

RECLAMATION

Managing Water in the West

Sharing Water, Building Relations: Managing and Transforming Water Conflict in the US West

Instructor Manual



U.S. Department of the Interior
Bureau of Reclamation
Technical Service Center
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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Sharing Water, Building Relations:

Managing and Transforming Water Conflict in the US West

Companion Instructor Manual to Professional Skills-Building Workbook

Prepared and Edited by

Oregon State University
Program in Water Conflict Management and Transformation
Julia Doermann
Aaron T. Wolf

In Collaboration With

US Bureau of Reclamation
Western Water Institutional Solutions Project



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About the Editors

Julia Doermann is currently an instructor and senior water policy advisor for the Institute for Water and Watersheds at Oregon State University. She also facilitates, coordinates, writes, and fund-raises for innovative, collaborative problem-solving and sustainability partnerships between academic, non-profit, private and governmental parties. Julia was also one of a team of natural resource advisors to former Oregon Governor Kitzhaber for seven years. Prior to this, Julia worked as a water and public lands policy analyst for the Western Governors' Association in Denver, CO serving the governors of 21 western states and territories.

Aaron T. Wolf is a professor of geography in the Department of Geosciences at Oregon State University. His research and teaching focus is on the interaction between water science and water policy, particularly as related to conflict prevention and resolution. He has acted as consultant to the US Department of State, the US Agency for International Development, the World Bank, and several governments on various aspects of transboundary water resources and dispute resolution. He is author of *Hydropolitics Along the Jordan River: The Impact of Scarce Water Resources on the Arab-Israeli Conflict*, (United Nations University Press, 1995), and a co-author of *Core and Periphery: A Comprehensive Approach to Middle Eastern Water*, (Oxford University Press, 1997), *Transboundary Freshwater Dispute Resolution*, (United Nations University Press, 2000), and *Managing and Transforming Water Conflicts* (Cambridge University Press, 2008). Wolf, a trained mediator/facilitator, directs the Program in Water Conflict Management and Transformation, through which he has offered workshops, facilitations, and mediation in basins throughout the world. He coordinates the Transboundary Freshwater Dispute Database, an electronic compendium of case studies of water conflicts and conflict resolution, international treaties, national compacts, and indigenous methods of water dispute resolution (www.transboundarywaters.orst.edu), and is a co-director of the Universities Partnership on Transboundary Waters.

How to Use this Manual

Workbook and Manual Rationale

Conflict is normal and arises from an array of sources. Some conflicts offer creative opportunities to deepen our understanding and discover better solutions; others bring things to a stand-still for decades with no apparent resolution. This workbook provides a framework to deepen one's understanding about conflict around western water issues and possible responses. It offers general background information to the context of water conflict in the West, overview materials for different approaches to conflict, skill-building exercises, and supplemental readings.

Structure of the Instructor Manual

The Participant Workbook and Instructor Manual are designed to aid students and professionals through collaborative learning and skills-building exercises to learn about a variety of approaches to responding productively to conflict. The Manual is designed to stand alone, for basic understanding of the issues and processes involved, or to supplement other texts.

Suggested supplemental readings are listed at the end of each module in the Participant Workbook and extensive citations are listed in the bibliography (Appendix A) to assist the **instructor/facilitator** in preparing lectures and discussions, and to guide the participants in further inquiry. The exercises can be worked straight through or they can be selected individually, as the **instructor/facilitator** deems appropriate.

In a very general sense, a framework for assessing and engaging western water conflict is presented as four non-linear stages of negotiation or processes – adversarial, reflexive, integrative, and action. The framework helps participants understand the likely nature and outcomes of the processes they are participating in, as well as helps leaders understand what may be needed for more fruitful processes depending on the challenges they face.

These four stages depend on increasingly keen communication skills and understanding, as well as ability to detect and frame common goals, dreams, and visions. While a negotiation process might naturally flow among the stages of the framework, or individual stakeholders might be operating from different levels, negotiation processes can also be designed and facilitated in a way that it is more completely reflective of one stage. Though the elements of all stages exist at the same time, many don't recognize this, which limits their potential for conflict

transformation. Further, the nature of relationships between stakeholders and the resource, and the preparation and skills needed at each stage differs significantly. These differences and skills are discussed within the following modules organized around each stage of the framework:

Module 0: Introduction to Hydropolitics in the Western United States.

Module I: Initial State – Law, Allocations, and Jurisdictions. Western water conflict often arises over uncertainties created by an array of state and federal laws and institutions affecting water’s use and nonuse. Many institutions provide mechanisms for this type of conflict resolution. At this level, conflict arises between and among stakeholders over how water will be used, protected, and managed. Conflicts at this state can be interpersonal, inter-agency and/or inter-jurisdictional as well. Focus and analysis is on stakeholders, positions, and issues. Usually there is just one issue for negotiation. Negotiations are often *adversarial*, with an emphasis on *rights*. Skill-building exercises deepen our awareness of our own role in conflict through our misperceptions, entrenched thinking, and miscommunication.

Module II: Changing Perceptions: Basins without Boundaries. Negotiations at this level may be convened outside of traditional institutional structures and engage relevant economic sectors, environmental concerns and public interests. The focus is on skills-building and listening skills. Negotiations occur in a *reflexive* stage, and parties identify *needs and interests*.

Module III: Enhancing and Sharing Benefits. The focus shifts and is no longer about negotiation, water management, or conflict. Instead, it becomes a collaborative process with the intention of promoting constructive change processes. The process engages the dynamic natural and social systems within which relationships are embedded. Participants explore reframing the problem for the new possibilities and insights it presents. Together they uncover and form a base of shared meaning that can help coordinate and align collective actions and shared values. The focus is on consensus-building, and analysis is on benefits of cooperation. The process is *integrative*, where parties define *benefits* – economically, ecologically and socially through time.

Module IV: Putting it all Together – Institutional and Community Capacity. The focus here is on capacity-building, and analysis is on institutional capacity. It is an *action* stage. Governance structures are usually created or adapted to complement existing institutions and structures. These offer the crucible for ongoing discussions, community-building and progress at a human scale, and are ideally networked with relevant institutions and agencies to meet resource management, restoration, and sustainability goals.

In the Participant Workbook, each of the modules includes general setting information, overview material, skill-building exercises, and supplemental

readings. The exercises in the Participant Workbook are not detailed and only highlight the objectives and key points of the exercise; they are, however, detailed in the Instructor Manual, which also includes additional appendices.

Highlighted Material for the Participant

This workbook is written to be equally relevant for the participant and for the **instructor/facilitator**. Ideally, everyone involved in the course would have their own copy of the workbook. Material which is in the Participant Workbook, and that the **instructor/facilitator** will want to share immediately throughout the course is highlighted by a vertical line in the right-hand margin (the line is demonstrated to the right of this paragraph). Material surrounding this marked text is explanatory and also useful for the participant, but the **instructor/facilitator** may want to think out when this material is best shared. The **instructor/facilitator** will need to decide how much of the rest of the explanatory text to share with the students, and at what point. Nonetheless, we recommend that the **instructor/facilitator** skim these sections to see how the information is presented.

Choreography of Activities

The “choreography” is occasionally complicated, so the **instructor/facilitator** should read the entire document carefully well in advance, and plan out the logistics of the exercises in detail, depending on number of participants and time available. This is tremendously important, since participants will be moved around a good bit and will appreciate confidence on the part of the **instructor/facilitator**. Note that you will need *lots* of time for regular debriefs (as noted through the workbook). This is a critical, but often underutilized, component of many exercises. Participants will want the time, and you will want to make sure that plenty is blocked out.

One major reading needs to be done by the participants at the equivalent of the end of Days 1 and 2. There are supplemental readings (in the appendices) available either for the participants’ preparation or to assist the **instructor/facilitator** in crafting lectures to intersperse with the exercises, or both. In general, we have found that the pedagogy is more effective if the details of each module are taught in depth *after* the corresponding exercises, i.e., principles are experienced before they are taught.

Meeting Space

The workspace should have plenty of room to accommodate all participants to work both as one large group and in small groups. Ideally, seating and tables should be flexible and movable (i.e., preferably not “auditorium” style).

Finally, be prepared to roll with however the course develops. Regardless of how carefully one organizes, the ultimate success of the course will depend heavily on the attitude, flexibility, and sense of humor of the **instructor/facilitator**.

Materials Required

The exercises begin with pairs of participants, then “scale up” to where all the participants are involved in one large exercise. Generally, participants will be divided into groups of six or seven – the **instructor/facilitator** can divide them as appropriate. Any “loose” participants can act as observer/commentators, team up with others, or help with the facilitation.

The **instructor/facilitator** will need to have:

- An electronic (e.g., PowerPoint) or overhead projector versions of the lecture/discussions
- Module handouts
- Copies of exercises, as appropriate (the **instructor/facilitator** should read through carefully and figure out which copies are necessary for the size and makeup of the group)
- One or two large poster-board easels
- Pads of easel paper
- Felt tip markers of different colors to capture participant thoughts and ideas
- An electronic or overhead projector version of the Sandus River Basin maps (if the maps can be printed in large format, all the better)
- Hardcopies and transparencies for overhead projectors of blank maps, both with and without national boundaries
- Yellow, blue, and green (or any other three colors) Post-It notes or colored paper (and tape);
- Table name-plates (e.g., tent cards).

Module 0: Introduction to Hydropolitics and Conflict Transformation

General Information

Overall Goal(s):	To introduce the concept that shared waters not only create potential conflicts but also create opportunities for cooperation
Duration:	2-6 hours

- Sections:**
- A. General Setting: Introduction to Hydropolitics of the Western United States
 - B. Conflict and Cooperation: the Challenge and Opportunities for Western Water
 - C. The Framework – Stages of Water Conflict Transformation
 - D. Basic Definitions for Dispute Resolution
 - E. Understanding Conflict

Exercises: Ex-0.1 Understanding Conflict

Handouts: H-0.1 Role for Roland: Ugli Orange
H-0.2 Role for Jones: Ugli Orange

Overheads: Ov-0.1 Four Stages of Water Conflict Transformation
Ov-0.2 A New View of Conflict
Ov-0.3 Old/Young Woman
Ov-0.4 Styles of Conflict Management

Module 0 Overview. Introduction to Hydropolitics

Water, unlike other scarce resources, is integral to all facets of life – from biology and ecological integrity, to health, economies, and community identity, to aesthetics and spiritual practice. It touches our deepest values. It also fluctuates wildly in space and time in its presence.

Water management, therefore, is by definition conflict management. Yet water management is usually fragmented, and it is often subject to contradictory, competing, and/or antiquated laws. Though different laws try to provide certainty about use and availability of water, the task for water management is multi-objective and based on navigating competing interests and needs.

Within a nation or state these interests usually include domestic users, agriculturalists, hydropower and energy producers, recreators, and environmentalists—any two of which are regularly at odds—and the chances of finding mutually acceptable solutions typically drop as more stakeholders are involved. Add international boundaries, and, without careful understanding and handling of the issues involved, the chances decrease yet again. Finally, trying to anticipate and plan for the dynamic nature of the hydrologic system as well as the natural systems and society that depend upon it, is more of an art than science, and challenges our traditional organizations and structures.

Section A. General Setting: The Western United States

Western water law and management have their own version of this dynamic. In addition to the expected conflicts between diverse and sometimes incompatible users, the western United States has some unique circumstances that add complexity. For example, the West is the most rapidly growing region in the United States.¹ Finding the water and creating the infrastructure to meet the needs of this unprecedented growth is a challenge in itself. The fact that it is also the driest region in the country compounds the challenge.

Water to accommodate new growth is likely to rely largely on water obtained from changes to existing uses of surface and ground water, with limited opportunities to develop new supplies. In some cases it may mean using new management and/or conservation strategies. Any of these has the potential to trigger conflict with other users. Agricultural water is a likely source of water to be converted to meet growth needs since it accounts for most of the diversions from rivers and streams in the West. Rural communities often experience social, economic, and environmental impacts from these transfers, as do the traditional users. Many of these “third party impacts” – or adverse consequences – are important yet difficult to fully anticipate. Further, as water is transferred from agricultural uses to municipal and industrial water use, demand becomes more inelastic – limiting options and flexibility in water management to meet multiple needs in times of drought or shortage.

While there is legal and public support for several instream uses including water for fish, wildlife, recreation, habitat for endangered species, and water quality, the western water management system has been struggling to catch up with these needs and manage water for these uses. Different western states have tried a myriad of fledgling approaches to start to systematically address these needs. Often, however, reallocations of water for instream needs are catalyzed by legal action or the threat of legal action. Finding ways to meet these needs in arid areas experiencing growth is increasingly complex, contentious, and has the potential to bring any water management decision to a standstill as water interests exert their political and legal power.

Other pressures are growing. As foreign oil climbs in its cost and tensions over supplies, many look to western states to meet some of the country’s energy production needs. This is expected to raise additional demands and challenges to

¹ From 2004-2005, five of the six fastest growing states were Arizona (3.5%), Nevada (3.5%), Idaho (2.4%), Utah (2.0%) and Texas (1.7%) with four other states not far behind – Colorado (1.4%), Oregon (1.4%), New Mexico (1.3%) and Washington (1.3 %). The West was the fastest growing region in the 1990s as well growing by 19.7 percent. Source: Western Governors’ Association. “Water Needs and Strategies for a Sustainable Future,” Denver, CO: Western Governors’ Association, 2006 (citing U.S. Census Bureau statistics).

existing water supplies and their water quality – from how to deal with water produced from extraction processes, to meeting the cooling water demands of coal and natural gas fired power plants, to the environmental and flow regime challenges of hydropower.

Unquantified Indian water rights have been an issue for many decades – arguably since the mid-1800s. While 21 negotiated settlements of Indian land and water rights have been reached in the last 25 years, many remain. In most basins, tribes have the oldest water rights. Tribal rights may also include fishing and hunting rights which have further implications for water and land management. In the absence of litigated or negotiated settlements quantifying the amount of water represented by these rights (and any associated hunting and fishing rights), uncertainty remains for the tribes as well as all junior users and water managers.

Historically, the uncertainty of these long-unquantified reserved Indian water rights has run directly into the willingness of energy industries and other businesses to invest in any major enterprise in the western states. Unlikely coalitions have formed since 1987 to try and solve this uncertainty – with western businesses, western governors, western water managers, and tribal organizations calling for the quantification of these reserved Indian water rights.² In 2006, the Western Governors’ Association stated that “Failure to conclude meaningful water right settlements will undermine the Western States’ planning for sustainable growth and disrupt their ability to meet long term water demands.”³

The other 800-pound gorilla is climate change. Climate change and drought response are relative newcomers to this complex picture. Because the West stands to be disproportionately impacted by climate change,⁴ western state, federal, tribal, and local leaders, agencies, utilities, businesses, farmers unions and conservation organizations, are taking it seriously.⁵ The average temperatures in the West have reportedly risen more than any other region of the contiguous United States during the last century. Regional climate models suggest temperature increases in the West could be 4-13 degrees F during this century. In the West, this is likely to result in smaller snowpacks, earlier snowmelt, more extreme flood events, receding glaciers, more evaporation and dryness, less groundwater, more drought, more wildfires, water quality challenges, reduced productivity of hydropower facilities, challenges to navigation because of reduced

² Western Governors’ Association. “Policy Resolution 07-3: Negotiated Indian Water Rights Settlements,” Denver, CO: Western Governors’ Association, 2007.

³ Western Governors’ Association, “Water Needs and Strategies for a Sustainable Future,” 19.

⁴ Ibid, 21.

⁵ See The Rocky Mountain Climate Organization, Western States Water Council, Western Governors’ Association websites for references to their work.

flows, irreversible ecosystem impacts, and reduced recreation opportunities and economies.⁶

The challenges multiply when any of these impacts is probed. For example, the Rocky Mountain States get 70 to 90 percent of their water supply from snowmelt. Earlier snowmelt means that peak streamflows will be earlier, weeks before the peak needs of farmers, ranchers, homeowners, rafters and others. The loss of nature's very efficient high-elevation natural seasonal reservoir – snowpack – creates a myriad of challenges in terms of when, where and how much supply will be available, and questions about storage in general.

These are among the many opportunities and challenges in this dynamic system. While some of the looming challenges are still coming into focus, the West is working to evaluate its legal and institutional frameworks to enhance flexibility and responsiveness. To date, its ability to adopt adaptation policies is complicated by complex water adjudications and the dominance of federal land.⁷ It also wrestles with its century-old laws which were made with different societal goals in mind. Nevertheless, there are some promising signs and examples of adaptation for such dynamic times and needs.

⁶ Western Governors' Association, "Water Needs and Strategies for a Sustainable Future," 21, and The Rocky Mountain Climate Organization. "Less Snow, Less Water: Climate Disruption in the West," Louisville, CO: The Rocky Mountain Climate Organization, 2005.

⁷ Western Governors' Association. "Regional and National Policies Regarding Global Climate Change," Denver, CO: Western Governors' Association, n.d..

Section B. The Challenges and Opportunities for Western Water

Context

Western water conflict and its resolution can both result from the application of current laws, institutional coordination and function, funding levels, and capacity of agency resources that are available to issues around western water.

The Challenges

One of the challenges to western water management is the array of laws that were written at different times that are still simultaneously on the books. Because of their different objectives, they do not always work in harmony, nor are they equally relevant to the challenges of the day. Further, there are sometimes tensions and jealousies between layers of government over whose laws are attended to first. There are also challenges created by the lack of funding and human resources allocated by different levels of government or with non-governmental organizations to implement the laws and to help them work in concert. All of these can create conflict and frustrations.

The Opportunities

While there is the potential for paralyzing disputes, history shows that water and new issues around its management can catalyze dialogue and cooperation, even between especially contentious users. Moreover, as we move from thinking about rights and jurisdictions to thinking in terms of sharing “baskets” of benefits, or entirely reframing around our quality of life and today’s higher dreams, the opportunities of cooperation become palpable.

Traditional Chronology: Development, Crisis, Conflict Resolution

A general pattern exists across the West whereby senior water right holders established rights to the point of complete, if not over-appropriation of the resource. Subsequently, even more senior, but unquantified rights (usually tribal rights), or water and/or flows for water quality, habitat, or endangered species need to be addressed. This shifts certainty and expectations for other water right holders. This alone can be enough to bring a basin to a standstill. Then add a drought or growth. While this can create situations that may be even frightening (e.g. the Klamath), it can also be the catalyst for taking the steps necessary to reframe and retool institutions, agreements, and funding structures.

Getting Ahead of the Curve: Reframing & Institutional Capacity Building

Despite their complexity, water and water-related disputes *do* get resolved. Resulting agreements and institutions can be very resilient. The challenge is to get ahead of the “crisis curve,” to facilitate capacity and cooperation in advance of costly, time-consuming crises which, in turn, threaten local and regional economies, human and community health, and ecosystems. In general, successful

approaches have been to pivot the focus on quantity to quality, and to shift from incremental and Cartesian thinking to an increasingly comprehensive and systemic approach.

Section C. Adaptive Management and Conflict Management⁸

Reclamation has also developed a manual for using adaptive management workshops as a forum for water resource conflict management. The topic of adaptive management and how it relates to conflict management and transformation is briefly presented in this workbook. For additional information on adaptive management refer to, “An Adaptive Management Workshop Manual to Assist in the Prevention, Management, and Resolution of Water Resource Conflicts” (see Appendix A for full reference).

Introduction to Adaptive Management

Adaptive management is a rigorous approach to managing complex natural systems by deliberately designing and conducting management actions as experiments to improve learning and reduce uncertainty so that decision makers have a scientific foundation to integrate with political considerations in determining whether or not to change management policies.⁹ Adaptive management is not an end unto itself, but rather a means to reach better decisions that result in improved resource management.¹⁰ It is one of several related collaborative management methods that have been used to address complex natural resource issues.¹¹

Adaptive management often is portrayed as a six-step process or cycle (Figure 1). Step 1, assessing the problem, often is accomplished in part through a series of workshops that include input from scientists, managers, and other stakeholders. Participants define the scope of the problem, bring together existing knowledge, and forecast potential outcomes of different management actions that might be

⁸ This section is adapted from Kubly, D. and D.R. Clark. *An Adaptive Management Workshop Manual to Assist in the Prevention, Management, and Resolution of Water Resource Conflicts*. Salt Lake City: Bureau of Reclamation. 2012.

⁹ Holling, C.S. *Adaptive Environmental Assessment and Management*. New York: John Wiley & Sons. 1978; Walters, C. *Adaptive Management of Renewable Resources*. New York: Macmillan Publishing Company. 1986; Bormann, B.T., et al. “Adaptive Management.” in *Ecological Stewardship: A Common Reference for Ecosystem Management*, ed. Johnson, N.C., et al. (Oxford, UK: Elsevier Science Ltd., 1999), 505-534; Murray, C. and D.R. Marmorek. “Adaptive Management: A Spoonful of Rigour Helps the Uncertainty Go Down.” *Proceedings of the 16th International Conference, Society for Ecological Restoration, Victoria, Canada, August 24-26, 2004*.

¹⁰ Williams, Byron K., Robert C. Szaro, and Carl D. Shapiro. “Adaptive Management: the U.S. Department of the Interior Technical Guide.” Washington, D.C.: Adaptive Management Working Group, U.S. Department of the Interior. 2009. Accessed online August 20, 2012: <http://www.doi.gov/initiatives/AdaptiveManagement/documents.html>.

¹¹ Blumenthal, Dana and Jean-Luc Jannink. “A Classification of Collaborative Management Methods.” *Conservation Ecology* 4, no. 2 (2000): 13. Accessed online September 19, 2011, <http://www.consecol.org/vol4/iss2/art13/>.

taken. Design, in step 2, refers to the development of management and monitoring plans under which to take actions and measure their effects. In steps 3 and 4 the plans are implemented and observations are made on resource responses. Step 5 is the phase in which program participants compare what happened to what was forecast to happen. In step 6, adjustments are made based on knowledge gained to improve achievement of management objectives.

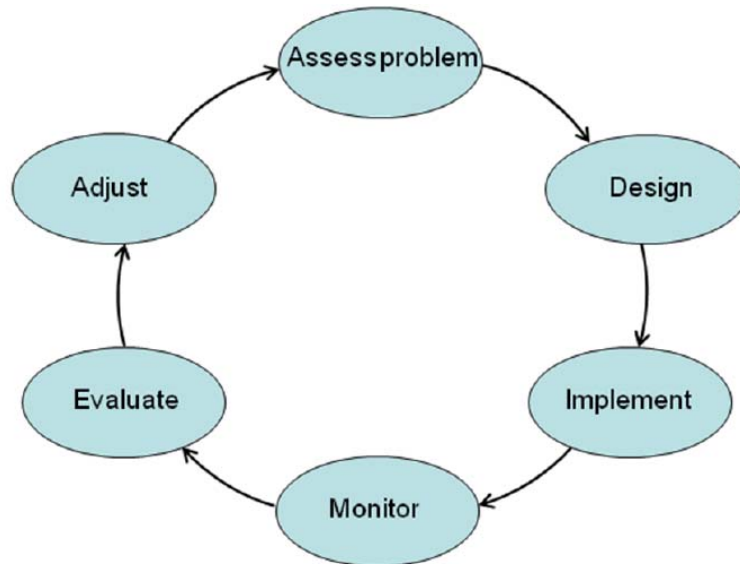


Figure 1. A diagrammatic framework for the adaptive management process of learning by doing.¹²

These six steps also can be divided into two phases: a setup phase and an iterative phase.¹³ In the set-up phase key components are developed, and in the iterative phase those components are linked together in a sequential decision process. The set-up phase has five structural elements, namely stakeholder involvement, management objectives, potential management actions, predictive models, and monitoring plans. The iterative phase uses these elements in an ongoing cycle of learning about system structure and function, and managing based on what is learned. To be effective, adaptive management requires a commitment to learn and then adjust based on what is learned. It is much less likely to be effective if participants enter the process with their minds made up leaving little opportunity for learning. Since one cannot learn from experience without measuring the consequences of actions taken, adequate resources for monitoring effects of actions also are necessary. Finally, decisions, actions and outcomes need to be

¹² Nyberg, Brian. "An Introductory Guide to Adaptive Management for Project Leaders and Participants." Vancouver, British Columbia: British Columbia Forest Service. 1999.

¹³ Williams et al. 2009; Williams, B.K., and E.D. Brown. Adaptive Management: The U.S. Department of the Interior Applications Guide. Washington, DC: U.S. Department of the Interior. 2012. Available at: <http://www.usgs.gov/sdc/doc/DOI-Adaptive-Management-Applications-Guide-27.pdf>.

documented and communicated to all involved in the process, so that knowledge gained is shared.¹⁴

Intersect between Conflict Management and Adaptive Management

Adaptive management brings to conflict management a process for commitment to an open forum with broad-based participation that allows a wide variety of positions to be heard in seeking solutions. It brings a commitment to an objective, science-based foundation for decision making that forces attention to fact finding and learning in the face of uncertainty. Participants agree to apply modeling as a means to achieve a better understanding of how resources may react to management actions and to allow comparisons of predicted outcomes, in full view of underlying assumptions and uncertainties. Monitoring of resources ensures that managers have feedback on whether their actions are having the desired effects. From these projected outcomes and empirical results, experiments can be designed to test the predictions and improve knowledge, or, if risks are acceptable to decision makers, policy changes can be implemented. Through this combination, the process has the potential to satisfy the need for legitimacy, fairness and wisdom.¹⁵

There are situations in which the issues that engender conflict are driven primarily by differences over values, rather than over outcomes. People can disagree about many different aspects of a resource management issue, but these differences usually center on either facts related to cause and effect relationships or values directed at preferences for an outcome. Cardwell and others (2009) use an example of the relationship between stream flows and a recreational fishery to illustrate the difference.¹⁶ Participants in the dispute can disagree over technical questions (facts) such as whether a particular flow will affect a fishery. They can also disagree over what the flow should be based on their preference (values) for whether or not the fishery should even exist in the stream. Where the latter prevails, resolution of the dispute may not be furthered by incorporation of additional scientific information and reduction of uncertainty. The influence of science in adaptive management will thus be stymied, leading to pathways that rely more on bargaining and compromise.¹⁷

This is not to say that adaptive management and conflict management processes exist in two separate worlds. During the course of much resource-based conflict management, there will be times in the process where participants disagree because they differ in their values, but other times where a science-based

¹⁴ Nyberg, 1999.

¹⁵ Wondolleck, J., and S. Yaffe. *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, D.C.: Island Press. 2000.

¹⁶ Cardwell, H., S. Langsdale, and K. Stephenson. *The Shared Vision Planning Primer: How to Incorporate Computer Aided Dispute Resolution in Water Resources Planning*. U.S. Army Corps of Engineers Institute for Water Resources Report 2008-R-2. 2009.

¹⁷ Lee, K.N. *Compass and Gyroscope*. Washington, D.C.: Island Press, 1993.

approach is profitable. The successful practitioner will recognize these critical junctures and apply appropriate techniques to continue learning and problem solving. Lee refers to the two components metaphorically by characterizing adaptive management as a compass that guides the application of science to policy by producing reliable knowledge on the relation between cause and effect for resource responses to purposeful and unavoidable changes in the environment, whereas bounded conflict, addressed through conflict management techniques, serves to constrain politics in such a way as to protect the adaptive process by disciplining discord.¹⁸

Adaptive Management Workshops as Forums for Conflict Management

Adaptive management workshops are considered a *core activity* in adaptive management endeavors and they can serve a valuable purpose in promoting dialogue, understanding, and trust in conflict management. Their principal use historically has been in the initial phase, assessing the problem, however they can occur anywhere in the process as a means of communication with and gaining responses from stakeholders.

The primary steps in using adaptive management workshops as a forum for conflict management and decision-making are (a) *pre-meeting* efforts, (b) *scoping* workshop sessions, (c) *structure* workshop sessions, (d) *dynamics* workshop sessions, and (e) *implementation*.¹⁹

During the *pre-meeting* period, the organizers of the conflict management process inform themselves as to the critical issues, history, scale, and geographic extent of the conflict. They make a preliminary assessment as to the usefulness of adaptive management processes for addressing the conflict before them.

At *scoping* workshops, there will be an exploration of the participants' expectations and concerns. The rationale for using an adaptive management approach will be discussed. Training in conflict management skills will occur. Time is spent determining what management problems must be addressed and their geographic scope. The participants work toward identifying management objectives and identifying key indicators for the success or failure to meet each objective. Development of an overall conceptual model of the management problem is a key exercise in the scoping process.

At *structure* workshops, detailed analyses are undertaken of the water basin subsystems and their inter-relations. Once this is done, it will be possible to determine what the implications of this new understanding are for the various

¹⁸ Ibid.

¹⁹ Walkerden, Greg "Adaptive Management Planning Projects as Conflict Resolution Processes." *Ecology and Society* 11, no. 1 (2005): 48. Accessed online September 12, 2011, <http://www.ecologyandsociety.org/vol11/iss1/art48/>.

stakeholder interests. Does this new understanding open up new possibilities for reallocation of basin benefits? A scenario gaming environment, conceptual models, and/or quantitative models can be used to explore the outcomes of various assumptions or management actions.

During the *dynamics* workshops exploration of the outcomes of various assumptions and management actions continues with an eye towards reaching a final accord. Negotiation goes on hand in hand with adaptive management processes. If they are successful, a final agreement is signed.

