prevent new water rights from withdrawing water designated for streams. While these cannot improve flows, they can help to prevent further degradation.

## II. Conditions Influencing Implementation

Watershed managers face a complex set of conditions as they attempt to shift their focus from planning to implementation. This complexity is reflected in the multiple plans that establish goals for water and fish improvements, the many entities that are active in water and fish issues, and the range of independently implemented activities that are planned or ongoing. Watershed managers have suggested that this complexity has led to a variety of organizational and coordination challenges that reduce the efficiency and effectiveness of implementation efforts.

### ***A. Multiple Planning Documents***

The complex challenges for watershed managers begin with multiple plans and goals guiding their efforts. The basin has developed three water and fish-related plans (Watershed, Subbasin, and Salmon Recovery plans) and is currently developing a fourth (Habitat Conservation Plan). While significant efforts were taken to achieve consistency among the plans, there are important differences among them that appear to affect project implementation.

Each plan was sponsored by a different entity with specific mandates reflecting the interests or authorities of its sponsor: the Watershed Plan was sponsored by Washington State Department of Ecology and addresses water quantity, instream flow, water quality, and habitat; the Subbasin Plan was sponsored by the Northwest Power and Conservation Council and addresses aquatic and terrestrial habitat issues related to mitigating hydropower production; the Salmon Recovery Plan was sponsored by the Washington Governor's Salmon Recovery Office and addresses habitat, hatcheries, hydropower, and harvest issues related to salmon; and the Habitat Conservation Plan is sponsored by U.S. Fish & Wildlife Service and National Marine Fisheries Service and addresses incidental take of federally protected fish.

In addition, the geographic scope of the plans varies: the Watershed Plan covers only the Washington side of the basin; the Salmon Recovery Plan covers the Washington side of the Walla Walla and Middle Snake basins (WRIAs 32 and 35); the Subbasin plan covers the entire bi-state basin; and the Habitat Conservation Plan covers a portion of the basin across both states. To address some of the variations presented by the three completed plans, a Detailed Implementation Plan was developed to address both the Watershed Plan and the Salmon Recovery Plan. The Detailed Implementation Plan was not intended to establish integrated goals but rather to identify projects to be implemented consistent with the mutually supported goals of the watershed and salmon recovery plans.

In addition to differences in purpose, sponsorship, and geographic coverage, the plans were also developed by different groups in the basin: the Watershed Plan was developed by the WRIA 32 Planning Unit; the Salmon Recovery Plan was developed by the Snake River Salmon Recovery Board; the Subbasin Plan was developed by the WRIA 32 Planning Unit and the Walla Walla Basin Watershed Council in Oregon; and the Habitat Conservation Plan is being developed by a bi-state coordinating committee that includes representatives from 28 entities such as tribes, cities, counties, state and federal agencies, conservation districts, irrigation districts, and nonprofit organizations. While there is some overlapping membership among the groups, each group is largely independent of the others and is guided by its own mission and purposes.

In addition to the four water and fish-related plans, members of the basin have been developing the Water Management Initiative under the auspices of the Walla Walla Watershed Alliance and

the WRIA 32 Planning Unit, with the support of Washington State Department of Ecology. This initiative seeks to create a shared governance mechanism that allows local interests to join with tribal, state, and federal entities to oversee water management in the basin. The initiative would provide flexibility to determine how water is withdrawn, conveyed, and applied so that instream flow targets could be achieved and out-of-stream water uses could be optimized.

Finally, the four plans and the Water Management Initiative establish separate and distinct goals for water and fish management in the basin. These goals reflect the purposes of each plan and the range of interests of the sponsoring entities. These goals include:

- Provide sufficient water for production agriculture; commercial, industrial, and residential use; and instream flows. Plan for future use of inchoate water rights for municipal water supply purposes. (Watershed Plan)
- Aid the recovery of salmon, trout, and steelhead by improving habitat conditions on the land and water areas that support salmon habitat functions and processes. (Salmon Recovery Plan)
- Recover the fish and wildlife that are affected by the development and operation of the hydrosystem and are listed under the Endangered Species Act. (Subbasin Plan)
- Minimize and mitigate incidental take of ESA-listed species. (Habitat Conservation Plan)
- Achieve target instream flows through flexible water management and shared governance of water resources. (Water Management Initiative)

Taken together, the four plans and the Water Management Initiative each provide partial guidance to achieve the basin's water and fish goals. However, each plan has its own sponsor, purpose, goals, geographic scope, and entities responsible for developing and implementing it. While developers of the plans strove to make the plans consistent with one another, some interviewees expressed uncertainty about how the various goals and priorities were reconciled. By developing these four plans, the basin has considered a wide range of water, fish, wildlife, and habitat issues and is now eligible to receive implementation funding from the plan sponsors. However, the plans also establish independent goals and mandates that can conflict. There is no unified plan that integrates water and fish goals, covers the entire basin, and prioritizes resource allocation and implementation actions across the range of needs. Some interviewees suggested that this has contributed to a fragmented and disconnected system for allocating resources and implementing projects that has reduced the effectiveness and impact of the efforts.

## ***B. Multiple Entities Providing Coordination and Leadership***

A second area of complexity involves the many entities involved in water and fish-related activities in the basin. On the Washington side of the basin, more than 30 governments, agencies, organizations, and other entities are participating in activities related to water and fish issues. These include the Confederated Tribes of the Umatilla Indian Reservation; state agencies such as the Department of Ecology, Department of Fish & Wildlife, and Department of Health; cities, counties, and federal agencies; irrigation districts and ditch companies; conservation districts; and at least 10 nonprofit organizations.

On the Oregon side of the basin, there is a single entity—the Walla Walla Basin Watershed Council—that is responsible for leading water and fish restoration efforts on behalf of Oregon interests. However, on the Washington side, there is no single similarly recognized group. Instead, many entities on the Washington side of the basin perform coordination and leadership

roles related to water and fish improvements. For example, at least eight entities are setting priorities, managing and implementing projects, and allocating resources to others. These entities include:

- **WRIA 32 Watershed Planning Unit.** The Planning Unit operates under the auspices of Walla Walla County and has led much of the water and watershed planning work in the basin. The Planning Unit was established in 2001 under the Washington State Watershed Planning Act (RCW 90.82) and is governed by a 25-member board representing a range of interests in the basin. The Planning Unit oversaw production of the Watershed Plan, worked with the Walla Walla Basin Watershed Council to produce the Subbasin Plan, and worked with the Snake River Salmon Recovery Board to produce the Salmon Recovery Plan and the Detailed Implementation Plan. It also has a lead role in developing the Habitat Conservation Plan. The Planning Unit reviews and recommends projects for support under Ecology’s Phase IV implementation funding. The Planning Unit and Walla Walla County have also played a contract management role to oversee implementation of a variety of restoration and research projects. However, Walla Walla County officials have expressed concerns regarding liability for some on-the-ground projects and have decided to curtail most future project implementation work. Although the Planning Unit operates under the auspices of Walla Walla County, its scope is basin-wide and it has representation from stakeholders and municipalities in Walla Walla and Columbia counties and the tribes. Now that most water-related plans and rules have been completed, the role of the Planning Unit is being reconsidered.
- **Confederated Tribes of the Umatilla Indian Reservation.** As a sovereign government, the tribes are active in planning, implementation, and technical work related to water and fish. In addition to participating in many water and fish-related planning efforts and projects, the tribes are working with the U.S. Army Corps of Engineers to develop a “big water” solution for the mainstem Walla Walla that is intended to provide about 100-150 cubic feet per second (cfs) when completed. A feasibility study for the project is underway, and if the project progresses as planned, it could deliver additional water in about 8-10 years. The tribes are also leading efforts to protect and restore fish habitat and have established a fish acclimation facility and a water and fish monitoring program to support reintroduction of spring Chinook and other species. The tribes have a significant body of monitoring and technical data and have science, policy, and legal staff dedicated to water and fish-related issues.
- **Walla Walla Watershed Alliance.** The Alliance is an umbrella group composed of community leaders from agriculture, business, conservation, and other perspectives. With financial support from the Washington State Department of Ecology, Washington State Department of Community Trade and Economic Development, and the Natural Resources Conservation Service, the Alliance has initiated and managed a variety of water-related projects, including technical investigations and development of the Water Management Initiative. This group recently decided to shift its focus to policy, advocacy, and education and outreach. While its new role is still being developed, it has decided to cease its involvement in project management and implementation.
- **Snake River Salmon Recovery Board.** The Snake River Salmon Recovery Board was established in 2001 following passage of the Salmon Recovery Act (RCW 77.85). The board is composed of 15 members, three each from Whitman, Asotin, Garfield, Columbia and Walla Walla counties and two members from the Confederated Tribe of the Umatilla Indian Reservation. The Snake River Salmon Recovery Board relies on a regional technical team comprised of members from the federal, tribal and state agencies. The

regional technical team advises the Board on technical issues pertaining to policy and management. The Board also has a Lead Entity team comprised of two citizens from each of Asotin, Garfield, Columbia and Walla Walla counties and four members from state and federal agencies. Combined, the citizen and technical members serve the Board by reviewing and prioritizing projects for funding consideration by the state-level Salmon Recovery Funding Board. The Snake River Salmon Recovery Board currently reviews and recommends project funding consideration by the Northwest Power and Planning Council and Salmon Recovery Funding Board and has been requested to consider a similar role for the U.S. Army Corps of Engineers when it implements the Snake River Dredge Spoils Management Plan. The Board does not implement projects but rather guides investments into the region based on the priority areas and actions defined in the Snake River Salmon Recovery Plan.

- **Walla Walla County and Columbia Conservation Districts.** The conservation districts works primarily with agricultural entities and provides technical, engineering, and design support to implement projects benefiting water and fish goals. The conservation districts set their own priorities, allocate resources, and tend to operate where landowners show interest. With funding from the Washington State Conservation Commission, Washington State Department of Ecology, federal agencies, and other sources, the conservation districts have removed many fish passage barriers, installed fish screens, protected many miles of riparian buffers along streams, and completed at least three irrigation efficiency projects in the basin.
- **Priority Projects Group.** This group was formed to support implementation of projects not identified as priorities under the existing Watershed, Subbasin, and Salmon Recovery plans. The group is led by the Walla Walla County Conservation District and includes members from Confederated Tribes of the Umatilla Indian Reservation, Washington State Department of Fish & Wildlife, Ecology, and local project implementers. The group expects to receive mitigation funds from the Washington State Department of Transportation and will allocate those funds for projects based on priorities identified by the Group's members.
- **Water & Environmental Center (Walla Walla Community College).** The new Water & Environmental Center, opening in August 2007, is expected to provide a home to some water and fish-related entities such as the Walla Walla Watershed Alliance, the WRIA 32 Planning Unit, and some tribal and state agency staff. The center will support education and training for water and environmental resource managers and technicians and provide meeting space and technical support for community-related activities related to water and environmental issues. The center is intended to promote communication and innovation, support collaboration, and encourage use of water and environmental best practices to benefit the environmental, economic, and cultural health of the Walla Walla Basin and surrounding region. The center is also planning to be an information clearinghouse for documents, studies, and data related to water and environmental concerns in the basin. The center has received funding from Washington State Department of Community Trade and Economic Development, Washington State Department of Ecology and others to implement projects and studies related to the Water Management Initiative and other water and fish-related efforts.

