

Draft Guidelines

A Tool for Conducting Place-Based
Integrated Water Resources Planning in Oregon

February 2015

About these Draft Guidelines

These guidelines were written to support implementation of Oregon's 2012 Integrated Water Resources Strategy, specifically Recommended Action 9A: "Undertake Place-Based Integrated Water Resources Planning." They were developed by the Oregon Water Resources Department through a series of stakeholder workshops, public input, and assistance from several natural resource agencies. These guidelines are a tool to support voluntary planning efforts aimed at meeting instream and out-of-stream needs, including water quantity, water quality, and ecosystem needs.

The state will provide technical assistance and seek funding to further place-based integrated water resources planning efforts across the state. The Governor's Budget, released in December 2014, proposes grant funds and two additional staff housed at the Water Resources Department.

These guidelines remain in draft form to allow for suggestions and adjustments that may be made during 2015. By releasing these guidelines now, our hope is that a given 'place' will have time to pilot test these guidelines and provide productive feedback.

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Why Take a Place-Based Approach to Integrated Water Resources Planning?

Introduction

Water is one of the world's most precious natural resources. With more than 100,000 miles of rivers and streams, 360 miles of coastline, and more than 1,400 named lakes, Oregon is renowned for its water. Our rivers, streams, lakes, wetlands, estuaries, springs, and aquifers provide a wide range of benefits to all Oregonians.

A clean and reliable source of water is essential for meeting our basic human needs, and for supporting Oregon's economy. Thousands of businesses and industries rely upon water in some form, to irrigate a crop, to manufacture a product, or to provide a service or experience.

Oregon's economy, in turn, is dependent upon a healthy environment where water resources play an essential part. Fish and wildlife need water of sufficient quantity and quality to live, reproduce, and thrive. Fully functioning ecosystems are necessary to support our commercial and recreational needs and a quality of life unique to Oregon and the Pacific Northwest.

In recognition of the importance of water to all Oregonians, and with leadership, support, and direction from the Oregon Legislature and the Water Resources Commission, the Oregon Water Resources Department led the development of the state's first Integrated Water Resources Strategy (IWRS). The Department worked closely with the Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, and the Oregon Department of Agriculture during its development.

Adopted in 2012, the IWRS serves as a blueprint for achieving the state's long-term goals of improving our understanding of the status of Oregon's water resources, including our instream and out-of-stream needs (water quantity, water quality, and ecosystem needs), and implementing recommended actions to meet those needs today and into the future. One action in the IWRS, Recommended Action 9A, calls for helping communities undertake a place-based approach to integrated water resources planning.

Place-Based Planning – A Key Step for Attaining a Community's Vision for the Future

Although Oregon is often thought of as a water-rich place, it is not without challenges. As described in the Integrated Water Resources Strategy, the state faces many water-related challenges. Organized in broad categories called "critical issues," these statewide challenges are summarized below.

- Limited water supplies and systems
- Gaps in data & information
- Understanding various institutions
- Understanding needs/demands
- Population growth
- Economic development
- Climate change
- Energy-water nexus
- Infrastructure challenges
- Changes in land-use
- Education and outreach
- Integrating various planning activities
- Maintaining and developing partnerships
- Water management/development (conservation, storage, reuse, etc.)
- Ecological health (natural storage, instream protections, invasive species, habitat)
- Public health (drinking water, toxics, pollutants, recreation)
- Funding

These issues affect most communities across the state. Water supply shortages for instream and out-of-stream uses already occur in many locations throughout the state, and will likely be intensified by a changing climate and increases in future demand. Similarly, while efforts have been successful in improving water quality, new pollutants are emerging, and about 22,000 stream miles and 30 lakes and reservoirs are water-quality impaired. Even with significant gains in restoring habitats and watersheds functions throughout Oregon, many species are still at a fraction of their historic levels, with several listed as threatened or endangered under the Federal Endangered Species Act.

Although every river basin in Oregon is unique in terms of widely varying ecological issues, community values, and economic dynamics, every community has its own water challenges that if left unaddressed, will likely increase in the future. Failing to address these challenges can impair the quality of life for Oregonians and hinder communities from reaching their economic, social, and environmental potential.

Water is essential for economic growth in both urban and rural areas across the state. In order for a community to achieve its economic and environmental goals for the future – for example, to provide jobs for its citizens and to ensure that a strong vibrant fishery and recreation opportunity exist – we must consider how instream and out-of-stream water quantity, water quality, and ecosystem needs will be met today and in the future.

Water crosses political boundaries and connects the landscape, and as such, water challenges cannot be adequately addressed using a piecemeal, uncoordinated approach. Solutions must be holistic and coordinated so that partners are not working at odds with one another.

Initiating a “place-based” integrated water resources planning approach is a tool for Oregon communities to achieve that level of coordination, by collaboratively developing a shared vision for the future, and anticipating and addressing specific water-related challenges. Such planning gives those who live, work, and play in a community and who care deeply about it a stronger voice in their water future, which in turn will provide a pathway for building the political and public support needed for water resources projects (instream and out-of-stream). This support will be particularly helpful in demonstrating that projects are well-vetted and supported at the local level, and therefore merit technical or financial assistance. Furthermore, communities that undertake a place-based approach can help inform statewide efforts, including providing data and input to future iterations of the IWRS. In essence, place-based integrated water resources planning will allow communities to identify their water resources needs and then partner with the state to develop solutions and a suite of projects that will help meet those needs now and into the future.

Purpose and Use of the Guidelines

These guidelines were written knowing that piloting integrated water resources planning at a watershed level will inform the long-term, place-based planning program in Oregon. During this pilot phase, the state can adjust or adapt the guidelines to provide greater clarity or direction as needed.

The IWRS Project Team welcomes input from local communities employing these guidelines. Send comments to: waterstrategy@wrdd.state.or.us.

Five Steps of Place-Based Planning

A place-based plan should adhere to the following five steps:

- 1. Build a Collaborative & Integrated Process**
Create a structure and process that fosters collaboration, bringing together various sectors and interests to work toward the common purpose of maintaining healthy water resources to meet the needs of the community and the environment. Ensure a balanced representation of interests and a meaningful process for public involvement.
- 2. Characterize Water Resources, Water Quality, & Ecological Issues**
Describe and assess current water supplies, water quality, and the status of ecosystem health to determine any existing challenges and potential opportunities.
- 3. Quantify Existing and Future Needs/Demands**
Define how much water is needed to meet current and future water needs – instream and out-of-stream – water quantity, water quality, and ecosystem needs/demands. Plans should address how climate change, population growth, and land use affect water resources and the ability to meet these needs within the community. Meeting water needs should be considered within the context of specific watersheds, accounting for the hydrological, geological, biological, climatic, socio-economic, cultural, legal, and political conditions of a community.
- 4. Develop Integrated Solutions for Meeting Long-Term Water Needs**
Recommend a suite of actions to address the community’s water-related challenges with the goal of meeting both instream and out-of-stream needs.
- 5. Adopt the Plan**
Planning groups should formally adopt the plan. Agencies will review the plan and the Water Resources Commission will have an opportunity to formally accept the plan, based upon whether it meets the goals and objectives of the statewide Integrated Water Resources Strategy.