Implementation will generally be accomplished under the auspices of government agencies. Nonetheless, some stakeholders may wish to continue their involvement in the adaptive management conflict management process into the various stages of implementation to monitor implementation results. The relationships built up during this process can often be used to forestall and resolve subsequent conflicts.

Additional adaptive management references:

Walkerden, Greg “Adaptive Management Planning Projects as Conflict Resolution Processes.” *Ecology and Society* 11, no. 1 (2005): 48. Accessed online September 12, 2011, <http://www.ecologyandsociety.org/vol11/iss1/art48/>.

Williams, Byron K., Robert C. Szaro, and Carl D. Shapiro. “Adaptive Management: the U.S. Department of the Interior Technical Guide.” Washington, D.C.: Adaptive Management Working Group, U.S. Department of the Interior. 2009. Accessed online August 20, 2012: <http://www.doi.gov/initiatives/AdaptiveManagement/documents.html>

Williams, B.K., and E.D. Brown. Adaptive Management: The U.S. Department of the Interior Applications Guide. Washington, DC: U.S. Department of the Interior. 2012. Accessed online September 10, 2012: <http://www.usgs.gov/sdc/doc/DOI-Adaptive-Management-Applications-Guide-27.pdf>.

Section D. The Framework – Stages of Water Conflict Transformation

As mentioned in the Rationale, there are no “blueprints” for water conflict transformation. There does seem to be, however, general patterns in approaches to water conflict which have emerged over time. Positional disputes between, for example, developers and environmentalists, or rural and urban users, suggest zero-sum confrontations where one party’s loss is another’s gain where confrontation seems inevitable. Yet such “intractable” conflicts are regularly and commonly resolved, as creative thinking and human ingenuity allow solutions, which draw on a more intricate understanding of both water and conflict, come to the forefront.

This workbook offers a framework for transformation of water disputes from zero-sum, intractable disputes to positive-sum, creative solutions. The framework illustrates how conflict can be approached from four ways of perceiving the situation and possibility (see Figure 1). Note that all four types are possible simultaneously – somewhat like nesting Russian dolls. If one were to move from the first type to the fourth type they would move from a situation that is polarized and focused on differences to something that has never been created before.

The four types need not be approached in any sequence, and no one approach need be achieved before another. However, one may notice that there could be a logical and building flow from the first to the fourth process as participants grow in their skill level, self-awareness, trust in the process, and imagination. This workbook is structured to move through these processes as a way to build skills and understanding in a logical fashion. Therefore, there may be references to “levels” or “stages” of negotiation or process. Once these levels/stages have been mastered, however, one can move more freely throughout the framework.

In today’s world, many disputes are resolved using the skills, tools and institutions of the first or second levels. Outcomes are still satisfactory and resilient. Relatively few conflicts actually use the third or fourth level because it is still an emerging paradigm which relatively few are consciously aware of or fluent in. Nevertheless, like any skill, it is useful to understand the full framework and how one might move fluidly through and between the levels when assessing conflicts and creating solutions. Further, currently there are conflicts that appear to be intractable. These and several other challenges facing the West appear to be good candidates for work at the third and fourth levels.




Type of Process/ Negotiation Stage ²⁰	Focus of Process	Collaborative and transformational skills ²¹	Context, Geographic Scope, or Framing for Outcomes
Adversarial	Rights	Trust-building; deepening understanding of conflict	State, federal, tribal land and water laws; Priority, jurisdiction & supremacy/sovereignty of rights
Reflexive	Needs and Interests	Skills-building in listening for and identifying positions, needs and interests	 Watersheds/Basins
Integrative	Benefits/ Values/ Reframing	Consensus-building; relationship-building	 “Problem-shed”/“Benefit-shed”
Action	Governance in relationship to dynamic systems; equity	Capacity-building; community-building	 Networked systems across state, region and/or country

Figure 2: Four Stages of Water Conflict Transformation

²⁰ These stages build primarily on the work of Jay Rothman, who initially described his stages as ARI – Adversarial, Reflexive, and Integrative (Rothman 1989). When ARI become ARIA, adding Action, Rothman’s terminology (1997) also evolved to Antagonism, Resonance, Invention, and Action. We retain the former terms, feeling they are more descriptive for our purposes.

²¹ Expanded from and including Kaufman (2002), who ties each set of dynamics specifically to Rothman’s ARIA model in great detail, based on his extensive work conducting “Innovative Problem Solving Workshops” for “partners in conflict” around the world.

Communication Style	Goal of Conflict Resolution Process²²	Focus of Process and Participants	View of Conflict
Defend; Debate; Deliberate	Make decision – often win/lose among parties who differ	Apply laws and policies to reach a decision; control information to be selective and tactical	Competitive; polarized; desire to bring pain, anxiety, and difficulties to a end
Listen without resistance; explore underlying causes, beliefs, and assumptions	Reach an agreement among parties about the presenting problem	Content-centered	Need to de-escalate
Generative dialogue; collectively invent new possibilities and new insights	Promote constructive change processes; uncover and form a base of shared meaning that can help coordinate and align actions and values; solve and dissolve problems ²³	Relationship-centered; engages the systems within which relationships are embedded; focus shifts to listening/sensing an already existing wholeness; share information	Collaborative; Envisions conflict as an ecology that is relationally dynamic, all of which is normal and results in constructive change.
Network information and communication to maintain collective flow and opportunity	Facilitate people thinking and acting together in relationship within reframed context from which new agreements can come	Create or re-create institutions, policies, structures, and networks from which communities/society can express their new basis of shared meaning, goals and principles	Conflict leads to new capacity, and a shared vision reflecting new understanding to improve quality of life

Figure 2: Four Stages of Water Conflict Transformation (continued)

²² Developed from Lederach, John P. *Preparing for Peace: Conflict Transformation Across Cultures*. (Syracuse, NY: Syracuse University Press. 1995).

²³ Isaacs, William *Dialogue: The Art Of Thinking Together*. (New York, NY: DoubleDay. 1999).

Stage 1 – Adversarial

Figure 1 illustrates the generalized framework and each of the stages or perspectives. It begins with Stage 1, where conflict is perceived as *adversarial* and competitive. Participants are focused on their *rights*. They may also focus on their issues and positions. Their thinking is framed in “us vs. them”; black and white. Attention is often focused on the past.

Adversarial negotiations often arise over uncertainties created by an array of state and federal laws and institutions affecting water’s use and nonuse. At this level, conflict occurs between and among stakeholders over how water will be used, protected, and managed. Conflicts at this level can be inter-personal/organizational, inter-agency, inter-jurisdictional, and/or inter-governmental. Focus and analysis is on stakeholders, positions, and issues. Often the negotiation is focused on water allocations.

There are skills that can be developed at this level that can lead to greater understanding and more satisfactory outcomes. The collaborative learning emphasis is on self-awareness of how we communicate and perceive situations, and *trust-building*. These can open us up to the possibility that there is more to a situation than we originally thought, and help us be willing to listen to other perspectives without believing that we need to change them.

Stage 2 – Reflexive

In *reflexive* level, Stage 2, the focus shifts from *rights* (what a party feels it legally deserves) and positions (specific proposals disputants put forth that suggest a way the conflict can be resolved), to *needs* (what is actually required to fulfill disputants goals) and *interests* (the expression of needs which drive behavior and provide motivation to seek a solution to a problem). Reflexive negotiations are also called collaborative processes, alternative dispute resolution, and mediation.

The tone is more open. Listening becomes pivotal to success. The process involves all parties with a stake in an issue – those who are affected by the outcome and those in a position to help implement or block implementation of an outcome (i.e. stakeholders). Attempts are made to shift the nature of negotiations to try to increase the amount of resources and to maximize mutual gain.

This shift, from speaking to listening, from rights to needs and interests, is a crucial conceptual shift on the part of the participants, and can be both profoundly difficult to accomplish, and absolutely vital to achieve for any movement towards win-win solutions that are more sustainable for basin management. To help accomplish this shift, the collaborative learning emphasis is on *skills-building* – becoming a better listener, and learning how to elicit and work with the needs and interests of stakeholders. Once participants are able to hear each other better and understand their motivations and needs, the problem-solving capabilities, which are inherent to most groups, can begin to foster creative, cooperative solutions.

Stage 3 – Integrative

The third type of process is *integrative*. The focus shifts. Initially, the needs expressed in stage 2 begin to coalesce and form group interests – the “why” underlying the desire for the resource. The process is no longer about negotiation, water management, or conflict. Instead, it becomes a collaborative process with the intention of promoting constructive change processes, and enhancing the quality of the resource and quality of life.

Instead of the old habit of thinking of water as something to *manage*, the process engages participants in thinking about how to enhance benefits throughout the region, primarily by thinking comprehensively about resources beyond just water. They explore a new way of thinking about the dynamic natural and social systems within which relationships are embedded. This might include geographic units other than the basin they have previously focused on.

Participants explore reframing the problem for the new possibilities and insights. Together they uncover and form a base of shared meaning that can help coordinate and align collective actions and shared values. The focus is on *consensus-building* and parties think in terms of a “problemshed”/“benefits-shed,” and *benefits* – economically, ecologically and socially through time.

Stage 4 – Action

The focus of the *action* stage is on capacity-building, and analysis is on institutional capacity. Governance structures are usually created or adapted to complement existing institutions and structures. These offer the crucible for ongoing discussions, community-building and progress at a human scale, and are ideally networked with relevant institutions and agencies to meet resource management, restoration, and sustainability goals.

The scale is dependent on the chosen problemshed/benefits-shed, but is likely to engage a network of local, state, regional and even national entities. Some may need to be created; others may need to learn to work in new ways with one another. The collaborative learning emphasis is on *capacity-building*, primarily of institutions.

The Framework in Total

It is critical not to think of these “stages” as a linear process, where the further along the better. Each “stage” co-exists with the other stages. For example, our rights, interests, needs, values, hopes and dreams all live within us at the same time. If, through a process in Stage 3, structural shifts or a paradigm shift occurs, it will need to be reflected in the rules and rights in Stage 1.

Issues differ and call for different responses. Leadership and “ripeness” also differ from issue to issue. Sometimes issues should be addressed as is; other times, they reflect a bigger pattern of problems and interconnections that would be better addressed by a more significant and holistic shift.

One might think of these stages as existing in parallel “universes” simultaneously, each with its own set of approaches or tools, any of which may be useful at any given time, or conceptually as a helix or set of spheres rather than strictly linear. They are broken down here only for the purposes of explanation.

Section E. Basic Definitions for Dispute Resolution²⁴

Definitions associated with Stage 1:

Competitive – Competitive negotiators want to "beat" their opponents; they use high demands, threats, and make few concessions. They generally try to undermine their opponent's confidence and seek the maximum for themselves. This traditional style of negotiating goes by a number of different terms such as positional, win-lose, adversarial, power negotiating, hardball, and hard bargaining.

Distributive Bargaining – In distributive bargaining the parties think of the items being negotiated as fixed and each party tries to get the most for himself. Usually there is just one issue for negotiation and more for me means less for you. Negotiators are bargaining over the distribution of profit on the bargaining range. This is a "zero sum" negotiation. Although the goals of the parties are in direct conflict, a negotiator can be either competitive or cooperative in a distributive bargaining situation.

Definitions associated with Stage 2:

Cooperative – Cooperative negotiators want to "work with" their opponents; they use reasonable opening offers, show good faith, and initiate the exchange of mutual concessions. They seek a fair and just settlement. This style of negotiating is also called win-win, interest-based bargaining, and problem solving.

Interest-based – Interest-based bargaining attempts to shift the nature of negotiations to a more collaborative basis. Instead of moving from position to counter-position to compromise, negotiators try to identify their interests PRIOR to the development of solutions. Once interests are identified, the negotiators then jointly develop a wide-ranging set of alternatives, and then choose the best alternative.

Integrative Bargaining (may also be associated with Stage 3 process) – During integrative bargaining, the parties are working together to increase the amount of resources and to maximize mutual gain. Integrative bargaining requires two or more issues so that trades can be made. Creating the additional resources is sometimes referred to as "expanding the pie". Some would call this "Win-Win" negotiating. The theory here is that the parties have different interests which can be integrated (reconciled) to create joint gains. Joint gains are an improvement for all parties to a negotiation.

²⁴ Adapted from Barkai, John. "Teaching Negotiation and ADR: The Savvy Samurai Meets the Devil." *Nebraska Law Review* 75, (1996): 704-751.

Positions – Positions are "what" the negotiators say they want. They are really solutions which have been proposed by the negotiators. Positions are based upon the interests of the parties; interests are usually not disclosed, at least not in competitive negotiations. In most negotiations people take, and then give up, a series of positions. Behind every position lie many interests.

Interests – Interests are "why" the negotiators want the positions they take. Interests lie behind the positions of the negotiators. Interests represent the basic needs to be met. Money and price are not interests in themselves. Money represents purchasing power, the ability to acquire other needs, status, or power itself. Understanding interests is the key to understanding "win-win" negotiating. In many negotiations the interests are never explicitly discussed. In fact, interests are usually kept secret. Successful "win-win" negotiating requires finding a way to disclose interests without being taken advantage of.

Section F. Understanding Conflict

Exercise 0.1: Understanding Conflict

Introductory exercise.

General Information

Context: This is a four-part exercise. The **instructor/facilitator** can insert them at an appropriate point of a lecture/discussion.

Objectives: To elicit awareness of beliefs about conflict and stimulate participants thinking about the complications of conflict in general.

Duration: Part 1: 10 minutes
Part 2: 5-10 minutes
Part 3: 10 minutes
Part 4: 10 minutes

Important Information: There are four parts to this exercise.

Part 1: Understanding our Beliefs about Conflict²⁵

Duration: 5-10 minutes

Objective: To illustrate the negative associations people have with conflict.

Materials: Flip chart. Overhead 0.2: “A New View of Conflict”²⁶

Sneak Peak (full scale in Appendix B)

A New View of Conflict	
<i>From perceiving conflict as always being...</i>	<i>To perceiving conflict as often being...</i>
A disruption of order, a negative experience, an error or mistake in a relationship	An outgrowth of diversity that might hold possibilities for mutual growth and for improving the relationship
A battle between incompatible self-interests or desires	One part of a relationship, a part that involves needs, values, perceptions, power, goals, feelings, and so on, not just interests or desires
An isolated event we allow to define the entire relationship	Occurrences that punctuate a long-term relationship and that can help clarify it
A struggle only between right and wrong, good and evil	A confrontation between differences in certain aspects of a relationship, but not to the exclusion of other aspects that are still there to build on

Instructions: Ask participants to give you the first word that comes to their minds when you say “conflict.” Make a list on the flip chart as people offer their words.

Lecture notes: “Conflict is almost universally perceived as a negative occurrence, a blemish on what most people expect should be the smooth operation of a well-ordered life,” found Dudley Weeks when he compared results to this question from around the world and across diverse cultures.²⁷ Offer a new view of conflict and discuss people’s reactions.

²⁵ Adapted from Weeks, Dudley *The Eight Essential Steps to Conflict Resolution: Preserving Relationships at Work, at Home, and in the Community*. (New York, NY: JP Tarcher. 1992) 3-8.

²⁶ Ibid.,8.

²⁷ Ibid.

Part 2: Optical Illusion

Duration: 5-10 minutes

Objective: To introduce how *misperceptions* can exacerbate conflict

Materials: Overhead 0.3: Old/Young Woman Overhead

Sneak Peak (full scale in Appendix B)



Instructions: Show the Old/Young Woman overhead (Ov-0.2) and ask “*What do you see?*” Allow for some discussion. After some discussion, note how *misperceptions* can exacerbate conflict, for instance when we say “water” or “rights” or “own” it can mean different things to different people.

Note to instructor/facilitator: As with all exercises, ask those who have seen this before not to call out. Generally about 40% see one of the two images in the picture, and about 20% are able to see both images right away.

Part 3: Scoring Points

Duration: 5-10 minutes

Objective: To introduce how *entrenched thinking* can put us automatically in a conflict posture where often better results can be obtained through cooperation. This also points to *listening* as a key skill in conflict transformation (e.g., listening to the details of the directions of the game).

Materials: A watch or clock with a second hand for keeping time

Instructions: Ask participants to pair off across a table and grasp each other's right hand (as if for an arm-wrestling match, but don't use the term). Suggest that the participants are to play a game where the goal is to get the most points within 60 seconds. A team gets a point when the back of the other player's hands touches the table.

Note to instructor/facilitator: Be careful of cultural sensitivities; some cultures frown on contact between genders, or senior participants may be uncomfortable "playing" with junior or hostile participants – having said that, this exercise is an excellent ice-breaker. Most participants will arm wrestle out of habit for what generally happens when they are in this position. Some will "get it", and cooperate to allow each side to put their hand down as often as possible.

Part 4: Ugli Orange Case

Duration: 15-20 minutes

Objective: To point to the exacerbating role *miscommunications* play in conflict

Materials: Handouts: role of Roland (H-0.1), and role of Jones (H-0.2) (Appendix E)
 Watch or timer (for each pair for the Level 2 Option)
 Flipchart, pens, and tape
 Overhead 0.4: Styles of Conflict Management

Sneak Peak (full scale in Appendix B)

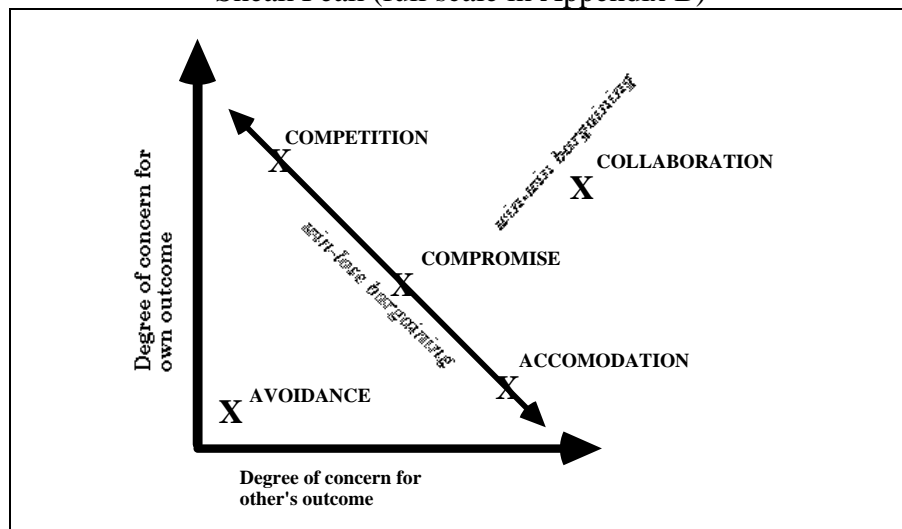


Figure 3: Styles of Conflict Management²⁸

²⁸ Delli Priscoli, "Collaboration, Participation, and Alternative Dispute Resolution: Process Concepts for the Banks' Role in Water Resources." See "Basic Definitions" in Module 0: Section D for more information.

Instructions: Level 1 Option: While the participants are paired off, have them spread out in pairs where they are not within earshot of other pairs. Within each pair, give one participant the handout for the role of Roland, and the other the handout for the role of Jones. Participants should not show their role handout to each other. The exercise is self-explanatory – give participants around 10-15 minutes to read their roles and negotiate unassisted.²⁹

Level 2 Option: For an added and important twist to this introductory exercise, offer half the negotiating pairs one additional instruction, out of earshot of the other half. Allow each participant in the pair two minutes of uninterrupted monologue in their discussions, while the other listens intently. They should actually use a timer or watch for this. If the group is typical, those pairs with this instruction will “get it” at a much higher rate than those dialoguing “normally”. This illustrates the immense value of “transformative listening,” which will be covered later, to help understand a party’s underlying interests.

Note to instructor/facilitator: The “trick” of this exercise is that Roland needs the rinds, while Jones wants the juice – cooperation should have been possible from the beginning. You may need several attempts to call the pairs back to the larger group.

Debrief: Ask “*What happened in the exercise?*” Allow for some discussion.

Ask “*What lessons can be learned from the exercise?*” Draw out and capture participants’ responses on a flipchart. After some discussion, if the following topics have not been discussed, you might raise them:

- the role *miscommunications* play in conflict
- the difference between *positions* (what someone wants) and *interests* (why they want it)
- how emotionally attached we get in negotiations

Lecture Notes: Positions and Interests – The difference between *positions* (what someone wants) and *interests* (why they want it), will come up regularly in the exercises. In general, transforming conflict from distributive, or zero-sum, to integrative, or positive-sum, requires understanding the interests that underlie the positions of a party, which are often incredibly difficult to determine (Ov-0.4). While

²⁹ See Barkai, 704-751 for more information on using this exercise, and related principles.

the position of each was that they wanted the oranges, their divergent interests would have allowed for cooperation had they been clearly identified.

How emotionally attached we get in negotiations – Chances are that emotions ran high amongst some participants during these “negotiations,” and that these were *fictional* negotiations over *non-existent* oranges! How much more so are emotions when we actually negotiate over the “life-blood” of a community, state, or region, or the very foundation of a its economy or ecosystem health.

Key Points of Exercise

Misperceptions can exacerbate conflict for instance when we say “water” or “rights” or “own” it can mean different things to different people.

Entrenched thinking can put us automatically in a conflict posture where often better results can be obtained through cooperation. This also points to *listening* as a key skill in conflict transformation.

Miscommunication exacerbates conflict.

There is a difference between *positions* (what someone wants) and *interests* (why they want it) (See Module II for further exploration of interests). In general, transforming conflict from distributive, or zero-sum, to integrative, or positive-sum, requires understanding the interests that underlie the positions of a party, which are often incredibly difficult to determine.

Emotions can run high in negotiations.

Module I: Initial State – Basins, Boundaries, Laws, Allocations & Jurisdictions

Module I Overview

Type of Process/ Negotiation Stage	Focus of Process	Collaborative and Transformational Skills	Context, Geographic Scope or Framing for Decisionmaking
Adversarial	Rights	Trust-building; deepening understanding of self in conflict	State, federal, tribal land and water laws; Priority, jurisdiction & supremacy/sovereignty of rights

Stage 1 of Water Conflict Transformation

General Information	
Module Goal(s):	To focus the collaborative learning process on <i>trust-building</i>
Duration:	7-10 hours
Important Information:	For supplemental readings, see Participant Workbook, Module I, Section E

- Sections:**
- A. General Setting: The Adversarial Stage of Negotiation
 - B. Introducing Water Disputes in the Western United States
 - C. Introducing The Sandus River Basin Simulation
 - D. The Sandus River Basin: Negotiating by Jurisdiction/Broad Stakeholder Group
- Exercises:**
- Ex-I.1 Introducing Water Disputes
 - Ex-I.2 Parties, Issues, Positions, and Legal Authority
 - Ex-1.3 Negotiating by Jurisdiction
- Handouts:**
- H-I.1 Top secret letter to Port City
 - H-1.2 Top secret letter to Sandus Republic
 - H-I.2.1 Instructions for Small Groups
 - H-I.2.2 Negotiation Planning Chart
 - H-I.2.3 Chart Definitions and Explanations
 - H-1.9A-G Briefing Points for Jurisdictions
 - Tabletop Nameplates: Jurisdictions/Stakeholder Groups
- Overhead:**
- Ov-I.1 The IWRM “Comb”

Section A. General Setting: The Adversarial Stage of Negotiation

In this *adversarial* stage, participants are competitive and focused on their *rights*. They may also focus on their issues and positions. Their thinking is framed in “us vs. them”; black and white.

The vast majority of Stage 1 conflict resolution is done within the framework of our laws and institutions. Their methods of solving conflicts include litigation, arbitration, quasi-judicial decisions, and administrative decisions. These traditional approaches for resolving conflict are more about making decisions than helping parties resolve their differences. More than not they settle disputed issues but don't resolve the underlying conflicts. Input from multiple parties traditionally is heard through public hearings rather than engaging the disputing parties in face-to-face conversations and discussions. Because decision-makers rarely share their decision-making authority, solutions from these processes may leave disgruntled, unhappy parties who turn their attention to delay tactics, protests, court action, or other activities aimed at undermining the implementation of the law or policy that shaped the decision that they lost.³⁰

That said, face-to-face adversarial negotiations do occur in western water management. For example, this type of western water conflict often arises over uncertainties created by an array of state and federal laws and institutions affecting water's use and nonuse. At this level, conflict arises between and among stakeholders over how water will be used, protected, and managed. Conflicts at this level can be inter-personal/organizational, inter-agency, inter-jurisdictional, and/or inter-governmental. Focus and analysis is on stakeholders, positions, and issues. Often the negotiation is focused on water allocations (See Utton Center, in Part I, Module I, Section E).

When parties stay in their positions and view the process as competitive, progress is likely to be slow at best. Complex multiparty, adversarial negotiations can take years if not decades. Nevertheless, as participants are able to hear more of the dimensions that are part of the conflict, creative thinking and human ingenuity enter the negotiations. The possibility of solutions emerge, which draw on this more intricate understanding of both water and the conflict.

There are skills that can be developed at this level that can lead to greater understanding and more satisfactory outcomes. To begin with, when working at

³⁰ Madigan, Denise and Gerard McMahon and Lawrence Susskind and Stephanie Rolley. *New Approaches to Resolving Local Public Disputes* (Washington, DC: National Institute for Dispute Resolution, 1990) and Oregon Department of Land Conservation and Development. *Collaborative Approaches to Decision Making and Conflict Resolution for Natural Resource and Land Use Issues* (Salem, OR: Oregon Department of Land Conservation and Development, 1996), 5.

this level, there is often a period of expressing pent-up grievances. There may be important information hidden in this venting worth paying attention to or following up on. Given these initial tensions and the competitive framing of the relationships, the collaborative learning emphasis is on self-awareness of how we communicate and perceive situations, and *trust-building*. These can open us up to the possibility that there is more to a situation than we originally thought, and help us be willing to listen to other perspectives without believing that we need to change them.

Section B. Introducing Water Disputes in the Western United States

The West's water system has historically been a source of pride and tremendous benefits to the West. Over the years, needs that must be met and interest that must be served have changed, and the system has adapted to try to keep up with the changes. However, the West recognizes that the near gridlock, resulting from changing demands for water resources in a period of rapid urban growth, recognition of Indian water rights, need for protection of endangered species, requirements for improved water quality to meet the Clean Water Act, concern for instream and other environmental values, scarce public funds, conflicting and overlapping laws and programs, and polarized positions among competing parties, continues.³¹

As was said above, at this *adversarial* stage, many western water disputes arise over uncertainties created by an array of state and federal laws, institutions, policies, funding, and processes affecting water's use and nonuse, and/or funding to implement them. At this level, conflict arises between and among stakeholders over how water will be used, protected, and/or managed.

The Laws as a Source of Conflict

Several of the laws affecting western water management were written at different times in history, infused with the goals and objectives of the day. As Charles Wilkinson says:

...[L]aw is organic;...it grows out of a society. To learn about law, learn about the society and its distinctive qualities, its history, peoples, lands and waters, its possibilities and limitation...Law, in other words, has a habitat. And in time as society – law's habitat – changes, so does the law, responding to evolving priorities, new stress points, and higher dreams.³²

Beginning in the mid-1800s, laws that would be the foundation for current western water law were being shaped by miners and other national policies that encouraged settlement of an arid region. A system of rights and seniority was created. The main tenets of the prior appropriation doctrine became:

- “First in time, first in right.”

³¹ Western Governors' Association. “Policy Resolution 05-25: Watershed Restoration Through Partnerships,” Denver, CO: Western Governors' Association, 2005.

³² Wilkinson, Charles. “Water in the West.” *Open Spaces: Views from the Northwest* 1, no. 3 (1998): 72-85.

- Senior users get all their water first; junior users receive their full allocation in order of descending seniority.
- “Use it or lose it” – use the full water right, or lose the whole right.
- Put the water to a beneficial use – without waste.
- A right-holder can continue to use their right to the exclusion of others.

In much of the West, a fundamental tenet of prior appropriation law was that land and water estates were separate, and that water could be removed from its natural location and used beneficially elsewhere. This gave greater economic certainty to those willing to invest effort and money, and risk settling in an arid region. Further incentive was provided by the federal government through policies and support to build infrastructure to store, divert, and deliver water to the places of use. Rights could be transferred to other users if it is shown that the ability of others to exercise vested rights is not impaired.³³

In times of shortage, junior water uses are curtailed, while senior water right holders can use their full amount. This provided greater certainty, even during drought. Quantities were set and never change. This is unlike riparian water law where, in general, every landowner bordering on a stream has a right to use a reasonable quantity of water. Under riparian law in times of shortage, available supplies are shared by all riparians.³⁴

While the prior appropriation doctrine provided a great deal of certainty through the first century of the West’s settlement, it did not anticipate or acknowledge instream-flow needs, environmental needs, and Native American water rights. This has led to a great deal of conflict as these and other interests and needs have come to the fore as legitimate, and unprotected and/or unquantified water reservations.

Jurisdictional Sovereignty/Supremacy/Prerogative as Source of Conflict

The creation and regulation of water rights are primarily state functions. However, there are several laws and reservations of water created by the federal government that tend to be a nexus for conflict with the states’ system of rights and laws.

The federal government holds water for use on public lands that are reserved for special purposes like parks, forests, and military bases and for Indian water rights. The priority of these reserved water rights is as of the date the reservation was established, whether or not water has ever been used. Since some of these have never been quantified, and those that have tend to be quite senior rights, they can cause uncertainty and dislocations among those whose water rights are more

³³ Getches, David *Water Law in a Nutshell* (St. Paul, MN: West Publishing Company. 1997), 7.