Some interviewees noted that the Planning Unit, Snake River Salmon Recovery Board, and Walla Walla Watershed Alliance seem to have overlapping missions and functions, especially related to leadership, coordination, and resource allocation. The Planning Unit administers many

of the water and fish-related committees in the basin and recommends projects for funding under Ecology’s Phase IV Watershed Planning implementation funding to support water quantity, quality, flow, and habitat goals. The Snake River Salmon Recovery Board recommends projects for funding by the Washington Salmon Recovery Funding Board and Bonneville Power Administration (related to the Salmon Recovery Plan and the Subbasin Plan) to support habitat and salmon recovery goals. Some interviewees have noted redundancies in project review and resource allocation activities between these two groups. The Walla Walla Watershed Alliance initially played a similar role—receiving federal and state funds and allocating them to others for project implementation—but now that the Alliance has decided to no longer engage in project management and implementation, its role is less likely to overlap with that of others.

The conservation districts in Walla Walla and Columbia counties focus primarily on project implementation activities with rural landowners within their county boundaries. As project implementers, the conservation districts have installed irrigation efficiency projects, fish screens, riparian buffers, and flow meters, and they have removed fish passage barriers. The Walla Walla County Conservation District has also established a priority setting and resource allocation mechanism known as the Priority Projects Group.<sup>32</sup> This group coordinates project implementation efforts and helps allocate resources to accomplish projects identified by the entities involved in the Priority Projects Group.

In addition to these entities, a large number of committees and coordinating groups support specific dimensions of water and fish improvements. These include the Mill Creek Work Group, the Bi-State Habitat Conservation Plan Coordinating Committee, the Basin Funding Working Group, the Basin Implementation Working Group, the Policy Group, the Project Management Team (associated with the Water Management Initiative), the Regional Technical Team (providing technical review for the Salmon Recovery Region), the regional Lead Entity, and the Technical Review Team (guiding hydrologic studies in the basin associated with the Water Management Initiative). Also, multiple boards, steering committees and subcommittees are associated with the Planning Unit, Alliance, Snake River Salmon Recovery Board, conservation district, and Water & Environmental Center. (For example, the Planning Unit has five subcommittees: Outreach, Instream Flow/Quantity, Water Quality/TMDL, Habitat, and a Steering Committee). While not exhaustive, this list of groups and committees suggests the quantity and diversity of organizational efforts that address water and fish concerns in the basin.

Each of these entities, groups, and committees is contributing to improved water and fish outcomes in the basin in its own way. However, many interviewees expressed the opinion that the sheer number of groups and committees make it difficult for resource people (especially agency representatives and scientists) to adequately participate in important processes and provide useful input. Some said that attending meetings of these groups stretched time and staff resources and made it difficult for potential participants to identify which activities were relevant and worthy of time and attention. This, in turn, has made it difficult for some important processes and issues to gain traction. Many interviewees expressed a preference for streamlining, simplifying, and combining entities and efforts to improve efficiency and focus operations.

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<sup>32</sup> Members of the Priority Projects Group include representatives from Washington Department of Fish and Wildlife, Walla Walla County Conservation District, Washington State Department of Ecology, Confederated Tribes of the Umatilla Indian Reservation, and Tri-State Steelheaders.

### **C. Independently Implemented Projects**

A third area of complexity is the wide range of activities that are ongoing or planned in the basin, how they affect one another, and how they are coordinated. Since 2000, a wide variety of planning efforts, assessments, on-the-ground projects, and information-gathering activities have been implemented in the basin. Most have been implemented through voluntary, incentive-based arrangements. While many of the activities have been guided by the publicly developed plans, others have been independently initiated and implemented. Some activities have had unintended consequences that affect other aspects of water or fish activities.

The following lists lay out a sampling of planning and assessment efforts; on-the-ground projects; and science, monitoring, and data management activities.

#### **1. Planning and Assessment Efforts**

- **Planning activities related to water and fish management.** At least 11 planning processes have been completed or are ongoing, including the Salmonid Habitat Limiting Factors for WRIA 32, Walla Walla Bi-State Habitat Conservation Plan, WRIA 32 Watershed Plan, WRIA 32 Instream Flow Assessment, WRIA 32 Water Quality Assessment, WRIA 32 Storage Assessment, WRIA 32 Detailed Implementation Plan, Walla Walla Subbasin Plan and addendum, Little Walla Walla Assessment, Snake River Salmon Recovery Plan (coordinated with WRIA 32), Washington State Transportation Permitting Efficiency and Accountability Committee Mitigation Project, and Mill Creek fire prevention and management plan.
- **Flow Enhancement Feasibility Study.** The Confederated Tribes of the Umatilla Indian Reservation recently received funding to complete this feasibility study with the U.S. Army Corps of Engineers. The study is expected to be completed by the end of 2008 and is intended to identify options to add approximately 150 cfs of water to the Walla Walla River.
- **Comprehensive Irrigation District Management Plans (CIDMPs) and stewardship plans.** The three major irrigation districts in the basin have engaged in the CIDMP process, and efforts are also underway to develop watershed-level CIDMPs for water users who do not belong to an irrigation district but who operate in a common geographic area. The Walla Walla Watershed Alliance has also led efforts to develop stewardship plans with landowners and water users in three geographic areas to support individual actions that would benefit water and fish goals.
- **Water Management Initiative.** Efforts are underway to identify existing mechanisms that could provide flexible water management among irrigators and others. This report also contributes to developing the initiative by assessing the needs, capacities, and gaps relative to establishing a shared governance mechanism that could administer the initiative's activities.

#### **2. On-the-Ground Projects**

- **Irrigation efficiencies.** The Walla Walla County Conservation District has completed three on-farm irrigation efficiencies projects to reduce water usage and improve instream flows. These projects have protected 6,481 acre feet of water per year in trust.<sup>33</sup> More

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<sup>33</sup> Data provided via email by Rick Jones, Walla Walla County Conservation District. June 28, 2007.

than 50 irrigation projects have been assessed, and the district estimates that it can complete about 5 additional projects each year.

- **Piping/lining irrigation ditches.** Three irrigation water conveyance (piping or lining) projects have been completed in the basin. These include piping of the Riggs-Huesby lateral on the Gardena Farms Irrigation District #13 in Washington (implemented by the Walla Walla County Conservation District) and the Hy-Line and Powel Pleasantview piping projects in Oregon (implemented by the Walla Walla Basin Watershed Council with funds from the Walla Walla Watershed Alliance and the federal Habitat Conservation Passage funding administered by Walla Walla County). Additional projects are in progress, including the Touchet Westside Irrigation District (engineered and fully designed by the Walla Walla County Conservation District and expected to save approximately 987 ac ft of water per year; construction is anticipated to begin in 2007) and pipeline installation at Gardena Farms Irrigation District #13 (installed by Gardena staff and expected to be completed in 2007). One project, Lowden 2, was fully designed by Walla Walla County Conservation District but not implemented due to landowner objections.
- **Water acquisition and protection.** More than 3,007 acre feet of water have been conserved into Washington's Trust Water program through purchase, lease, donation, or other voluntary means. The Washington Water Trust, conservation districts (through irrigation efficiencies), and Washington State Department of Ecology continue to seek voluntary participation in this program.
- **Shallow aquifer recharge.** Three pilot projects to test shallow aquifer recharge were implemented in the basin: the City of Walla Walla tested shallow aquifer recharge at its water storage facility; the Gardena Farms Irrigation District #13 have a third-year project in place at the Locher gravel pit site; and Walla Walla County has administered a multi-year test at the Hall-Wentland site near the Washington-Oregon border, where 60 to 70 acre feet of water was pumped into the test site. In addition, a strategic plan to guide shallow aquifer recharge has been developed. According to the strategic plan, monitoring data suggest that shallow aquifer levels are declining,<sup>34</sup> which reduces base flows of streams and forces groundwater users to drill deeper wells. Recent assessments suggest that recharge could stabilize groundwater supplies, provide cold water seepage to streams, and reduce flood hazards.
- **Aquifer storage and recovery.** The City of Walla Walla has converted two wells to support pumping surface water deep underground for storing a supply of emergency drinking water. The wells have injected an average of 441 million gallons per year since 1999. The injected water is treated with ozone and chlorine before pumping. This program allows the city to bank water for municipal supply during the wet winter months and to use it during the dry summer months so that water can be left in Mill Creek. If a fire in the Mill Creek watershed harms the drinking water supply, aquifer storage should also provide some additional supply until the watershed heals.
- **Water metering.** The Walla Walla County Conservation District has installed more than 200 water meters, and more than 100 additional water users are currently signed up to

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<sup>34</sup> Data from the McKnight well downgradient from Milton Freewater in Oregon show a consistent drop over time in static level from 8 feet below surface to about 27 feet below surface from 1933-95. Source: Data compiled by Bob Bower, as presented in "Strategic Plan: Shallow Aquifer Recharge." Strategy for restoring and seasonally recharging shallow gravel aquifer(s) and spring-fed streams of the Walla Walla Watershed. Compiled by John Warinner, PE. Fountainhead, June 2006.

receive them. The conservation district estimates that there remain 500 to 600 diversions without meters. Flow meters allow irrigators to document water use and protect their water rights and also allow water managers to monitor water usage.

- **Fish screens.** The Walla Walla County Conservation District has installed more than 310 fish screens to prevent harm to fish from entering irrigation diversions. The district estimates that 100 to 200 individual unscreened diversions remain. The district currently has grant funding from BPA, the U.S. Fish & Wildlife Service, and the Salmon Recovery Funding Board and is installing 10 to 15 fish screens per month. In addition, many large-scale fish screens have also been installed. These include the Garden City/Lowden 2/Mud Creek 7 diversion and fish screen (completed by Confederated Tribes of the Umatilla Indian Reservation and BPA in 2001) and the Hofer Dam diversion (completed by Walla Walla County Conservation District in 2007). The City of Walla Walla also replaced a fish screen on its water supply intake on Mill Creek in 2001 to bring its facilities into compliance with new screening standards in response to concerns over bull trout take. After the installation, the city assisted the Confederated Tribes of the Umatilla Indian Reservation in reintroducing spring Chinook into Mill Creek.
- **Riparian buffer enhancements for fish.** The Walla Walla County Conservation District has installed more than 3,020 acres and 180 miles of riparian buffer the basin, which represents about two-thirds of the stream miles eligible for funding on Walla Walla County streams. The Conservation Reserve Enhancement Program (CREP) has provided the majority of funding for riparian buffer installation. Other riparian buffer activities include the new Creating Urban Riparian Buffers Project, which combines efforts of the Walla Walla County Conservation District, Tri-State Steelheaders, Backyard Stream Team, and Walla Walla Watershed Alliance to establish vegetated riparian buffers in backyards to improve water quality and riparian habitat on streams flowing through urban centers.
- **Instream habitat improvements.** The conservation districts in Walla Walla and Columbia counties have installed more than 300 in-stream structures to improve fish habitat in the Walla Walla Basin. The Confederated Tribes of the Umatilla Indian Reservation have also installed rootwads and instream structures to increase instream diversity, provide juvenile and adult holding areas, and reduce sediment input. The Walla Walla County Conservation District has significantly reduced the rate of implementing in-stream habitat structures due to difficulties with permitting and environmental compliance requirements.
- **Fish passage barrier removal.** At least ten fish passage barriers have been removed to open additional spawning habitat. These include the Hofer Dam on the Touchet River, whose removal was expected to increase the steelhead run by 30 percent<sup>35</sup> and the Gose Street barrier on Mill Creek, which was expected to open 30 miles of additional spawning habitat (both led by the Walla Walla County Conservation District); Jim Creek culvert (led by Tri-State Steelheaders); and Kooskooskie dam removal on Mill Creek which opened approximately 32 miles of high-quality spawning and rearing habitat for steelhead, bull trout, and reintroduced spring Chinook (led by Tri-State Steelheaders). Additional fish passage barrier removal is being identified through the Habitat Conservation Plan Fish Passage Project.