To be considered a place-based plan that helps implement the statewide Integrated Water Resources Strategy, planning groups should adhere to these planning guidelines and the following fundamentals:

- Recognize the public interest in water, state authorities, and responsibilities.
- Comply with existing state laws and policies.
- Ensure balanced representation of all interests.
- Have a meaningful process for public involvement (e.g., advertise and hold public meetings).
- Adhere to the 2012 IWRS Guiding Principles. Refer to Appendix A.
- Remember that a place-based plan, on its own, cannot change existing laws or jeopardize existing water rights.

Within a basin or sub-basin, multiple plans governing the use and protection of water resources may already exist. Examples include water management and conservation plans (by a municipal water provider or irrigation district), fish conservation and recovery plans, Biological Opinion Implementation Plans, basin programs that govern future allocations, the laws administering the

Forest Practices Act, Total Maximum Daily Loads (TMDLs) for improving water quality, and many local implementation plans. There are also local land-use plans, watershed restoration action plans, and locally-developed agricultural water quality management plans. Taken together, these plans and their respective strategies engage many agencies and entities at every level.

In envisioning a place-based planning approach, these existing regulations, plans, and programs do not go away, but instead provide a baseline of information, history, and rules that should be considered, coordinated, and built upon. A voluntary integrated water resources plan can help bring together these plans and programs in a more strategic and effective way, providing greater opportunities for coordination and funding while making progress on multiple fronts.

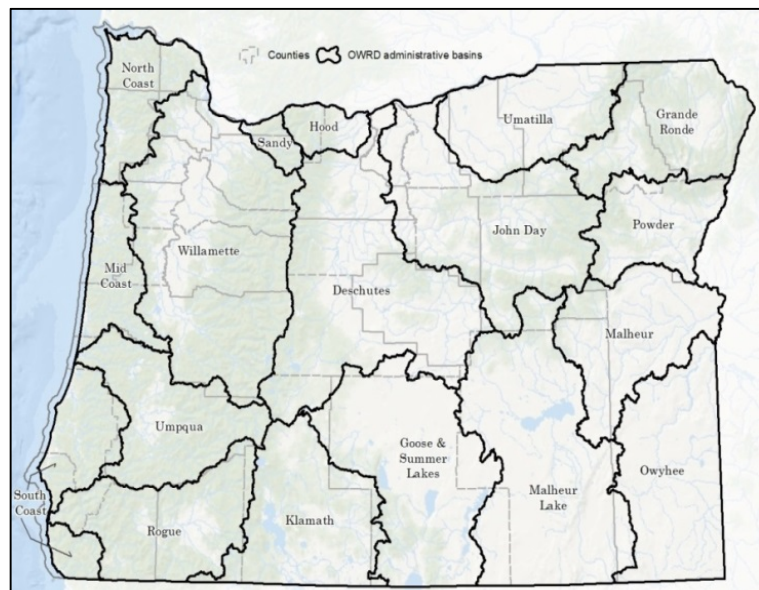
Planning Step 1: Build a Collaborative & Integrated Process

During this initial step, a representative(s) of the planning group should consult with the Water Resources Department for the purposes of: defining the planning scale, convening the process, involving state agencies as partners, inviting and involving diverse interests, and ensuring a public process with consensus decision-making.

Define the Planning Scale

Planning groups have the flexibility of establishing their own geographic planning scale, so long as it meets certain criteria. The Water Resources Department's existing administrative drainage basins are a good starting point for identifying the planning scale (see Figure 1). These administrative boundaries are further divided into smaller geographic areas within the Department's basin programs (refer to OAR Chapter 690, Divisions 500-520). Planning groups can choose to focus on smaller geographic areas, such as a sub-basin, or a group of sub-basins, within these boundaries. For example, planning groups could focus on the upper, middle, or lower section of a basin. To the extent possible, planning groups should utilize watershed-based boundaries, accounting for both groundwater and surface water, and situations where the source of water for certain uses (e.g., drinking water or irrigation) originates in an adjacent basin or sub-basin.

Figure 1: Administrative Basins in Oregon (OWRD)



Convene the Process

Since developing a place-based plan is completely voluntary, local partners will need to initiate the effort and convene the process. These guidelines do not suggest who the convener should be, but rather, describe the role and responsibilities of a convener(s). Oregon's Policy Consensus Initiative (PCI) provides resources to help facilitate collaborative planning and has developed basic principles

to help conveners understand their role in the planning process. Planning groups should refer to PCI's resources, particularly the "Role of a Convener," an excerpt of which is included as Appendix B. Conveners, and any sponsoring entities, should communicate to the Water Resources Department of their intentions to organize a planning group and to develop a place-based plan.

Involve Agencies as Partners

The role of state agencies in development of a place-based plan is to provide data and information, and generally, offer support, advice and direction throughout development of the plan. The Water Resources Department and its sister agencies can help planning groups incorporate the goals and objectives of the Integrated Water Resources Strategy at the local level, and understand the regulatory structures in place today.

If resources allow, the Water Resources Department could serve as a planning member or act as a liaison for other natural resources agencies not able to commit staff resources to participate in planning-related activities, such as face-to-face meetings. At a minimum, planning groups should consult with other agencies, such as the Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and Oregon Department of Agriculture to determine agency participation. A state agency could serve as a facilitator or play a co-convening role, if requested by local communities and if resources allow.

If federal projects or land management programs exist within the planning area, groups should reach out to federal agencies to determine participation as well.

Invite & Involve Diverse Interests

The planning group will need to decide its own structure for involving diverse interests and should describe this approach within its plan. Most importantly, the structure needs to ensure that the planning body represents a balance of interests from different sectors. Diverse representation is a key tenet of integrated water resources management. Each basin will be unique in terms of the actual distribution of interests and stakeholders. Having diverse interests engaged and invested from the beginning will help ensure a process that meets both instream and out-of-stream water needs. Remember that these needs encompass water quantity, water quality, and ecosystem needs, considering both surface water and groundwater resources.

In determining the composition of a planning group, it is important to ensure that all persons potentially affected by a place-based plan have a voice in the decision-making process. This includes environmental justice communities, particularly members of minority or low-income communities, tribal communities, and those traditionally under-represented in public processes.