³⁴ *Ibid.*, 317.

junior. Further, Congress may exercise its power—from water projects (flood control, agriculture, power generation, and others) to environmental laws—which may affect state water laws.³⁵ These federal reserved rights and authorities can result in tension between the state and federal governments, as well as those that are most served by their laws and policies.

While there are several laws and policies that can trigger this tension and create uncertainty for water right holders, probably the two most significant other forces in western water conflict are two federal environmental laws passed in the 1970s: The Endangered Species Act (ESA) and The Clean Water Act (CWA). Federal requirements under the CWA and the ESA may affect water use in a variety of ways such as requiring sufficient water to meet water quality standards and flows in order to dilute pollution, reduce instream water temperatures, protect fisheries, or otherwise avoid jeopardizing the existence of an endangered species.

While the specifics of each of these laws presents challenges to synchronize with western water law, the overarching tension that drives much conflict is the question of authority among jurisdictions and who has what authority and sovereignty/supremacy.

A relative newcomer may be local jurisdictions. Decisions affecting growth remain primarily a local prerogative. However, states are increasingly exercising their influence.

States have the primary responsibility for water allocation and management. They have jurisdiction to sanction both new appropriations and transfers of existing uses. They also have the primary responsibility for protecting water quality, and the pivotal role in the integration of water quantity allocation and water quality protection...[T]he implications of states' decisions in this arena have direct implications of growth.³⁶

This may create friction as difficult political choices are made regarding future economic and environmental uses of water.

Western Institutions, Policies, Funding and Processes as Source of Conflict

There are many examples of underfunded programs, aging and inadequate infrastructure, antiquated public processes, and un-harmonized policies that create frustration and conflict.

Much of our infrastructure is inadequate due to population growth, water quality requirements and safety threats not anticipated at the

³⁵ Ibid., 12.

³⁶ Western Governors' Association, "Water Needs and Strategies for a Sustainable Future," 4.

time of its design and construction.... The future growth and prosperity of the West depends on our aging water-related infrastructure: dams and reservoirs, levees, pipelines, pumping, aqueducts, canals, laterals, and drains, water and wastewater treatment plants, stormwater management works and other facilities to control and manage the water that supports our present way of life. Much of this infrastructure is being used beyond its engineered design life, and some parts suffer from the impacts of deferred maintenance.³⁷

Even if budgets become available, decisions about how to meet modern safety, security, and environmental requirements, and upgrades to these facilities or changes in their operation to conform to appropriate natural resources stewardship principles and meet new demands related to population and changing societal values can be sources of conflict.

Budgets are shrinking, however.

...[A]t the federal level, the operation and maintenance budget of the two largest federal water supply agencies, the U.S. Army Corps of Engineers and U.S. Bureau of Reclamation, now exceed their construction budgets. Their operation and maintenance backlog, as well as their rehabilitation and replacement needs, continues to grow. The Environmental Protection Agency's funding for the Clean Water Act and Safe Drinking Water Act State Revolving Loan Fund is declining while needs grow.³⁸

Users/Brethren in Conflict

The tension is not just between users and needs but among them as well. Brethren find themselves in competition. For example, endangered species that need flows in the same system with endangered species that need wetlands and higher lake levels may conflict. Upstream and downstream tribes may compete for federal negotiating attention, congressional funding, and water, land and environmental interests and needs to settle reserved treaty rights. Groundwater withdrawals from urban areas may result in drawing plumes of contaminants into other municipal wells.

Summary

While there are many sources of conflict in western water management, these and even more complex variations on these are challenging western institutions' and structures' capacity to respond. Many efforts to respond remain in adversarial processes.

³⁷ Ibid.

³⁸ Ibid., 3.

Exercise I.1: Introducing Water Disputes

General Information

Context:	Now that we have looked at the issue of conflict in general, we begin to assemble the dimension of conflict within western water resource management
Objectives:	To introduce the complications of competing water demands and the difficulties of solving conflict in an adversarial framing
Duration:	30-90 minutes
Important Information:	There are four parts to this exercise

Part 1: Water Uses: Interests of the Public in Western Water

Objective: To introduce the multiple and often competing uses of water

Materials: Flipchart, pens, and tape

Instructions: Ask “*What do we use water for?*” Capture the responses on a flipchart. A list will probably include some subset of: drinking, sanitation, irrigation, ecosystem protection, municipal uses, industry, hydropower, transportation, recreation, esthetics, and religion (see list below).

It is worth mentioning to the participants that, worldwide, only 5% goes to personal uses, 70% to agricultural irrigation, and the rest to municipal and industry (M & I). It is also useful to note the distinction between “consumptive” (e.g., drinking and irrigation) and “non-consumptive” (i.e., transportation and aesthetics) uses, and how the percentages of each differ wildly between developed and developing countries or regions, and between those in arid and humid zones (see “Additional Information” below).

Lead a discussion about the list generated. Answers may be included in the following list.

<u>Public Health and Safety</u>	<u>Social</u>
Public Health	Cultural Values
Pollution Control	Hope for the Future
Fire Protection	Community Values
Drinking Water	Historical Values
Flood Control	Aesthetics
	Recreation
<u>Economic</u>	<u>Ecological</u>
Industrial	Endangered Species
Transportation	Protection
Thermal Energy	Fisheries
Navigation	Water Quality
Agriculture/Timber	Flushing Sediment
Mineral Extraction	Channel Maintenance
Economic Development	Soil Stabilization
Power Production	Instream Flow
Tourism	Wildlife
Tax Base	Ecosystems Protection
Commercial and Rec. Fisheries	Wetlands
	Riparian Values
	Habitat
	Watershed Protection

Part 2: Spokespeople/Stakeholders

Objective: To introduce the multiple and often competing uses of water.

Materials: Flipchart, pens, and tape

Instructions: Ask: Who speaks on behalf of these uses?

Record.

Lead a discussion about the list generated. Answers may be included in the following list.

<u>Public Health and Safety</u>	
Public Health	<i>Spokespeople:</i>
Pollution Control	Government: Federal, State,
Fire Protection	Tribal, Local
Drinking Water	Non-governmental organizations-
Flood Control	NGO's
	Professional Associations
<u>Economic</u>	
Industrial	<i>Spokespeople:</i>
Transportation	Individual Industries
Thermal Energy	Governmental Agencies
Navigation	Lobbyists
Agriculture/Timber	Financial Institutions
Mineral Extraction	Communities
Economic Development	
Power Production	
Tourism	
Tax Base	
Commercial and Rec. Fisheries	
<u>Social</u>	
Cultural Values	<i>Spokespeople:</i>
Hope for the Future	Tribes
Community Values	Communities/leaders
Historical Values	Churches
Aesthetics	Social Scientists
Recreation	Artists, Writers
	Historians
<u>Ecological</u>	
Endangered Species Protection	<i>Spokespeople:</i>
Fisheries	Government: Federal, State, Local,
Water Quality	Tribal
Flushing Sediment	NGO's
Channel Maintenance	Professional Associations
Soil Stabilization	
Instream Flow	
Wildlife	
Ecosystems Protection	
Wetlands	
Riparian Values	
Habitat	
Watershed Protection	

Figure 4: Interests of the Public in Western Water and their Spokespeople

(Please note: This is Figure 4 in the Participant Workbook)

Part 3: Competing Uses

Materials: Flipchart, pens, and tape

Instructions: Next, think together about which categories are potentially conflictive, for example ask, “*Which two categories of use can impede on each other?*” Allow for some discussion. The classic example is agriculture (or any consumptive use) and ecosystem protection, but after some discussion, it will probably be concluded that *any* two uses are potentially in conflict. If you have a particularly savvy audience, they may also be able to tell you how the *opposite* is true!

Part 4: Cooperative Uses

Materials: Flipchart, pens, and tape

Instructions: Next, ask, “*Which two sets of uses can potentially improve each other, if managed cooperatively?*” Allow for some discussion. One example is that an upstream hydropower dam can be managed so that the agricultural production downstream is increased. Again, after some discussion, it will be noticed that almost *any* two uses can be managed to mutual benefit.

Additional information:

There is a distinction between “consumptive” and “non-consumptive” uses of water. Typically consumptive uses of water are considered to be uses like irrigation and drinking water, and “non-consumptive uses” being uses like transportation, flows for fish and wildlife, and aesthetics. In the West, water is typically appropriated for consumptive uses – called “beneficial uses.” All prior appropriation states consider domestic, municipal, agricultural, and industrial uses to be beneficial uses. However, this does not mean that all such uses will be deemed “beneficial” under all circumstances and for all time. “Indeed, yesterday’s beneficial use may be unreasonable or wasteful, and thus impermissible, today.”³⁹ Beneficial use is the basis, and it limits the amount and manner of appropriator’s right to use water.⁴⁰

For “non-consumptive” uses – usually instream uses, water in natural watercourses can be removed from availability for appropriation by state action or federal law to preserve it for some future use for instream flows.⁴¹ In some parts of the West today, instream requirements for fisheries and/or species needs can be significant particularly if there are cultural, biological, and commercial interests in a fishery (e.g. salmonids in the Pacific Northwest).

³⁹ Getches, 97.

⁴⁰ Ibid., 97, 118-120.

⁴¹ Ibid., 113.

Today's water managers understand how dynamic and complex this all is. Species' needs can vary tremendously – often based on the historical availability of flows. Flows can be highly modified. Species' ability to adapt to these changes varies.

Further, water is “reused” multiple times. For example, some portion of irrigation water spread on fields returns to the nearest stream or river through tail ditches, runoff or seepage. Most municipal water returns to the river as treated (or untreated) sewage and wastewater. These return flow become the supplies and diversions for other water users to appropriate and use. Changes in the quality of water due to use may also need to be considered.

In the end, the amount of water that is actually, quantitatively lost to a river system, and the timing of this loss, is important. The impacts to other users by quality changes to the water are also important considerations in western water management and maintaining the system of water right priorities and beneficial uses of water.

At the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002, the international community called on all countries to “develop integrated water resource management and water efficiency plans by 2005, with support to developing countries”.

The Global Water Partnership's Integrated Water Resource Management (IWRM) “comb” was developed as a useful framework for visualizing and categorizing the uses to which water is put: Water Supply & Sanitation; Irrigation & Drainage; Energy Resources; Environmental Services; Industry & Navigation. Interestingly all of the categories of use in the “comb” are economic uses. Aesthetics, religious, and indigenous uses are not included.⁴²

⁴² Jønch-Clausen, Torkil, *Integrated Water Resources Management (IWRM) and Water Efficiency Plans by 2005: Why, What and How?* (Stockholm, Sweden: Global Water Partnership, 2004).

Additional Materials: Overhead I.1: The IWRM “Comb”

Sneak Peak (full scale in Appendix B)

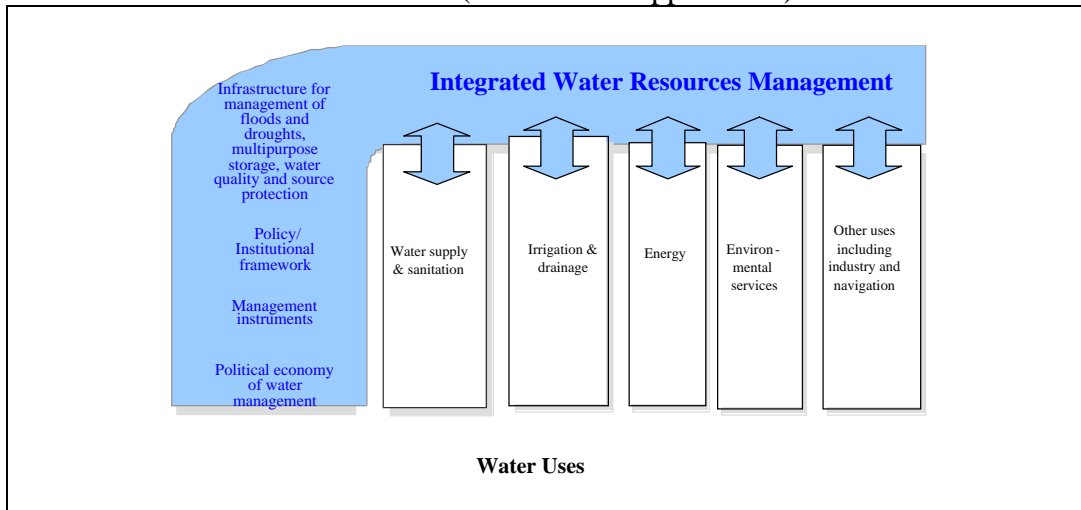


Figure 5: The Integrated Water Resource Management “Comb”

(Please note: This is Figure 3 in the Participant Workbook)

Section C. Introducing the Sandus River Basin Simulation

Exercise I.2: Parties, Issues, Positions, and Legal Authority

General Information

Context:	We're now ready to introduce the Sandus River Basin simulation, on which the rest of the exercises will be based.
Objectives:	To introduce how parties, issues, positions, and legal authority begin to influence how jurisdictions and broad stakeholder groups approach water perspectives and negotiations
Duration:	3 to 4 hours
Important Information:	Depending on the structure of the course, participants should be given <u>only</u> the "Jurisdiction Overviews" (<i>not</i> the Briefing Notes) for either about an hour now or, better, overnight, to read through the details of the basin and its riparian jurisdictions. There are three parts to this exercise.

Part 1: Participants' Perspectives

- Objective:** To identify parties, issues, positions, and legal standing for a simulated water negotiation
- Materials:** 6 large format maps of the Sandus River Basin
Plenty of Post-it notes (or paper) in three colors
Rolls of tape (at least 3, preferably one per group)
Plenty of pens for participants
Sandus River Basin Jurisdiction Overviews (H-I.4)
Instructions for Small Group Tasks (H-I.2.1)
Negotiation Planning Chart (H-I.2.2)
Chart Definitions & Explanations (H-I.2.3)
6 sets of "Tabletop Nameplates: Jurisdictions" (Appendix D)
6 sets of "Tabletop Nameplates: Water Use Sectors" (Appendix E)
- Instructions:** 1. When the group reconvenes, several large format maps of the Sandus River Basin map should be visible. Ideally this would be six hard copy versions, but an overhead projection or PowerPoint

will also work, as long as the projection is on a surface to which Post-its can be affixed. Plenty of Post-it notes in three colors and plenty of pens should be available.

2. Divide the class/group into smaller groups – ideally into six groups. Each of the smaller groups will represent one of the following jurisdictions – Oceana Federal Government (federal), Skyland State and Hamilton State (state), Port City (local) (which will be included with Hamilton State’s group), Kalayish Tribe (tribal), Sandus Republic, and the NGO community. Though each group will do the exercise for only one jurisdiction/stakeholder, the number of groups is restricted by the number of wall maps.

3. Suggest the following: ***“You (the participants) are each an expert group called together by the United Waters of the Sandus River Basin. The blue finn and sparkle finn, two anadromous fish to the Sandus River Basin have been on the Endangered Species list for 10 years. Recent data indicates that the recovery efforts have been inadequate. The runs continue to decline. We realize that this comes at a time when there are several other plans and changes in motion – some of which might also demand our attention. You’re being asked to help in addressing this challenge by identifying and establishing a strategy and/or cooperative framework/plan for managing the Sandus River Basin for its future as well as for addressing the limiting factors for the fish.”***

“Your first task, as regional experts, is to help identify the parties who should be invited to negotiate such a framework. Given your expertise, would you be kind enough to conduct the following exercise on Identifying Possible Parties, Decidable Issues, and Positions for the jurisdiction to which you have been assigned.”

4. Provide each group with one copy of the handout “Instructions for Small Group Tasks” (H-I.2.1), copies of the handouts “Negotiation Planning Chart” (H-I.2.2) and “Chart Definitions and Explanation” (H-I.2.3). Allow plenty of time for the groups to complete the exercise.

Debrief:

Once each group has filled out the “Negotiation Planning Charts” for their jurisdiction, it is worth having two debriefing discussions focusing on who should come to the negotiations and what they will want:

- a. a debrief within each small group, and then
- b. one with the group at large.

Note to instructor/facilitator: Remember, a “position” is what someone wants and an “interest” is why they want it. It is also worth thinking about the concept of “power” (political, economic, geographic location, military, gender, etc.) and how it may manifest.⁴³

⁴³ Identifying parties to negotiations is, of course, more complex than this. See Shmueli (2003) for a thorough description, with other excellent online sources referenced.

Instructions for Small Group Tasks⁴⁴**HANDOUT (H-I.2.1)**

1. Using the Yellow Post-its, identify parties that may become involved in the discussion-negotiations over Sandus River Basin. These Parties may be individuals, organizations, or agencies in any of the jurisdictions/NGO community within the basin, or from anywhere else.

Post your results at the appropriate places on the walls. You should aim for at least 20 such parties.

2. Using the Blue Post-Its, identify “Issues” that are likely to be raised and/or addressed within and/or among these parties now and in the near future.

Post your results at the appropriate places on the walls. You should aim for at least 10 such issues.

3. Choose at least three key Parties and Issues, and identify at least five key Positions for each Party as it considers those issues.

Write those Positions on the Green Post-Its and post them at the appropriate places on the walls.

4. It may help to fill out the following type of form, expanded out for however many parties are identified:⁴⁵

⁴⁴ This exercise is based on one developed by CMI Washington/Carolina.

⁴⁵ Adapted from Barkai, 704-751.

Negotiation Planning Chart

HANDOUT (H-1.2.2)

Fill in the name of the party and then blocks with information you know. You will need three of these charts (one for each key party, as noted in the instructions).

Party: _____

People	Relationship	Issues	Positions	Interest	Options
Who:	Past:	1.	Estimated initial position:	1.	1.
				2.	2.
	Current:	2.	Estimated bottom-line position:	3.	3.
Negotiation Styles:	Desired:			4.	4.
		3.	Estimated BATNA:	5.	5.
				6.	6.

Chart Definitions and Explanations**HANDOUT (H-I.2.3)**

People: What are the past histories and present feelings of the people involved in this negotiation? What are their goals and objectives? Who is more powerful and what is the source of that power? What influences can they bring to bear on this negotiation? What do you know about their negotiating style?

Relationship: Do the negotiators or their constituents have any history together? What was that prior relationship like? How are they getting along now during the negotiation? Do they have a good relationship? Is it strained? Have they just met for the first time? Will the parties have a continuing relationship or will this be a "one-shot" negotiation? Even if the parties are not likely to work together in the future, will reputations be made in this negotiation that will follow the negotiators in the community?

Issues: The issues involved in the negotiation are the topics to be negotiated. They are also the questions and concerns that each party raises during the negotiation. It is usually very helpful to frame the issues as questions to be answered rather than statements that are made.

Positions: The positions in the negotiation are the solutions that each person has in mind. Positions are the "What" that the negotiators want. Many different positions are considered during a negotiation including, the opening position (demand), a fallback position, a bottom line, and a BATNA (Best Alternative to a Negotiated Agreement).

Interests: Interests are the basic needs that negotiators seek to be met in any agreement. If you know the interests, you know "why" the negotiators take the positions they do during the negotiations. Maslow's hierarchy of needs is helpful here.

Options: Options are the full range of possibilities on which the parties might conceivably reach agreement. Options are, or might be, put "on the table." An agreement is better if it is the best of many options, especially if it exploits all potential mutual gain in the situation.

BATNA: Alternatives are the walk-away possibilities that each party has *if an agreement is not reached*. In general, neither party should agree to something that is worse than its "BATNA" – its **B**est **A**lternative **t**o a **N**egotiated **A**greement – "away from the table".

Part 2: Role Play – Party Representatives

Duration: 30-60 minutes (plus debrief)

Objective(s): To illustrate that jurisdictions/the NGO community are not monolithic, autonomous entities, and consider many facets of an issue given that they are made up of their constituents.

Materials: No new materials needed

Instructions:

1. Once the concerns have been thought through, and while the participants are still seated at their jurisdiction/NGO community table, have each participant take on the role of a representative of one of the parties within their jurisdiction, as identified in their “Negotiations Planning Charts” (H-I.2.2). You may need to group either participants or parties depending on the number of participants you have.
2. Ask one participant at each table to act as the representative of that jurisdiction’s Water Resource Department (or Agricultural, or Environment Department, or neutral party), and to “convene” a meeting within their jurisdiction in advance of the upcoming negotiations to start to formulate a unified jurisdiction position. Have them focus on the issues of the party they are representing. When discussing positions, suggest that they define both initial and fallback positions, as well as “red-line” issues, which are non-negotiable. Also, allow the group to spend time thinking about their collective BATNA – what would the alternative be to negotiations.

Debrief: Allow for some open debriefing time (out-of-character) for the room at large. Questions to ask could be: *“What went on?”*; *“What was the tenor of discussions?”*; *“What interesting exchanges took place?”*; *“What were some of the lessons learned, both for the participants, and for their characters?”*

Note to instructor/facilitator: As the representatives of each jurisdiction set out to negotiate (Part 3 of this exercise), they will need to remember their mutual relationship with all of the parties which make up their constituency.

Part 3: Preparation for Negotiation

Objective: To set the stage for the opening of the Sandus River Basin negotiations

Materials: 6 flipcharts

6 sets of “Tabletop Nameplates: Jurisdictions”
 6 sets of “Tabletop Nameplates: Water Use Sectors”
 Several blank hardcopy and overhead copies of the Sandus River
 Basin map
 Invitation (H-I.8)
 Jurisdiction-specific briefing notes (H-I.9A-F)

Instructions: 1. Re-divide the participants in a way that, ideally, each participant from a jurisdiction will now represent that jurisdiction in negotiations, regardless of the role they played. In other words, in the next phase there will be several “parallel universes” of Sandus River Basins, each with, ideally, six parties (one for each of the five jurisdictions, plus one representing the NGO community), and one facilitator/mediator. For example, a participant who took part in formulating the State’s position (regardless of which role they played), will now “play” the role of the State in one of the sets of parallel negotiations.

Note to Instructor/facilitator: This is tricky, and some manipulation of numbers will be necessary. Essentially, there should be six parties (jurisdictions/NGO stakeholders) represented at each set of negotiations, of no more than a couple of participants each, plus one instructor/facilitator where desired.

2. One *flip chart*, one set of “Tabletop Nameplates: Jurisdictions/Stakeholders”, and one set of “Tabletop Nameplates: Water Use Sectors” for each “universe” should be prepared in advance for the next stage, as well as several *blank hard copy and overhead maps* of the basin. Each “universe” should have available nameplates for:⁴⁶

Stage I: Hamilton State; Skyland State, Kalayish Tribe, Oceana Federal Government, Sandus Republic, and the NGO Community.

Stage II: Water Supply & Sanitation; Irrigation & Drainage; Energy Resources; Environmental Services; Industry & Navigation; Local & Indigenous; NGO Community; and Facilitator/Mediator.

3. Distribute to each jurisdiction/NGO representative an invitation (H-I.8) and a jurisdiction-specific set of briefing points for *their own jurisdiction only* (H-I.9A-H). They should not share the contents of either with anyone else. Those representing the NGO

⁴⁶ Available to photocopy in Appendices F & G.

Community and the Oceana Federal Government will receive an invitation and only general briefing points. They should feel free to fill out their role intuitively.

Note to Instructor/facilitator: Gauge your participants. The preliminary exercises should have helped break the social ice, and the participants should already be engaged in the process. If not, you may want to add this exercise to the evening's activities.

Section D. The Sandus River Basin: Negotiating by Jurisdiction

Exercise I.3: Negotiating by Jurisdiction

General Information	
Context:	Sets the stage for negotiations, and points to the importance of crafting the initial direction, including shared vision exercises, and the difficulty of cooperating across boundaries.
Objective:	To illustrate the difficulty of negotiating water issues by jurisdiction
Duration:	3-4 hours
Important Information:	Actually setting up a room for negotiations can be a very elaborate process. Beer and Stief (1997), for example, have several pages (pp. 27-30) just on the implications of table shapes and seating arrangements. It may be worth investigating and describing these issues, either here or in the debrief.

Materials: Tabletop Nameplates: Jurisdictions
 Top Secret Memo for Port City (H-I.1)
 Top Secret Memo for Sandus Republic (H-I.2)

Instructions: 1. Set up the parallel “universes” of Sandus River Basins, as described above in the “Preparation for Negotiation.” As mentioned, each table should have six parties represented, each by no more than a couple of participants: Sandus Republic; Hamilton State (including Port City); Skyland State; Kalayish Indian Reservation; Oceana Federal Government; Nature Conservation Union & NGO Community. In addition, assign one “facilitator/mediator” to each table. Make sure that each party has received and read their Briefing Points (again, the Oceana Federal Government and Nature Conservation Union & NGO Community have some formal briefing notes, and can also play their role intuitively).

Note to instructor/facilitator: To give a powerful lesson in the difference in process between “assisted” and “unassisted” negotiations (those with and without facilitation/mediation), only

assign a “facilitator/mediator” to a portion of the “universes.” Remember to come back to discuss this difference in the debrief.

2. The instructions for the beginning of negotiations are actually quite simple:

“Welcome to this session to discuss how we will address the future of the Sandus River Basin, and particularly the needs of the blue finn and sparkle finn. We, the United Rivers of Oceana, welcome you and offer you any assistance you may require. We understand that this round of negotiations is to develop a plan or strategy to address the needs of the blue finn and sparkle finn as well as the long-term sustainability needs for the Sandus River Basin, and we look forward to evaluating your proposals at the conclusion of these discussions. Good luck!”

3. The **instructor/facilitator** has many options at this point:

Level 1 Option: Actively help set the tone for negotiations. For example, personal introductions can be made, with each participant sharing a story about the watershed in which they were raised, thus pointing to common values and themes universal to all. One might also introduce a skill called the “shared vision” exercise,⁴⁷ to help set the stage and tone for productive dialogue. In this exercise, participants (while in-role) are asked to, first, ***“Picture the region in 20 years’ time if we are successful in this process. Describe the landscape, the look on the people’s faces. What is the economy like, and the environment? What are the headlines on the newspapers as you walk by?”*** Capture the key words on the flip-chart (probably something like, “peaceful; clean; healthy people and economies; pretty; happy, etc.).

Then go around again, asking them to, ***“Now picture the region in 20 years if we are not successful here. What do we see as we look around in this case?”*** Capture the key words (chaos, pollution, disease, etc.) side by side with the first list.

Note the commonalities in the terms used by all the participants, regardless of where they come from. Offer these two visions of the future as “touch-stones,” both for the facilitators/mediators and the

⁴⁷ Drawn from Kaufman, Edy. Innovative Problem-Solving Workshops. in *Second Track/Citizen’s Diplomacy: Concepts and Techniques for Conflict Transformation.*, edited by John . Davies, (Lanham: Rowman and Littlefield. 2002), 205-206.

participants, to come back to when the short-term discussions get difficult, to remind everyone of their common long-term goals.

Level 2 Option: Help structure the discussions a bit before letting them loose. Help them formalize ground rules, remind them of their “active listening skills,” facilitate a bit of dialogue. While less-jarring, and a bit “safer,” this option allows the participants a bit less freedom to find their own way.

Level 3 Option: Simply let the “negotiations” run for a time, at least an hour. You can roam between the universes/groups and note for later debrief the different group dynamics, especially if you have divided between assisted and unassisted processes; whether or not the universes/groups called on the ground rules that they had worked out; whether they were using “active listening,” etc.

4. Whichever opening the **instructor/facilitator** chooses, allow some time for this negotiating round to take place. After about 30 minutes, deliver the “Top Secret” memos to the Port City team representative (H-I.1) and to the Sandus Republic team representative (H-I.2) in each of the parallel universes. With about 30 minutes left, ask the participants to start to design their management plan/strategy for addressing the needs of the basin, with explicit projects,⁴⁸ and to draw them out on a transparency map. Keep calling off time every 10 minutes. When 10 minutes are left, ask those universes/groups who are not successful in developing a plan to allow each party two projects, and that the plan which they submit will be a conglomeration of all 12 projects (most universes/groups will probably fall to this option).

Debrief: First, start with 10-20 minutes debrief for the participants **in-character**. *How are negotiations going? Is each party achieving its goals? What strategies have they been finding effective and which less-so? Have they kept their BATNA’s in mind?*

Then have the participants **drop character** for a more-intensive debrief. *What happened in each group? Is the process productive or not? How is power manifesting itself? Was the time crunch useful or not? Did participants practice their skills, or abandon them to most aggressively represent their jurisdiction?*

⁴⁸ Note that “projects” can include “soft” projects like training facilities, national parks, and protected areas, as well as “hardware” such as dams and irrigation projects.

Instructions: 5. Ask each universe/group to present their plans to the other participants, and ask for an honest evaluation of how efficient each plan is. Chances are high that not only will each plan be inefficient, but many sets of projects will actually make other sets impractical or impossible.

Lecture Notes: The key message here is that negotiating by jurisdiction is tremendously difficult, and generally opens with parties focusing on their own *rights* often at the expense of the good of the watershed; that without cooperation, basin management is, at best, inefficient and, at worst, a conflict waiting to happen; and that the aims of political decision-making and integrated basin management can be (apparently) diametrically opposed (we will see in Stage IV techniques to reconcile the needs of jurisdictions and of basin).

Note to instructor/facilitator: If time permits, a nice transition to the next stage is to move directly from this exercise to the next, which will be on negotiating by sector.

Instructions: 6. Take away the jurisdiction tabletop nameplates, and distribute to each universe/group instead the water use sector tabletop nameplates: Water Supply & Sanitation; Irrigation & Drainage; Energy Resources; Environmental Services; Industry & Navigation; Local & Indigenous.