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<sup>35</sup> Source: Rick Jones, Director of Walla Walla County Conservation District, as reported in Monthly Meeting Minutes of the Energy Facility Site Evaluation Council, July 12, 2005.

- **Salmon reintroduction.** The Confederated Tribes of the Umatilla Indian Reservation established a fish acclimation facility on the South Fork Walla Walla River to prepare spring Chinook for release into the river. The tribes have partnered with Washington Department of Fish and Wildlife to produce smolts at the Ringold Springs Hatchery. The Hatchery produces about 500,000 smolts per year for release into the Walla Walla River.
- **Upland Protection.** The conservation districts in Walla Walla and Columbia counties have assisted farmers to convert more than 160,000 acres from conventionally tilled cropland to native vegetation that reduces sediment erosion and improves water quality. These changes were supported by funding from the federal Conservation Reserve Program.
- **Settlement Agreement.** While not actually an on-the-ground project, the 2000 Settlement Agreement between the U.S. Fish & Wildlife Service and three irrigation districts led to water use reductions, installation of efficient irrigation technologies, ditch piping, and protection of some water rights in the trust water programs of both Oregon and Washington. The result has been the return of summer instream flows in the Walla Walla River that had been absent for more than a century.

### 3. Science, Monitoring, and Data Management

- **Technical studies:** A wide variety of efforts to increase knowledge and help guide actions related to water and fish have been conducted or are ongoing in the basin. These include assessments for instream flow, water quality (TMDLs and other efforts), and multipurpose water storage conducted under the watershed planning process; groundwater assessments and shallow aquifer recharge experiments being conducted by Walla Walla Basin Watershed Council; a salmon life cycle model funded by Walla Walla Watershed Alliance; habitat assessments on Mill Creek, East Little Walla Walla River and other locations; evaluation of fish passage conditions in Mill Creek and other locations; and a water budget for the Walla Walla River.
- **Monitoring and data collection efforts.** At least nine entities are conducting water and fish monitoring activities in the Walla Walla Basin, including Confederated Tribes of the Umatilla Indian Reservation, Washington State Department of Ecology, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, U.S. Fish & Wildlife Service, U.S. Forest Service, U.S. Army Corps of Engineers, Utah State University, and Walla Walla Basin Watershed Council. These monitoring and data collection activities range in purpose and location, and include resident fish monitoring, anadromous fish monitoring, natural fish production monitoring, bull trout monitoring, streamflow gauging, and seasonal stream temperature monitoring.
- **Science review teams.** There are at least four separate teams composed of scientists and technical experts assisting with project review, priority setting, and data assessment in the basin. The *Lead Entity Technical Team* is composed primarily of fish biologists active in the Walla Walla and Lower Snake River basins (WRIAs 32 and 35) and provide technical input to the Snake River Salmon Recovery Board for project prioritization. The *Regional Technical Team* is composed primarily of staff from state, federal, and tribal agencies with scientific and technical expertise who provide a coordination and liaison role between federal agencies and the Snake River Salmon Recovery Board regarding science policy in the basin. The *Technical Review Team* is composed of hydrologists and hydrogeologists in the basin and the region and was established by the Walla Walla Basin Watershed Council to help guide hydrologic studies associated with the Water

Management Initiative. And the *Implementation Work Group* includes five science and technical representatives who assist the WRIA 32 Planning Unit in prioritizing projects. In addition, there are a variety of other groups incorporating scientific and technical resource people, including the Mill Creek Work Group, the Walla Walla Flow Annual Operating Plan Technical Group, the Wetlands Work Group, and others.

- **Data Management.** Walla Walla County has supported development of Geographic Information Systems (GIS) mapping and analysis program and the Paladin EKOSystem data management program to collect and manage water, fish, and other data in the basin.

#### ***D. Assessment of Conditions in the Basin***

While not intended as a comprehensive accounting of activities in the basin, the above lists suggest the wide range of planning, implementation, and information-gathering efforts and the progress achieved since 2000. These activities have helped to restore streamflow in the Walla Walla River, return fish to the streams, increase and improve spawning habitat, and provide knowledge to help guide future work. These are significant accomplishments that have reversed the trends of water and fish conditions in the basin over the past century. They also demonstrate the basin's capacity to work together to achieve water and fish goals.

However, comments by interviewees suggest pervasive concern that not enough is being done—or that progress is too slow—to adequately achieve water and fish goals. Many expressed the view that a lot of water and fish-related activity has taken place over the past seven years but there seem to be little on-the-ground results to show for it. Many pointed to the planning and organizational efforts (especially the Water Management Initiative) and asked when these efforts would show progress toward restoring flows and returning fish. Interviewees also expressed concern that the projects are insufficiently coordinated and not always targeted toward the highest priorities, and that momentum seems to be waning.

Since 2000, the Walla Walla Basin has received approximately \$15 million for planning and implementation work around water and fish issues.<sup>36</sup> However, this money has been directed to multiple groups for planning and implementation. While some basin-level coordination has occurred—especially around planning—much of the on-the-ground project work has been implemented independently or through partnerships among two or more groups. This makes it difficult to ensure that implementers do not receive funds from multiple funding sources for the same project. Efforts to build a centralized project management system to track project proposals, implementation or outcomes across the basin have been sporadically funded but not fully embraced by implementers who would need to share their project information. Thus, while significant sums of money have been spent in the basin, it is difficult to gain a basin-wide accounting of efforts or impacts. This may contribute to the perception that not enough is being done to improve water and fish conditions.

The wide array of activities in the basin and their geographic range has led interviewees to question whether some projects are sufficiently prioritized and targeted. Because projects have been implemented broadly throughout the basin rather than being concentrated in the highest-priority areas, incremental benefits are less noticeable and project areas are less able to benefit from cumulative improvements through multiple efforts in surrounding areas. For example,

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<sup>36</sup> Since 2000, over \$5.4 million of state and federal grant funding has passed through Walla Walla County for administration of over 75 contracts and subcontracts supporting water and fish-related planning and project implementation.

irrigation efficiency projects are implemented where landowners demonstrate interest, and these locations sometimes do not correspond with the priority areas identified by the publicly developed water and fish plans.

The presence of eight entities in the basin performing leadership and resource allocation roles and seeking funds to implement projects also has impacts on funders. In some cases, funders seeking to support conservation efforts on the Washington side of the basin have reportedly found it difficult to identify an appropriate entity to work with. Similarly, some interviewees described funders who were inundated with funding requests from the Walla Walla Basin for water and fish projects but found it difficult to prioritize among the projects and entities. These funders were seeking clarity on the basin's priorities and were expecting coordination within the basin on funding requests. According to some interviewees, the combination of multiple entities performing similar roles, multiple water and fish plans with divergent goals, and insufficient coordination among entities on funding requests has the potential to harm future efforts to acquire funding for water and fish projects.

Interviewees also noted the importance of public awareness and engagement in building support for expenditures and actions designed to improve water and fish outcomes. This is one area where many suggested that additional work is needed. Many interviewees suggested that the wide range of organizations, activities, plans, and initiatives was confusing, even to those actively involved. However, most underscored the importance of broadening outreach beyond those involved, especially to public and elected officials and the general basin community. Building public awareness might include providing clear information for the layperson regarding water and fish conditions and trends that have motivated the planning and implementation efforts; how these conditions and trends affect the environment, economy, and community; what actions have been taken to address the conditions and trends; what has been achieved thus far; and what else needs to be done to achieve the basin's water and fish goals.

Finally, interviewees expressed concern that some projects or activities are insufficiently coordinated with other activities or are focused on achieving one goal at the expense of other goals. A number of interviewees reported implementing on-the-ground projects and then finding that others were implementing projects nearby that affected the outcome of their project. Some noted the complex interactions of the hydrological system and the dangers of focusing too narrowly on achieving specific outcomes without considering potential unintended consequences in other aspects of the system. By not incorporating the full range of system interactions, some projects might create benefit as measured by some parameters but do harm as measured by others. Some examples include:

- **Dewatering of West Little Walla Walla River.** The West Little Walla Walla River was a perennial stream that probably supported steelhead and other fish. However, starting in 2001 as part of the Settlement Agreement between U. S. Fish & Wildlife Service and three irrigation districts, 25 cfs were diverted from the Little Walla Walla River where the districts draw their water in order to supply the mainstem Walla Walla River. Also starting in 2001, the West Little Walla Walla River has been dry or nearly dry for three to four months in the summer and fall. Many in the basin believe that efforts to supply water to the mainstem Walla Walla River had the unintended consequence of dewatering the West Little Walla Walla River.
- **Effects of ditch lining and piping on groundwater and instream flow.** Lining and piping irrigation ditches reduces conveyance loss due to evaporation and leakage, and this is generally recognized as helping to improve water use efficiency. However, the

water lost through leakage in unlined or unlined ditches tends to infiltrate into the shallow aquifer and reemerge as cooled water in streams. When ditches are lined or piped, these return flows are reduced or eliminated, affecting flow levels, temperature, and water quality in nearby streams. As a result, some hydrologists are now calling for infiltration galleries to intentionally recharge the shallow aquifer and provide the groundwater and streamflow benefits previously supplied by irrigation ditch leakage.

- **Fish Passage Barrier removal and competition from predatory species.** Removing fish passage barriers to provide access by anadromous fish to upstream reaches has also allowed non-native and/or predatory fish to ascend streams and compete with juvenile salmonids. Until ecological conditions—primarily water temperature—are restored, juvenile salmonids will face heightened competition for survival from other fish species.