The place-based plan should describe how the planning members were determined, including a list of those that were invited to participate. Interest groups will need to decide for themselves what individual(s) best represents their interests for planning group participation. The plan should describe those responsible for its development and implementation. The description should contain enough detail to help stakeholders and the public understand how to communicate with the planning group and participate in plan development. Generally, interests in any given place will include:

- Local governments (cities and counties)
- Tribal governments
- Municipal water and wastewater utilities

- Major industries or employers
- Agriculture
- Forestry
- Self-supplied water users
- Conservation/environmental groups
- Power companies
- Small business
- Private landowners
- Special districts (e.g., irrigation, public utilities, flood control, parks/recreation, drainage, ports, etc.).
- State and federal agencies (natural resources, land management, business development)

Ensure a Public Process & Consensus Decision-Making

Reaching decisions within the planning group must be an inclusive and transparent process. Making decisions by consensus is an effective technique, meaning that one or two in the group may dissent, while the rest of the group supports the decision—or can “live with it.” Getting to consensus provides a solid foundation upon which to build a plan and subsequent related actions, because it signals long-term support and commitment from a diverse set of stakeholders and partners.

Any place-based plan needs to employ a strong communication strategy, not only to ensure public participation in plan development, but to also engage the broader community on implementation of the plan. Publicize, in advance, meetings of the planning group, and accept public comment during every meeting.

Ensure a means of online communication as well, by setting up a website and posting materials regularly. Consider using a list-serve, and/or email account that can be used to quickly and widely disseminate information. Use these media, as well as print or other venues, to advertise upcoming meetings and public comment opportunities. Planning groups should comply with the state’s Public Meetings Law. Refer to Appendix C for references, including a “quick guide” developed in 2010 for local and state officials, members of Oregon boards and commissions, citizens, and non-profit groups.

Planning Step 2: Characterize Water Resources, Water Quality, & Ecological Issues

The purpose of this step is to help the planning partners collectively identify challenges currently facing the community, and to start mapping potential solutions or opportunities to address any water quantity, water quality, or ecological issues. This planning step represents the data gathering and assessment phase. Oregon’s 2012 Integrated Water Resources Strategy provides a statewide framework of critical issues that can be used for reference.

This step of the planning process is also an opportunity to tell the story of what makes the area unique, describing the economic, social, cultural, and landscape characteristics of the community. This includes the physical characteristics of water resources, such as major rivers, tributaries, aquifers, and other resources, noting whether they are rain, snow, or spring-fed systems.

Extensive planning efforts in the 1960s through the early 1990s examined water resources issues for most areas of the state and resulting basin programs describe how water can be allocated in the future. Planning groups should consider existing basin program policies, objectives, and

classifications (OAR Chapter 690, 500-520), and any other existing legal protections, when characterizing water resources issues.

In addition to surface water, describe the availability of groundwater resources to the extent known. Describe, if possible, where additional data is needed. Note any groundwater protected areas and the status of groundwater in these areas. Existing data or basin investigations are available from the Water Resources Department and the U.S. Geological Survey.

The place-based plan should describe water quality –both surface water and groundwater– in the planning area. Items to consider for water quality include: designated beneficial uses, impaired water bodies, groundwater management areas, total maximum daily loads, permitted discharges, non-point sources of pollution, and any monitoring or relevant publications that can be used to characterize surface water or groundwater quality conditions.

The plan should include a general description of the ecological health of the planning area. This section should include a description of key species and habitats. Describe the historical and current presence of aquatic species, including any migratory fish, listed species under the Endangered Species Act with their current status, and species on ODFW's State Sensitive List. Include a discussion of limiting factors that affect aquatic habitats in the watershed. As an example, the 2006 Oregon Conservation Strategy provides a list of limiting factors to consider: water quantity (low flows), water quality, invasive species, water temperature, sedimentation, passage barriers, degraded riparian condition, and loss of habitat complexity.

Refer to Appendix C for technical resources and publications to help complete Planning Step 2.

Planning Step 3: Quantify Existing and Future Needs/Demands

The purpose of Planning Step 3 is to identify how much water is needed to support current and future uses of water, to examine when and where supplies do not meet instream or out-of-stream needs / demands today, and to determine where existing supplies are likely to fall short in the future.

Planning groups should quantify existing and future instream and out-of-stream water needs in the watershed, using a 50-year planning horizon, and accounting for future pressures such as climate change, population growth, and changes to land-use. Keep in mind that such needs encompass water quantity, water quality, and ecosystem needs. Many of these needs may already be quantified in municipal or agricultural water management plans, TMDL plans, habitat restoration plans, forest management plans, or conservation and species recovery plans. Planning groups should identify where conflicts among uses are most likely to arise in the future. This is critical information that will shape how solutions are developed later in the planning process.

Out-of-Stream Needs/Demands

Describe existing water rights in the basin, generally. Are consumptive uses (e.g., municipal, agricultural, industrial, domestic, etc.) being met today? Are uses met by surface water, groundwater, stored water, or non-traditional sources of water, such as recycled water, treated effluent, rainwater catchment, or stormwater? Evaluate the reliability of existing infrastructure (diversion works, storage reservoirs, delivery systems, etc.). The local watermaster may have information regarding the history and frequency of water shortages during dry years in the area.

Oregon's Water Rights Information System and annual water use reports may also be useful for understanding existing water uses.

Instream Needs/Demands

Describe existing instream needs in the planning area to determine if such needs are currently being met. Consider existing protections (e.g., instream water rights, pending instream water right applications, scenic waterway flows, or flows specified in project operations) to support fish, wildlife, recreation, or pollution abatement. Also assess flow needs to support other uses, such as navigation or hydropower. Groundwater often contributes flow to surface water bodies and supports various ecological functions; therefore, groundwater should be considered for assessing instream needs. Determine how often instream flows are met in wet or dry years and the likelihood such flows will be met in the future. Refer to the Integrated Water Resources Strategy for more information on the suite of flows that are needed to support instream uses.

Climate Change & Natural Hazards

As planning groups are conducting assessments under Planning Element #2 (characterizing issues) and Planning Element #3 (defining needs/demands), groups will need to consider the risks posed by climate change. The analysis could identify vulnerabilities of (a) human systems, (b) natural systems, and (c) infrastructure and the built environment. Projected climate change impacts include a longer freeze-free season, increased water demand due to warmer summertime temperatures, and higher spring flows/lower summer flows in snowmelt-dominated basins.