End of the Day Questions for the Participants


Ask participants to answer the following questions on a piece of paper:

- What was the most important thing you learned during this day?
- What important question remains unanswered?

The **instructor/facilitator** should collect the responses and do an overview of the responses at the beginning of the next day.

Module II: Changing Perceptions – Basins without Boundaries

Module II Overview

Type of Process/ Negotiation Stage	Focus of Process	Collaborative and Transformational Skills	Context, Geographic Scope or Framing for Outcomes
Reflexive	Needs and Interests	Skills-building in identifying positions, needs and interests	 Watersheds/ Basins

Stage 2 of Water Conflict Transformation

Module Goal(s):	To focus the collaborative learning process on <i>skills-building</i> as we approach the boundary-less basin by interests and needs
Duration:	5-8 hours

- Sections:**
- A. General Setting: The Reflexive Stage of Negotiation
 - B. Summary – Seven Elements of Reflexive Conflict Resolution
 - C. Skill-building: Active and Transformative Listening
 - D. Taking the Boundaries off the Map: Negotiating by Interests and Needs

- Exercises:**
- Ex- II.1 Listening Skills
 - Ex- II.2 Identifying Stakeholders, Interests, and Needs in New Mexico Intercultural example
 - Ex-II.3 Negotiating by Interests and Needs

Handouts: Tabletop Nameplates: Water Use Sectors (Appendix E)

Overheads: Ov-II.1 Map of Sandus River Basin with Boundaries

Section A. General Setting: The Reflexive Stage of Negotiation

In *reflexive* processes, the focus shifts from *rights* (what a party feels it legally deserves) and positions (specific proposals disputants put forth that suggest a way the conflict can be resolved), to *needs* (what is actually required to fulfill disputants goals) and *interests* (the expression of needs which drive behavior and provide motivation to seek a solution to a problem). Reflexive negotiations are also called collaborative processes, alternative dispute resolution, and mediation.

These collaborative approaches have several common features:⁴⁹

- Participation is inclusive and voluntary.
- Participants have ownership of the process.
- People are kept informed.
- A common definition of the problem is used.
- Participants help educate each other.
- Multiple options are developed.
- Multiple related issues can be addressed simultaneously.
- Decisions are usually made by consensus.
- There is a relative balance of power (legal, political, personal, and/or financial) among parties and no one party has complete jurisdiction over solutions to the issues.
- Participants have a role in implementation (e.g. direct role, oversight, etc.).
- The process supplements existing legal procedures.

The process involves all parties with a stake in an issue. All major interests who are affected by the outcome and those in a position to help implement or block implementation of an outcome (i.e. stakeholders) are identified and representatives of those interests participate in the process.

Collaborative processes can be more comprehensive in their focus. More than just the legal issues are addressed. Multiple interests of the public in water may be considered. (See Figure 4: Interests of the Public in Western Water at the end of this section).

Further, collaborative processes can have important social and institutional benefits and outcomes:⁵⁰

- Help clarify the problem and the underlying issues and interests.
- Help build respect for and a better understanding of different viewpoints.

⁴⁹ Oregon Department of Land Conservation and Development. *Collaborative Approaches to Decision Making and Conflict Resolution for Natural Resource and Land Use Issues*, Salem, OR: Oregon Department of Land Conservation and Development, 1996, 33-35.

⁵⁰ Oregon Department of Land Conservation and Development, 42.

- Encourage greater creativity and a broader range of options for mutual exploration.
- Lead to better informed, more creative, balanced and enduring decisions.
- Increase commitment by sharing responsibility for the process and outcomes.
- Improved chances of implementing a permanent solution.
- Improve the working relationship between all parties in the process.

The tone is more open. Listening becomes pivotal to success. The ability to listen to others' views and values may result from a deepening of self-awareness and understanding of conflict. Parties become able to listen to each other without resistance. Together, they can explore underlying causes, beliefs, and assumptions that have previously limited them from getting at deeper questions that may be necessary to answer in order to reach solutions.

This shift, from speaking to really listening, from rights to needs and interests, is a crucial conceptual shift on the part of the participants, and can be both profoundly difficult to accomplish, and absolutely vital to achieve for any movement towards win-win solutions that are more sustainable for basin management. To help accomplish this shift, the collaborative learning emphasis is on *skills-building* – becoming a better listener, and learning how to elicit and work with the needs and interests of stakeholders. Once participants are able to hear each other better and understand their motivations and needs, the problem-solving capabilities, which are inherent to most groups, can begin to foster creative, cooperative solutions.

<u>Public Health and Safety</u>	
Public Health	<i>Spokespeople:</i> Government: Federal, State, Tribal, Local Non-governmental organizations- NGO's Professional Associations
Pollution Control	
Fire Protection	
Drinking Water	
Flood Control	
<u>Economic</u>	
Industrial	<i>Spokespeople:</i> Individual Industries Governmental Agencies Lobbyists Financial Institutions Communities
Transportation	
Thermal Energy	
Navigation	
Agriculture/Timber	
Mineral Extraction	
Economic Development	
Power Production	
Tourism	
Tax Base	
Commercial and Rec. Fisheries	
<u>Social</u>	
Cultural Values	<i>Spokespeople:</i> Tribes Communities/leaders Churches Social Scientists Artists, Writers Historians
Hope for the Future	
Community Values	
Historical Values	
Aesthetics	
Recreation	
<u>Ecological</u>	
Endangered Species Protection	<i>Spokespeople:</i> Government: Federal, State, Local, Tribal NGO's Professional Associations
Fisheries	
Water Quality	
Flushing Sediment	
Channel Maintenance	
Soil Stabilization	
Instream Flow	
Wildlife	
Ecosystems Protection	
Wetlands	
Riparian Values	
Habitat	
Watershed Protection	

Figure 4: Interests of the Public in Western Water and their Spokespeople

Section B. Seven Elements of Reflexive Conflict Resolution

Alternatives

Alternatives are the walk-away possibilities that each party has *if an agreement is not reached*. In general, neither party should agree to something that is worse than its “**BATNA**” – its **B**est **A**lternative **T**o a **N**egotiated **A**greement – “away from the table.”

Interests

Interests are not positions; positions are parties’ demands. Underlying the positions are the reasons they are demanding something: their needs, concerns, desires, hopes and fears. The better an agreement satisfies the parties’ interests, the better the deal.

Options

Options are the full range of possibilities on which the parties might conceivably reach agreement. Options are, or might be, put “on the table.” An agreement is better if it is the best of many options, especially if it exploits all potential mutual gain in the situation.

Legitimacy

Legitimacy refers to the perceived fairness of an agreement. An agreement will leave both parties feeling fairly treated to the extent that it is based on external benchmarks, criteria, or principles beyond the will of either party. Such external standards of fairness include laws and regulations, industry standards, current practice, or some general principle like reciprocity or precedent.

Commitments

Commitments are oral or written statements about what a party will or won’t do. They may be made during the course of a negotiation or may be embodied in an agreement reached at the end of the negotiation. In general, an agreement will be better to the extent that the promises made have been well planned and well-crafted so that they will be practical, durable, easily understood by those who are to carry them out, and verifiable if necessary.

Communication

The quality of communication in a negotiation depends on both the level of mutual understanding and the efficiency of the process. In high quality communication, the messages understood by the receivers carry the meaning intended by the senders. That is, the parties understand each other – even if they disagree. High quality communication is also efficient in that negotiators minimize the resources expended in coming to agreement or deciding to discontinue negotiations.

Relationship

Most important negotiations are with people or institutions with whom we have negotiated before and will negotiate again. In general, a strong working relationship empowers the parties to deal well with their differences. Any transaction should improve, rather than damage, the parties' ability to work together again.

Source: Barnett⁵¹

⁵¹ Terry Barnett; CMI Washington/Carolina. ©2001 by Conflict Management, Inc. All rights reserved.

Section C. Skill-Building: Listening

Exercise II.1: Listening Skills

General Information

Context:	The most difficult leap in negotiations (or in most discussions, for that matter), is to get past <i>positions</i> (what someone is saying) to understanding their <i>interests</i> (why they are saying it). Yet understanding interests is critical to effective dialogue. The single most effective way to accomplish this leap is to listen – truly listen – to the speaker. Listening at depth is not an easy skill, especially in many western cultures where power seems to be associated with how much is said (and sometimes with how loudly).
Objective:	To offer two skill-sets for listening: <i>active listening</i> , which is a set of ground rules for polite, constructive discourse; and <i>transformative listening</i> , which allows for deeper work, useful especially when powerful emotion is present. ⁵²
Duration:	3-4 Hours
Important Information:	This exercise should be done during Module II, before Simulation II negotiations begin.

Opening Notes: Q: What is commonly considered the opposite of speaking?
A: Waiting to speak.

The most difficult leap in negotiations (or in most discussions, for that matter), is to get past *positions* (what someone is saying) to understanding their *interests* (why they are saying it). Yet understanding interests is critical to effective dialogue. The single most effective way to accomplish this leap is to listen – truly listen – to the speaker. Listening at depth is not an easy skill, especially in many western cultures where power seems to be associated with how much is said (and sometimes with how loudly).

⁵² There is also a school called, “dialogic” listening, which argues that both styles presented here put too much emphasis on the speaker, and not enough on the group. “Dialogic listening” focuses on group processes, utilizing metaphor and mutual encouragement, to develop mutual interests. See Stewart, John and Milt Thomas. *Bridges Not Walls: A Book About Interpersonal Communication* (New York: NY: McGraw-Hill. 1995), 184-201.

Part 1: Active Listening*Duration: 30-90 minutes*

Context: In advance of any formal or informal negotiations, it is worth talking in a group about ground rules. These should be suggested by the participants (although an instructor/facilitator can help with suggestions), adopted by consensus, and posted in a visible place as a “touch-stone” document. The group which is reconvening is about to enter into negotiations.

Objective(s): To facilitate healthy dialogue

Materials: None

Instructions: 1. When the group reconvenes, ask them for help in crafting a list of ground rules for the negotiations.⁵³ If typical, the group will come up with a set similar to:

- One speaker at a time, signaled by upturned name-plates, a speakers list, etc.
- Every speaker gets to finish uninterrupted
- No direct accusations; “generic” examples can be used instead
- All should try to participate fully
- Others?

2. The next step is to focus on active listening skills, including (more skills are listed in Table 1):

- **Repeat main points.** Repeat the main points of the speaker (this lets the speaker know that they have really been heard, a powerful psychological message, as well as helping to focus the dialogue);
- **Ask.** Ask (non-threatening) questions. Useful both to better understand the speaker, and also to reassure them that you are really listening;
- **"I" not "you" statements.** When speaking, speak in the first person – "I" not "you" – setting a tone which is more reflective and less confrontational;

⁵³ There is a vast literature on communication, facilitation and mediation skills. See the Participant Workbook, Module II, Section B, as well as in Jennifer Beer and Eileen Stief's *The Mediator's Handbook*; Moore's *The Mediation Process: Practical Strategies for Resolving Conflict*;; Rosenberg's *Nonviolent Communication: A Language of Life*; and Schoenhaus' *Conflict Management Training: Advancing Best Practices*. All have good sections on intercultural experience as well (full citations are in Appendix A).

- **Future, not history.** Speak in the future or present tense, not the past. This further reduces the possibility of accusations, and allows for greater cooperation to build for a common future. In many settings, a period of venting of past grievances does need to be set aside – that, after all is a main reason why some negotiators initially participate. It should be done in as productive a way as possible, and then put aside for the duration.

<p>Paying Attention</p> <ul style="list-style-type: none"> • Face the person who is talking. • Notice the speaker’s body language; does it match what he/she is saying? • Listen in a place that is free of distractions, so that you can give undivided attention. • Don’t do anything else while you are listening. <p>Eliciting</p> <ul style="list-style-type: none"> • Make use of “encourages” such as “Can you say more about that?” or “Really?” • Use a tone of voice that conveys interest. • Ask open questions to elicit more information. • Avoid overwhelming the speaker with too many questions. • Give the speaker a chance to say what needs to be said. • Avoid giving advice, or describing when something similar happened to you. <p>Reflecting</p> <ul style="list-style-type: none"> • Occasionally paraphrase the speaker’s main ideas, if appropriate. • Occasionally reflect the speaker’s feelings, if appropriate. • Check to make sure your understanding is accurate by saying “It sounds like what you mean is...Is that so?” or “Are you saying that you’re feeling...”
--

Figure 5: Techniques of Active Listening⁵⁴

3. For practice, the **instructor/facilitator** can redistribute the Ugli Orange exercise and allow participants some time to exercise their communication skills. Alternately, pairs can pick any topic at all

⁵⁴ Kaufman, Edy. Innovative Problem-Solving Workshops. in *Second Track/Citizen’s Diplomacy: Concepts and Techniques for Conflict Transformation.*, edited by John . Davies, (Lanham: Rowman and Littlefield. 2002), 220.

(avoiding very sensitive or emotional ones) for practice. The speaker should be able to speak entirely without interruption, while the listener should do their best to truly listen to what's being said, practicing "active listening" in the process.

Part 2: Transformative Listening⁵⁵

Duration: 60-90 minutes

Note to instructor/facilitator: You will want to evaluate carefully whether or not to do this next exercise with your group. Since it can touch on raw emotions and/or political sensitivities, you will want to be confident with the group's attitude and with your own comfort level before you proceed.

Context: When a participant is clearly distraught, and "objective" problem-solving seems not to be viable, it may be worth stepping back for a few moments, giving the participant the space and time to work through their issue. In such a setting, a listener should take over (often the mediator or facilitator), in a process of "transformative listening."

Objective(s): To engage in and understand transformative listening

Materials: None

Opening Notes: When real emotion is present, classic problem-solving approaches to dialogue are generally not practical. Water, as we have seen, can be tied in to all levels of existence, from basic survival to spiritual transformation. Often, water negotiations are tied inextricably to regional conflicts, including in some of the most contentious regions in the world, and negotiators carry the weight of those disputes with them into the dialogue setting.

When a participant is clearly distraught, and "objective" problem-solving seems not to be viable, it may be worth stepping back for a few moments, giving the participant the space and time to work through their issue. In such a setting, a listener should take over (often the mediator or facilitator), in a process of "transformative listening." Here, in contrast to "active listening," the listener is not trying to facilitate a healthy dialogue, but rather making him- or herself absolutely present for the speaker to get deeply into their issues.

⁵⁵ This part of the exercise was developed by the Harvard Negotiation Project and taught by Erica Fox, director of the Harvard Negotiation Insight Initiative at the Program on Negotiation: <http://www.pon.harvard.edu/>. Used here with permission.

- Instructions:**
1. In the exercise, pairs should be divided between speaker and listener. Together, they should draw up a list of sensitive topics about which they feel strongly.
 2. The designated listener goes first, picking a topic which is important to them, and asking the speaker to argue passionately the *opposite* of the listener's position. The speaker should go on uninterrupted for two minutes, after which the listener may interject *only* to enquire (ask for more information), summarize, paraphrase, or acknowledge. This should go on for another 5-10 minutes.
 3. Have the participants switch roles, and repeat the exercise for 5-10 minutes.

Debrief: Ask "*What did you observe regarding the emotions and non-verbal communications of the speaker and the listener during the exercise?*" Allow for time for an extensive and guided debrief.

Note to instructor/facilitator: Typically, the listener will go from anger and dismissal, to intellectual curiosity, to some level of empathy for the other position. The speaker, in turn, will likewise typically move from absolute conviction to some recognition of the legitimacy of the opposite side, or even to a bit of empathy for the opposite position the longer he or she is allowed to speak (this is the "transformation" in transformative listening).

Part 3: Intercultural Negotiations⁵⁶

Duration: 60-90 minutes

Discussion: Shared basins are often defined by crossing political boundaries, but even more profoundly, they cross cultures – those of societies and ethnic groups, of religions and professions, of language and of class. The concept of a problem-solving workshop such as this has been described over time in western academic literature (and, possibly overly, much of the terminology and assumptions in this manual draw from this world), but the ideas have deep roots in cultural traditions throughout the world. A facilitator/mediator, however, needs to be acutely aware of, and sensitive to, how cross-

⁵⁶ LaBaron, Michelle. "Communication Tools for Understanding Cultural Differences." Beyond Intractability. Jun 2003. <http://www.beyondintractability.org/bi-essay/communication-tools> is a comprehensive introduction to culture and negotiations in general, while Faure, Guy and Jeffery Rubin and *Culture and Negotiation: The Resolution of Water Disputes* (London: Sage Publications. 1993) *Disputes*, focuses on culture and its role in water negotiations.

cultural dynamics can impact the flow of communication and ideas, as well as their own inherent assumptions.⁵⁷

The whole concept of analytic problem-solving, for example, is fraught with cultural assumptions. Abu-Nimer (1996) describes the premises of North American mediators from a Middle Eastern and Muslim perspective, and Lederach (1995) describes his experiences acting as a mediator in Central America:

Why is it...that in the middle of listening to someone give their side of a problem, I have a natural inclination to make a list, to break their story down into parts such as issues and concerns? But when I ask them about issues, they seem to have a natural inclination to tell me yet another story. The difference...lies in the distinction between analytical and holistic thinking. Our North American conflict resolution approaches are driven by analysis; that is the breaking of things down into their component parts. Storytelling...keeps the parts together. It understands problems and events as a whole.⁵⁸

Avruch (1998) sums up:

Even while acknowledging that the capacity to reason is a human universal, we face the other fact that the representations of the worlds about which humans bring their reason to bear can differ profoundly from one another...To try to suppress this variance, even in the powerful setting of a conflict resolution problem-solving workshop, seems to be an invitation to failure.⁵⁹

He cites Cohen (in Faure and Rubin 1993) for a good model of culturally aware mediators, who are neither specialists nor globalists:

First, these individuals are aware of the gamut of cultural differences and do not naively assume that “underneath we are all pretty much the same.” Second, they perceive the potency of religious and other cultural resonances. Third,

⁵⁷ The western, academic development of the problem-solving workshop, and culture’s impact, can be found in Avruch, Kevin *Culture and Conflict Resolution* (Washington DC: United States Institute of Peace. 1998), 84-100.

⁵⁸ Lederach, *Preparing for Peace*, 81.

⁵⁹ From the western, academic development of the problem-solving workshop, and culture’s impact, Avruch, 94.

[they] grasp that Western ‘rationality’ is based on culture-bound values and assumptions. Finally, they do not take for granted that an expedient (such as face-to-face negotiation) that works for one culture necessarily works for another.⁶⁰

Nevertheless, Zartman (in Faure and Rubin) suggests that “culture” is too often used as an excuse for failure, while Lowi and Rothman (in Faure and Rubin) use the water negotiations over the Jordan basin to show how cultural differences can actually be harnessed to induce more effective dialogue. Agrees Lederach (1995), “Culture is rooted in social knowledge and represents a vast resource, a rich seedbed for producing a multitude of approaches and models in dealing with conflict.”⁶¹

⁶⁰ Ibid., 104.

⁶¹ Lederach, *Preparing for Peace*, 120.

Exercise II.2: Identifying Stakeholders, Interests, and Needs in New Mexico Intercultural Example

To be completed in class or as take home exercise.

Objective: To introduce the motivations of diverse stakeholders and cultures by understanding their needs.

Discussion: Introduce the categories according to Maslow's (1954) hierarchy of needs, which categorizes and ranks basic human needs to their level of motivating behavior. From most basic to higher needs, these are:

- Physiological needs – e.g., drinking water, irrigated basic foods, supports life and all food sources
- Safety needs – fire prevention and suppression, sanitation, moats and boundaries, means for economy/supports lifestyle, security provided by water rights, signaling social stature
- Belongingness and love – cultural significance, brings community together, connection with nature
- Esteem – trust responsibilities honored, recognition of multiple interests and needs as important and respected by all
- Self-actualization – water as community integrator and healer, commitment to restoring social and natural systems, experience of awe in the presence of water and all it supports (e.g. from flyfishing to waterfalls to being in nature and awed), as sacred and as purifier in most spiritual traditions.

See http://en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs for full discussion or refer to Maslow's pyramid below in Figure 6.

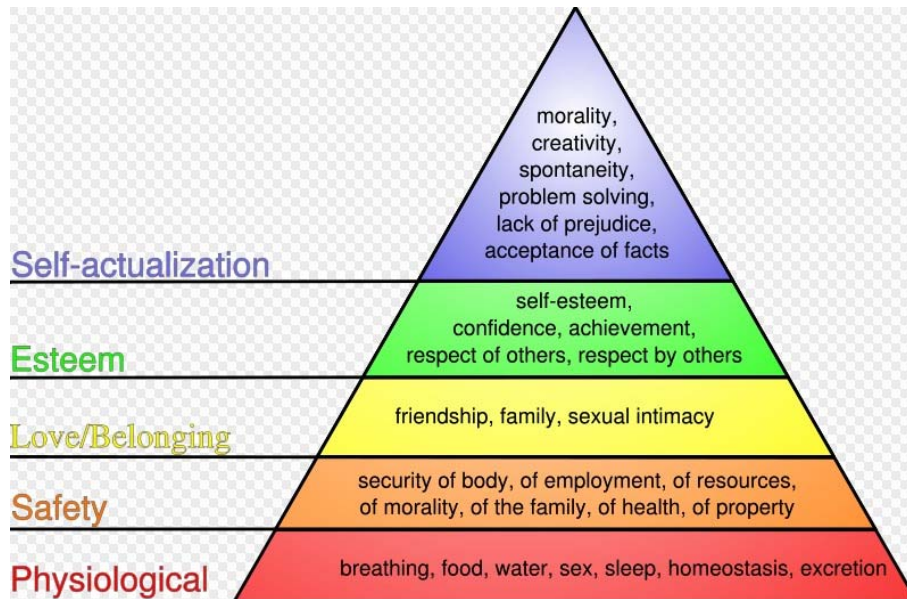


Figure 6: Maslow's Hierarchy of Needs (Source: Wikipedia)

Note to instructor/facilitator: This points to the fact that water conflicts, unlike those of other resources, impact on us at *all* levels of our psyches, economies, and survival mechanisms, as well as on the health of our surrounding ecosystems.

Have students read through The Utton Center's, "Transboundary Waters: Crossing Cultural Boundaries for Sustainable Solutions," in the Participant Workbook, Module II, Section E.

Reflect and respond to the following questions:

1. What stakeholders were included in this reading? (Stakeholders are usually considered to be key people, groups of people, institutions, or representatives of institutions that may significantly influence the success of an activity, project, or conflict resolution process.)
2. What were the shared interests (e.g. reasons for being engaged, needs, desires, hopes or fears) that brought this group of people together?
3. As you read the "panel of perspectives on water" (pp.11-23), notice the different ways that people relate to water, and what their needs are from water. Using Maslow's hierarchy of needs make a table of the panel participants' needs.
4. What might the perspective of a future generation look like if it had been included on the panel?
5. Describe three things that were new to you or surprised you as you read through the panel's perspectives.

Section D. Taking the Boundaries off the Map

Exercise II.3: Negotiating by Needs and Interest

General Information	
Context:	With all probability, the group saw the inefficiencies and inequities which are manifested when jurisdiction/stakeholder positions overwhelm the needs of the basin. But, what happens conceptually when the boundaries come off the map. This exercise aims to answer this.
Objective:	To explore lessons that emerge from the perspective of a boundary-less basin; to experience different perceptions as we move through the stages of negotiation and the options that they offer.
Duration:	3-4 hours
Important Information:	Choreography here is quite elaborate; it is worth rehearsing the logistics carefully before launching

Materials: Overhead of map of Sandus River Basin with jurisdictional boundaries (Ov-II.1)
 Overhead of map of Sandus River Basin without jurisdictional boundaries (Ov-II.2)
 6 sets of “Water Interests and Needs” tabletop nameplates

Instructions: 1. Ask, “*What happens conceptually when the boundaries come off the map?*”, and open up discussion.

Note to instructor/facilitator: A good graphic tool for this discussion is to contrast on overhead or PowerPoint the first two Sandus maps – one with boundaries delineated, and the other without. Open discussion around the question above can lead to how perceptions can shift profoundly (remember, an objective of this exercise is to experience different perceptions and the options that they offer). With the boundaries gone, we can, at least conceptually, move from thinking by jurisdiction and stakeholder rights to thinking of the basin as a whole; from insisting on rights and legal authority to thinking about what we actually need; our individual and common interests; from speaking to listening.

2. To explore the lessons from the perspective of a boundary-less basin, take away the jurisdiction/stakeholder nameplates behind which participants were sitting at the last exercise, and distribute to each universe/group instead the water-interest nameplates: Water Supply & Sanitation; Irrigation & Drainage; Energy Resources; Environmental Services; Industry & Navigation; Local & Indigenous. The **instructor/facilitator** can do this in one of two ways.

Level 1 Option: The participants can just sit where they are and, instead of representing a jurisdiction, they will now represent a sector.

Level 2 Option: Alternately, the participants can be rearranged by the sectors they represented back in Ex-I.2 (the logistics of this option are often not worth the effort. People tend to be able to represent sectors fairly intuitively, and it is much easier just to let them sit where they were in the last exercise. You will, however, want to think about whether to let the instructor/facilitators continue to facilitate, or whether to mix their roles up with the others.).

3. Give each universe/group blank maps, without jurisdiction boundaries, and ask them to prepare a watershed management plan or strategy, as before to address the concerns over time. Without the imposition of jurisdictional boundaries, it is also possible to introduce some basic strategic planning techniques.⁶² Ask each universe/group to describe briefly:

- Where we are now.
- Where we want to be in 20 years.
- What are the major obstacles to getting there?
- How can those obstacles best be overcome?

Note to instructor/facilitator: The participants are, by now, seasoned negotiators and active listeners, and they should be able to move forward with little guidance. One twist: in this case, give them substantively less time than in Ex-I.2, and allow only one

⁶² This is based on the Four Quadrant Approach to Problem Solving, as described in Fisher, Roger and William Ury and *Getting to Yes: Negotiating Agreement Without Giving In*. New York: Penguin Books. 1981), 70 and Fisher, Roger and Elizabeth Kopelman and Andrea Schneider. *Beyond Machiavelli: Tools for Coping With Conflict*. New York, NY: Penguin Books. 1994), 68-71.

project⁶³ per sector (six, total) rather than the two per jurisdiction (12, total) from the last round. Make observations and call out time, as before.

Debrief: Again, start with 10-20 minutes debrief for the participants **in-character**. *What was the difference between the two rounds? Is each party achieving its goals? What sets of sectors seem to complement each other, and which do not? Are there ways to overcome these differences?*

Again have the participants **drop character** for a more-intensive debrief. *What happened in each group? Did the process change given this new mandate? What skills were necessary? Is power manifesting itself here as well? In what way? How did the goals change?*

Again, ask each universe/group to present their plans to the group, and ask for an honest evaluation of how effective each plan is. Chances are high that these plans will not be ideal, but that they will be inordinately more effective than those of the last round, also with fewer projects in potential conflict with each other. Notice that this is true despite there being less time available, and that they only had half the number of projects to develop!

Lecture Notes: Taking away the political boundaries and the connection to rights associated with jurisdictions/NGO community may have allowed for an *efficient* planning of a basin, *if planning a basin were the only set of interests to consider*. However, we know that they are not. We haven't looked at important concerns such as equity and benefits. For example, you may notice that benefits accrue disproportionately to certain regions from thinking/planning strategies from this perspective. You may also recognize that there are other issues that could arise around broader social and natural systems and relationships. How well will your plan/strategy respond to these?

Instructions: 4. Guide some discussion to how we might resolve these conflicting needs – those of jurisdiction equity and those of basin efficiency – and capture what is noted. You will start working with these issues in the next two stages.

End of the Day Questions for Participants

⁶³ Note again that “projects” can include “soft” projects like training facilities, national parks, and protected areas, as well as “hardware” such as dams and irrigation projects.


Debrief day's activities with group:

- What was the most important thing you learned during this day?
- What important question remains unanswered?

The **instructor/facilitator** should either discuss together or have participants write their thoughts down and collect the responses and do an overview of the responses at the beginning of the next day.

Module III: Enhancing and Sharing Benefits

Module III Overview

Type of Process/ Negotiation Stage	Focus of Process	Collaborative & Transformative Skills	Context, Geographic Scope or Framing for Outcomes
Integrative	Benefits/ Values/Refram ing	Consensus- building; thinking together; relationship- building	 <p>Problemshed/“Benefit- sheds”</p>

Stage 3 of Water Conflict Transformation

Module Goal(s):	To focus the collaborative learning process on the <i>consensus-building</i> of the group
Duration:	7-10 hours
Important Information:	For supplemental readings, see Participant Workbook, Module III, Sections A, B, and C.

- Sections:**
- A. General Setting: Enhancing Benefits: Beyond the Basin, Beyond Water
 - B. Enhancing Benefits: Beyond the Basin, Beyond Water
 - C. Beyond Negotiation: Relating as a System
 - D. Developing Capacities
 - E. Reframing Problems

- Exercises:**
- Ex-III.1 Beyond the Basin, Beyond Water
 - Ex-III.2 Developing Capacities
 - Ex-III.3 Reframing Problems

Handouts: No new handouts

Overheads: Ov-II-2 Map of Sandus River Basin without Boundaries

Section A. General Setting

Once participants have moved in the first two stages from mostly speaking to mostly listening, and from thinking about rights to needs, the problem-solving capabilities which are inherent to most groups can begin to foster creative, cooperative solutions. In this third, *integrative stage*, the needs expressed earlier begin to coalesce together to form group interests – the “why” underlying the desire for the resource. Conceptually, they start to think about how to enhance benefits⁶⁴ throughout the region, primarily by adding resources other than water, geographic units other than the basin, and social and economic networks that connect with and contribute to the health of the basin. The collaborative learning emphasis is now on the *consensus-building* of the group, and it begins to think about a “benefit-shed” rather than being restricted by the basin boundaries.