## ***E. Summary***

The preceding assessment of plans, organizations, and activities suggests a fragmented and disconnected operational structure in the basin. This reflects the historical development of programs, functions and entities in the basin as needs were identified and funded by various agencies, programs and segments of the community. The basin is guided by three independent plans established for varying purposes by different sponsors. (A fourth plan, the Habitat Conservation Plan, is currently being developed, as is the Water Management Initiative.) While efforts have been made to ensure consistency among the plans, the three plans promote divergent goals, cover varying geographic areas, and were produced by different entities. These different entities are now independently allocating resources to implement the plan(s) they produced, with funding provided by the three plan sponsors. In addition, other entities and committees are receiving independent funding and are allocating resources to implement projects that are sometimes inconsistent with the publicly developed plans. At least eight entities or groups appear to be playing coordination, prioritization and resource allocation roles in the basin: WRIA 32 Watershed Planning Unit, Snake River Salmon Recovery Board, Confederated Tribes of the Umatilla Indian Reservation, Walla Walla County Conservation District, Columbia Conservation District, Priority Projects Group, Walla Walla Watershed Alliance, and the Water & Environmental Center.

This organizational arrangement has produced a range of activities but has resulted in pervasive public perceptions that little has been accomplished on the ground. While numerous beneficial projects have been completed and perennial instream flow has been returned to the Walla Walla River, many interviewees identified instances where activities were not strategically targeted or prioritized to reflect basin-wide goals, and they were not systematically tracked to support fiscal accountability and monitor impacts. Others noted the lack of a formal coordination mechanism between resource allocation groups to ensure that projects are consistent with the range of goals established for the basin, that funding requests are coordinated, and that projects do not have unintended consequences or negatively affect other efforts.

The emergence of this complex and fragmented organizational arrangement is not surprising. Many of these groups have been formed by or have responded to mandates and incentives from entities outside the basin such as the Washington State Legislature (Watershed Planning Act and Salmon Recovery Act) and major funders (BPA and others). However, water and fish managers in the basin are now asking whether the current organizational arrangements are adequate to achieve their water and fish goals, or whether alternative organizational structures could improve

efficiency and effectiveness and lead to increased improvements in a shorter period of time than under current circumstances.

### III. Objectives, Capacities, and Gaps

Since 2000, the basin community has accomplished a wide range of planning, on-the-ground improvements, and information-gathering efforts. These efforts have returned water and fish to the streams, increased and improved fish habitat, and provided knowledge to help guide future work. However, the variety of plans, groups and activities have also resulted in perceptions of fragmentation, independent and uncoordinated activity, and insufficient on-the-ground results. The range of resource allocation groups also makes it difficult to track projects and quantify water and fish benefits on a basin-wide scale.

Until recently, watershed managers have focused primarily on planning. Now that much of the water and fish-related planning is complete, watershed managers are shifting their focus to implementing activities that will achieve the goals of the water and fish plans and the Water Management Initiative. They are asking whether the basin has the capacities and resources to achieve the goals established by the plans and other efforts.

The basin is at a unique moment in its development to assess its needs and capacities and consider alterations. Many entities in the basin are currently undergoing change, and those changes could influence how the basin organizes itself to achieve its water and fish goals. For example, the two entities that led most of the planning efforts—the WRIA 32 Planning Unit and the Snake River Salmon Recovery Board—are adjusting their missions and activities to respond to the new focus on implementation. With other entities, some implementation functions are being reduced. Two entities that had managed contracts and finances for on-the-ground project implementation—Walla Walla County and Walla Walla Watershed Alliance—are no longer providing this function. Finally, the basin has a new entity in the Water & Environmental Center. This facility will soon open and is currently determining how it will support water and fish needs in the basin. These institutional changes, coupled with the changing focus away from planning, offer a unique opportunity to consider whether the basin is appropriately organized to achieve the goals of the water and fish plans and other initiatives.

To organize efforts to achieve the goals of the water and fish plans and the Water Management Initiative, watershed managers have established three operational objectives. These objectives are intended to integrate the plans, processes, rules, activities, and entities involved in water and fish management to improve coordination, efficiency, knowledge, and economic and environmental outcomes. These operational objectives are:

- **Implement water and fish improvements.** Organize basin resources to effectively implement activities to achieve needed streamflow, water quality, and habitat for fish and human needs. This might involve overseeing and/or coordinating implementation of actions, policies, and other recommendations contained in the Watershed, Subbasin, Salmon Recovery, and Habitat Conservation plans, as well as the instream flow rule, TMDLs, Water Management Initiative and other water and fish-related efforts.
- **Optimize water resource use.** Facilitate the coordination—and possibly exchange—of water between instream and out-of-stream uses, and among municipal, agricultural, and other users. This might involve a coordination or decision-making mechanism to optimize how water is withdrawn, conveyed, and applied to manage water in ways that support fish needs while optimizing human and economic benefits of water.

- **Create a shared governance mechanism.** Provide a forum for entities and citizens involved with or affected by water management decisions to participate in those decisions. Although water and fish management would continue to be overseen by federal, tribal, and state authorities, the governance mechanism would involve or have access to all the entities involved in water management so that proposed changes in water management can be efficiently vetted.

Shared governance is seen as a mechanism to support implementation and water resource optimization. Through this mechanism, the basin community is seeking to achieve better environmental outcomes than the current water management system can deliver. Watershed managers believe that through shared governance of water resources and local leadership, the basin community can develop locally supported and implemented approaches to restoring water and fish. They further believe that they can integrate water and fish management to concurrently increase instream flows, recover ESA fish populations, and provide for the economic and human uses of water.

The basin community has demonstrated the capacity to conceptualize innovative approaches to water management, and the Washington State Department of Ecology has supported these efforts. Watershed managers are now trying to determine whether the capacity currently exists in the basin to realize their water and fish goals, or whether additional capacity or reorganization will be required to achieve them. The following sections analyze the basin's capacity to fulfill its three operational objectives.

### ***A. Implementing Water and Fish Improvements***

The first operational objective is to implement activities that will lead to water and fish improvements. There are at least four types of activities that involve implementation:

- **On-the-ground projects.** These include fish screens, habitat restoration, removal of fish barriers, salmon reintroduction, irrigation efficiency, water acquisition, flow enhancement, and shallow aquifer recharge. Most on-the-ground projects have been implemented by the Confederated Tribes of the Umatilla Indian Reservation, conservation districts, irrigation districts, Walla Walla City and County, and groups such as Tri-State Steelheaders, Native Creek Society, Washington Water Trust, Kooskooskie Commons, Backyard Stream Team, and Blue Mountain Land Trust. While a few projects have reportedly been sub-optimally designed, the range of successfully completed activities suggests that these groups have the capacity to manage technical input, project design, permitting, contracting, landowner contact, and other functions necessary to complete on-the-ground projects.
- **Programmatic or operational activities.** These include developing goals, priorities and strategic action plans, coordinating water users to share water, developing a Coordinated Water System Plan, developing CIDMPs, developing (and possibly managing) a water bank, informing the public about water and fish conditions and trends, and ensuring consistency of other activities (land use planning, economic development efforts, transportation) with water and fish goals. The WRIA 32 Planning Unit and the Snake River Salmon Recovery Board have demonstrated the capacity to produce guidance documents establishing goals, priorities, and recommended actions for water and fish improvements in the basin. Most of the other programmatic activities are being led or coordinated by the Planning Unit with participation by irrigation districts, Walla Walla Watershed Alliance, Washington Water Trust, and others. These activities tend to be

ongoing efforts that require coordination and communication with a wide variety of individuals and entities. While progress on these activities suggests capacity is present to manage this work, many of these activities have reportedly been minimally funded and thus could benefit from augmented staffing and support.

- **Policy development.** This involves efforts to alter rules, incentives, or processes such as the Water Management Rule, TMDLs, Water Management Initiative, Habitat Conservation Plan, and future possibilities such as a drought response strategy. Most of these activities have been led or coordinated by the Planning Unit, Ecology or the Walla Walla Watershed Alliance. This work often requires coordination of people, organizations, and interests, careful consideration of issues, and sometimes negotiation or facilitation to find acceptable solutions. Under the objective of shared governance, most of these activities are envisioned to be managed at the local level in the future. While progress on these activities suggests capacity is present to manage this work, many of these activities have reportedly been minimally funded and thus could benefit from augmented staffing and support.
- **Applied research and information gathering efforts.** These include hydrologic and fish studies, water and fish monitoring programs, project impact assessments, data management, and GIS mapping and analysis. The Walla Walla Basin Watershed Council has developed capacity to conduct hydrologic studies, and state, federal, and tribal entities are actively monitoring water and fish. Walla Walla County has developed GIS capacity, and the Water & Environmental Center intends to provide an information clearinghouse for the basin. According to some scientists, the basin has adequate scientific and technical capacity and breadth of specializations for the current level of activity. Many entities in the basin support scientific and technical staff, including federal and state agencies, the Confederated Tribes of the Umatilla Indian Reservation, Walla Walla Basin Watershed Council, Walla Walla Community College, Walla Walla City and County, irrigation districts, conservation districts, and conservation groups such as the Tri-State Steelheaders. Each entity has specific capacities such as fish and streamflow monitoring, habitat assessment and restoration, or farmland and irrigation management. Technical staff also have specific assignments and responsibilities related to the mission of their organization. A number of groups, such as the Water Management Initiative Technical Review Team and the Technical Working Group, are composed primarily of technical staff who manage scientific and technical issues. While scientific and technical capacity might be adequate, additional capacity would likely be required if demand for these capacities were to increase.

In addition to carrying out activities that lead to water and fish improvements, implementation also involves mechanisms and capacities to support those activities. Based on interviews, research and the experience of other watershed efforts, there are a number of capacities that contribute to effective project implementation. Some of the essential capacities include:

- The ability to set clear goals to help guide actions
- The ability to prioritize needs and opportunities and allocate resources based on established goals
- The ability to integrate and vet the scientific, technical and community acceptance of activities
- The ability to manage and track projects, contracts, and finances and ensure that projects are completed appropriately

- The ability to coordinate activities and groups on a basin-wide scale to facilitate efficient and effective efforts and prevent conflicting actions or outcomes
- The ability to monitor project impacts and assess outcomes and ambient conditions to provide feedback for further actions and priorities
- The ability to assess changing conditions and future needs, to develop innovative approaches to addressing issues, and to experiment with applied research
- The ability to coordinate and integrate with other activities (growth management, economic development, promotion and marketing) that influence water and fish outcomes.

As noted previously, the basin’s capacities to support implementation are demonstrated through multiple and overlapping mechanisms. There are three water and fish plans with distinct goals, eight groups setting priorities, receiving funds, and allocating resources,<sup>37</sup> at least three science review groups providing technical input for project design, prioritization and resource allocation,<sup>38</sup> and multiple groups and committees providing coordination and communication forums to support various efforts. Each group receiving resources tracks its projects, contracts, and finances. There are also many entities monitoring water and fish conditions throughout the basin, including the tribes, federal and state agencies, and local groups. And many entities are seeking innovative approaches to addressing the basin’s water and fish challenges.<sup>39</sup> In sum, much of the needed capacity for implementing beneficial water and fish activities appears to be present in the basin.