Planning groups should assess whether natural and built systems are vulnerable to certain natural events, such as droughts, wildfires, floods, or possibly seismic events. The frequency, duration, intensity, and impacts of past events and potential future events should be considered. Planning groups may wish to consider developing a multi-year, worst-case planning scenario to aid in development of drought, flood, or other preparedness-type strategies.

Planning Step 4: Develop Integrated Solutions for Meeting Long-Term Water Needs

Developing the solutions toolbox is paramount for meeting instream and out-of-stream water needs in a given place, today and into the future. Considering the diversity of water challenges, planning groups will likely need to consider a suite of tools, examining various options for meeting unmet needs/ demands. This can include maintaining current practices, if they are sufficient to meet future needs / demands. Use of the following tools can help bridge any gaps identified. Note that the following solutions, listed in no particular order, is not all encompassing. Innovative approaches or solutions are strongly encouraged.

(a). Efficiency and Conservation Measures

Consider improving water-use efficiency and employing conservation practices as a means for meeting water needs. At the individual level, irrigators can reduce on-farm water use by implementing a number of new technologies and practices. Several irrigation districts throughout Oregon have made their delivery systems more efficient in recent years, finding ways to save water, reduce costs, and improve the reliability of deliveries to water users. The state's Allocation of Conserved Water program is a water right transfer tool that puts some water back instream while allowing some water to be applied to additional acreage.

Water conservation opportunities exist within municipal water systems as well. Delivery system upgrades and household-level programs that install low-flow toilets, faucet aerators, and high-efficiency shower heads can be effective tools for reducing water use and meeting additional demands. Rebate or outreach programs sponsored by municipal water providers have been effectively used in Oregon in the past and continue to be used to complement system upgrades.

Landscaping can account for a significant use of water; installing efficient irrigation systems or selecting plants that require less water can also be effective tools, along with other landscaping techniques. (Refer to IWRS Action 10A for more information).

(b). Built and Natural Storage

Storage as a water management tool includes natural storage, built storage (above-ground and below-ground), and operational changes to existing storage projects.

The state of Oregon has a policy described in OAR 690-410-0080 that gives high priority to storage that optimizes instream and out-of-stream public benefits and beneficial uses. Multi-purpose storage is preferred over single-purpose storage.

If planning groups are considering new storage as a potential water management tool, the following should be considered:

- Purpose (e.g., type, location and extent of use, benefits);
- Legal Requirements (e.g., state, federal, and local legal requirements);
- Social Considerations (e.g., recreational, public support, cultural, historic);
- Technical Constraints (e.g., siting issues, public safety and structural integrity);
- Financial Realities (e.g., project financing including site costs, cost sharing and repayment, and operating, maintenance and rehabilitation costs);
- Economic Analysis (e.g., project benefit/cost analysis);
- Land Use (e.g., ownership, comprehensive plans, coordination);
- Environmental Effects (e.g., impacts on streamflows, fisheries, wildlife, wetlands, habitat, biological diversity, water quality and opportunities for mitigation);
- Other (e.g., direct and indirect impacts).

For existing storage projects within the watershed, planning groups should evaluate current storage capacities, authorized purposes, and operational practices to determine if management or engineering adjustments could help meet any unmet needs/demands.

Planning groups should also consider the enhancement of watershed storage capacity through natural processes using non-structural means. These non-structural means include maintaining forested and riparian areas, protecting or restoring floodplain functions, preserving wetlands, and restoring upland meadows. (Refer to IWRS Actions 10B and 11A for more information).

(c). Water Right Transfers & Rotation Agreements

Water right transfers allow the water right holder to change the point of diversion, place of use, or type of use. The state provides options for permanent transfers, temporary transfers, and instream leases. Transfers can be used to move water to where it is needed, or to provide mitigation water for new consumptive uses of water. One of the basic tenets of a water right transfer is ensuring that

other instream or out-of-stream uses are not injured as a result of the changes to the use. Whether the change is a transfer or a lease, it will not be authorized if other instream or out-of-stream water right holders are injured as a result of the change.

In addition to transfers, there are a number of other innovative management methods that can provide some flexibility and alternatives. For example, water users with existing water rights can enter into private signed agreements to rotate water and make the most economical use of a limited supply. Other examples of permanent and temporary options include dry year options and forbearance agreements.

(d). Non-Traditional Water Supply Techniques

Planning groups should consider alternative or non-traditional supplies, such as the use of rainwater, stormwater, greywater, or desalinated water as a management strategy.

For example, some Oregon communities have installed purple pipe as a means to use reclaimed water for golf courses or other greenways. Such installations require a parallel system of infrastructure, alongside traditional wastewater and stormwater pipes. The ability to use reclaimed water for non-potable uses means that large amounts of water can by-pass the treatment facility process, usually reserved for potable water supplies. (Refer to IWRS Action 10C for more information).

Desalination is a technique that allows communities to address water scarcity by treating brackish groundwater or saltwater. Both inland and coastal communities may wish to undertake desalination projects to meet their water needs. Such projects would need to seek approval through existing regulatory pathways, and where appropriate, planning groups may need to identify policy gaps that create barriers to desalination projects. The identification of these barriers would allow the state to pursue policy changes, if needed, so that desalination can occur where appropriate, without jeopardizing existing water rights and identified beneficial uses.

(e). Infrastructure

Water infrastructure needs are many and growing. As water and wastewater systems age, maintenance becomes a greater challenge and cost. Many of the diversion, conveyance, storage, and other infrastructure in Oregon are more than 100 years old and in need of repair or replacement. As communities grow and technologies improve, the need for modern infrastructure continues to grow as well. Developing regional partnerships among water providers and wastewater utilities can be a key component to a successful infrastructure program.

Planning groups should consider taking stock of water-related infrastructure in the community to determine whether maintenance or upgrades are necessary and whether plans are in place to save for and invest in maintenance needs. A thorough structural review should be undertaken to assess the integrity of structures to withstand disturbances, such as earthquakes or large flood events. In addition, the planning group may want to evaluate whether reservoir storage capacity has been reduced, by sedimentation for example, or for public safety reasons. Doing so could help expand water supplies or provide greater system reliability during dry years. (Refer to IWRS Action 7A and 7B for more information).

(f). Watershed & Habitat Restoration

Planning groups will need to consider actions to improve and maintain the ecological health of the planning area. Watershed restoration efforts have been occurring throughout Oregon for many years, providing the habitat needed to support fish, wildlife, and a variety of ecosystem services, such as recycling nutrients back into the soil and therefore, improving water quality.

The Integrated Water Resources Strategy contains four recommended actions to improve or maintain the health of Oregon's ecosystems: improve watershed health, resiliency, and capacity for natural storage; develop additional instream protections; prevent and eradicate invasive species; and protect and restore instream habitat and access for fish and wildlife. In particular, removing fish passage barriers and screening diversions are key actions to consider. Planning groups can look to the IWRS for other tools to consider during plan development.