There are different ways to pursue this integrative stage. The appropriate process will be situation-dependent and will have its own organic unfolding. Nevertheless, these processes take unusual facilitation and/or leadership, and this should be assessed as one considers undertaking an integrative process.

Through many of these processes, parties have had an experience of transformation from what they may have known. If parties are still tending to think of the integrative process as being about the river, management, and negotiation; if they are thinking about themselves or their interest as separate from other parties/interests; and how they think about cooperating and distributing benefits among parts -- rather than thinking as a whole system, consider the following integrative process.

It is framed around creating a shared cooperative agenda. The extent to which this can occur will be determined by each party’s perception of the benefits it can secure from cooperation. Convergence towards a cooperative agenda will be facilitated by several important and practical steps. First, the perception of the range and extent of potential benefits needs to be expanded to the extent possible, from the obvious to the less apparent. Second, the distribution of benefits, and benefit-sharing opportunities to redistribute the costs and benefits of cooperation, need to be explored to enable the definition of a cooperative agenda that will be perceived as fair by all parties. Third, alternative modes of cooperation need to be recognized and appropriate types of cooperation identified to secure the greatest net benefits. Each of these steps is examined below.

⁶⁴ Finding an international symbol for “benefits” has been a challenging task. We settled on the cornucopia, especially given its origin in mythology, as described by Ovid: In a battle for his wife, Deianira, Hercules defeated the god of the river Achelous. In this contest, the left fork of the river was wrenched off from the main body, and snatched up into heaven, where it was turned into a cornucopia pouring out a wealth of fruit and flowers upon the reclaimed valley and enriching the entire kingdom.

A first step in motivating cooperation is to recognize the widest possible range of potential benefits that cooperation could bring. There will be no cooperation if benefits are perceived to be insufficient relative to the costs of cooperation. Benefits are broadly defined here to extend beyond any direct relationship to the river to the “problemshed” and to include economic, social, environmental and political gains.

A useful framework for broadening the range of recognized benefits of cooperation proposes the identification of four types of cooperative benefits.⁶⁵ The first type of benefit derives from cooperation that enables better management of ecosystems, providing *benefits to the problemshed*, and underpinning all other benefits that can be derived. The second type of benefit derives from the efficient, cooperative management, development, and protection strategies, yielding *benefits from the problemshed*. The third type of benefit derives from the lessening of tensions because of cooperation and shifting the focus from the river itself to a problemshed, resulting in the reduction of costs *because of the problemshed*. And finally, there are benefits derived from greater cooperation *beyond the problemshed*.

⁶⁵ Sadoff, Claudia W. and David Grey. "Beyond the river: the benefits of cooperation on international rivers." *Water Policy* 4, no. 5 (2002): 389-403.

Section B. Enhancing Benefits: Beyond the Basin, Beyond Water

Exercise III.1: Beyond the Basin, Beyond Water

General Information

Context: In the last two modules, the participants were (presumably) able to craft basin plans/strategies by moving from planning by jurisdiction to planning by interests and needs – and by “taking the boundaries off the map.” However, how were the benefits distributed? Are there equity problems when the boundaries are brought back into play? How well do these plans/strategies respond to other challenges to social or natural systems? Is there anything we need to consider about how we are governing our own behavior in relation to these systems and how we make future decisions about them? These are perspectives we will be exploring.

Objective: To think together about how to enhance the benefits to *all* the parties, by both moving beyond the basin to think in problemsheds and “benefit-sheds” and beyond water to incorporate other benefits, enlarging the overall “basket of benefits.” To also think about how we govern our own behavior in relation to natural and social systems and how we make future decisions.

Duration: 2-3 hours

Important Information: The concept of “benefits” seems intuitive, but is filled with nuance and complexity. Working through the principle allows stakeholders to move beyond the zero-sum exercise of simply trying to divide water.

Materials: Overhead of Sandus River Basin without jurisdiction boundaries (Ov-II.2)
Interest and need-driven regional plans that the participants developed in Module II, Exercise 3

- Instructions:** 1. Project the “boundary-less” map on a wall.
2. Open discussion with the group on the two conceptual shifts introduced here: watersheds to problemsheds; and, beyond water to enhance benefits.⁶⁶

Watersheds to “problemsheds:” The watershed or basin is often the unit of management for water management. But what about when there are interbasin transfers as happens in parts of the West? This can have unintended consequences and third party impacts to the environment, communities and local economies in the basin of origin.

What else is on the parties’ minds as they negotiate? Electricity grids? Ecosystems? Flyways? Transportation networks? Climate patterns? Strategic interests? What are the geographic units of each of these “problemsheds” and how are they expressed in a negotiating strategy?

Beyond water to enhance benefits: If we begin to understand the interconnectivity of these overlapping problemsheds, we can now start to think about enhancing the “basket of benefits” by thinking beyond water to “benefit-sheds.” Which of the issues raised in a) above, can be introduced to a discussion of enhancing benefits?

As you talk, you may also want to have people refer to Figure 7.

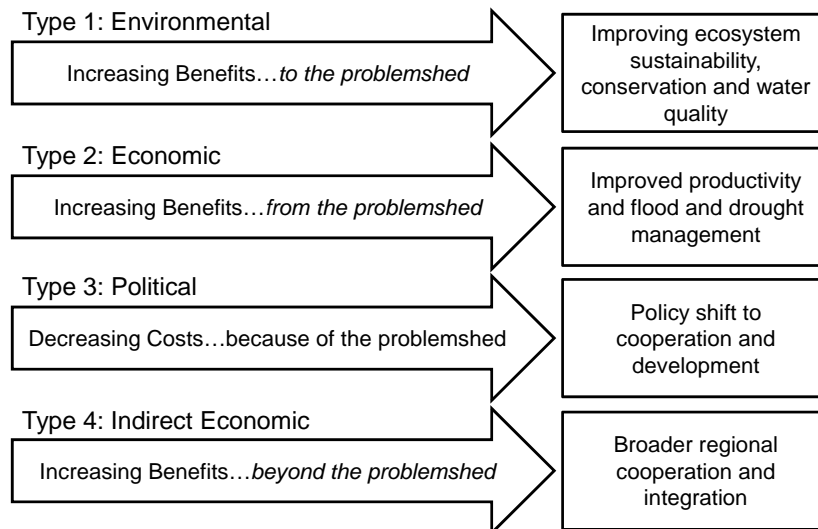


Figure 7: Four Types of Benefits from Cooperation

⁶⁶ See Claudia W. Sadoff and David Grey, “Beyond the river: The benefits of cooperation on international rivers,” for more information.

3. Hand back the interest/need-driven regional plans from the Stage II exercise, and ask the participants to think beyond the river and problemshed to the benefits-shed to add to the region's "basket of benefits." You might disband one or two of the universes/groups and ask those participants to act as representatives of interests and needs beyond strictly water, e.g., the Department of Energy, the Environment, Tourism, or Transportation, as they are invited by the other universes. Also, remind the participants to think about benefits broadly, and not just in terms of hardware projects (e.g., protection or restoration of flyways, and regional nature reserves or landscape restoration projects).

4. Ask each universe/group to prepare a plan or strategy for their problemshed/benefits-shed which will go both beyond the basin and beyond water, and have some durability through time. Allow participants to call on other departments, groups, leaders, or individuals as needed.

Debrief: Start again with a short debrief for participants **in-character**. Ask *"How were dynamics changed as we added participants and interests?"*

Instructions: 5. Have each universe/group present their new plan.

Debrief: After all presentations have been done guide the debrief around the following questions: *Do the plans look similar or different from each other? Why? What were the especially creative approaches to working within problemsheds/benefits-sheds? How much larger do the "baskets of benefits" get when we move beyond water?*

Have participants **drop character**. *What happened, both positive and negative, when we moved to a problemshed/benefits-shed focus? On the positive side, benefits were probably enhanced throughout the region. But, what about the negotiating dynamics? Were they made more complicated as soon as other interests joined the room? Are there observations about the balance between economic efficiency and political expediency, and the complexity of negotiations with the number of people and interests involved? Guide discussion on what happens with efficiency. Equity. Effectiveness. Sustainability.*

Section C. Beyond Negotiation: Relating as a System

For many “intractable” western water problems, Stage 3 processes will need to be taken up a notch. There are several examples around the West of problems that have come to a standstill because of limits to our laws, institutions, and capacity to tackle these. Also the way we frame the problem and solutions need to change. These situations call for a certain quality of leadership, ripeness of the issues, and sincerity and fluency in the process.

Leadership

Of all of the processes, this type of process depends on visible, often elected leaders to convene, tend, and “hold the container”⁶⁷ for the process. Leadership must be trusted to have a fair process by all involved. Leadership cannot be coming from a political motivation, or it will harden participants and generate cynicism. Stakeholders and participants must trust that their leaders truly understand the circumstances and challenges.

Leaders set the tone. They can certainly enhance the potential of the group by making it safe for participants to move from an open mind to an open heart and, under the best of circumstances, open will.⁶⁸ Leadership cannot allow scapegoating or blaming of any single interest for the presenting problem or crisis. They need to know and demonstrate that they know the legitimacy of every participant – every expression of the whole. They also need to accept that all the tools and methods of Stage I and Stage II processes are still available. Typically, however, participants will suspend their inclination to use these processes if a Type III process is designed and conducted sincerely.

There must be an even playing field. These processes are transparent and inclusive. Any attempt to exclude, even if in the name of efficiency of the process, can undermine the process and outcomes. That said, these are time-consuming processes, and most parties will be content to have a leader or trusted representative of their community participate without having to be present themselves (Some may want to attend one or two meetings. It is well worth accommodating them for the understanding all will gain, and the effort saved in correcting misperceptions and fears that can be projected onto the process if they were to be excluded).

⁶⁷ Isaacs, 242-251. Creating a “container” means creating conditions under which a rich experience of interaction is more likely to occur. It is a setting which allows for and supports the intensities of human activity in a way that is experienced as safe. The active experience of people listening, respecting one another, suspending their judgment, and speaking their own voice are key aspects of the container for dialogue.

⁶⁸ To understand how these levels relate on an individual level, and the types of questions that help us transition and move between these levels, consider Sharrow, C. Otto, “Theory,” DVD, Society for Organizational Learning.

Finally, in order for participants to commit the time and resources, and to risk vulnerability with people they have become accustomed to not trusting, leadership must also have the ability to leverage or implement and fund changes with the assistance of the participants. It can be a significant undertaking, but, to date, these processes are the only choices for making progress through these impasses.

Once a process is underway, leadership takes on a different quality. While the tending and attention of elected leaders remains important, voices from around the table gain potency. The “table” becomes driven by the question of whether common good and our future are being served and how to do it. The “table” sees their role as tending the whole – not their individual interests. As they think together in relationship, they can relax their grip on certainty and listen to the possibilities that emerge from the crucible of their collective thoughts, observations, and ideas. Together they uncover and form a base of shared meaning that can help coordinate and align collective actions and shared values.

Another likely difference is that the process may not be confined to discussions around a single table anymore.⁶⁹ More likely, discussions will have both a table where diverse leadership has discussions and generative dialogue interconnected with decentralized “tables”⁷⁰ throughout the problemshed having similar dialogues. In many such processes, there is some overlap in leadership at these tables – either through a leadership team (with trusted messengers representing each interest group), co-chairmanship signaling balance and full representation of all interests in the leadership, advisory teams with comprehensive membership, boards, etc. The leadership may also be on a speaking circuit and in touch with the media to reach multiple audiences throughout the problemshed. There is a more fluid flow of information and concerns within the problemshed.

The Shift

This type of Stage 3 process is no longer about “negotiation,” “water management,” or “conflict.” Instead, it becomes “generative dialogue,”⁷¹ “relationships among dynamic systems,” and a *collaborative, consensus-building* process. The intention becomes promoting constructive change processes, which restore or enhance the quality of the resource and quality of life.

Generative Dialogue and Relationships

Generative dialogue allows us to challenge taken-for-granted assumptions that are broadly held; reorder people’s existing knowledge – allowing people to see what

⁶⁹ This workbook bases its description on several experiences of this *integrative process*, though it assumes there are multiple ways that the process could be structured.

⁷⁰ Note that “tables” may refer to conferences, call-in radio shows, and any number of other public forums aimed at discussion of the complex problem at hand and with an intention of sharing information and generating ideas and understanding.

⁷¹ See Isaacs, 38-41.

they already know in a new light; and to reframe the problem. It “requires that we take responsibility for thinking, not merely reacting, lifting use into a more conscious state.”⁷² This type of dialogue creates entirely new possibilities and creates new levels of interaction.

At this level it is not uncommon for participants to conclude that we do not know as much as we would like to about the natural system and probably can’t know as much as we would like to know. Humbly, participants concede that the system is chaotic; that instead of thinking about *managing* natural systems, we should shift our thinking to how we govern our own behavior in relation to the resource. Dialogue then reflects on dynamic interconnections that extend beyond hydrologic units alone and moves to thinking comprehensively about economic, ecologic and social needs, interests and benefits as a whole. Ultimately, participants will engage with each other in an entirely new way exploring the dynamic natural and social systems within which relationships are embedded.

Framing

In the middle of complex conflicts and crisis, leaders often recognize that the framing of the problem won’t lead to a solution. Even with this awareness, many leaders will stay with familiar framing because taking on more and engaging a suite of highly complex, dynamic challenges may be daunting and politically risky.

Leaders who are motivated by policy rather than politics, and function rather than form, will look at these crises and systemic pattern of conflicts, and examine their framing of the problem. In order to hold the full dynamic that is usually at play, they will look at the source of the problem and probe how well and holistically it is understood and in light of present-day circumstances. They will then reframe the problem to capture the kernel of what is needed for the present as well as the future.

Reframing is not an easy skill because of the number of embedded assumptions we collectively carry. However, the most promising opportunities for reframing come from:

- Seeing clearly what is the root of a problem and what are the symptoms. Reframe the problem around the root of the problem.
- Recognizing the health, quality, and restoration of systems (e.g. economic, ecologic, and community/social)—not just quantity. This opens up a surprising number of opportunities, particularly when one becomes aware of and challenges ones assumptions about these.
- Exploring these dimensions simultaneously. Treat everything as whole and interconnected. Solutions framed this way tend to be apolitical, and don’t send participants into polarized camps. This comes from holding out a vision that all parties can see themselves as a part of.

⁷² Ibid., 45-46.

- Orienting attention to short-term responses as well as mid- to long-term strategies for change. Words that encompass such a time horizon may be expressed in words like “sustainable.”

Section D. Developing Capacities

Exercise III.2: Developing Capacities

General Information	
Context:	All of these skills are worth practicing until you come to your own level of ease and belief in their contribution to conflict resolution. If they are used, and the audience does not perceive sincerity or consistency with other messages or things you say, it can back-fire. When in doubt, forget the practiced skill, go inside yourself, and speak from the place that is most sincere and honest.
Objective:	Practice skills that help with transformative reframing of conflict, as well as listening/sensing skills that shift awareness to a sense of wholeness.
Duration:	1-2 hours
Important Information:	These exercises can be used as homework or conducted in a group setting. Much of the information in the instructor's/facilitator's section is also in the Participant's section.

Part 1: Either/Or to Both/And⁷³

When we experience dilemmas and paradoxes in our efforts at dealing with complex issues, there is the possibility that we are not dealing with outright incompatibilities. Instead, we may be encountering different but interdependent aspects of a complex situation. Here, we will practice developing the capacity to identify the key energies in a situation and hold them up together as interdependent goals.

Have participants take a current conflict that has been described as either/or – possibly from the Sandus River Basin simulation. Alternatively, suggest that participants listen for them throughout their day or week and keep a list of them.

Then practice putting them through a simple formula to see if unseen opportunities emerge.

⁷³ Adapted from Lederach, John *The Little Book of Conflict Transformation* (Intercourse, PA: Good Books. 2003), 51-52.

Question: “How can we address “A” and at the same time build “B”?”

Debrief:

As John Paul Lederach (1995) says, “The ability to position situations as dilemmas, and the capacity to live with apparent contradictions and paradoxes, lies at the heart of transformation. The art of dilemma-posing creates a simple way to see the bigger picture and to move us toward specific action.”⁷⁴

What did people discover when they shifted either/or’s to both/and’s? Discuss how this affected their way of thinking about possibilities.

Part 2: Voices of Identity⁷⁵

Issues of identity are at the root of most conflicts.⁷⁶ It is important to learn to hear these voices. They are keys to understanding individual despair as well as the stories that are common to us all. This can be pivotal for reframing. “At the deepest level, identity is lodged in the narratives of how people see themselves, who they are, where they have come from, and what they fear they will become or lose...Identity is also best understood as relational.”⁷⁷ Joseph Campbell calls these our mythic stories – the stories that give our lives meaning. They string the beads of the days and chapters of our lives in a necklace of meaning and metaphor.

Ask participants to pay attention to the energy and quality of peoples’ voices as they speak up in conflict. The tension, pitch, volume, and connection with what is being said expresses information about one’s sense of self, one’s identity, and how a relationship is being experienced and defined – either among people or between people and the resource.

Debrief:

Can anyone venture a guess at the mythic stories of any of the jurisdictions, broad stakeholder groups, or parties that have been active in the Sandus River Basin simulation? See how many ideas people have. Are there any moments that stand out in terms of the energy and quality of anyone’s voice during the negotiations? Explore with the group what might have been behind the energy or quality. Does this suggest anything about how that person thinks about their life and purpose in this world?

If people find this difficult, share with them an example to help them understand what can emerge.

⁷⁴ Ibid., 52.

⁷⁵ Adapted from Lederach, *The Little Book of Conflict Transformation*, 55.

⁷⁶ Ibid., 55.

⁷⁷ Ibid.

Example: At a forum among farmers, ranchers, the timber industry, environmentalists, public servants from local, state, federal, and tribal governments, each spoke from their position about non-point source water pollution and its contribution to the decline of wild salmon. Their stories all sounded different on their face. Many felt challenged and misunderstood by the others which lead to tension and conflict in the room. Some got quiet and folded their arms – but in fury and defensiveness. Others expressed frustrations with some of the others with rather aggressive projections. In the end, however, it was possible to sort out that there was a difference between the practices and the mythic stories. All were expressing the same mythic story about themselves. They all saw themselves as stewards of the land and environment. The practices were what differed. They could then see their common goals, and focus their attention on what were acceptable practices to meet their common goals, and how would they achieve this collectively.

Alternative 1: See if sharing this example offers any further fodder for discussion. Ask about whether participants have noticed common threads behind the differences? Share some of these. Assure them that sometimes we'll need to sit through many such meetings before we can hear the common story. These common threads are keys to reframing and to progress under Type 3 processes. They align all the energy and resources that are usually spent directing towards one another in conflict or maintaining gridlock.

Alternative 2: It may be something you want to just let people sit with and try to be aware of as they sit in settings of stakeholders in conflict.

Section E. Reframing Problems

Exercise 3.3: Reframing Problems

General Information

Context:	<p>We often assume that the problem that is presented is the problem to be solved. It is also common to stay with familiar framing because entering into an inquiry about highly complex, dynamic challenges seems fruitless. We assume that people can't work together in the face of different political beliefs, economic pressures, scarcity of the resource, and cultural differences. We think that keeping it simple will get us to a resolution quicker.</p> <p>Learning how to “reframe” problems so that everyone can hear their goals within the reframed goal aligns the energy and resources towards this common goal and allows for flow and connection.</p>
Objective:	Practice skills that help with transformative reframing of conflict, as well as listening/sensing skills that shift awareness to a sense of wholeness.
Duration:	1-2 hours
Important Information:	These exercises can be used as homework or conducted in a group setting. Much of the information in the instructor's/facilitator's section are also in the Participant's section.

Part 1: Evaluating News Article

Find a news article online or in the local newspaper that includes assumptions or cultural norms in the story or ask students to find a story on their own (this exercise can be done by students on their own or in class--if the exercise is done in class provide the article).

Objective: To see the assumptions we make individually or collectively because of personal biases or culturally- or socially-embedded belief that make them hard to see.

Instructions: Have participants read the article you have chosen or they have chosen. Have them then answer these questions, first for themselves:

- What are the assumptions?
- What are the social and cultural norms?
- What assumptions are not challenged?
- How would the solution to the problem change if the(se) assumption(s) were challenged?
- What might the headline look like?

Discussion/Debrief: Describe how it is not infrequent that cultural/social norms are taken for granted and never explored for their contribution to the problem being reported on. Have participants share their findings from their reading of the article and discuss what this means for conflict. Does the group have any insights into their Sandus River Basin negotiations? Discuss.

Part 2: Reframing Complex Resource Issues

Note to instructor/facilitator: Your conversation and work with reframing complex resource issues will be enhanced by having participants read through the provided examples and supplemental reading in advance of this exercise. The examples are in their books under this Module III, Section E as is the supplemental reading.

This material is provided here for your review and reference.

Examples

1. From “Wildland Fire, Declining Species, Invasive Species, Community Hazard, and Challenged Western Rural Economies” to “Restoring Ecosystem Health”

In the summer of 2000, the West was experiencing one of its worst fire seasons in history. Five bi-partisan western governors met with the Administration to discuss emergency federal funding for fire suppression, and the concerns over the escalating fire threat throughout the West. Further, with more people building their homes in the wildland-urban interface, there was expensive private property and sometimes lives in the paths of these fires. Finally, many of the intermountain West’s forests had been logged of the large Ponderosa pine and old growth in the 20th Century. Invasive weeds, dog-haired stands of small-diameter pines, declining species that depended on these forests, accompanied the intensifying fire threat. Costs were going through the roof to deal with all of these – the supplemental budget for that fire season alone was \$4.2 billion.

The reframing at the meeting: the fires were a symptom of declining forest ecosystem health, as were the invasive species, dog-haired stands, and increasing numbers of threatened and endangered species across the intermountain West.

The Result: “A Collaborative Approach to Reducing Wildland Fire Risks to Communities and the Environment: A 10-year Comprehensive Strategy” – a consensus document among agencies and diverse interests groups addressing forest ecosystem health, homes and communities in the wildland-urban interface, providing rural economic opportunities while reducing hazardous fuel levels including using small-diameter wood and other previously unused materials of the forest as biproducts from forest health treatments, and improving prevention and suppression. (See <http://forestsandrangelands.gov/plan/documents/7-19-en.pdf>)

2. In 1996, Governor John Kitzhaber of Oregon faced Endangered Species Act listings of salmon along the Oregon Coast with the potential for further listings across the State. The State had also been sued and lost for water quality limits in dozens and dozens of streams across the state. The culprit was non-point source pollution, and there were few known programmatic ways to address such a diverse range of non-point sources contributing to the problems. In an interview in 2004, he describes the process he went through of thinking about the complex nature of these presenting problems, and how he ultimately concluded that instead of focusing on **“Endangered Species Listings and water quality limited streams under the Clean Water Act”** that he needed to be thinking and talking about **“restoring salmon and watersheds across Oregon.”** This led to a statewide program called “The Oregon Plan for Salmon and Watersheds” administered by a new agency, the Oregon Watershed Enhancement Board, in conjunction with several other state, federal, local and tribal partners, including 92 new watershed councils across the state. Several millions of dollars are available annually from state, federal and matching sources (in-kind, private funds, local funds, leveraged funds, etc.) to do restoration work of Oregon’s waters and watersheds. None of these dollars were available prior to The Oregon Plan (see interview with former-Governor John Kitzhaber – Section F).

Instructions:

For conflicts that chronically occur or are part of a larger, systemic pattern of conflicts, we need to examine the framing of the problem. While simplistic framing is tempting, holistic framing may be necessary to make any real progress.

Reframing a problem is an art that can be cultivated. It requires being able to track to the root of a problem and not get distracted by the symptoms. It can be hard to see much less step out of cultural framing of problems. For example, several laws and budgets respond to symptoms of problems. This framing then shapes the way we think about the framing of problems.

Drawing on what has emerged from the Sandus River Basin simulation, see if there is a reframing of the issue that helps participants feel more aligned.

Consider the following pointers to help you create a new frame for the complex problem you are dealing with:

- Listen for identities and a common mythic story. Describe a vision that everyone can see themselves within;
- Consider using “health”, “quality”, and/or “restoration of systems” (social, economic and/or ecologic) in the new vision.
- Think in multiple timeframes: frame in ways that speak to short-term response as well as mid- to long-term strategies for change. Words that encompass such a time horizon may be expressed in the words like “sustainable.”

You may want to do this in breakout groups, and then have the groups come back together to discuss their results. Share.

Discussion/Debrief:

Do any of the reframings illicit a greater sense of wholeness? Would this change the way you would share information with other stakeholders and/or interests? Can you think of any new insights or possibilities that this reframing offers for the resource or the players in the basin? What kind of communication and organization will parties and institutions need to have in the Sandus River Basin to facilitate this new way of relating to each other and the resource? Does anyone else need to understand this new reframing? What kind of benefits does this shift create (socially, ecologically and economically)?

End of Day Questions for the Participants


Ask participants to answer the following questions on a piece of paper:

- What was the most important thing you learned during this day?
- What important question remains unanswered?

The **instructor/facilitator** should collect the responses and do an overview of the responses at the beginning of the next day.

Module IV: Putting it All Together – Institutional Capacity

Module IV Overview

Type of Process/ Negotiation Stage	Focus of Process	Collaborative and Transformative Skills	Context, Geographic Scope, and Outcomes
Action	Governance within dynamic systems; recognition of everyone’s legitimate place; equity	Capacity-building; Community Building	 <p>Networked systems across state, region, and/or country</p>

Stage 4 of Water Conflict Transformation

Module Goal(s):	To focus the collaborative learning process on <i>capacity-building</i> , primarily of institutions. Community-building is often an outcome as well.
Duration:	3-5 hours
Important Information:	For supplemental readings, see Part 1, Module IV, Section E

- Sections:**
- A. General Setting: Relating Like a System
 - B. Governance, Institutional Capacity-Building, and Sustainability
 - C. Crafting Networks, Structures, and Institutions
 - D. One-minute Evaluation

Exercises: Ex-IV.1 Crafting Networks, Structures, and Institutions

Handouts:

- H-IV.2 SARBaCu Aquifer Exercise
- H-IV.3 Guidelines for Going Home
- H-IV.4 One-minute Evaluation

Section A. General Setting: Relating Like a System

Through the preceding processes, diverse interests and governments explore new ways to work and think together to uncover and form a base of shared meaning that can help coordinate and align collective actions and shared values. The *action* stage turns the collective attention towards *capacity-building* – institutional change, additional or redirected funding, tools, and new networks, and structures to achieve this. It may call for an evaluation of methods and practices being used throughout the problemshed. Further, it is also about *community-building* – deepening the relationships that have been made through the processes, and sustaining a collective flow.

Some processes will have plans as outcomes that then need commitment to their implementation. Other processes will design new governance processes that are ongoing and need financial and technical commitments, and programmatic support. There may be a new understanding of benefits or externalized costs that need attention through funding or new management agreements. New laws, policies or procedures may replace or supplement previous ones to align collective actions.

Notice that there are often actions that are brought back to each level of the framework – the level of institutions and laws, the level of management and negotiation, and the level of collective intention, growth and enhancement, and the level of re-creation and re-connection.

Section B. Governance, Institutional Capacity-Building, & Sustainability

Experience suggests that in order to meet 21st Century water resource demands we must seek and share new methods, tools, and structures that help us move beyond entrenched positions to a common vision of the future. This includes creating tools, methods, and capacity to facilitate diverse interests and cultures coming together to craft strategies and policies that achieve mutual gains at all levels both before crisis strikes and even within times of crisis. The structures need to speak across multiple scales of decision-making in order to harmonize activities. Collaborative and less confrontational approaches are needed to build community rather than disrupt it. Overall, this era challenges us to seek new strategies that foster sustained, long-term environmental stewardship connecting people with the resource and their communities, and connecting communities and more centralized institutions to support stewardship efforts.

Oregon developed a network of watershed councils with other local, tribal, state and federal agencies which also provides an access point and vital link to private landowners. If the problem spans the landscape, the governance mechanism needs to as well, with sensitivity to the place and people who will make the change happen.

Though watershed councils are still relatively new and growing in their capacity, these place-based, networked structures offer an example of 21st Century governance structures that can operate and be a place to integrate many of the 20th Century laws and institutions. They are increasingly able to simultaneously hold multiple, often-competing elements of a community and its sense of place – its environment, economic interests, and social needs, and offer a community structure for making resource decisions that benefit the entire watershed and its inhabitants.

John Paul Lederach⁷⁸ helps us understand how unusual this is. He says that conflict transformation requires real change in our current ways of relating that includes and goes beyond the resolution of a specific problem towards a clear and important vision; and in the process, builds healthy relationships and communities, locally to globally. This transformation transforms us, too.

⁷⁸ Lederach, *The Little Book of Conflict Transformation*.