However, one essential component of project implementation is currently undergoing change. Both Walla Walla County and the Walla Walla Watershed Alliance have recently decided to curtail their project management work, primarily due to concerns over risk and liability regarding some on-the-ground projects. Until recently, Walla Walla County has filled gaps in project implementation by managing some projects that were not part of the mission of other groups. However, the county has determined that it does not have the capacity to continue some activities because it does not have the technical or permitting expertise to lead the efforts and its insurance does not cover potential liability related to these activities. This has led to “orphan” projects such as Shallow Aquifer Recharge and other atypical projects that no longer have an implementing entity. Similarly, the Walla Walla Watershed Alliance has decided to focus its efforts toward policy development and away from project implementation and contract management. Because these groups formerly implemented projects and also provided subcontracting support, this change has left a gap in the basin’s ability to direct funds for implementation and has slowed implementation of potentially beneficial projects.

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<sup>37</sup> These are the WRIA 32 Watershed Planning Unit, Snake River Salmon Recovery Board, Confederated Tribes of the Umatilla Indian Reservation, Walla Walla County Conservation District, Columbia Conservation District, Priority Projects Group, Walla Walla Watershed Alliance, and the Water & Environmental Center.

<sup>38</sup> These are the Lead Entity Technical Team, Regional Technical Team, and Technical Review Team. The Implementation Work Group (which evaluates project proposals for funding under the watershed planning and implementation process) also includes five technical representatives.

<sup>39</sup> For example, Confederated Tribes of the Umatilla Indian Reservation are sponsoring the flow enhancement study; the City of Walla Walla is leading aquifer storage and recovery; and Walla Walla Watershed Alliance and the Planning Unit are developing “flow from flexibility” under the Water Management Initiative.

## 1. Opportunities and Gaps

While a wide variety of projects are being implemented, and much of the capacity to support those projects is present in the basin, interviewees highlight a number of areas where greater efficiency and impact could be achieved. These include:

- **A unified set of goals and priorities to guide actions:** The presence of three water and fish plans with distinct goals and priorities makes it difficult to prioritize activities across the basin and systematically direct resources to achieve the greatest impact. While many interviewees emphasized that the basin didn't need another planning process, many also indicated an interest in greater clarity. Some suggested establishing interim targets or benchmarks for a range of key parameters in specific locations and developing a proactive action plan to achieve them.
- **Consolidate functions:** Many interviewees noted that the basin has multiple groups with similar functions and that implementation activities could be more efficient and effective if some of these functions were consolidated. Interviewees especially identified project prioritization, resource allocation, and science review functions that could be streamlined to reduce redundancy and improve consistency of implementation efforts.
- **Improve coordination between entities, projects, opportunities, and funding sources:** As implementation efforts increase, coordination of activities, people, information, and ideas will likely become increasingly valuable and increasingly complex. Coordination can help link entities and create partnerships that improve project outcomes, help prevent conflicting activities, and help groups align their activities with others and with basin-wide goals. These activities are currently being accomplished to some degree by the Planning Unit, Walla Walla Watershed Alliance, Walla Walla Basin Watershed Council, and others. The basin has numerous groups with overlapping members who interact on a range of subjects, and thus some level of coordination and communication does take place. However, the lack of a primary forum for this function can limit efficiency and effectiveness. Activities that could benefit from participation by others may not receive it, and interconnections between activities may not be recognized.<sup>40</sup> In addition, this work currently occurs as a byproduct of other activities, and thus is not supported or recognized as an essential function for which resources might be devoted. As the complexity, range, and volume of implementation efforts increases, a more dependable and consistent approach to coordination among entities and activities may be warranted.
- **Re-establish project and financial management functions.** Since 2000, financial and contract management for many water and fish projects have been administered by the WRIA 32 Planning Unit (through the auspices of Walla Walla County), the Walla Walla Watershed Alliance, and Walla Walla County and Columbia Conservation Districts. These groups have received federal and state grants and have often contracted with others to implement projects. However, both the Planning Unit and the Alliance have recently decided to curtail their project implementation and contract management roles due to concerns over risk and liability.<sup>41</sup> This has already led to some projects (such as shallow

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<sup>40</sup> For example, ditch piping projects tend to prevent evaporation loss in irrigation ditches and thus save water. However, they also reduce return flows through groundwater infiltration, which has the potential to reduce instream flow in some stretches.

<sup>41</sup> Although the Planning Unit and the Alliance filled implementation and project management roles in some cases, this was never their central missions. Their structure was designed to support other functions (such as planning and

aquifer recharge) being suspended for lack of a sponsor. While the conservation districts continue to administer grants and contracts for project implementation, their missions limit the range and location of projects they are equipped to manage. Thus, the loss of the Planning Unit and the Alliance as contract administrators could lead to future difficulties with project management and implementation if no other entities emerge to assume this role.

- **Proactively seek basin-wide funding.** Many projects are supported through major funding programs sponsored by the Salmon Recovery Funding Board, Bonneville Power Administration, or Ecology. Currently, basin entities tend to react when funding opportunities emerge. However, some interviewees have suggested that short funding cycles, different funding purposes, and different funding timelines create inefficiencies in project implementation. Some have suggested that the basin could proactively seek funds from a variety of funders, including the state and federal governments. Some have also suggested that project support would be more efficient and effective if the basin were provided significant funds, perhaps through block grants from multiple funders, and the basin community could allocate the funds over a period of 3 to 5 years. This might reduce the inefficiencies of the current funding process, allow multiple funding sources to be pooled together, and allow the community to determine where the resources would have the greatest likelihood of achieving water and fish goals. To achieve this outcome, the basin would likely need to develop a compelling case for altering existing funding processes and would need a credible entity or mechanism to prioritize and vet projects and allocate funds.
- **Establish a basin-wide mechanism to monitor and assess progress toward achieving water and fish goals.** While the water and fish plans establish measurable goals related to instream flow, water quality (TMDLs), fish productivity and abundance, and other parameters, the basin does not have a mechanism to report basin-wide outcomes of projects and demonstrate accountability to those goals. As a result, it is impossible to accurately gauge the results and impact of individual projects on a basin-wide level. Further, the lack of broad-scale data to connect with project-level data makes it difficult to achieve the goals of adaptive management. Although individual monitoring projects are in place, there is no forum for bringing the information and expertise together to establish goals, assess progress, and communicate it to the basin community or others. The Walla Walla County GIS Department has been working to develop the Paladin EKOSystem Data Management System as a means to collect project data and make it accessible for reporting and public information. But scientists report that this system still has many challenges to overcome, including willingness to enter data and willingness to make data available to others. The Water & Environmental Center has expressed an interest in furthering the identification and dissemination of technical information by providing a data management resource or clearinghouse to make more information available to the public. Through the combined efforts of the Walla Walla County GIS and the Water & Environmental Center, some portion of this gap may be filled. However, the capacity for basin-level monitoring and data coordination and management is not currently in place.

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policy development). The decisions by Walla Walla County and the Walla Walla Watershed Alliance to reduce their involvement in project implementation and administration simply underscores the gap in this function.

## **B. Optimizing Water Resource Use**

Optimizing water resource use in the basin involves seeking ways to simultaneously meet the needs of instream and out-of-stream uses, possibly through sharing water among agricultural, municipal, and other water users. It involves a comprehensive and holistic approach to water management that differs from the separate and “stovepiped” approach of current water management. Instead of managing water quality separate from water quantity, and groundwater separate from surface water, this approach integrates water management in ways that take into account the connections between these realms and seeks to improve them all concurrently. Water resource optimization involves considering all the factors that might affect water management and then seeking ways to adjust them so more water of the appropriate quality can be available for instream and out-of-stream uses at the locations and times that it is most needed.

This integrated approach involves considering all components of water concurrently, including quantity, quality, flow, and temperature. It involves surface water and groundwater, including shallow and deep aquifers. It intersects with salmon recovery efforts, including aquatic and terrestrial habitat protection and restoration, hatcheries, hydropower, and harvest. It involves drinking water supply, flood control, and out-of-stream uses of water, including agricultural, industrial, and residential use and exempt wells. And it involves land use policies and economic development strategies that affect all of these components. By coordinating and integrating these various components, functions, and activities, watershed managers believe that more water and habitat can become available for fish while still supporting irrigated agriculture, residential needs, and other out-of-stream water uses.

Optimizing water resource use will involve integrating hydrology, fish biology, and irrigation knowledge (e.g., crop needs, diversion options, and irrigation systems), municipal water management, and other water uses. The goal is to seek adjustments that achieve the appropriate conditions for all parameters. Achieving this goal might involve changes in points of diversion, organizing irrigators to rotate water use reductions, or policy changes to influence how water is used and affected. For example, during times when fish need the most streamflow, it may be possible for irrigators to reduce surface water diversions and instead irrigate using groundwater—an approach known as *conjunctive use*. When streamflow is high, the aquifer could be recharged through pumping or infiltration.

Although there are no entities or mechanisms with formal responsibility to optimize water resource use in the basin, a number of groups have made efforts to integrate some components of water management. For example, Ecology, the Washington Water Trust, and Tri-State Steelheaders have each worked with a set of irrigators in an attempt to organize water sharing agreements or pulsing agreements on a stream segment to address fish needs.<sup>42</sup> The City of Walla Walla has integrated surface and groundwater through its aquifer storage and recovery (ASR) program, in which surface water is treated and then pumped into the aquifer for storage and future use if needed. Through the Coordinated Water Systems Plan, the City of Walla Walla and the City of College Place previously operated a water sharing agreement to address declines in College Place’s wells (a planned update of the Coordinated Water Systems Plan may facilitate renewed water sharing and coordinated management among municipal water purveyors in the basin). Irrigation districts are currently considering whether and how to link their operations and integrate irrigation systems for mutual benefit. The Walla Walla Watershed Alliance, Ecology

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<sup>42</sup> Water sharing means that water users coordinate bypassing water so each farmer gets some water while instream flows are increased. Pulsing flows means that irrigators limit or stop diverting water for a short period to create an increased pulse of stream that is designed to encourage fish migration.

and others have been developing the Water Management Initiative, which is intended to deliver increased instream flow through more flexible irrigation management. And the Washington Water Trust is exploring ways to develop a mitigation strategy (e.g., a water bank) for outdoor water use in new residences as part of the recently proposed Water Management Rule. Each of these activities contributes to the goal of optimizing water resource use and demonstrates the potential benefits of integrating traditionally discrete components of water management. They also demonstrate the range of capacities in the basin to optimize water resources

## 1. Opportunities and Gaps

Although a number of water integration activities are in progress, a number of enhancements or additions to the existing capacities were suggested by interviewees to improve the basin's ability to optimize water resources.