Oregon's network of watershed councils, soil and water conservation districts, and non-profit conservation organizations are at the forefront of on-the-ground restoration projects. Planning groups should consider building upon the expertise and strategic action plans of these local organizations.

(g). Instream Flow Protections

The protection and maintenance of instream flows are necessary to support ecosystem health. Oregon's instream flow policy in OAR 690-410-0030 recognizes that benefits are provided by water remaining where it naturally occurs.

Protecting streamflows that are needed to support public uses is a high priority for the state. The long-term goal of the state's policy is to establish an instream water right on every stream, river and lake that can provide significant public benefits. Where streamflows have been depleted to the point that public uses have been impaired, methods to restore the flows should be developed and implemented. These activities must be consistent with the preservation of existing rights, established duties of water, priority dates, and with the principle that all of the waters within the state belong to the public to be used beneficially without waste.

Many watersheds throughout the state contain protections for instream flows through instream water rights, permit conditions, by-pass conditions, scenic waterway designations, and biological opinions. There are a number of tools available to meet instream flows needs, including streamflow measurement and management, transferring senior water rights instream, leasing water temporary instream, and regulating in favor of senior instream water rights. Streamflow restoration projects should seek cooperation and coordination between instream water interests and out-of-stream water users. The Water Resources Department and the Department of Fish and Wildlife have jointly identified priority areas for streamflow restoration throughout the state.

A place-based plan should identify opportunities for meeting instream flow needs. If instream flow requirements do not exist for a particular stream, river, or lake within the planning area, or if conflicting federal or state targets exist, the planning group may want to consult and seek recommendations from the Oregon Department of Fish and Wildlife on how to proceed in determining the appropriate instream flow. (Refer to IWRS Action 11B for more information on instream protections).

(h). Water Quality Protections

The Integrated Water Resources Strategy contains recommended actions to improve and protect water quality for the benefit of many uses, such as drinking water, ecosystem health, aquatic life, agriculture, and industry.

Some of the state's water quality priorities are set forth in water quality management plans (e.g., Senate Bill 1010 plans, Forest Practices Act, TMDLs and associated implementation plans) and groundwater protection plans. Ultimately, a place-based plan should identify opportunities for protecting and improving water quality in the planning area. This could be through the implementation of existing plans, undertaking actions in basin assessments, or developing new tools and collaborative strategies among community partners. Planning groups should consider potential pollutant sources and their potential solutions, such as using low impact development to mitigate stormwater impacts, using community outreach and grants to fix leaky septic systems, and using take-back programs to avoid toxic and pharmaceutical contamination of water supplies. Below are two examples from the Integrated Water Resources Strategy that demonstrate how to protect and improve water quality and public health:

Drinking Water

Planning groups should identify actions to address drinking water quality needs by considering collaborative source water protection strategies and various treatment technologies. Drinking water protection should focus on both large municipal systems, as well as community or individual drinking water systems.

Toxics and Other Pollutants

The IWRS recommends a number of ways to reduce toxics and other pollutants. The Oregon Department of Environmental Quality and its partners are pursuing many of these recommendations, with implementation being carried out at the local or community level. Planning groups should evaluate what strategies are in place within their community, such as the promotion of pesticide collection events, pharmaceutical take-back programs, the use of integrated pest management techniques, reducing cyanotoxins in fresh and marine waters, or raising public awareness.

(i). Monitoring

Expanding monitoring efforts to better understand water quantity, water quality, ecological issues, and program effectiveness is a key recommendation of the 2012 IWRS. Planning groups may need to install measurement devices or include monitoring as part of plan development, or the group may recommend increasing monitoring efforts as a management tool. Place-based planning efforts could help identify additional data needs, which can include monitoring and evaluating: streamflow (e.g. adding real-time capabilities), groundwater levels, water use, water quality, habitat conditions, and watershed functions. Several types of monitoring needs are described in the 2012 IWRS.

Development of new data or monitoring tools should be compatible with and available to partners, including state agencies. Oregon DEQ has resources available for local entities that are monitoring water quality conditions within their watershed, including directions for quality assurance, sampling, and analysis. The place-based plan should include a description of any current or proposed monitoring activities occurring in the watershed. Refer to Appendix C for monitoring standards and other related resources.

Planning Step 5: Plan Adoption & Implementation

On occasion, the planning group may be asked to present or share information with the Oregon Water Resources Commission, primarily to provide feedback on the use of these guidelines and to give Commission members an opportunity to offer recommendations and general input.

A place-based plan should be completed within a reasonable time frame. For the purposes of piloting these guidelines, plans are expected to be completed within three years of initiating the planning process. The state recognizes, however, that communities are at different stages of planning; some communities have already initiated discussions, collected data, or conducted assessments, whereas others are in the very early stages of organizing themselves. For these reasons, it is important to work with state agencies throughout the planning process to adjust completion timeframes, if needed.

Planning group members should formally approve their plan. Individual planning members should seek an affirmative vote from their respective governing boards or commissions to confirm any funding or political commitments made by the planning group.

The Department, working closely with the IWRS Project Team Agencies—namely the Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and the Oregon Department of Agriculture—will conduct an inter-agency review of each place-based plan during the final stages of plan development. The Water Resources Commission will ultimately make the final decision about whether to formally accept a place-based plan as a component of the Integrated Water Resources Strategy. More specifically, the Commission will decide whether the plan adheres to these guidelines and the statewide goals and objectives of meeting instream and out-of-stream water needs, including water quantity, water quality, and ecosystem needs.

Implementation of a place-based plan will likely involve various partners and result in a suite of projects and/or long-term programs. Some projects may need additional analyses (e.g., feasibility studies) that are beyond the scope of a place-based plan. It is very likely that permits or some type of state or federal approval will be needed for certain projects, as well as funding, likely from multiple sources. Planning groups may need to develop a more detailed implementation strategy, agreement, or workplan to ensure that all of the hard work of creating the integrated water resources plan is carried out by various public and private partners.

Appendix A: Guiding Principles from Oregon's Statewide Strategy

The fifty-year vision and guiding principles from the 2012 Integrated Water Resources Strategy are reproduced below as a reference for planning groups. The guiding principles were developed to help shape the development and implementation of the Strategy. These principles should serve as a constant reminder to recognize the public interest in water, to include a meaningful process for public involvement, and to maintain a balanced representation of all interests.

Accountable and Enforceable Actions

Ensure that actions comply with existing water laws and policies. Actions should include better measurement and enforcement tools to ensure desired results.