Section C. Crafting Networks, Structures and Institutions

Exercise IV.1: Crafting Networks, Structures, and Institutions

General Information	
Context:	Depending on where your conversations and simulation exercises have taken you, you are now at a very creative place in the process where you create or re-create institutions, networks, and policies to hold, support and empower the actions (individual and collective) called for by your new vision for the basin, problemshed, or benefits-shed.
Objective:	To craft the structures and networks which allow a flow of information, communication, and benefits (both monetary and non-monetary) to maintain the collective opportunity.
Duration:	3-5 hours
Important Information:	The three critical tasks in preparation for “re-entry” are: 1) develop guidelines for the equitable distribution of benefits; 2) develop the institutional capacity to implement and sustain the regional goals; and, 3) brainstorm about what might have been missed in the process, and how to mitigate whatever might go wrong in the future.

Introduction: Developing and enhancing benefits for the basin is vital. While benefits are often framed in economic terms, Stage 3 processes may have introduced social/community and ecologic benefits that will now be acknowledged in the *action* stage. Not all of these are easily monetized, and arguably shouldn't be. Further, some of these “benefits” are actually costs that have been externalized from past practices and times, and are now being restored.

In this exercise, we'll explore where benefits are more in balance and flow by coming to a transformed view of how the problemshed can work together and function.

We'll think about how different stakeholders will need to work with their own constituents to keep this flow happening. What support or conditions will they

need? Think, too, about what's needed to keep everyone whole, and what governance or institutional mechanisms hold this over time.

So how do we now craft the structures and networks which allow a flow of information, communication, and benefits (both monetary and non-monetary) to maintain the collective opportunity? How do we design them to be both flexible as well as resilient?

An agreement or institution may be thought of as a sociopolitical analogue to a vibrant ecosystem, while also vulnerable to the same categories of stresses which threaten ecosystem sustainability. Will the agreements and institutions which were crafted in the exercise sustain themselves through:

- Biophysical stresses? Are there mechanisms for droughts and floods? Shifts in the climate or rivercourse? Threats to ecosystem health?
- Geopolitical stresses? Will the agreement survive elections or dramatic changes in government? Political stresses – internally, nationally, and internationally?
- Socioeconomic stresses? Is there public support for the agreement? Does it have a stable funding mechanism? Will it survive changing societal values and norms?

Similar to an ecosystem, *adaptive* management – i.e., the institution has mechanisms to adapt to changes and stresses, and to mitigate their impact on its sustainability⁷⁹ -- may prove to be the best approach.

Instruction: Ask people to entertain these questions in breakout groups – the same as they've been or in new ones, and then return to the full group for a discussion.

Ask each group to consider these questions:

- Are benefits more in balance with our new view of how the problemshed can work together and function? Are there different stakeholders that will need specific attention to keep this flow happening? What support or conditions will they need? What's needed to keep everyone whole?
- What governance or institutional mechanisms hold this over time?
- What structures and networks are needed to provide the needed support and allow a flow of information, communication, and benefits (both monetary and non-monetary) to maintain the collective opportunity? How do we design them to be both flexible as well as resilient?

⁷⁹ See Lee, Kai *Compass and Gyroscope: Integrating Science And Politics For The Environment*. Washington, DC: Island Press. 1995. for the classic text on adaptive management

Key points to consider while doing the exercise:

- Crafting institutions that maintain the necessary flow and connection for the new relationships that have been discovered is challenging. However, nature offers examples, such as nervous systems, that may offer creative ideas and awarenesses.
- While you may want to discuss potential pitfalls, you can commit to an adaptive process and incremental implementation so that you don't have to have unreasonable expectations of yourselves for immediate success.
- Do you want to have some independent science and/or oversight body to help with any adaptive processes or design? Experience suggests that measurement on large systemic change is hard to do meaningfully. Is it because we are working with chaotic social and natural systems that we don't and won't understand well enough to know how to measure? Is it because measurement isn't linear in systemic change? Instead it may function more like a phase-change? Or something else?

Tell participants to feel free to really explore what it takes individually, institutionally, through relationships, and on-the-ground to work to achieve the common goals you reached. Given the transformation that is called for on some of the most challenging problem we face today, think creatively about what gives people involved in this change the courage, comfort (or not) and motivation to work in this life-giving way.

Debrief: Have each breakout group present their ideas. Try to not bias them towards any form at this point. The creative process may turn up ideas never thought of before!

Then facilitate a discussion about these ideas. Discuss commonalities and differences. Is there a common thread to the groups' thinking? Ask the group what they see or sense and discuss this.

Possible extension to exercise:**Instructions:**

As a test of the resilience of the institutions which were crafted, distribute the SARBaCU Aquifer Exercise (H-IV.2) to each universe/group and allow for some time to negotiate, then come back to the group and discuss.

Debrief to Module IV exercise:

What did everyone take away from this exercise? Were there any surprises?

Now, picture the region 20 years from now if we are successful in implementing our shared views and vision for the Basin.

- What would the landscape look like?
- What is the look on peoples' faces?
- What do they know about their community and landscape that they didn't know before? What are the headlines on the newspapers as you walk by?
- What are the most dramatic changes?
- Compare these to the lists you made at the beginning of the Sandus River Basin process.

Debrief to Whole Simulation exercise:

What have you learned by going through this whole process?

What have you learned from the different perspectives that you tried on – individually and/or collectively. Record on flip-charts and discuss.

Debrief:

Finally, there is a natural, human dynamic to “re-entry,” as the participants face the stresses of colleagues and constituents who were not involved in an experience such as we’ve gone through, or crafting the agreement in the way we have simulated. If fostered, however, the bonding that took place in the process can be retained and strengthened, to help reinforce the commitment to making a range of processes, strategies and agreements work.

As a final discussion, address the pressures the group is likely to face as they break up and go home (to their “homes” in the simulation, or their real homes), and some mechanisms for reinforcing the bonds that were forged over the negotiations (H-IV.3).

Thank everyone for their creativity and participation!

Guidelines for Going Home**HANDOUT (H-IV.3)**

These 11 guidelines are but a few of the areas that need to be reviewed periodically. Be sensitive with yourself and others, and you will find that re-entry brings opportunities which you never even dreamed of.

1. The more intense the experience has been, the greater the chance for distress or dissatisfaction with any questioning about the “new you” when you return. You may need additional time to re-acclimate yourself back home. Adjustment may be aided or hampered by close relationships, personality issues and work stress. Allow more time than you think will be necessary before judging success or failure.
2. Because of the closeness established with other participants in a relatively short period of time, there may be an additional sense of loss when you return home, as well as a sense of jealousy from those close to you upon your return. Be gentle with yourself as well as with people at home. Also keep contact if possible with someone from your new network. They will probably be experiencing some of the same things.
3. Although you have had time to process what you’ve learned, those at home have not. Remember how skeptical you were initially. Allow the same period of skepticism for colleagues and friends at home. It’s a classic case of lag time between learning something in a cognitive way and experiencing it as reality.
4. As you describe what you’ve learned, be aware of oversimplifying or undersimplifying. Descriptions of past happenings bring visions to you that are inaccessible for those who were not there. Set a scene and then fill in the activity only to the level that you think is of interest. Monitor how others receive your information and modify your descriptions accordingly. If you want to successfully incorporate what you’ve learned, you don’t want to bore people or set unrealistic expectations with any proposed changes.
5. The thing that you are bringing back home will be questioned. Avoid defending them or the whole experience as the “right way of life.” It may help to share some negative aspects of your experiences as well as the positive ones. It keeps your eye on reality and puts the whole experience in a more acceptable light.
6. Feedback is valuable. People will be more comfortable with you if they can tell you how your stories about your experience sound to them. It also provides an excellent way to modify any ideas that aren’t accurately reflected.

7. Learning continues long after presentation of material. It is not at all unusual to have “aha” experiences after returning home. This kind of realization is particularly likely after laboratory or experiential learning. It’s refreshing to know that learning of this kind is continuous and may be triggered at any time.
8. Seek colleagues and friends who share your concerns and values. It is with these people that you will find the support necessary to implement change. Using allies to best advantage will spread excitement for your ideas farther than you can.
9. The culture of experiential learning is not accepted or understood globally. Be prepared to explain things in a very concrete sense. Avoid buzzwords or phrases and remember that some of the more insignificant aspects of the experience for you might be quite powerful for others. Respect others’ learning process as the leaders of your group respected yours.
10. There is never enough time to practice things that you’ve learned. If you can share, try learning by teaching others. Expect some mistakes, realizing that practice makes perfect.
11. Learning in a classroom or laboratory is temporary and needs to be both nurtured and reinforced before it becomes permanent or institutionalized.

Source: Kaufman (2002), p. 234

Appendices

Appendix A. References

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Appendix B. Full-Sized Overheads

Contents:

- Ov-0.1: Four Stages of Water Conflict Transformation (Figure 1)
- Ov-0.2: A New View of Conflict
- Ov-0.3: Old/Young Woman
- Ov-0.4: Styles of Conflict Management (Figure 2)
- Ov-I.1: The IWRM “Comb” (Figure 3)
- Ov-II.1: Map of the Sandus River Basin (Map 1)
(With Jurisdiction Boundaries)
- Ov-II.2: Map of the Sandus River Basin (Map 2)
(Without Jurisdiction Boundaries)
- Ov-II.3: Maslow’s Hierarchy of Needs

OVERHEAD (OV-0.1)




Type of Process/ Negotiation Stage⁸⁰	Focus of Process	Collaborative and transformational skills⁸¹	Context, Geographic Scope, or Framing for Outcomes
Adversarial	Rights	Trust-building; deepening understanding of conflict	State, federal, tribal land and water laws; Priority, jurisdiction & supremacy/sovereignty of rights
Reflexive	Needs and Interests	Skills-building in listening for and identifying positions, needs and interests	 Watersheds/Basins
Integrative	Benefits/Values/ Reframing	Consensus-building: Relationship-building	 “Problem- shed”/“Benefit-shed”
Action	Governance in relationship to dynamic systems: equity	Capacity-building; community-building	 Networked systems across state, region and/or country

Figure 1: Four Stages of Water Conflict Transformation

⁸⁰ These stages build primarily on the work of Jay Rothman, who initially described his stages as ARI – Adversarial, Reflexive, and Integrative (Rothman 1989). When ARI become ARIA, adding Action, Rothman’s terminology (1997) also evolved to Antagonism, Resonance, Invention, and Action. We retain the former terms, feeling they are more descriptive for our purposes.

⁸¹ Expanded from and including Kaufman (2002), who ties each set of dynamics specifically to Rothman’s ARIA model in great detail, based on his extensive work conducting “Innovative Problem Solving Workshops” for “partners in conflict” around the world.

OVERHEAD (OV-0.2)**A New View of Conflict**

*From perceiving conflict
as always being...*

*To perceiving conflict as often
being...*

A disruption of order, a
negative experience, an error or
mistake in a relationship

An outgrowth of diversity that
might hold possibilities for mutual
growth and for improving the
relationship

A battle between incompatible
self-interests or desires

One part of a relationship, a part that
involves needs, values, perceptions,
power, goals, feelings, and so on,
not just interests or desires

An isolated event we allow to
define the entire relationship

Occurrences that punctuate a long-
term relationship and that can help
clarify it

A struggle only between right
and wrong, good and evil

A confrontation between differences
in certain aspects of a relationship,
but not to the exclusion of other
aspects that are still there to build on

Overhead (Ov-0.2): A New View of Conflict

OVERHEAD (OV-0.3)



Overhead Ov-0.3: Old/Young Woman

OVERHEAD (OV-0.4)

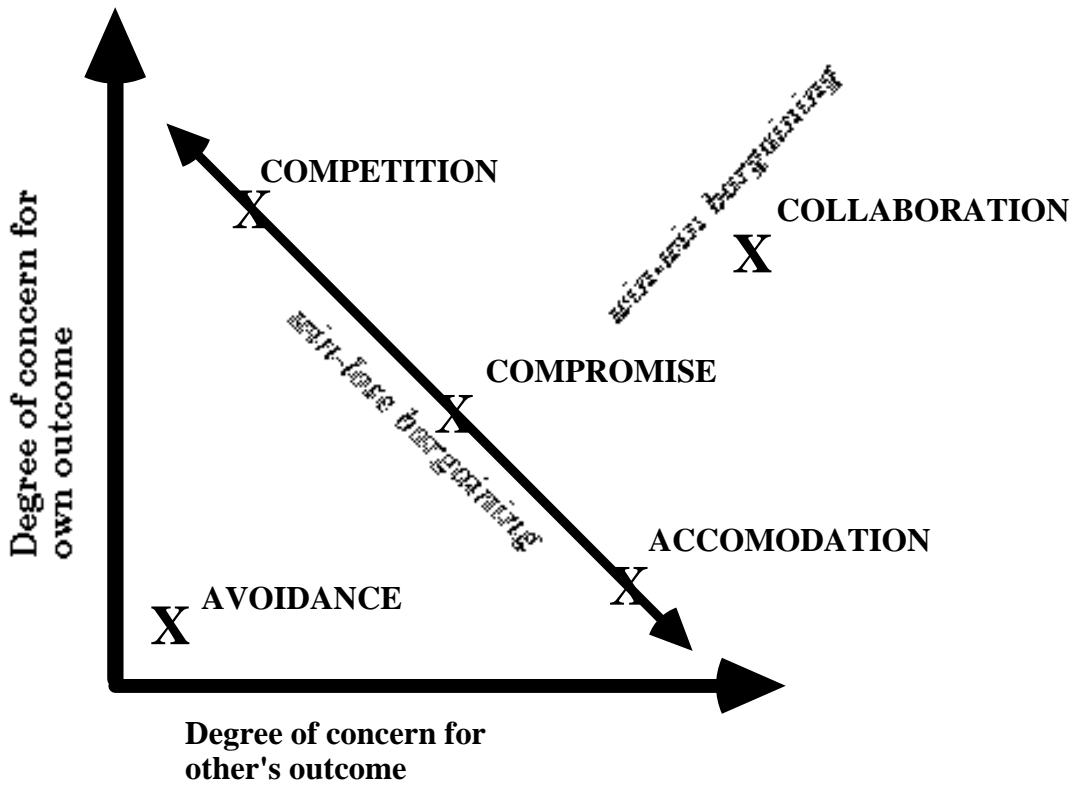


Figure 2: Styles of Conflict Management

OVERHEAD (OV-I.1)

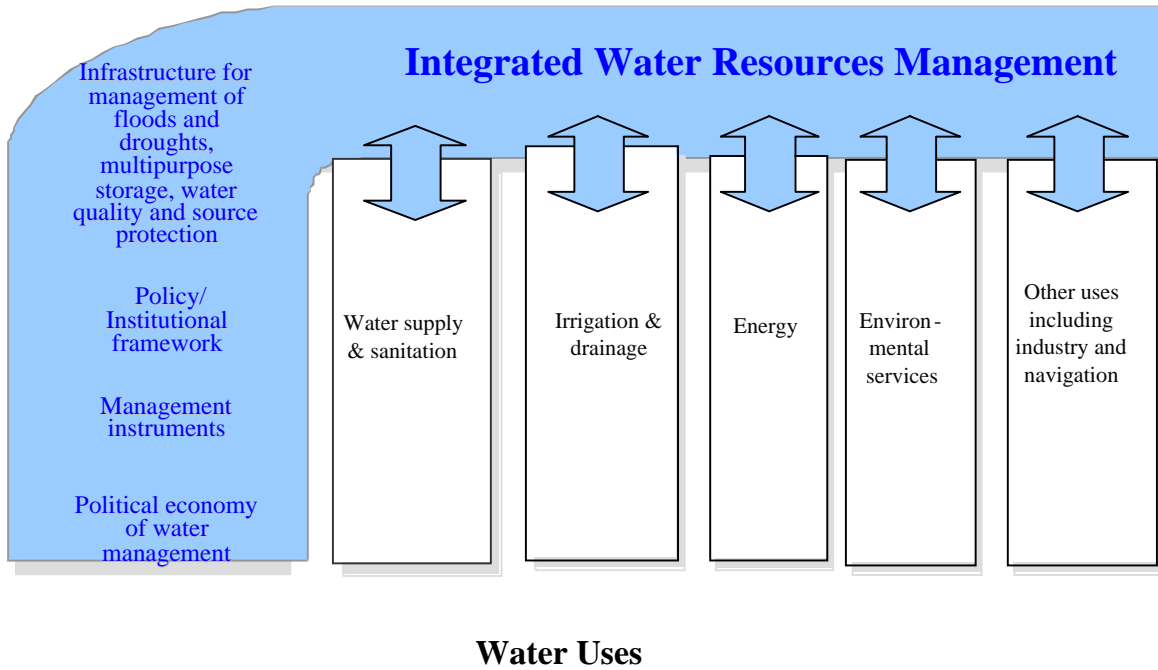
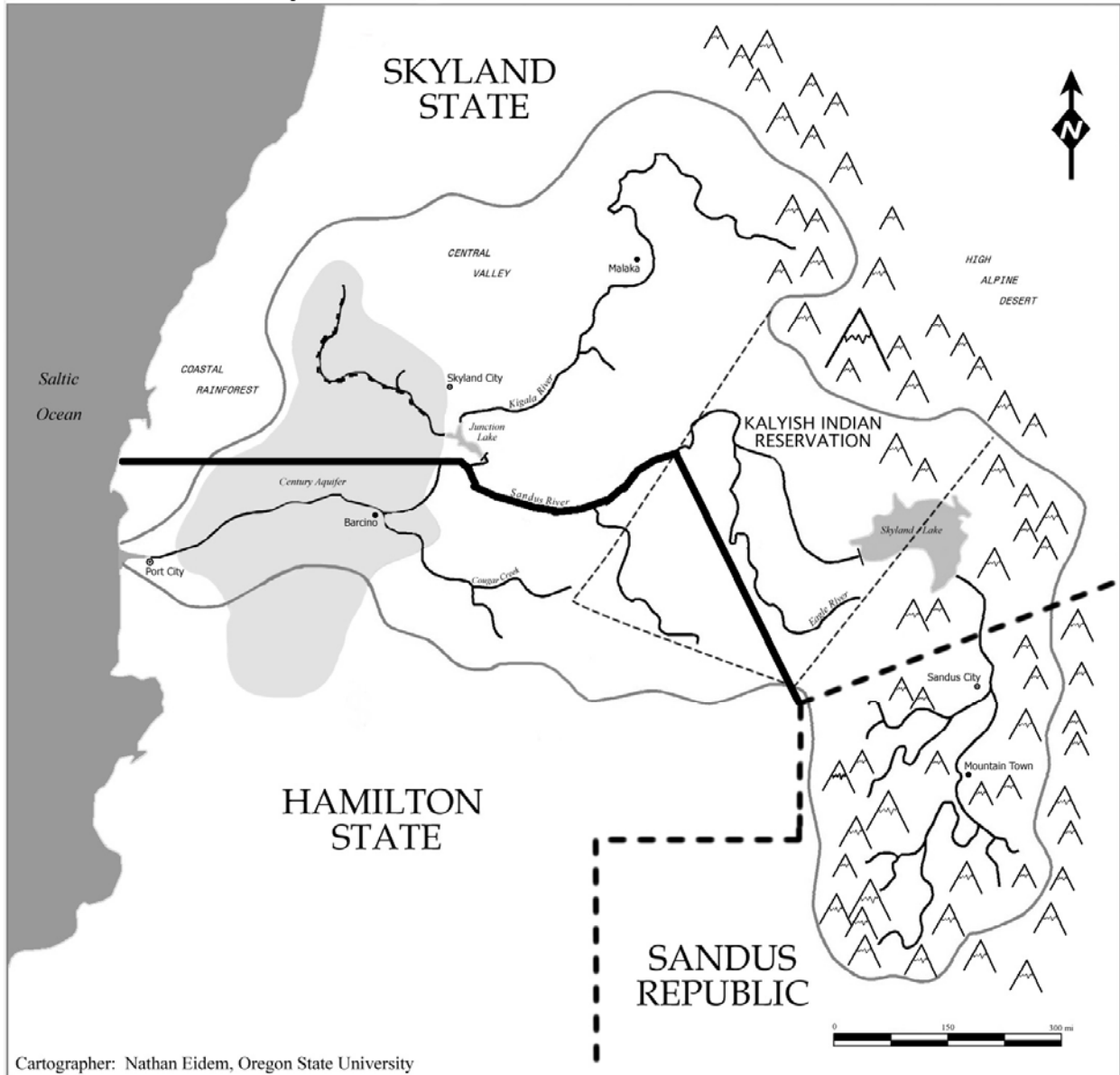


Figure 3: The IWRM “Comb” Overhead (I.1)

OVERHEAD (OV-II.1)

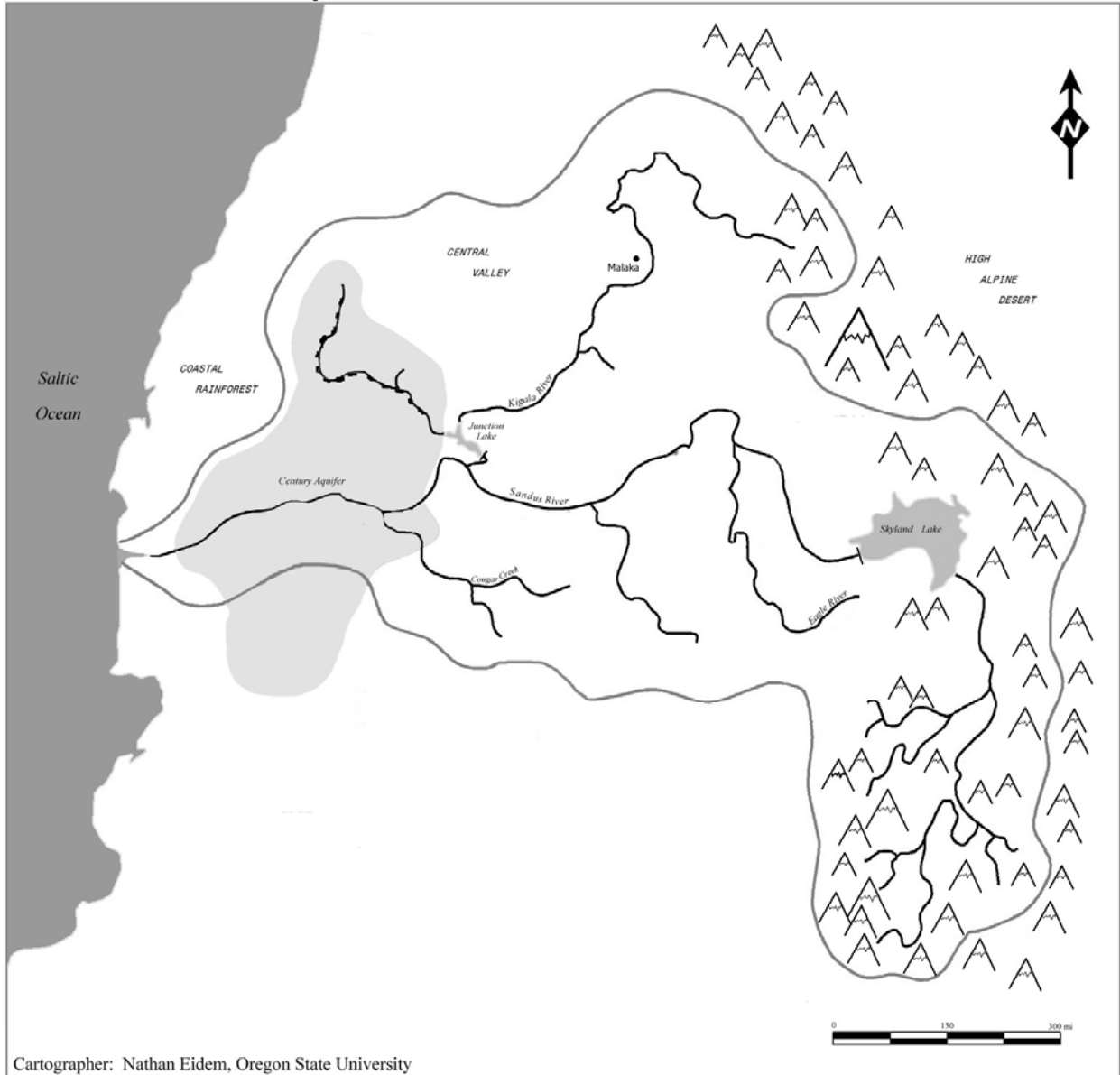
Map of the Sandus River Basin



Map 1: Map of the Sandus River Basin with Jurisdiction Boundaries

OVERHEAD (OV-II.2)

Map of the Sandus River Basin



Cartographer: Nathan Eidem, Oregon State University

Map 2: Map of the Sandus River Basin without Jurisdiction Boundaries

OVERHEAD (OV-II.3)

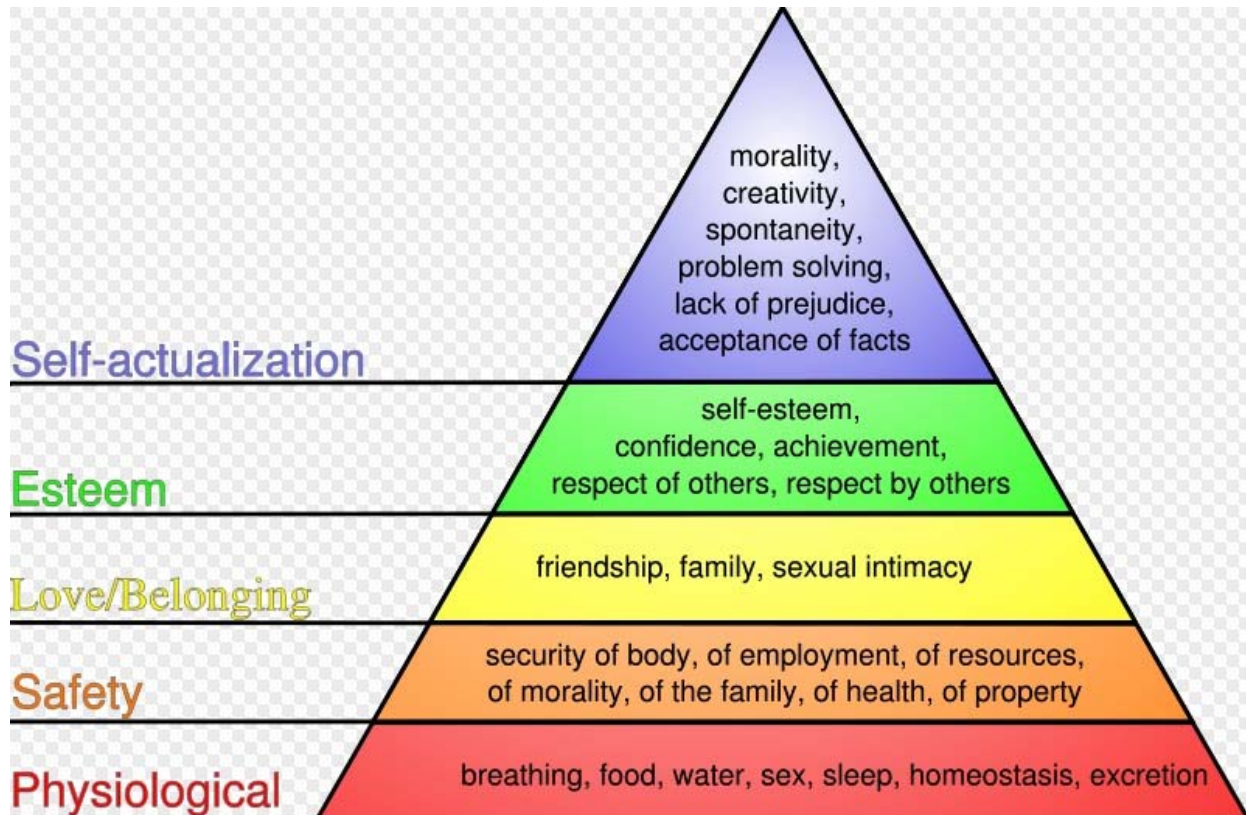


Figure 6: Maslow's Hierarchy of Needs (Source: Wikipedia)

Appendix C. Non-Sandus Basin Handouts

Contents:

- H-I.2.1: Instructions for Small Groups
- H-I.2.2: Negotiation Planning Chart
- H-1.2.3: Chart Definitions and Explanations
- H-IV.4: One-Minute Evaluation

Instructions for Small Group Tasks⁸²

HANDOUT (H-I.2.1)

5. Using the Yellow Post-its, identify parties that may become involved in the discussion-negotiations over Sandus River Basin. These Parties may be individuals, organizations, or agencies in any of the jurisdictions/NGO community within the basin, or from anywhere else.

Post your results at the appropriate places on the walls. You should aim for at least 20 such parties.

6. Using the Blue Post-Its, identify “Issues” that are likely to be raised and/or addressed within and/or among these parties now and in the near future.

Post your results at the appropriate places on the walls. You should aim for at least 10 such issues.

7. Choose at least three key Parties and Issues, and identify at least five key Positions for each Party as it considers those issues.

Write those Positions on the Green Post-Its and post them at the appropriate places on the walls.

It may help to fill out the following type of form, expanded out for however many parties are identified:⁸³

⁸² This exercise is based on one developed by CMI Washington/Carolina.

⁸³ From Barkai , 704-751.

People: What are the past histories and present feelings of the people involved in this negotiation? What are their goals and objectives? Who is more powerful and what is the source of that power? What influences can they bring to bear on this negotiation? What do you know about their negotiating style?