- **Improved knowledge of hydrology and fish needs.** The basin is still developing a sufficient body of data and knowledge to determine how much water fish need, at what times, and at what locations. Although scientists generally agree that all streams would benefit from more water and that steelhead, especially, need more water from September through December to support their fall migration, a consensus has not yet emerged on other specifics of water and fish science. Hydrologic knowledge is still insufficient to determine what specific locations would most benefit from water management changes. A number of farmers have indicated they are willing to make changes to their irrigation systems once sufficient clarity about fish needs is achieved. Hydrological and biological studies and assessments of water systems and fish are currently in progress to gain greater knowledge of how these systems function and where changes might be meaningful. But until this information becomes available, it will be difficult to target and prioritize water management changes with confidence.
- **Increase effort and resources.** Many in the basin believe that optimizing water resources can restore significant instream flow to rivers and streams. However, achieving this objective across the basin will involve a significantly heightened effort. Currently, there is no entity with specific responsibility to achieve this goal and it has not yet been formalized as a basin-wide priority. Past efforts to organize water sharing agreements have tended to be independently initiated on a relatively small scale, and typically with a small group of irrigators. Integrating agricultural and municipal water systems on a larger scale will probably require significant technical and policy expertise to help broker agreements and consider the technical implications. While the technical skills and policy expertise are probably available in the basin, resources are not currently directed toward supporting this effort at the scale envisioned.
- **Address perceived risks to water right holders.** Many Washington water right holders have expressed reluctance to make water use changes due to fear of relinquishment. Others have said they find the process too time consuming or complex. Reducing the risks and transactions costs associated with making environmentally beneficial water use changes could increase the willingness of water right holders to contribute to water and fish goals. One proposal being considered is to gain the capacity to locally determine the appropriateness of water management changes without referral to Ecology. The Washington Water Trust currently provides this service when it is involved in a water transaction. However, the scale envisioned for this work may be beyond the capacity of the Washington Water Trust to supply this service.

## **C. Creating a Shared Governance Mechanism for Water Management**

The objective of shared governance reflects the Walla Walla community's interest in having a significant role in determining its destiny. Governance encompasses the administrative and process-oriented components of decision making, including establishing a shared vision, setting goals, determining actions, prioritizing opportunities, allocating resources, and assuming accountability. Shared governance was initially articulated as a component of the Water Management Initiative as a means to provide a degree of local involvement and responsibility for water management. It now appears to be a primary objective of watershed managers regardless of progress on the Water Management Initiative.

Shared governance does not mean total local control of water resources. Oversight from federal, state, and tribal entities that have authority and responsibility for components of water management would continue. And shared governance does not necessarily mean a big bureaucracy or centralized control of all water and fish related decisions, capacities and resources. A shared governance mechanism can be structured in a variety of ways to support the needed functions, build on the strengths of existing entities, and address the interests and concerns of the basin community. While not simple to achieve, such a mechanism can often be designed to respect the authorities and missions of existing entities while still coordinating and unifying the priority setting, policy making, and other functions of water and fish management.

Shared governance provides a mechanism for community members and constituency groups affected by water and fish management to participate in decisions that affect them. This creates opportunities for basin-wide collaboration and ensures that those threatened by proposed actions can have their concerns addressed. It provides a forum for the local community to interact with city, county, quasi-governmental entities and state, tribal, and federal authorities and share responsibility for decisions and outcomes. And it provides an opportunity for those affected by water and fish challenges to contribute to developing solutions. By engaging and learning from the range of interests affected by actions and policies, watershed managers believe shared governance will increase participation by a broader range of community members and will improve efficiency, accountability, equity, and outcomes.

Because the basin is located in both Oregon and Washington, water is governed by two separate management regimes: water in Oregon is governed by Oregon State under Oregon water law, and water in Washington is governed by Washington State under Washington water law. For most rivers and streams in the basin, there is no mechanism to consistently manage flows on each side of the state line.<sup>43</sup> One implication of this is that once water flows from Oregon to Washington, any protection water might have had in Oregon is lost once it reaches Washington.

There are not currently any legal provisions for allowing local or shared management of water on a basin scale in either Oregon or Washington. Water on the Washington side of the basin is managed by the Washington State Department of Ecology and, on the Oregon side, by Oregon Water Resources Department. In Washington, Ecology reviews and rules on water management change requests while Oregon Water Resources Department does the same in Oregon. The Walla

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<sup>43</sup> Some tributary streams are managed as if the state line does not exist, as per stipulations in the 1936 U.S. Supreme Court decision. In addition, The City of Walla Walla, located in Washington, has an 1865 Oregon surface water right and collaborates and coordinates on a routine basis with Oregon Department of Water Resources and Washington Departments of Ecology and Health on municipal water issues so there is established precedence and procedure for shared discussion and resolution of water issues between the two states.

Walla Water Conservancy Board<sup>44</sup> provides a local venue for this process on the Washington side of the basin, and its decisions are reviewed by Ecology.

Fisheries on the Washington side of the basin are co-managed by the Confederated Tribes of the Umatilla Indian Reservation and the Washington State Department of Fish & Wildlife. However, the listing of steelhead and bull trout under the Endangered Species Act gave the U.S. Fish & Wildlife Service and NOAA Fisheries significant authority over fisheries management in the basin. This led to the 2000 Settlement Agreement affecting water use by irrigation districts in the basin. Also as a result of the ESA, federal and tribal entities are working with state and local entities in Oregon and Washington to develop a bi-state Habitat Conservation Plan that will reduce the impacts on protected fish of water withdrawals from the Walla Walla River.<sup>45</sup> This process could yield a number of decisions regarding water and fish management associated with water diversions by its signatories (expected to be the three irrigation districts and possibly the City of Walla Walla).

Because water management has been governed at the state level, a shared governance mechanism to manage water at the basin level is not currently in place. However, a variety of groups have performed some governance functions at various times and for various purposes. For example, through the planning processes the Planning Unit and the Snake River Salmon Recovery Board provided direction, set goals, and identified actions to address water and fish needs. In addition, at least eight groups prioritize projects and allocate resources to benefit water and fish goals. These groups have also developed accountability and reporting mechanisms to track projects, contracts, and finances and ensure that projects are completed appropriately.

In addition to performing these governance functions, many basin entities have established a credible structure with appropriate representation to confer trust and legitimacy to their work. Many of the entities have broadly based membership or boards that reflect their purpose and geographic scope and provide credibility and oversight to decisions and actions taken. For example, the Planning Unit is composed of 25 members from Walla Walla and Columbia counties including agricultural landowners, and representatives from municipalities, conservation groups, and Confederated Tribes of the Umatilla Indian Reservation. The Snake River Salmon Recovery Board has a 15-member board with a similar range of perspectives. The Walla Walla County Conservation District has a 5-person board composed of agricultural landowners in Walla Walla County. And the Walla Walla Watershed Alliance has a 9-person board (plus one ex-officio member) composed of prominent community leaders in agriculture, business, municipalities, tribes, and education from both Washington and Oregon. Most of these groups

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<sup>44</sup> Due to a backlog of water right change applications, the Washington State Legislature authorized creation of water conservancy boards in 1997 (Chapter 90.80 RCW) to enable the processing of water right transfer and change applications at the local level. This legislation allows counties to establish boards as separate units of local government through resolution of the county or counties that it serves and approval by the state Department of Ecology. Ecology must evaluate the records of decision for compliance with applicable water laws. Ecology has final review authority over each record of decision made by a board and must issue an administrative order to affirm, modify, or reverse a record of decision. The administrative order issued by Ecology can be appealed to the Pollution Control Hearings Board (PCHB). Walla Walla has had a three-person board since 1999. Sources: Ecology website: [http://www.ecy.wa.gov/programs/wr/conservancy\\_boards/cb-home.html](http://www.ecy.wa.gov/programs/wr/conservancy_boards/cb-home.html); and Washington State Department of Ecology, "2006 Report to the Legislature: Water Conservancy Boards." Publication No. 06-11-050. December 2006. <http://www.ecy.wa.gov/biblio/0611050.html>.

<sup>45</sup> The purpose of the HCP process is to ensure that the effects of authorized incidental take are adequately minimized and mitigated. An HCP is a document that identifies agreed-upon actions to minimize potential take of ESA listed species.

have members with diverse perspectives who have successfully collaborated and reached agreement on a wide range of water and fish related issues.

Although a shared governance mechanism is not currently in place, the range of entities, activities and representation suggests the basin has many of the capacities necessary to perform the functions of shared governance.

## 1. Opportunities and Gaps

Although many groups perform some governance functions around water and fish, interviews and analysis suggest opportunities to enhance the basin's capacity to create a shared governance mechanism related to water and fish management. These include:

- **Streamline governance functions.** Priority setting, resource allocation, and other governance functions related to water and fish are currently spread among numerous entities in the basin. Many interviewees recommended not creating yet another entity, but rather building on existing entities and consolidating or merging functions where possible to establish a shared governance mechanism. Many interviewees expressed an interest in establishing a visible center of the effort that could provide core decision-making functions such as setting benchmarks for progress, establishing funding priorities, allocating funds, and making other decisions related to water and fish issues. Others described this as a mechanism that could provide a unified voice for the basin on water and fish matters among the community as well as with state and federal entities and other activities outside the basin.
- **Involve a respected and broadly representative mix of participants.** The boards and membership of existing entities in the basin reflect the purposes and geographic scope for which they were established. However, the purposes, responsibilities and functions of the shared governance mechanism appear to be broader and more complex than those of existing entities. To establish credibility and legitimacy for the responsibilities of resource allocation, water resource optimization, and other functions across the entire basin may require representation from a more complete range of interests and geographical areas than any existing entity currently maintains. Representation in the shared governance mechanism would ideally reflect the range of individual, interests, constituencies, and entities that would be affected by its decisions or actions.
- **Develop efficient coordination mechanisms.** Interviewees emphasized the importance of establishing efficient mechanisms for coordination, communication, and collaboration among the many entities and activities in the basin. At functional levels such as stream restoration, education and outreach, monitoring, and other activities, the entities involved could benefit from more efficient and consistent ways to share information and develop partnerships on projects. Establishing linkages with counties, cities and states in the basin could help to improve coordination of water and land management to ensure that economic development activities support water and fish goals. Similar opportunities for coordination were suggested between agricultural, rural, and urban communities, especially involving potential water sharing opportunities. Finally, since out-of-basin groups will be interested in what happens as a result of these innovative efforts, some degree of coordination and communication with these groups will be necessary to inform them of progress and productively engage them in development of the efforts.
- **Consider mechanisms to resolve disputes.** The Water Management Initiative calls for disputes to be managed within the basin. Currently, this role has fallen to state agencies

and the courts. Developing this capacity will involve a credible and legitimate process, with a similarly legitimate oversight structure to ensure equitable and acceptable decisions. Disputes may arise due to competing interests regarding water management. However, they can also arise between the state and the basin as a result of unclear boundaries between what is appropriate for local governance and what remains within the purview of state authority. It may be beneficial to consider establishing capacities within the state as well as within the basin to address such issues if they arise

- **Raise public awareness.** Interviewees consistently highlighted the importance of providing the public with accurate and complete information on status, trends, and issues related to water and fish. One interviewee paraphrased Thomas Jefferson, saying, “The educated citizen is a prerequisite of self governance.” Some said public awareness was crucial to developing public support for water related efforts and the expenditure of resources necessary to accomplish improved outcomes. Increased public awareness might also create conditions that would provide greater support for the shared governance mechanism, or lead the public to support behavior changes related to water use. Although many groups in the basin promote public awareness, there does not appear to be a place to go to learn about water and fish in the basin. For example, there is no mechanism (report, document, or website) that offers concise information in an easily digestible format about water and fish in the basin and ongoing efforts to address water and fish-related issues.
- **Improve capacity to integrate science into decisions.** Many interviewees emphasized the importance of basing decisions on science and carefully monitoring activities to ensure that water and fish goals are being reached and risks are minimized. This might involve establishing a broadly representative science panel that reflects the entities and range of issues in the basin. There are currently three science advisory groups in the basin,<sup>46</sup> and it is possible that one or more of these could be built upon to provide the needed technical input. Such a group could provide technical review of project proposals as well as guide new research to fill gaps in understanding and support decision-making. With guidance from such a group, a basin-wide monitoring and assessment program could be designed to track conditions and trends in fish, flow, habitat, and other parameters. The group might also establish standardized protocols for data collection so that data is consistent and credible. One interviewee suggested such a group could review forecasts of climate conditions to help water users predict future water availability and adjust accordingly. Interviewees have also suggested the value of having a central information clearinghouse to make reports and data more accessible.