Balance

The [place-based] strategy must balance current and future instream and out-of-stream needs supplied by all water systems (above ground and below ground). Actions should consider and balance tradeoffs between ecosystem benefits and traditional management of water supplies.

Collaboration

Support formation of regional, coordinated, and collaborative partnerships that include representatives of all levels of government, private, and non-profit sectors, tribes, stakeholders, and the public. Collaborate in ways that help agencies cut across silos.

Everywhere in our State, we see healthy waters, able to sustain a healthy economy, environment, and cultures & communities.

Healthy waters...are abundant and clean. A healthy economy...is a diverse and balanced economy, nurturing and employing the state's natural resources and human capital to meet evolving local and global needs, including a desirable quality of life in urban and rural areas. A healthy environment...includes fully functioning ecosystems, including headwaters, river systems, wetlands, forests, floodplains, estuaries, and aquifers. Healthy cultures and communities...depend on adequate and reliable water supplies to sustain public health, safety, nourishment, recreation, sport, and other quality of life needs.

A Fifty-Year Vision for Oregon's Water Future
Policy Advisory Group
2012 Integrated Water Resources Strategy

Conflict Resolution

Be cognizant of and work to address long-standing conflicts.

Facilitation by the State

The State should provide direction and maintain authority for local planning and implementation. Where appropriate, the State sets the framework, provides tools, and defines the direction.

Incentives

Where appropriate, utilize incentive-based approaches. These could be funding, technical assistance, partnerships / shared resources, regulatory flexibility, or other incentives.

Implementation

Actions should empower Oregonians to implement local solutions; recognize regional differences, while supporting the statewide strategy and resources. Take into account the success of existing plans, tools, data, and programs; do not lose commonsense approach; develop actions that are measurable, attainable, and effective.

Interconnection/Integration

Recognize that many actions (e.g. land-use actions) in some way affect water resources (quality and/or quantity); recognize the relationship between water quantity and water quality; integrate participation of agencies and parties.

Public Process

Employ an open, transparent process that fosters public participation and supports social equity, fairness, and environmental justice. Advocate for all Oregonians.

Reasonable Cost

Weigh the cost of an approach with its benefits to determine whether one approach is better than another, or whether an approach is worth pursuing at all. Actions should focus on reducing the costs of delivering services to the state's residents, without neglecting social and environmental costs.

Science-Based, Flexible Approaches

Base decisions on best available science and local input. Employ an iterative process that includes "lessons learned" from the previous round. Establish a policy framework that is flexible. Build in mechanisms that allow for learning, adaptation, and innovative ideas or approaches.

Streamlining

Streamline processes without circumventing the law or cutting corners. Avoid recommendations that are overly complicated, legalistic, or administrative.

Sustainability

Ensure that actions sustain water resources by balancing the needs of Oregon's environment, economy, and communities.

Appendix B: The Convener's Role & Responsibilities

The following information contains excerpts from the Policy Consensus Initiative's document entitled, "The Role of a Convener." For the full version or to find more information or resources visit: http://www.policyconsensus.org/publicsolutions/ps_6.html.

The Convener

A convener is a person—typically a well-known public leader with credibility and stature—who brings a diverse group of people together to resolve a problem collaboratively. Experience over the past 25 years has demonstrated that conveners are often essential to achieving successful outcomes in collaborative processes, especially when the solutions reached require action by multiple sectors and levels of government.

Conveners get people involved in finding effective solutions together; they do not seek to impose their own solutions. Experience has shown that [public officials] and other respected civic leaders can be very effective as conveners or co-conveners of collaborative processes, so long as they act in impartial ways. By virtue of their office, elected leaders have the power to convene people from a variety of sectors to work on public problems. Other respected leaders, by virtue of the credibility and social capital they have built in their communities, regions, or states, also have the power to convene. When leaders serve as conveners or co-conveners of collaborative processes, the outcomes of these processes are more likely to receive support and to be formally adopted and implemented.

Selecting a Convener

The process for selecting a convener needs to be transparent, so that the parties and the public understand who made the selection. During the assessment, the parties should be asked who would make a good convener. The purpose of the question is not to have the parties choose the convener, but rather to understand their perceptions about the kind of person who is needed to gain the cooperation of all interests in working toward a solution.

The most important criteria for selecting a convener is that the person be highly respected and statesmanlike—someone with a reputation for serving the public interest, with no particular ax to grind or perspective to push on the issue at hand. Sometimes people will come to the table primarily because of the convener's status—because the stature of the convener makes them feel they are doing something important and worthwhile.

Best Practices for a Convener

To be effective, conveners should abide by the following key guidelines:

1. **Be inclusive.**

Conveners should be sure that a wide variety of people from different perspectives are involved. They should welcome participants from all interests—not just those with obvious interests, but also those with the economic, political, or technical resources that will help make for successful outcomes.

2. **Establish a neutral meeting place.**

When the issue is complex and divisive, the convener must establish an impartial process and a safe space for people to open up about their beliefs and opinions. It is often helpful to get assistance from an experienced facilitator to plan and conduct the process.

3. Be impartial to the solution.

Participants must believe that the convener is not predisposed to one side or another and is trying to find a solution that all sides can embrace. The convener may need to work in a bipartisan fashion with a co-convener from the other side of the aisle, to ensure the perception of impartiality.

4. Direct, rather than dominate, the discussions.

The convener must enable people to talk with each other, rather than talking only to the convener. It is often useful for someone else to facilitate the discussions so the convener can listen and ask questions. Besides, conveners will rarely have time to run all of the meetings.

5. Frame the meeting and the issue.

The convener must establish a purpose for each meeting and help to ensure that the issue is framed in a way that enables all people to work together productively. Defining and naming the issue jointly can ensure that everyone is willing to contribute to the solution.

6. Keep people moving and working together.

The convener should provide feedback to the group on their progress. Where institutional impediments or red tape crop up, the convener should consider using his or her own capabilities to overcome them.

7. Demonstrate ongoing visible commitment.

The convener can help keep participants at the table by demonstrating that they care about the progress the group is making. Even if the convener cannot be present at every meeting, he or she should send signals demonstrating on-going interest.

8. Make sure there is an outcome.

The convener can help a group get to closure by establishing timetables for the process and reminding people of those timetables. The best outcome involves written agreements that spell out an action and implementation plan, including specifying different people's responsibilities.

Appendix C: Technical Resources & Publications

This appendix is a starting point for planning groups looking for pertinent data and information, technical reports, statewide or regional plans and assessments, and agency contacts.