Relationship: Do the negotiators or their constituents have any history together? What was that prior relationship like? How are they getting along now during the negotiation? Do they have a good relationship? Is it strained? Have they just met for the first time? Will the parties have a continuing relationship or will this be a "one-shot" negotiation? Even if the parties are not likely to work together in the future, will reputations be made in this negotiation that will follow the negotiators in the community?

Issues: The issues involved in the negotiation are the topics to be negotiated. They are also the questions and concerns that each party raises during the negotiation. It is usually very helpful to frame the issues as questions to be answered rather than statements that are made.

Positions: The positions in the negotiation are the solutions that each person has in mind. Positions are the "What" that the negotiators want. Many different positions are considered during a negotiation including, the opening position (demand), a fall back position, a bottom line, and a BATNA (Best Alternative to a Negotiated Agreement).

Interests: Interests are the basic needs that negotiators seek to be met in any agreement. If you know the interests, you know "why" the negotiators take the positions they do during the negotiations. Maslow's hierarchy of needs is helpful here.

Options: Options are the full range of possibilities on which the parties might conceivably reach agreement. Options are, or might be, put "on the table." An agreement is better if it is the best of many options, especially if it exploits all potential mutual gain in the situation.

BATNA: Alternatives are the walk-away possibilities that each party has *if an agreement is not reached*. In general, neither party should agree to something that is worse than its "BATNA" – its **B**est **A**lternative to a **N**egotiated **A**greement – "away from the table".

One-Minute Evaluation

HANDOUT (H-IV.4)

Please answer the following questions. Your responses will help the instructor/facilitator to improve how he/she conducts future workshops.

1. What worked well during this course?
2. What aspects needed work?
3. What specific improvements would you make?
4. What grade (A-F) would you give the course? The instructor?

Many thanks!

Appendix D. Sandus Basin Exercise: Overview & Maps

Contents:

- Exercise Overview
- Map 1: Sandus River Basin
(With Jurisdiction Boundaries)
- Map 2: Sandus River Basin Mean Annual Precipitation
- Map 3: Sandus River Basin
(Without jurisdiction boundaries)
- Map 4: Sandus River Basin Basket of Benefits
(Without jurisdiction boundaries)
- Map 5: Sandus River Basin Basket of Benefits
(With jurisdiction boundaries)

SHARING WATER, SHARING BENEFITS

Stacy Polkowske
Oregon State University

Simulation Exercise

Introduction

This simulation exercise has been used in several contexts with adjustments to meet different circumstances. The following important notes apply to the scenario:

1. This scenario is entirely fictitious, as are the jurisdictions it portrays. Some attempt has been made, however, to mirror the major issues related to western waters in order for the exercise to be useful.
2. The data are approximate and should be used as a guideline only. Where there is insufficient data this should be intelligently made up.
3. Maps of the Sandus River Basin should be read with the scenario profiles. These can be found in Appendix G.

Regional Overview

The region of interest makes up the western portion of the continent. There are three major climate types that span across the region in a west-east direction. The high alpine desert in the east receives 5-10 inches of rainfall per year, the rainfall in the Central Valley ranges from 25-45 inches per year, while the coastal rainforest in the west experiences a steady 50-60 inches of rain per year. Much of the area experiences no precipitation every summer. The mountainous region in the east has large amounts of water storage in the form of glaciers and snow. The major geographic features of the region are:

- **Sandus River** - This large river drains 260,000 square miles, is ~1300 miles in length and empties into the Saltic Ocean. The Sandus River has an annual flow rate between 100,000 cubic-feet per second (cfs) to 270,000 cfs, depending on the water year and an average discharge of 129 million acre feet per year.
- **Central Valley** – The valley stretches in a northeast-southwest direction across the watershed. It receives abundant rainfall in the winter and experiences drought conditions in the summer. The fertile soils and excellent growing conditions have made the valley the agricultural hub of the region. The Kigala River, the largest tributary of the Sandus River, runs southwest through the valley.
- **Sandus Alps** – This mountain range, located in Sandus Republic, has historically had enormous water storage as snow (average of 410 inches of snowfall per year) and glaciers. The Alps are the primary headwaters of the Sandus River.

- **Century Aquifer** – A large aquifer spanning the western portion of the watershed and crosses the Skyland-Hamilton state border. It is an important source of irrigation and drinking water for the surrounding area. Due to over exploitation over the past 50 years, levels are declining. Several areas have recently been designated as “critical.”
- **Junction Lake** – A high use reservoir for water recreation and fishing, located at the confluence of the Coast Fork and Kigala rivers. The dam below Junction Lake produces hydro-electric power, water storage and flood control. There are fish ladders for migrating anadromous fish.
- **Skyland Lake** – This is a large reservoir located in the southeastern corner of Skyland State. The Kalayish Indian Reservation boundary bisects the lake. The Skyland Lake dam provides flood control, water storage and hydro-electric power for much of the region. There are no fish ladders at this dam.

Two species of anadromous fish, the Blue Finn and the Sparkle Finn, were listed under the Endangered Species Act (ESA) ten years ago. Migrating fish have passage up the Sandus River until their spawning grounds below Skyland Lake Dam. The Eagle River is a major Finn spawning area. Finn stocks also migrate up the Kigala River to their spawning grounds in the northern tributaries of the Central Valley. The Sandus River is navigable to vessels entering from the Saltic Ocean to the border of Sandus Republic, where a steep escarpment prohibits further passage.

The annual flow of the Sandus Basin as it reaches Port City is nearly eight times that of the Colorado River. Nearly 70% of the electricity in the region is produced by hydropower from the Sandus River Basin. Hydroelectric generation and flood control have been dominant priorities in the management of the river historically. In the past, irrigation, navigation and recreation have been able to take place within the context of meeting these needs. However, tremendous growth in the basin and the flow needs of the listed finn have resulted in greater uncertainty about traditional uses, as well as how to meet these needs and uses.

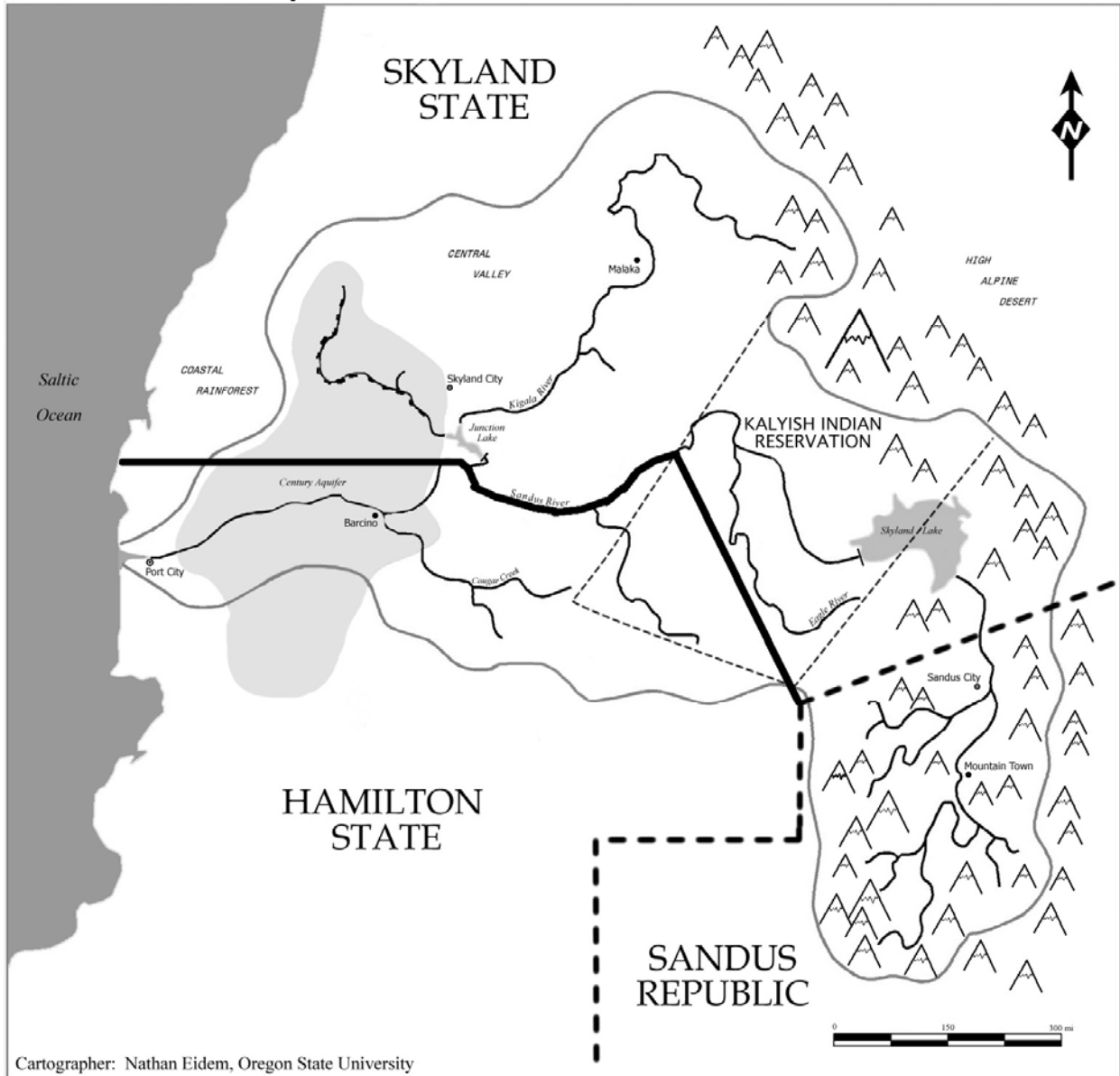
There is no scientific consensus on which environmental factors pose the greatest threat to finn, but scientific evidence does show that when extremely low flows or excessively high water temperatures occur, pronounced changes in their migratory behavior and lower survival rates can be expected. In proximity of the dams on the Sandus River, the river's velocity slows and much of its natural variability is smoothed out. Although water levels and velocity still fluctuate considerably on a daily, seasonal, and yearly basis, these effects of dams appear to confuse natural signals to the finn regarding migration and movement in the river system – either on their way out to the Saltic Ocean, or on their upriver return to tributaries in the uplands across the Basin. It is believed that this is effecting survival rates of finn.

Irrigation accounts for over 80 percent of water withdrawals in the Basin. There are areas and stretches of river that are much more affected by irrigation than others. Some smaller tributaries dry up in the late summer in parts of Skyland State where there are irrigation withdrawals. Some of these tributaries are spawning grounds for finn, which need flows year-round. Even on major

tributaries to the Sandus River, there are new needs. Oceana Federal Government has been purchasing and leasing water each year from Skyland irrigators in the last 3 years in order to augment flows for finn in the Kigala River.

Hamilton State and Skyland State were recently advised by an independent science panel that if they want to issue additional permits for water to be diverted from the Sandus River for farm irrigation, it should do so only under the condition that withdrawals can be stopped if river flows become critically low for the endangered finn. Finn are at greater risk during periods of low flows and high water temperatures -- conditions that are most likely to occur during the summer months when demand for water by farmers is greatest.

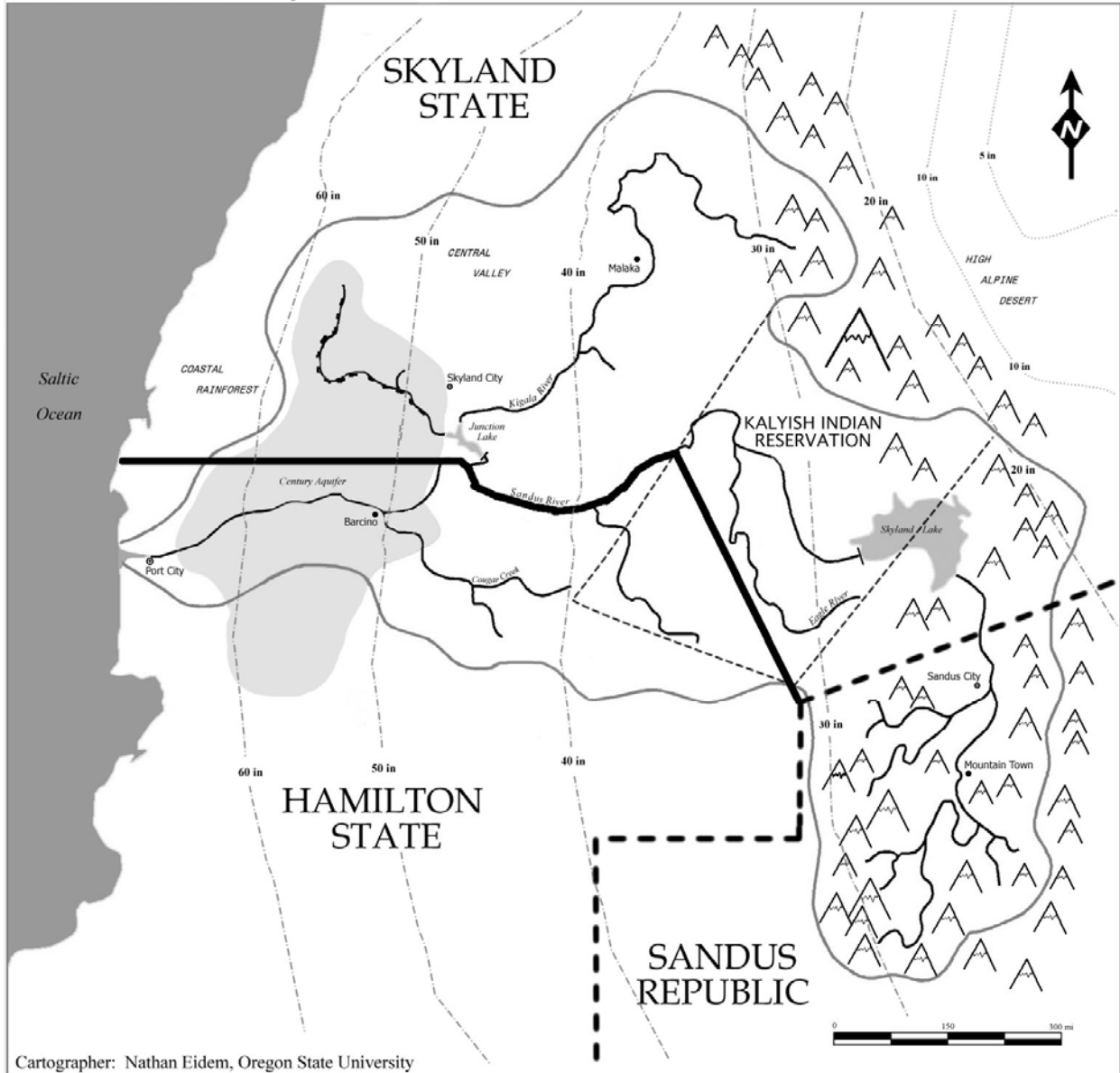
Map of the Sandus River Basin



Cartographer: Nathan Eidem, Oregon State University

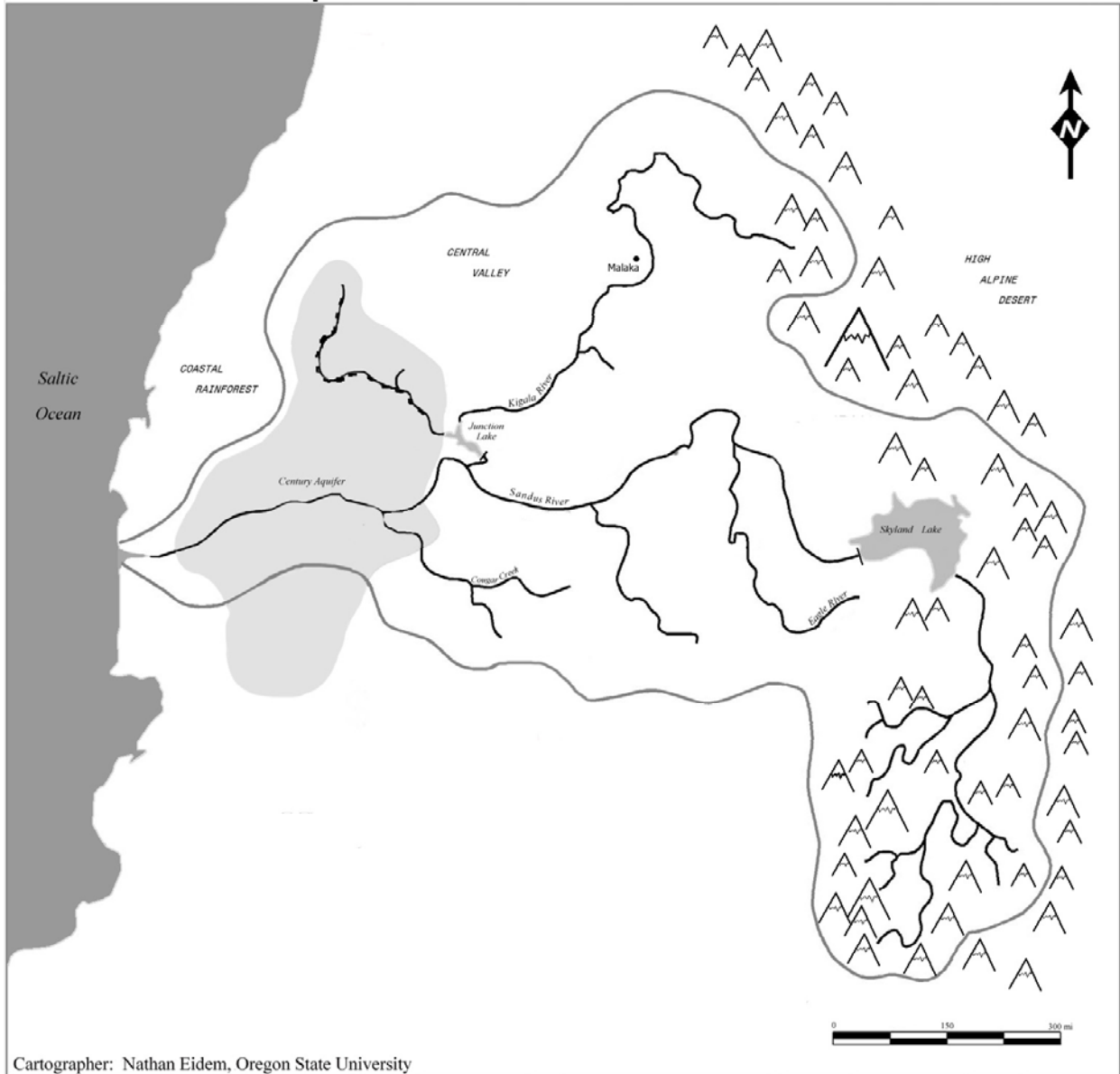
Map 1: Sandus River Basin with Jurisdiction Boundaries

Map of the Sandus River Basin



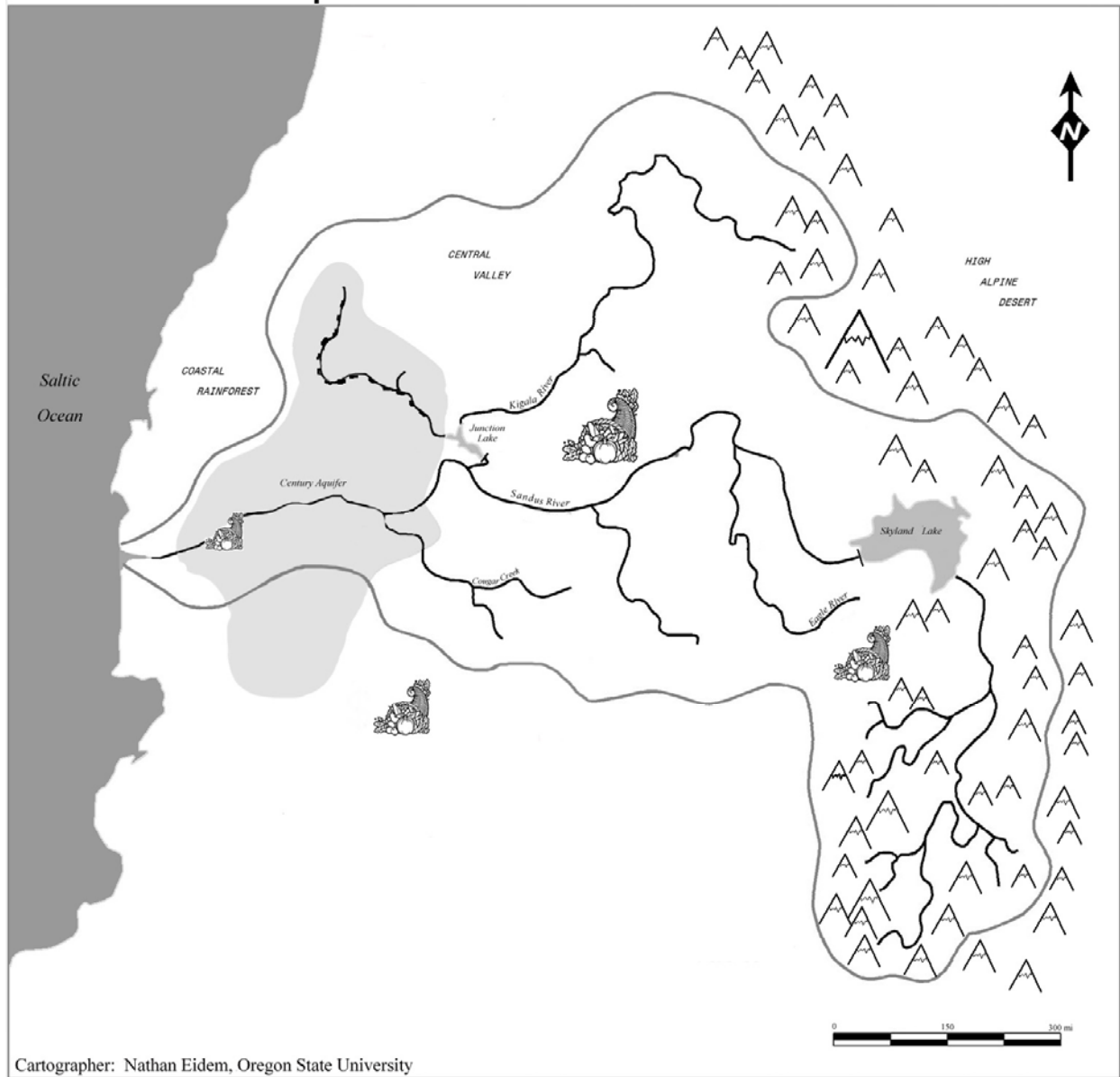
Map 2: Sandus River Basin Mean Annual Precipitation

Map of the Sandus River Basin



Map 3: Sandus River Basin (no jurisdiction boundaries)

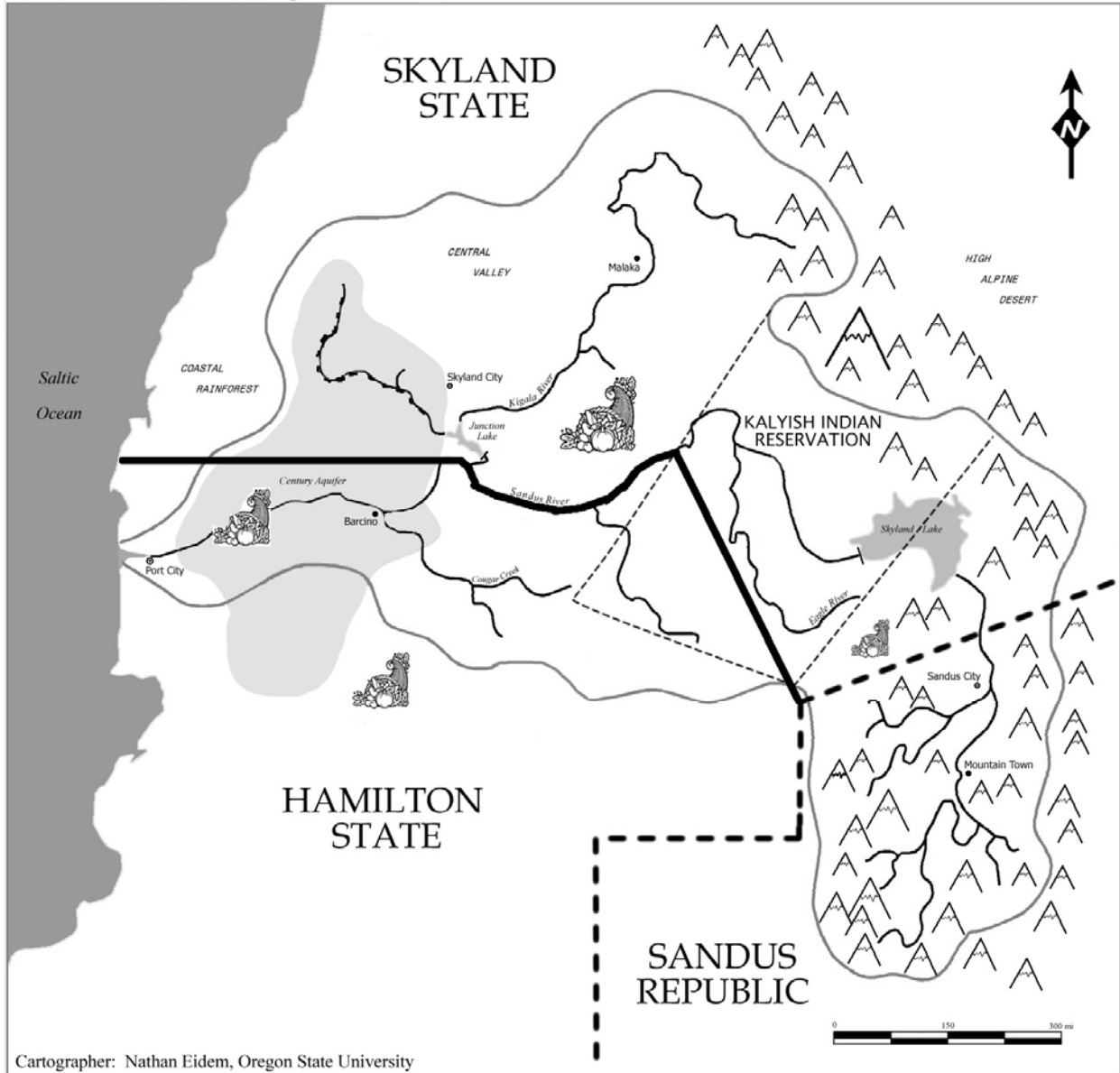
Map of the Sandus River Basin



Cartographer: Nathan Eidem, Oregon State University

**Map 4: Sandus River Basin with Baskets of Benefits
(Without jurisdiction boundaries)**

Map of the Sandus River Basin



**Map 5: Sandus River Basin with Baskets of Benefits
(with jurisdiction boundaries)**

Appendix E. Ugli Orange Case Handouts

Instructor/Facilitator Only
(for distribution to participants as noted in the workbook)

Contents:

- H-0.1: Role of Roland
- H-0.2: Role of Jones

HANDOUT (H-0.1)**Role for Roland: Ugli Orange Case**

You are Dr. Roland. You work as a research biologist for a pharmaceutical firm. The firm is under contract with the World Health Organization for development of a vaccine against anthrax.

Recently several World War II experimental anthrax bombs were being moved to a small island just off the U.S. coast in the Pacific. In the process of transporting them, two of the bombs developed a leak. The leak is presently controlled, but the government scientists believe that the gas will permeate the bomb chambers within two weeks. They know of no method of preventing the gas from getting into the atmosphere and spreading to other islands and very likely to Los Angeles as well. If that occurs, it is highly likely that several thousands of people will incur lung damage or die.

You've developed a synthetic vapor which will neutralize the nerve gas if it is injected into the bomb chamber before the gas leaks out. The vapor is made from a chemical taken from the rind of the Ugli orange, a very rare fruit. Unfortunately, only 4000 of these oranges were produced this season.

You've been informed, on good evidence, that a Mr. R. Cardoza, a fruit exporter in South America, is in possession of 3000 Ugli oranges. The chemicals from the rinds of this number of oranges would be sufficient to neutralize the gas if the serum is developed and injected efficiently. You have also been informed that the rinds of these oranges are in good condition.

You have also been informed that Dr. J. W. Jones is also urgently seeking purchase of Ugli oranges and he is aware of Mr. Cardoza's possession of the 3000 available. Dr. Jones works for a firm with which your firm is highly competitive. There is a great deal of industrial espionage in the pharmaceutical industry. Over the years, your firm and Dr. Jones' firm have sued each other for violation of industrial espionage laws and infringement of patent rights several times. Litigation of two suits is still in progress.

The Federal Government has asked your firm for assistance. You've been authorized by your firm to approach Mr. Cardoza to purchase the 3000 Ugli oranges. You have been told he will sell them to the highest bidder. Your firm has authorized you to bid as high as \$25,000 to obtain the rinds of the oranges.

Before approaching Mr. Cardoza, you have decided to talk to Dr. Jones to influence him so that he will not prevent you from purchasing the oranges.

Source: Barkai, John. 1996. Teaching negotiation and ADR: The savvy samurai meets the devil. *75 Nebraska Law Review* 704: 704-751.