## ***D. Summary***

The basin has much of the needed capacity to perform the functions of implementation, water resource optimization, and shared governance. However, this capacity is located in numerous entities dispersed throughout the basin. Consequently, the capacity is fragmented and not efficiently harnessed toward achieving the basin’s water and fish goals. This is not surprising, since the basin has been oriented toward planning rather than implementation and efforts to optimize water resource use and create a shared governance mechanism are only just beginning. Even under these circumstances the basin community has demonstrated its ability to successfully accomplish a wide range of activities. Streamflow and fish have been returned to the Walla Walla River and numerous habitat and other improvements have improved conditions for fish.

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<sup>46</sup> These are the Lead Entity Technical Team, the Regional Technical Team, and the Technical Review Team. In addition, the Implementation Work Group also contains five scientific and technical members.

However, this report's analysis suggests that there are a number of opportunities to consolidate and strengthen the basin's existing capacities. As some entities in the basin consider altering their mission, structure and functions, the basin community has a unique opportunity to consider alternative mechanisms for achieving its water and fish goals. Many in the basin have indicated a willingness to consider alternatives to the current organizational structure in order to increase the efficiency and effectiveness of implementation and governance efforts. If watershed managers and institutional leaders conclude that the current structure can be improved, the following section is intended to provide insights from the basin community and the experience of other watershed programs to help guide their efforts.

## IV. Considerations for Establishing a Shared Governance Mechanism

The previous section examined the basin’s capacities and gaps relative to its objectives of implementing beneficial water and fish activities, optimizing water resource use, and creating a shared governance mechanism. The analysis suggests that most of the capacities and resources needed to achieve these objectives are present in the basin, but they are not currently organized or structured to efficiently or effectively achieve water and fish goals.

If the basin community determines that consideration of improved mechanisms for achieving water and fish goals are warranted, this section is intended to provide insights for organizing resources in the basin to more effectively achieve those goals. This section does not define what a shared governance mechanism might look like, but rather provides insights that could guide development of that mechanism. During research for this study, interviewees offered a number of insights regarding current challenges or preferred approaches to water and fish management. The following considerations derive from those discussions with stakeholders inside and outside the basin, as well as research on institutional design and the experience of similar watershed efforts elsewhere in the country. These are intended to provide a helpful starting point for consideration of a mechanism or approach to achieve the goals of integrated water management.

- **Focus on achieving water and fish improvements.** Many interviewees emphasized the importance of accomplishing meaningful on-the-ground improvements and communicating them to the general public. This includes meeting scientifically defensible instream flow and fish abundance goals that address Endangered Species Act requirements. Much of the more publicized work thus far has been related to planning, information gathering, and organizational/institutional design. Many interviewees recommended shifting the focus to creating and communicating on-the-ground changes and actual improvements in water flow and fish outcomes. If a new governance mechanism is established, many emphasized the importance of achieving some early successes to gain credibility and support and promote the public perception of momentum and results. Some suggested that one type of project that would capture people’s attention and demonstrate progress and potential might involve working with one or more irrigators to facilitate a water management change (e.g., moving the point of diversion or transferring water or changing the use of water) and gaining increased instream flow. Such projects and their outcomes in terms of changes in water, habitat, flow or other key parameters could provide publicity and credibility. Some have suggested that funding to establish a shared governance mechanism should include early action money to support getting projects on the ground (similar to the BPA model watershed effort).
- **Engage all the entities and interests that might be affected by the governance mechanism.** Interviewees described the shared governance mechanism as being representative of the many constituencies and interests in the basin. To be effective and accepted by the community over time, it will have to continually demonstrate its inclusiveness. It would likely rely on a deliberative approach involving consensus decisions by all those affected by the decisions. Such a mechanism should be able to engage all the organizations and individuals who might be affected by a decision, so when a proposal is made to move water or take other actions, the governance mechanism can efficiently and accurately assess the impact on other users and identify equitable solutions. This approach reflects the aspirations of the “Walla Walla Way,” which

promotes an inclusive, cooperative approach to decision-making in the basin. Expanding this approach to governance of water and fish management will be a test of the community's ability to collaboratively solve challenging problems and advance water and fish goals.

- **Inform and engage the public.** The importance of public awareness and public engagement were also common themes during many interviews. As one interviewee stated: “To implement a community supported water and habitat plan, the basin absolutely must increase public participation and public awareness. This is a foundational role of the implementing entity.” While policy-oriented people who have been involved in planning discussions seemed to be generally aware of the needs and activities related to water management, many commented on the need to expand the conversation beyond this circle of people. Even those who have been periodically involved find the many plans and initiatives confusing and express uncertainty about who is doing what and whether progress is being made. A shared governance mechanism promoting a coordinated and unified vision for the basin could help dispel some of this confusion. However, interviewees emphasized the need for a concerted effort to engage and inform a broader cross-section of residents about water and fish conditions, needs, and the efforts to address them. This might help build public support for water and fish efforts, and lead to greater participation in projects and activities that improve water and fish outcomes.
- **Ensure sufficient expertise and resources to perform the needed functions.** Water related planning in the basin has benefited from significant volunteer input over the years. Some are concerned that the complexity and volume of work involved in implementing the plans, rules, studies and other activities exceeds the human and financial resources currently engaged in it. Managing the various implementation and governance functions will likely require the expertise of biologists, hydrologists, hydro geologists, project managers, and others. These functions might be fulfilled through partnerships with existing entities, consultants, direct hires, or other means. However, it is unlikely that these functions can be carried out adequately over the long run without enhancing the financial resources and human capacities currently engaged in the planning efforts.
- **Address concerns about risk and liability.** Two entities that have previously supported and managed innovative water and fish projects have chosen to curtail their involvement in financial and contract management due to concerns over risk and liability. This has created a gap in project implementation capacity in the basin that has already resulted in some projects being suspended due to lack of a sponsoring entity (even though funding is available). Some interviewees have emphasized the importance of innovation and experimentation to address the range of water and fish challenges in the basin, and they have expressed concern that the lack of an entity able to assume risk and liability, and protect against lawsuits, could hamper efforts to find improved ways to achieve water and fish goals while supporting human and economic needs for water.
- **Consider altering or merging some existing entities.** Interviewees consistently suggested that the basin did not need to establish an additional organization to achieve its water and fish goals. Many suggested there were already many overlapping organizations active in water and fish issues and that this created confusion for participants and diluted the effectiveness of the efforts. Many also suggested that the preferred approach is to alter or merge one or more existing entities together, possibly with some additional resources, authority, and capacity, in order to focus watershed and water resource management activities, support implementation of projects, and provide coordination and

other functions necessary to achieve the desired environmental, economic and community outcomes. The governance mechanism, if properly designed and representative of the range of interests in the basin, could establish a vision and goals, set priorities, coordinate activities, help bring additional financial resources to the basin, and ensure that progress was being made on key parameters. The difficulty of altering or merging organizational functions should not be underestimated. Consideration of these changes would ideally be part of a broad process of consultation and collaboration in pursuit of improved water and fish outcomes. The appropriate representation and participation will lend legitimacy and important insights for any organizational changes that might be considered. These processes are often more effective when goals are clear, participants are well informed, communication is honest and open, and those involved are sensitive to the interests of others both inside and outside the basin.

- **Consider how to establish appropriate representation and participation.** Shared governance will involve participation by many entities and interests inside and outside the basin at various levels of engagement. These include the Confederated Tribes of the Umatilla Indian Reservation, Washington State agencies (Ecology, Department of Fish and Wildlife, and possibly others) city and county governments in the basin, irrigation districts, ditch companies, water users, conservation districts, conservation organizations, business organizations and others who are interested in basin-level agriculture, economic health, environmental health, and fish recovery. Federal entities operating at a basin or regional level may also wish to play a role such as US Fish & Wildlife Service, US Army Corps of Engineers, and NOAA Fisheries). In addition, those outside the basin who have interests in water policy and fish recovery (especially state-wide and national environmental, agriculture, irrigation, and business organizations and other tribal governments<sup>47</sup>) may also have an interest in observing and possibly participating. A structure that appropriately accommodates the roles and interests of these groups will contribute to an effective, efficient, and acceptable mechanism for operations and oversight.
- **Beware of creating a resource intensive bureaucracy.** Some interviewees expressed wariness of establishing a large governance mechanism that would consume energy and resources rather than promote effective and efficient actions. As watershed managers consider the design of a shared governance mechanism, these interviewees suggested building on the capacities of existing groups to achieve the water and fish goals, rather than centralizing these capacities in the governance mechanism.
- **Structure the governance mechanism to accommodate change.** As institutional, ecological, or economic conditions in the basin change, the purposes and functions of the implementation mechanism may need to adapt. If agricultural water users become organized (Level 1) or bi-state water management is realized (Level 3), institutional entities and relationships may change and new parties may need to be incorporated. A structure that can accommodate new information and learning, changing conditions and priorities, and additional participants will tend to be most durable and effective. The mechanism's ability to address the interests of non-participants will also add to its credibility and legitimacy (for example, addressing potential impairment to those who have not voluntarily agreed to participate).

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<sup>47</sup> Other tribes in addition to the Confederated Tribes of the Umatilla Indian Reservation may have an interest in the Water Management Initiative. The right of the Tribes is to those fish that pass through their usual and accustomed fishing grounds and stations. If fish from the Walla Walla Basin are caught, or could be caught if productive, by other tribes, then those tribes would warrant consultation.

- **Develop Level 2 with an eye toward managing water across the entire basin.** While this study focuses on developing an implementation mechanism for the Washington side of the basin, some suggested designing the mechanism with an eye toward integrating with the agricultural entities (Level 1) and with Oregon entities (Level 3). This might mean developing linkages with the Walla Walla Basin Watershed Council and with entities that have authority for water and fish management in Oregon.

## V. Conclusion

Significant financial resources will be necessary to carry out the activities identified by the water and fish plans and the Water Management Initiative. The experience of other watershed restoration efforts suggests that a bold and publicly supported approach with clear focus, meaningful goals, a credible and accountable implementing mechanism, and support from a range of constituencies and public officials often leads to increases in financial support. If the basin demonstrates successful outcomes, financial support often increases. State and federal entities have already provided significant support for planning, organizational design, and implementation in the Walla Walla Basin. If the basin can come to agreement on purposes, goals, and actions, and it can organize itself to efficiently and effectively achieve them, additional resources are likely to become available to support the efforts.