Public Process, Meetings

Oregon's Public Meeting Laws – Reference Guide (2010)

<http://www.open-oregon.com/wp-content/uploads/2010/06/publicMEETINGSreader.pdf>

Oregon Attorney General's Public Records and Meetings Manual (2011)

http://www.doj.state.or.us/pdf/public_records_and_meetings_manual.pdf

Policy Consensus Initiative's Resources for Leaders and Conveners

http://www.policyconsensus.org/publicsolutions/ps_6.html

Environmental Justice in Oregon, It's the Law (2008)

<https://law.lclark.edu/live/files/17291-38-2collin>

Water Quantity Data

Near Real-Time Streamflow Data

http://apps.wrd.state.or.us/apps/sw/hydro_near_real_time/

Historical Streamflow and Lake Level Data

http://apps.wrd.state.or.us/apps/sw/hydro_report/

Monthly Water Use Data

http://www.oregon.gov/owrd/pages/wr/water_use_report.aspx

Groundwater Level Data

http://www.oregon.gov/owrd/pages/gw/well_data.aspx

Groundwater Studies and Publications

http://www.oregon.gov/owrd/pages/gw/gw_pubs.aspx

Critical Groundwater Areas (Map)

http://www.oregon.gov/owrd/pages/gw/gw_critical_allocations.aspx

Water Availability Database

OWRD's model for estimating water availability can provide useful information on whether any new water is available during different months of the year to support future uses.

http://apps.wrd.state.or.us/apps/wars/wars_display_wa_tables/MainMenu1.aspx

Water Rights Database

<http://www.oregon.gov/owrd/pages/WR/wris.aspx>

Water Rights Maps (GIS themes)

<http://www.oregon.gov/owrd/Pages/maps/index.aspx>

Water Quality Data

Wastewater Permits Database

<http://www.deq.state.or.us/wq/sisdata/sisdata.asp>

Water Quality Monitoring Data

<http://deq12.deq.state.or.us/lasar2/>

The Oregon Water Quality Index

<http://www.deq.state.or.us/lab/wqm/wqimain.htm>

Impaired Water Bodies
<http://www.deq.state.or.us/wq/assessment/assessment.htm>

Designated Beneficial Uses for Water Quality
<http://www.deq.state.or.us/wq/standards/uses.htm>

Groundwater Management Areas for Water Quality
<http://www.deq.state.or.us/wq/groundwater/gwmas.htm>

Ecological Data

Fish Distribution Data
<https://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=fishdistdata>

State Species Sensitive List
http://www.dfw.state.or.us/wildlife/diversity/species/sensitive_species.asp

Streamflow Restoration Priority Areas (Maps)
<https://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=streamflowmaps>

Salmon and Steelhead Recovery Tracker
<http://www.odfwrecoverytracker.org/>

Instream Water Rights in Oregon (Map)
http://filepickup.wrd.state.or.us/files/Publications/Place_Based_IWRS/ISWR_SWW_Map.JPG

ODFW's Compass Tool
Online mapping that displays passage barriers and status
<https://nrimp.dfw.state.or.us/compass/>

2013 Statewide Fish Passage Priority List
ODFW's statewide inventory of fish passage barriers, prioritized for enforcement, based on the needs of native migratory fish
<http://www.dfw.state.or.us/fish/passage/>

Fish Screening Information
<http://www.dfw.state.or.us/fish/screening/index.asp>

DSL's Technical Resources for Wetlands
http://www.oregon.gov/dsl/WETLAND/Pages/technical_resources.aspx

Watershed assessments funded by OWEB
http://www.oregon.gov/OWEB/MONITOR/pages/watershedassessments_linked.aspx

Monitoring-Related Resources (see also water quality / quantity sections, above)

Measurement and Computation of Streamflow, Volumes 1 & 2: USGS Water Supply Paper 2175
<http://pubs.usgs.gov/wsp/wsp2175/>

Stage Measurement at Gaging Stations (2010)
<http://pubs.usgs.gov/tm/tm3-a7/>

Discharge Measurements at Gaging Stations (2010)
<http://pubs.usgs.gov/tm/tm3-a8/>

DEQ's Volunteer Water Quality Monitoring Resources
<http://www.deq.state.or.us/lab/wqm/volmonresources.htm>

Climate Change Resources

IPCC Fifth Assessment Report (2013)
<http://www.ipcc.ch/report/ar5/>

Northwest Climate Assessment Report (2013)
<http://occri.net/wp-content/uploads/2013/11/ClimateChangeInTheNorthwest.pdf>

Oregon's Climate and Health Profile (2014)
<https://public.health.oregon.gov/HealthyEnvironments/climatechange/Pages/Climate-and-Health-Profile.aspx>

DLCD's Website: Planning for Climate Change
<http://www.oregon.gov/LCD/CLIMATECHANGE/Pages/index.aspx>

Natural Hazards: Drought, Floods, Earthquakes etc.

AWRA's Proactive Flood and Drought Management Applied Strategies (2013)
http://www.awra.org/news/AWRA_report_proactive_flood_drought_final.pdf

Oregon Resilience Plan (2013)
http://www.oregon.gov/OMD/OEM/ossprac/docs/Oregon_Resilience_Plan_Final.pdf

Oregon's Natural Hazard Mitigation Plan (2015)
In addition to the statewide Natural Hazard Mitigation Plan, hazard plans developed by cities and counties may also be useful in understanding past hazard events in a community.
<http://www.oregon.gov/LCD/HAZ/pages/NHMP.aspx>

Oregon Hazards Explorer
<http://oregonexplorer.info/hazards>

Infrastructure

OWRD's Dam Inventory
http://apps.wrd.state.or.us/apps/misc/dam_inventory/default.aspx

Oregon Association of Clean Water Agencies
<http://www.oracwa.org/c-energy.html>

Pacific Northwest Seismic Network
<http://pnsn.org/earthquakes/recent>

U.S. Army Corps of Engineers National Inventory of Dams
<http://geo.usace.army.mil/pgis/f?p=397:12>

Statewide or Regional Plans & Assessments

Oregon's Integrated Water Resources Strategy
http://www.oregon.gov/OWRD/pages/law/integrated_water_supply_strategy.aspx

Oregon Conservation Strategy (ODFW)
http://www.dfw.state.or.us/conservationstrategy/read_the_strategy.asp

Oregon Plan for Salmon and Watersheds (OWEB)
<http://www.oregon.gov/OPSW/pages/index.aspx>

Conservation and Recovery Plans (ODFW)
http://www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp

TMDLs in Oregon (DEQ)
This site contains links to Total Maximum Daily Load and Water Quality Management Plan documents prepared for water bodies in Oregon designated as water quality limited on the 303(d) list.
<http://www.deq.state.or.us/wq/tmdls/tmdls.htm>

Agricultural Water Quality Management Plans (SB 1010)

<http://geo.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=e48e9d32e854458a8079b10852c3100b>

DEQ Basin Assessments

Basin assessments have been completed for the North Coast, Deschutes, Rogue, and Powder River Basins.