The credibility and effectiveness of a shared governance mechanism in the Walla Walla Basin will be significantly affected by the way it is designed, operated, and overseen. Many constituency groups inside and outside the basin will be watching to ensure that the mechanism reflects their interests or at least reduces perceived risks. However, the purpose of the shared governance mechanism is to achieve the water and fish goals set by the basin community while maintaining sufficient water for agriculture and other human uses. This will be the ultimate test of its effectiveness.

## **VI. Appendices**

### ***A. Abbreviations***

<b>BMP</b>	Best Management Practice
<b>BPA</b>	Bonneville Power Administration
<b>cfs</b>	Cubic feet per second
<b>CIDMP</b>	Comprehensive Irrigation District Management Plan
<b>CREP</b>	Conservation Reserve Enhancement Program
<b>ESA</b>	Endangered Species Act
<b>HB</b>	House Bill
<b>HCP</b>	Habitat Conservation Plan
<b>MSA</b>	Major Spawning Area
<b>mSA</b>	Minor Spawning Area
<b>NOAA</b>	National Oceanic & Atmospheric Administration
<b>PCHB</b>	Pollution Control Hearings Board
<b>RCW</b>	Revised Code of Washington
<b>TMDL</b>	Total Maximum Daily Load
<b>U.S.C.</b>	United States Code
<b>WAC</b>	Washington Administrative Code
<b>WRIA</b>	Water Resource Inventory Area

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## C. Governance Lessons from Other Ecosystem Efforts

The United States Government Accountability Office (GAO) recently completed a study of large-scale watershed protection and restoration efforts around the country.<sup>48</sup> After examining the South Florida Ecosystem, Great Lakes, and Chesapeake Bay Restoration Programs, the GAO highlighted significant deficiencies in the operations and management of these efforts that offer lessons for design of a governing mechanism in the Walla Walla Basin.

### 1. Authority for setting unified direction, establishing goals, and making decisions

**Problems:** The GAO study found that each of the programs lacked a comprehensive, unified plan or overarching strategy to address and manage the restoration effort. Each had plans, and some had multiple plans, but each lacked a comprehensive, coordinated implementation strategy that could provide a road map for accomplishing the restoration goals. In each case, multiple entities were involved and each had its own mission, authorities, and approaches, and these were not always consistent with one another—and sometimes they conflicted. In one case, the central entity could only play a coordinating role rather than a decision-making role, and thus it was limited in its ability to make decisions for the overall restoration effort. As a result, disagreements between agencies with differing and conflicting missions went unresolved, resulting in project delays and cost overruns.

**Recommendations:** To address these coordination and authority issues, the GAO recommended that an entity should be established as the final decision maker with authority to set overall direction and priorities and resolve conflicts. That central body should develop an overall strategic plan that clearly described how the restoration was to be accomplished, identified priorities, timeframes, and resources needed, assigned accountability for accomplishing actions, and linked the strategic goals of the initiative to outcome-oriented interim goals.

### 2. Tracking, Monitoring and Reporting

**Problems:** The study also found that public reports describing status and progress of restoration goals did not provide a useful management and tracking tool to guide the efforts. The GAO concluded that comprehensive assessments of restoration progress could not be made in many cases because information was too limited, measurements were not tied to goals, and outcomes were inadequately assessed. Programs had not developed mechanisms for measuring progress or had not implemented them. In some cases the data measured outputs rather than outcomes, or the assessments relied on subjective judgments and limited quantitative data. In many cases the goals and commitments were not quantifiable, making it difficult to measure results and track progress. In other cases the reports were considered ineffective because instead of providing information on a core set of ecosystem characteristics, the reports focused on the status of individual species or pollutants. In one case, the format and organization of the reports varied from year to year, and the goals set one year did not track with accomplishments described the following year. Furthermore, the accomplishments were not tied to overall strategic goals for the restoration effort. In another example, the GAO questioned the credibility of the reports because the officials

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<sup>48</sup> This information was compiled at the request of Washington State's Puget Sound Partnership and is based on separate reviews by the GAO over the past seven years. Source: Lessons Learned from GAO Reviews of the South Florida Ecosystem, Great Lakes, and Chesapeake Bay Restoration Programs. PowerPoint presentation. U.S. Government Accountability Office. Undated.

who managed the restoration efforts also analyzed, interpreted, and reported the data to the public.

**Recommendations:** To address these monitoring and reporting issues, the GAO recommended that restoration efforts establish an effective structure to track progress and provide an independent and transparent review of results and progress. Strategies should be established to accomplish goals that are manageable in number, quantifiable, outcome-oriented, clearly linked to the goals, include interim targets, and prioritized. Furthermore, measures should show progress in accomplishing strategies and goals, separately assess progress in achieving restoration goals versus accomplishing program actions, and ensure that adequate quantitative data is collected.

### **3. Project management and financial accountability**

**Problems:** The GAO study also found that it was difficult to determine how much money was spent on restoration efforts and for what purposes. In most cases this was because money flowed to or through multiple governments and entities, and there was no complete and consolidated financial data source. Many agencies had difficulty providing accurate data on the amount of funding allocated for the effort. This made it difficult to determine whether the money had been spent on the highest priorities and what outcomes the expenditures accomplished.

**Recommendations:** To address this concern, the GAO recommended that funding be clearly linked to outcomes and that the organizational structure include mechanisms to ensure that funds received and spent are tracked and accounted for.

### **4. Summary of Lessons for Walla Walla**

In summary, the GAO studies offer valuable lesson for the Walla Walla Basin. To avoid the pitfalls and deficiencies identified in the South Florida, Great Lakes, and Chesapeake Bay efforts, the GAO studies suggest:

- A decision-making body to set overall direction and priorities, and to resolve conflicts.
- Independent and transparent review and reporting on results and progress, and a structure to track progress.
- A system to ensure that funding is clearly linked to outcomes, and that all funds received and spent are tracked and accounted for.

## **D. WRIA 32 Community-Supported Actions from the Detailed Implementation Plan**

Summary of project priorities for the Walla Walla Basin. Source: Table 3-3 (WRIA 32 Community Supported Actions) from Snake River Region Salmon Recovery and Walla Walla Watershed Detailed Implementation Plan.

### **Tier 1: Highest-Priority Actions**

<b>Action</b>	<b>Status</b>
High upland storage	Assessment to be completed in 2008
Pump Exchange project	Assessment to be completed in 2008
Little Walla Walla / spring branches flow and habitat restoration	Assessment underway
Irrigation piping/lining for major spawning areas (MSA)	Ongoing implementation
Mill Creek watershed fuels reduction and fire prevention management	Assessment/plan
New shallow aquifer recharge (SAR) pilot projects (identification and implementation)	Ongoing at limited sites
Collect additional data for Toxics TMDL and expand geographic area to isolate problem areas	Funded
Irrigation piping and/or lining for minor spawning areas	Ongoing in limited areas
Wetland restoration for recharge and enhanced biotic diversity	
Enhanced landowner outreach with emphasis on implementing rural BMPs in riparian and upland areas	
Improve ability to measure smolt:adult ratio	New smolt trap funded; to be implemented in 2008
Pine Creek storage project	Assessment to be completed in 2008
North Fork Touchet River large woody debris and sediment reduction	
Develop management approach for protection of Oregon bypass flows in Washington	Options under exploration
Titus Creek management solution	
Enhanced education and promotion of urban land management BMPs	Implemented through Creating Urban Riparian Buffers (CURB) and Streamkeepers programs
Screen all diversions (basin-wide)	On-going; more than 60% completed
Education and/or legislation to lower impacts of recreational vehicles for non-agricultural users	Funding proposal submitted
Riparian enhancement for major spawning areas (MSA)	Ongoing; more than 40% complete
Lower Walla Walla River sediment reduction feasibility study	
Mill Creek flood channel modifications feasibility study	Assessment funded for work in 2007
Fish passage barriers at Hofer Dam, Gose Street Bridge, Dayton ponds, and Bennington Lake	In progress
Manage rural and residential land use and development by protecting Critical Areas near the Walla Walla River, Coppei Creek, and Mill Creek	

Hydrogeologic study for Walla Walla mainstem and the spring branches	Funding proposal submitted
Implement existing SAR projects	Initial implementation completed
Yellowhawk Creek restoration	In progress
Riparian fencing and alternate livestock watering	In progress
Conduct limnologic study of watershed, including forest water quality and quantity	
Surface and groundwater monitoring program	On-going

### Tier 2: Priority Actions

Action	Status
Wolf Fork Touchet stream restoration	
Develop updated target flows and measure improvements at all Stream management points	Monitoring is on-going
Riparian enhancement for minor spawning areas (mSA)	
South Fork Touchet restoration in the Rainwater Wildlife Area	On-going
Rural domestic supply and hydrogeologic study in the Walla Walla and College Place urban area	Proposal submitted
Manage flows to provide spring freshet (flushing flows) that would benefit outmigration	
Upgrade Scott Canyon and upper Dry Creek stream fords	
Additional aquifer storage and recovery (ASR) wells for the City of Walla Walla	Assessment in progress
Return flows management for major spawning areas (MSA)	
Fish passage at all other areas	
Urban Conservation Reserve and Enhancement Program (CREP) in the Walla Walla and College Place implementation areas	On-going
Garrison Creek screened off	
Basin-wide stream ford assessment	Draft assessment completed
Hydrogeologic study for lower Dry Creek and Whiskey Creek	
Purchase or lease water rights and place in trust	On-going
Water rights solution by 2020 for the City of College Place	

# THE WILLIAM D. RUCKELSHAUS CENTER

UNIVERSITY OF WASHINGTON

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The mission of the William D. Ruckelshaus Center is to act as a neutral resource for collaborative problem solving in the region. Its aim is to provide expertise that improves the availability and quality of voluntary collaborative approaches to policy development and multi-party dispute resolution. The Center is a joint effort of Washington State University (WSU) and the University of Washington (UW) and was developed in response to requests from community leaders. Building on the unique strengths of the two institutions, the Center is dedicated to assisting public, tribal, business, agribusiness, environmental, and other community leaders in their efforts to work together to build consensus and resolve conflicts around difficult public policy issues. In addition, the Center helps advance the teaching, curriculum, and research missions of the two universities by bringing real-world policy issues to the campuses.

*“Good environmental policy is crafted by involved citizens working in partnership with government. It requires a delicate balancing of viewpoints and a creative and civil search for solutions. The courtroom is no substitute for intelligent cooperation.”*

-DANIEL J. EVANS

*“Unfortunately, we have historically lacked an institutional theater in which science and policy-making can come together efficiently, and produce more light than heat.”*

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The Center will not duplicate or compete with existing services. When it is invited to assist with a dispute or an emerging issue, it can:

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- Conduct a conflict assessment to determine the most productive means of addressing the issues
- Marshal resources for collaborative problem solving
- Serve as a clearinghouse for resources and research to be used at the option of the parties
- Perform applied research
- Provide knowledge, training, and infrastructure development to improve the collaborative problem-solving capacity of the parties and institutions
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