<http://www.deq.state.or.us/wq/watershed/watershed.htm>

OWRD Basin Programs

Some stream systems are only classified for certain uses during certain times of the year. These classifications are used, in conjunction with other laws or rules, to determine whether the state can allow new uses of water. Basin programs exist for most of the state's major drainage basins, and are described in Oregon Administrative Rules Chapter 690, Division 500 – 520.

North Coast Basin Program	[Available here]
Willamette Basin Program	[Available here]
Sandy Basin Program	[Available here]
Hood Basin Program	[Available here]
Deschutes Basin Program	[Available here]
John Day Basin Program	[Available here]
Umatilla Basin Program	[Available here]
Grande Ronde Basin Program	[Available here]
Powder Basin Program	[Available here]
Malheur Lake Basin Program	[Available here]
Owyhee Basin Program	[Available here]
Malheur Lake Basin (Provision)	[Available here]
Goose & Summer Lakes Basin Program	[Available here]
Rogue Basin Program	[Available here]
Umpqua Basin Program	[Available here]
South Coast Basin Program	[Available here]
Mid-Coast Basin Program	[Available here]
Columbia River Basin Program	[Available here]
Middle Snake River Basin Program	[Available here]

Contacts

Integrated Water Resources State Agency Contacts:

OWRD:	Alyssa Mucken, alyssa.m.mucken@state.or.us ; 503-986-0911 (Salem)
ODEQ:	Wade Peerman, wade.peerman@state.or.us ; 503-229-5046 (Portland) Heather Tugaw, heather.tugaw@state.or.us ; 541-776-6091 (Medford) Smita Mehta, smita.mehta@state.or.us ; 541-278-4609 (Pendleton)
ODFW:	Danette Faucera, danette.l.faucera@state.or.us ; 503-947-6092 (Salem)
ODA:	Margaret Matter, mmatter@oda.state.or.us ; 503-986-4561 (Salem)

Watershed Councils

http://www.oregon.gov/OWEB/GRANTS/docs/councilcapacity/June_2014_Map_Watershed_Councils.pdf

Soil and Water Conservation Districts

<http://geo.maps.arcgis.com/apps/Viewer/index.html?appid=9cee1a8b865140d5b71253975fb7fe6d>

DEQ's Basin Coordinators

<http://www.deq.state.or.us/wq/tmdl/docs/basincoordinators.pdf>

OWRD's Watermasters in Oregon

http://www.oregon.gov/owrd/pages/offices.aspx#Region/Watermaster_Map

Appendix D: Quick Guide for Place-Based Planning

The appendix is a short list of the place-based planning elements. It provides the general topic areas and key points to consider while developing a place-based plan.

Planning Step 1: Building a Collaborative & Integrated Process

Place-Based Planning Under the IWRS

- Adhere to fundamentals
- Follow IWRS Guiding Principles

Define the Planning Scale

- Establish the geographic planning scale
- Correspond with existing basins
- Watershed-based

Convene the Process

- Public official or of similar stature
- Adhere to basic principles (See App. B)
- Notify OWRD of planning initiation

Involve Agency Partners

- Technical contacts
- Guidance; support
- Seek federal participation

Invite and Involve Diverse Interests

- A balance of interests from different sectors
- Define responsible parties
- Include all persons potentially affected

Employ a Public Process

- Must be an inclusive and transparent process
- Seek consensus
- Develop communication strategy/plan
- Follow Public Meetings law

Planning Step 2: Characterize Water Resources, Water Quality, & Ecological Issues

Describe the Place

- Economic, social, cultural characteristics
- Unique features or attributes
- Physical and landscape characteristics:
 - Major rivers & tributaries
 - Aquifer systems and springs
 - Estuaries and bays
 - Reservoirs and lakes
 - Conveyance systems
 - Hydrology (rain, snow or spring fed systems), etc.

Surface & Groundwater Quality/Quantity

- Availability
- Existing protections
- OWRD basin programs
- Beneficial uses (water quality)
- Impaired water bodies
- Groundwater management areas (water quality)
- Total maximum daily loads
- Permitted discharges

Ecological Health of the Watershed

- Key species & habitats
- Historical and current fish species
- ESA STE species; ODFW sensitive species
- Limiting factors

Planning Step 3: Quantify Existing & Future Needs/Demands

Existing and Future Needs/Demands

- Instream and out-of-stream
- Quantity, quality, & ecosystems
- Future pressures (e.g., population, land-use, etc.)

Out-of-Stream Needs

- Agricultural uses (irrigated and non-irrigated)
- Municipal uses
- Industrial uses
- Domestic uses

Instream Needs

- Meeting existing targets (water rights, scenic waterways flows, etc.)
- Fish and wildlife, water quality, recreation, etc.

Climate Change & Natural Hazards

- Human and natural risks
- Infrastructure and built environment risks
- Drought, floods, seismic, other natural hazards
- Multi-year, worst-case scenario

Planning Step 4: Develop Integrated Solutions for Meeting Long-Term Water Needs

Efficiency & Conservation Measures

- Allocation of Conserved Water; on-farm activities
- Infrastructure upgrades
- Household level conservation programs

Built & Natural Storage

- Capacity & operations
- Above & below
- Natural storage (forests, floodplains, wetlands, snowpack)

Transfers & Rotation Agreements

- Permanent transfers
- Temporary transfers
- Instream leases
- Rotation or forbearance agreements

Non-Traditional Techniques

- Recycled or reclaimed water projects
- Graywater, rainwater, stormwater
- Desalination

Infrastructure

- Aging water and wastewater systems
- Energy efficiencies
- Storage capacities
- Safety (e.g., seismic, flood risk)
- Regional partnerships
- Long-term maintenance strategies

Watershed & Habitat Restoration

- Improve/maintain ecological health
- Utilize existing plans/efforts (e.g. Oregon Plan)
- Fish passage barriers/screening

Instream Flow Protections

- New instream water rights
- Streamflow restoration priorities
- Improved measurement/monitoring
- Consult with ODFW

Water Quality Protections

- Pollution reduction strategies
- Nonpoint source projects
- Source water protection
- Toxics (e.g., nutrients reduction)
- Education and outreach

Monitoring

- Measurement (streamflows/water use)
- Program Effectiveness
- Quality assurance
- Shared information

Planning Step 5: Plan Adoption & Implementation

Review Process

- Three-year completion timeframe
- Seek input from WRC
- Inter-agency review

Adoption

- Planning members adopt
- Seek approval from boards/commissions
- Submit to WRC for acceptance process
- Develop workplan/implementation strategy