HANDOUT (H-0.2)**Role for Jones: Ugli Orange Case**

You are Dr. Jones, a biological research scientist employed by a pharmaceutical firm. You have recently developed a synthetic chemical useful for curing and preventing rudosen. Rudosen is a disease contracted by pregnant women. If not caught in the first four weeks of pregnancy, the disease causes serious brain, eye and ear damage to the unborn child. Recently there has been an outbreak of rudosen in your state and several thousand women have contracted the disease. You have found, with volunteer victims, that your recently developed synthetic serum cures rudosen in its early stages. Unfortunately, the serum is made from the juice of the Ugli orange, which is a very rare fruit. Only a small quantity (approximately 4000) of these oranges was produced last season. No additional Ugli oranges will be available until next season, which will be too late to cure the present rudosen victims.

You've demonstrated that your synthetic serum is in no way harmful to pregnant women. Consequently, there are no side effects. The Food and Drug Administration has approved of the production and distribution of the serum as a cure for rudosen. Unfortunately, the present outbreak was unexpected and your firm had not planned on having the compound serum available for six months. Your firm holds the patent on the synthetic serum and it is expected to be highly profitable when the product is generally available to the public.

You have been recently informed, on good evidence, that Mr. R. Cardoza, a South American fruit importer, is in possession of 3000 Ugli oranges in good condition. If you could obtain the juice of all 3000, you would be able to both cure the present victims and provide sufficient inoculation for the remaining pregnant women in the state. No other state currently has a rudosen threat.

You have frequently been informed that Dr. P. W. Roland is also urgently seeking Ugli oranges and is also aware of Mr. Cardoza's possession of the 3000 available. Dr. Roland is employed by a competitor pharmaceutical firm. He has been working on a biological warfare research project for the past several years. There is a great deal of industrial espionage in the pharmaceutical industry. Over the past several years, Dr. Roland's firm and your firm have sued each other for infringement of patent rights and espionage law violations several times. Litigation on two suits is still in progress.

You've been authorized by your firm to approach Mr. Cardoza to purchase the 3000 Ugli oranges. You have been told he will sell them to the highest bidder. Your firm has authorized you to bid as high as \$25,000 to obtain the juice of the 3000 available oranges.

Before approaching Mr. Cardoza, you have decided to talk to Dr. Roland to influence him so that he will not prevent you from purchasing the oranges.

Source: Barkai, John. 1996. Teaching negotiation and ADR: The savvy samurai meets the devil. *75 Nebraska Law Review* 704: 704-751.

Appendix F. Sandus Basin Exercise: Jurisdiction Nameplates

Instructor/Facilitator Only
(for distribution to participants as noted in the workbook)

Contents:

- Skyland State
- Hamilton State
- Sandus Republic
- Kalayish Indian Reservation
- Oceana Federal Government
- Nature Conservation Union & NGO Community

Skyland State

Hamilton State

Port City

Sandus Republic

Kalayish Indian Reservation

Oceana Federal Government

Nature Conservation Union & NGO Community

Appendix G. Sandus Basin Exercise: Water Use Sector Nameplates

Instructor/Facilitator Only
(for distribution to participants as noted in the workbook)

Contents:

- Water Supply & Sanitation
- Irrigation & Drainage
- Energy Resources
- Environmental Interests
- Industry & Navigation
- Local & Indigenous
- NGO Community
- Facilitator/Mediator
- Port City

Water Supply & Sanitation

Irrigation & Drainage

Energy Resources

Environmental Interests

Industry & Navigation

Local & Indigenous

NGO Community

Facilitator/ Mediator

Appendix H. Sandus Basin Exercise: Handouts

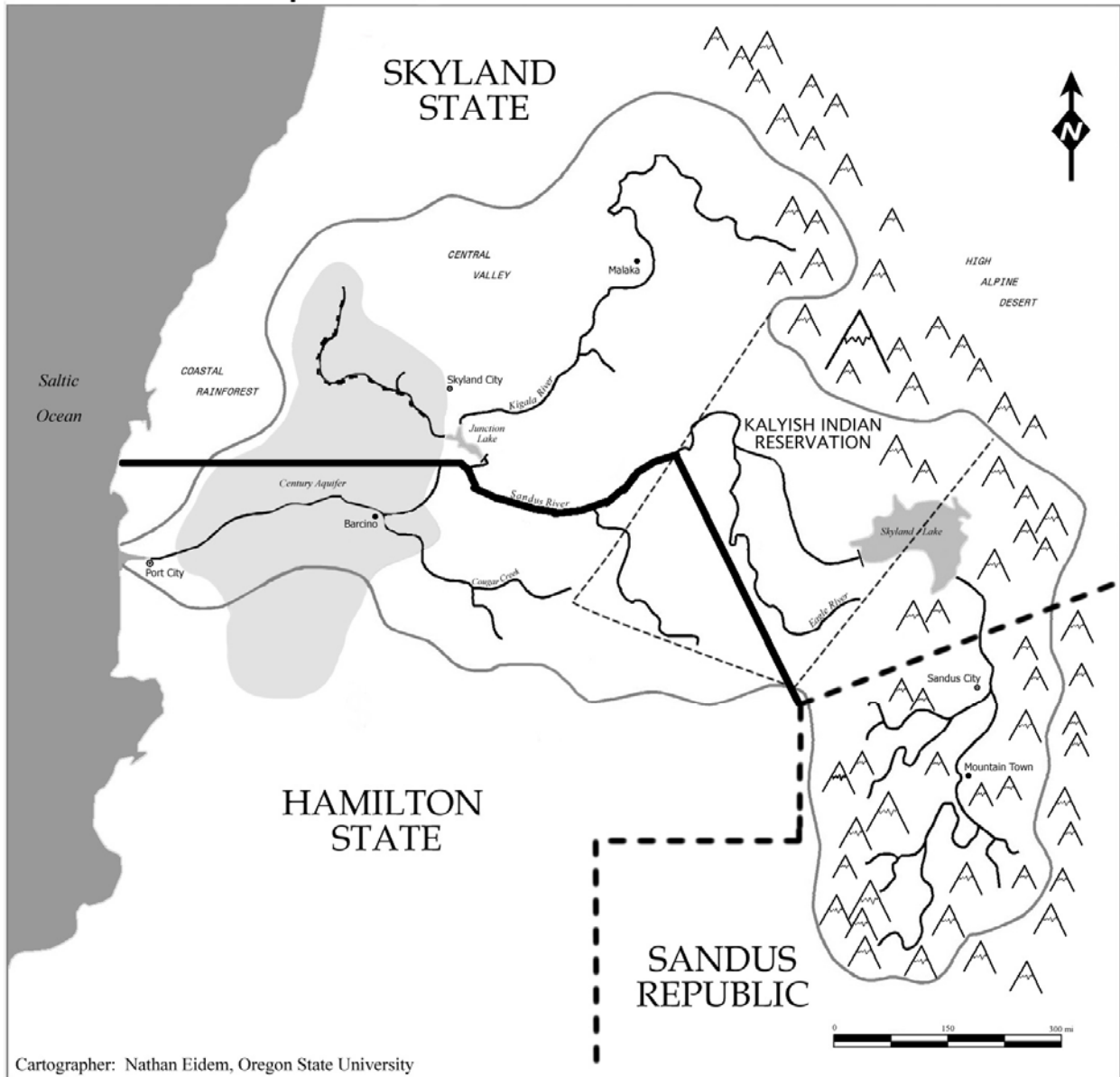
Instructor/Facilitator Only
(for distribution to participants as noted in the workbook)

Contents:

- H-I.4A-G: Jurisdiction Overviews
- H-I.8: Invitation
- H-I.9A: Sandus Republic Briefing Points
- H-I.9B: Hamilton State Briefing Points
- H-I.9C: Port City Briefing Points
- H-I.9D: Skyland State Briefing Points
- H-I.9E: Kalayish Indian Reservation Briefing Points
- H-I.9F: NGO Community Briefing Points
- H-I.9G: Oceana Federal Government Briefing Points
- H-I.3.1: Top Secret Letter, Port City
- H-I.3.2: Top Secret Letter, Sandus Republic
- H-IV.1: A Sandus River Basin Commission?
- H-IV.2: SARBaCU Aquifer Exercise

SHARING WATER, SHARING BENEFITS

Map of the Sandus River Basin



Simulation Exercise: Jurisdiction Details

HANDOUT (H-I.4B)

Jurisdiction Name:	SKYLAND STATE, OCEANA NATION (ON)
Population:	3,455,262
GSP:	ON\$139 billion
Annual per capita income:	ON\$31,881
Present Use of Sandus River water:	2.8 million acre feet per year

Geographical profile: This state is the largest in the region. The majority of the Sandus River watershed lies within its boundaries. Important geographic features include: Skyland Lake, the fertile Central Valley; the Kigala River (second largest river in the watershed), the Eagle and Coast Fork rivers, Junction Lake and Skyland Lake. Dams below Junction and Skyland Lake provide hydroelectric power, water storage and flood control. The Kalayish Indian Reservation extends into the southeastern part of the state.

Political profile: Skyland Lake holds the majority of hydroelectric capacity in the region. Skyland Public Utility buys power from the Greater Sandus Power Administration (GSPA), a federal power marketing agency (the region's major wholesaler of electricity), and sells it to the residents of Skyland. Electric rates are some of the lowest in the country. The Oceana National Finn Recovery Plan threatens these affordable prices and is not favored by most Skyland residents. Hydroelectric power is also made available to Sandus Republic as described in the 1961 Sandus River Agreement (see "Sandus River Agreements" below). With unprecedented population and industry growth in the watershed, the growing energy demand in the region has surpassed the current energy generation capacity. There are several proposals to increase hydroelectric power generation along the Sandus River and its tributaries.

Economic profile: Skyland greatly depends on the Sandus River Basin, both socially and economically. Agriculture dominates the Central Valley. Skylands' major exports are landscaping plants, wheat and canola. There are plans to extend existing irrigation schemes in several places in the state, including the formation of an irrigation district. Skyland City is a growing metropolitan area, vacation destination and a popular retirement community.

Hydrological profile: The Kigala River has an average annual flow of 33,000 cfs and the Coast Fork River has an annual average flow of 4000 cfs. As the Sandus River crosses into the State of Hamilton, its average annual flow rate is 119,000 cfs. The rainfall varies from 50-60 inches per year on the coast, 25-45 inches per year in the Central Valley, 5-10 inches per year in the eastern part of the state. The State of Skyland would like to build a dam on the Eagle River to provide extra water storage for dry years. There are also plans to build further hydropower stations and to develop heavy industries and mining operations at several key points in the state. There is concern regarding the environmental impact of this development, particularly regarding quality impacts on the waters of the Sandus River. Skyland exploits the Century Aquifer water reserves for agricultural irrigation during summer low flow.

HANDOUT (H-I.4C)

Jurisdiction Name:	KALAYISH INDIAN RESERVATION
Population:	10,558
Personal Income:	ON\$214,425
Annual per capita income:	ON\$20,574
Present Use of Sandus River water:	<0.1 million acre feet per year

Geographical profile: The Kalayish Indian Reservation abuts Skyland State and the Hamilton State. The entire length of the Eagle River is situated within the reservation boundary. Besides the Eagle River being critical spawning grounds for endangered Blue and Sparkle Finn fish stocks, the headwaters of the Eagle River is considered sacred spiritual grounds by the Tribe. More than half of Sandus Lake, including the dam, is within the reservation's confines. This area of the state has great wind-energy potential due to its high plateaus and contours of the land.

Political profile: The 1866 treaty granted the tribes the land within their current reservation. Its reserved rights remain unquantified. It retains rights to the tribe's customary hunting, fishing and gathering on all ceded lands. The Tribe has been frustrated by the level of attention and progress being made with quantifying their reserved water rights. This has led to some bitter feelings towards the federal government of Oceana Nation. The tribe has been urging the federal government to negotiate a settlement of these rights rather than litigate them, in hopes of getting a development fund as well as several other related needs. For example, the Tribe would like to see the removal of the Skyland Lake Dam to allow for fish migration to spawning grounds above the lake, or the addition of fish ladders. They oppose any proposals to dam the Eagle River. The Tribe ultimately wants to see the return of wild Blue Finn and Sparkle Finn fish stocks to their natural spawning grounds. These stocks are spiritual icons as well as an important food source for the Kalayish. The Tribe has been an advocate for renewable wind-energy as an alternative to hydroelectric in recent years. The tribe owns and operates a small fish hatchery on the Eagle River.

Economic profile: The majority of the reservation residents live below the poverty line. The soils in the area do not support the range of agriculture found in the Central Valley. More water is also needed to expand their growing capabilities. The major economic inputs for the reservation are: cattle and bison ranching, native plant nurseries and the harvesting/selling of wild indigenous foods (camas root, wild crafted medicinal herbs, etc.). The Tribe is very interested in establishing a wind-energy farm on their land in order to provide electricity for the reservation and to sell renewable power to the grid. They have been exploring various avenues of funding but have yet to receive adequate interest and/or finances to meet their start-up needs.

Hydrological profile: The average rainfall on the reservation ranges from 15-25 inches. The rainfall is highly variable and the area is subject to periodic droughts. The annual average flow of the Eagle River is 5000 cfs. At the confluence of the Eagle River and the Sandus River, the average annual flow is 185,000 cfs.

HANDOUT (H-I.4D)

Jurisdiction Name:	HAMILTON STATE, ON
Population:	5,894,121
GSP:	ON\$278.5 billion
Annual per capita income:	ON\$38,702
Present Use of Sandus River water:	1.7 million acre-feet per year

Geographical profile: The majority of Hamilton State is south of the Sandus River. Most of the state is flat with undulating hills in the northern and eastern regions. A large portion of the state is covered with grassland and steppe suitable for pastoral activities. The southern part of the state is covered in dense forest lands. Port City, the state capitol, sits at the mouth of the Sandus River in the northwest corner of the state. Though the Century Aquifer expands into Hamilton, groundwater use is minimal.

Political profile: A private electric company, Hamilton General Electric, buys power from the Greater Sandus Power Administration (GSPA), a federal power marketing agency (the region's major wholesaler of electricity), and sells it to the residents of Hamilton at a premium price. In general, Hamilton views the Oceana National Finn Recovery Plan to be sub-par and would like to see a more promising program established. In the past year, the extensive logging in the south has created a heated debate between environmentalists and the logging community.

Economic profile: Hamilton's economy has grown steadily during the past decade with a surge of growth in the last 5 years. Historically, the major exports have been predominantly beef, cereal grains and lumber. There was also a significant Finn fishery until the listings 10 years ago. A limited commercial and recreational fishery remains with a great deal of interest in restoring the runs. In recent years, the computer and electronic industry have established a foothold in the Barcino area, which has created numerous jobs and increased the state's revenue considerably. The state is aware of this new industry's needs for abundant, high quality water.

Hydrological profile: The annual average flow of the South Fork River is 4000 cfs. At the confluence of the Sandus River and the South Fork River, at the town of Barcino, the annual average flow is 250,000 cfs. The average rainfall over the state is 50-60 inches per year in the coastal forest, 20-30 inches in the central region and 5-10 inches per year in the eastern part of the state. There is growing concern over the effects of logging in the Hamilton forests. This is causing a great deal of silt to be washed into the rivers during the wet season. The increase in industry along the river has also increased water usage and has taken a toll on the water quality downstream of Barcino.

HANDOUT (H-I.4E)

Jurisdiction Name:	PORT CITY, HAMILTON
Population:	2,154,415
Personal Income:	ON\$1,800,978
Annual per capita income:	ON\$34,484
Present Use of Sandus River water:	0.5 million acre feet per year

Geographical profile: Port City is located in the northwest corner of Hamilton at the mouth of the Sandus River. The city has a long maritime history and harbors a major naval base for the Oceana Nation Navy. As a key international seaport, the city is almost totally socially and economically dependent upon the river. Port City is located on the western boundary of the Century Aquifer.

Political profile: Many people are moving to Port City from the surrounding rural areas in search of higher wage jobs. Water quality for domestic use and water quantity for industrial use are top concerns for Port City. The Port of Port City has been declared a “superfund” site by the O.N. Ecosystem Protection Agency and is currently moving forward with design of the cleanup of the contaminated sediment. The cleanup emphasizes dredging contaminated sediment and placing it in a confined disposal facility. The estimated cost of clean-up is \$51.1 million. Port City is considered a sustainable and progressive city by its residents and the surrounding area.

Economic profile: The city has a highly developed industrial base and seaport situated at the mouth of the river which makes this jurisdiction especially dependant on the security of flow in the Sandus. The strategic position of the city gives it considerable regional and international leverage.

Hydrological profile: The average annual flow of the Sandus River at Port City is 250,000 cfs. The average rainfall in the immediate area is 25-40 inches per year, with 75% received between the months of November-May. There are preliminary plans to utilize the freshwater reserves of the Century Aquifer to meet the increasing demands for clean drinkable water.

HANDOUT (H-I.4F)

Jurisdiction Name:	SANDUS REPUBLIC
Population:	5,612,897
GNP:	ON\$155 billion
Annual per capita income:	ON\$29,200
Present use of Sandus River water:	0.1 million acre feet per year

Geographical profile: The headwaters of the Sandus River flow from the Sandus Alps located in northern sections of Sandus Republic. Historically, anadromous fish have been observed to spawn in these headwaters and multiple tributaries. The Sandus Alps are covered with glaciers and experience extreme snowfall during the winter months. The majority of the country is undeveloped and heavily forested. The jurisdiction is also rich with other natural resource, including minerals, coal, natural gas and oil reserves.

Political profile: The Skyland Lake Dam was built in accordance with the 1961 Sandus River Agreement between Sandus Republic and Oceana Nation. The agreement specifies the minimum quantity of water to be received annually by O.N. and the agreed upon terms for hydroelectric power distribution to Sandus Republic. The snowfall in the last decade has decreased dramatically and the glaciers are receding rampantly. This has inspired Sandus Republic to address climate change on many political fronts, including the recent commitment to the Global Climate Change Protocol (GCCP).

Economic profile: Although Sandus is rich with natural resources, these have remained largely undeveloped. There is not sufficient rainfall for large scale agriculture in most parts of the country. Although there are a few large farms, mostly producing cash crops for export, most of the agricultural activity is undertaken by small family farmers. Dry years wreak havoc on the economy and have raised national interest in exploring possibilities of increasing water storage and developing infrastructure to expand the irrigation capacity. Tourism is becoming an important industry as more and more people are discovering the pristine beauty and outdoor recreation of the area. International demands for many energy and mineral resources have prompted proposals to explore their development.

Hydrological profile: The mountainous part of the northern region receives a long-term average snowfall of 410 inches per year and is heavily glaciated. This water storage provides critical flows during the summer months. Average rainfall in the mountain valleys equal 10-16 inches per year. Sandus Republic leaves most of its water resource instream. This is largely because of the relatively low level of development of the country as a whole. The average annual flow of the Sandus River as it enters Oceana Nation is 175,000 cfs per year. The possible development of new industry and agricultural operations could considerably increase water usage for Sandus Republic. Plans have included creating instream storage. The proposed water uses may raise concern in the lower basin as the river levels will inevitably decrease.

HANDOUT (H-I.4G)**Sandus River Agreements & Water Allocation****International Agreements**

In 1961, Oceana Nation and Sandus Republic entered into a 60-year treaty that coordinates binational flood control and increased hydroelectric power generating potential in both countries. Pursuant of the agreement, Oceana Nation receives a minimum annual average flow rate of 100,000 cfs from Sandus Republic. In return, Sandus Republic receives one-half of the additional power generated at downstream O.N. power plants by this 100,000 cfs of water. The Skyland Lake dam was completed in 1965 by Oceana Nation.

Interstate Agreements

From 1951 to 1967, the states of Hamilton and Skyland engaged in the negotiations of the Sandus River Compact. Much of the dialogue revolved around water allocation. But the debate that ultimately led to the failure of ratification was the rivalry between private and public hydropower interests between the states. Agreement was reached concerning the regulation of commercial and recreational fisheries. However, the language of the compact has the judicially untested potential of requiring greater partnership between Skyland and Hamilton on anadromous fish issues.

Tribal Agreements

The Kalayish Indian Reservation was established in 1866. The O.N. Government is obligated to provide services that protect and enhance the Indian lands and resources, which includes the need to maintain harvestable stocks of anadromous fish. Kalayish water rights have yet to be adjudicated. The Tribe would prefer a negotiated settlement process to determine its water rights, flows for fisheries, and an array of other interests and needs of the tribe on their reservation and ceded lands.

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Invitation

HANDOUT (H-I.8)

United Rivers

United Rivers Center
132 Summit Street
Capitol City
Oceana Nation
Phone (354) - 555 - 8822
Fax (354) - 555 - 8833

February 20XX

Director General / Permanent Secretary
Executive Director of Water Resources

Joint Meeting on the Future of the Sandus River Basin

Dear Colleagues,

I am pleased to be able to extend to you an invitation to attend a meeting to discuss and begin to determine the future of the Sandus River Basin. There are many challenges and opportunities facing us all. We hope you will be able to attend.

We are happy to be hosting the meeting as a neutral party.

The meeting details are as follows:

Venue: United Rivers Headquarters, Capitol City.
Date: 24 April 20XX
Time: 08h30

Please come prepared with thoughts about how you intend to use the waters of the Sandus River Basin for present and future needs. On the basis of these ideas, an attempt will be made to reach agreement on a vision for the future of the Basin and how we might continue to work together.

We look forward to the meetings.

With best regards,

Mrs. S. A. Lateef
Coordinator

Sandus Republic Briefing Points**HANDOUT (H-I.9A)****The Minister's Note**

These present negotiations are very important and have important implications for the future of your country. You may communicate with and seek further direction from your Minister through the designated Resource Person. **KEEP THE MINISTER'S NOTE HIGHLY CONFIDENTIAL.**

Global Climate Change: The headwaters of the Sandus River originate in our great Sandus Alps. Over the last 50-years, we have seen 55% reduction in our glacial mass. And our average snowfall has decreased substantially in the last decade. We signed the Global Climate Change Protocol (GCCP) when it was developed in 2004 and have been making strides in reducing our county's carbon dioxide and other greenhouse gas emissions. Oceana Nation has yet to commit to the GCCP. It is in everyone's best interest in the Sandus River Basin to stop ignoring climate change. It is our hope that this venue gives you the opportunity to relate the emerging crisis of our headwaters to other stakeholders of the basin and express the extreme urgency to mitigate our global situation.

Water Storage/Hydropower & Economic Growth: Growth is what interests us. We need to create employment and develop communications, transportation and power infrastructure. Flood events are increasing as well with the increasing numbers of rain-on-snow events with warming trends. Increasing flood control for the basin is becoming increasingly important. It is also imperative that we increase our water storage capacity, hydropower independence and explore renewable energy options. The hydropower received from the 1961 treaty is not enough to support our growth for the 21st century. Plans for the Sandus Reservoir are near completion and construction will begin shortly. You may encounter resistance from the lower basin concerning these plans. We plan to fulfill our minimum requirements of the 1961 treaty, but lower flows downstream cannot be avoided.

We are very keen that all of the projects should proceed. You must plan how much water is needed.

Logging contract potential: Interest has been expressed by a large international company in logging the upper catchment areas of the country. This will bring substantial investment and revenues to the country that can be used for national projects, but it will mean the loss of the forests on which a large number of communities depend and it may have detrimental effects on the upper Sandus River by increasing silt loads and the threat of floods. We are aware that downstream jurisdictions are concerned but you may be able to use the issue to your advantage in the negotiations.

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Hamilton Briefing Points**HANDOUT (H-I.9B)**

General: Your state is pioneering a new way of thinking about water through establishing local (catchment-level) water governance structures and institutional reform. Catchment Councils are facilitating “bottom-up” organization and restorative actions throughout the state. You hope to see more catchment councils established in the great Sandus River Basin.

Oceana National Finn Recovery Plan: You are putting a lot of time, money and effort into the recovery of finn stocks. Your state feels that the national plan is not soundly based in science and is lacking the appropriate means of making any substantial progress. In addition, Skyland is not cooperating on a mutual level. Engaging in the finn recovery plan is seen as a threat to their cheap electricity rates and abundant water use. Use this opportunity to promote better relations and understanding with Skyland. Cooperation on both sides of the river is needed to ensure the recovery of these fish stocks.

Development: The electronic and computer industry is booming along the shores of the Sandus River and calls for large quantities of high quality water. Water must be available for operations as this sector is an important source of jobs and revenue for your state’s future. You want to explore water re-use options and engineering designs to dampen the environmental effects but will need to acquire appropriate funding and support.

Environmental issues: For the past few years you have granted extensive logging contracts to large logging companies which have brought in a substantial amount of capital for your state. However, the logging practices that were used have caused serious degradation in the upper catchment regions. The jurisdictions in the Sandus River Basin are not happy with the logging. They say that it causes more silt in the river and that flash flooding is worse than in the past, however, they cannot prove this with actual figures. A number of NGOs are making a lot of noise about the issue. Some logging companies are beginning to say that addressing the issue of upper-catchment degradation must be addressed as a condition for further relations. You are concerned about who will have to pay for rehabilitation and what will replace the income from the logging.

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Port City Briefing Points**HANDOUT (H-I.9C)**

General: Your city is one of the leading examples of sustainable business models, “green” urban planning, sound environmental practices and lifestyles in the country. You want to build relationships with all of the jurisdictions because it is better to cooperate and make progress than to stall on past mishaps and miss critical opportunities.

Water Quality/Quantity: You are very worried about the degradation of the catchment. Extensive logging in southern Hamilton is causing greater silt loads in the rivers, higher water temperatures and increasing the threat of floods. Extensive agriculture in the Central Valley is causing nutrient loading and bacteria pollution. Industry along the middle reaches of the Sandus River is using vast amounts of water and dumping contaminated effluents into the river. All these factors are causing water quality concerns for your city. River mitigation and water quality improvement programs require millions of dollars. The city is cleaning up everyone’s mess at a high cost to its citizens and economy. You are looking for basin cooperation to improve water quality and for jurisdictions to take local responsibility for cleaning up their water pollution.

You advocate for the development of a basin-wide water usage monitoring and reporting system to ground future decisions in the basin.

Water Markets/Ecosystem Services: The city has been exploring creative economic ideas that may bring some solutions to the Sandus River Basin. Citizens are willing to pay for the ecosystem services riparian zones provide in terms of water quality, groundwater recharge and wildlife habitat. Resistance has been received from the agricultural community along the Sandus and Kigala rivers. Farmers are not interested in putting acreage of fertile ground into conservation easements. These negotiations may be the perfect venue to build key relationships with other jurisdictions and stakeholders.

Century Aquifer: Your city wants to tap in to the abundant reserves of freshwater of the Century Aquifer. You feel that fresh drinking water and municipal uses of the aquifer water should take precedence over irrigation uses.

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Skyland Briefing Points**HANDOUT (H-I.9D)**

General: Agriculture is at the heart of your state. Most of the food grown in your state feeds the other jurisdictions of the Sandus Basin. It is of everyone's concern that Skyland gets the water it needs. These negotiations could have implications for your water supply and thus the livelihoods of thousands of farmers. You need more water, more power and more cooperation from your neighbors.

Skyland Lake problems: There are a number of problems just beginning to appear in Skyland Lake. These include the problem of aquatic vegetation, eutrophication and pollution from a variety of sources. These problems threaten the viability of fish stocks in the lake and the downstream reaches of the river which form the staple diet of a large portion of the population. You need regional cooperation and assistance with the problem before disaster strikes.

Century Aquifer: A number of Central Valley growers supplement their irrigation regimes with water from the aquifer during the late season. The aquifer is being depleted and yet designating "Critical Groundwater Areas" are causing farmers to fear they will lose crops and income. More research and information is needed to properly manage this water resource. Hamilton is increasing its aquifer usage. They issue groundwater permits to anyone who applies and you feel that it needs to be more strict and regulated.

Irrigation & Development: Skyland needs more water storage for irrigation, you need more dams. You have asked a consulting firm to undertake a pre-feasibility plan for dams on the Eagle and Coast Fork rivers. Possible sites have been identified. Your objective is to get on with these developments. The formation of an irrigation district is of great interest to insure agricultural success in the future. You need to promote it but the relationship with the Kalayish Tribe is clearly a problem.

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Kalayish Indian Reservation Briefing Points**HANDOUT (H-I.9E)**

General: You have had a rocky history with your neighbors and the federal government. Perhaps these negotiations could begin new relationships. Problems have arisen in the past after expressions of good faith. You do not want the political issues related to the land/water to get in the way of bettering the livelihoods of your people; the disputes are struggles of power and different perspectives of ownership/rights, not solely water. You realize cooperation on your behalf is needed, but your patience is wearing thin and the tribe wants you to bring them results.

Skyland Lake Dam Removal: You want the dam removed. It is located on tribal lands and inhibits the migration of the blue and sparkle finn stocks, which are imperative to the survival of the tribe. You oppose development of any additional dams.

Wind Energy Capacity: Despite your continuous efforts to gain support from local governments and organizations, you have not gained financial and social backing for your proposed wind-energy program. You feel other jurisdictions are threatened by the potential the reservation has to be a major player in the energy market. Fortunately, you have received financing from a Sandus Republic oil company for the installation of five wind turbines. The energy production will be more than enough for the reservation's needs, 25% of the power will be allocated to Sandus Republic and the remaining will be fed into the grid at a premium price. The potential power from the wind farm makes additional dam proposals absurd. There has been concern from the environmental community about the effects that the wind farm will have on the migrating bird population, as it is in the migratory flyway. Further research needs to be done.

Water Rights & Implementation: In order to ensure a sustainable future, your tribal water rights need to be determined. The government has stalled on any action. Failure to quantify your senior tribal water right has led to a great distrust. You want to be able to move forward with this highly sensitive issue settled for the Basin. You would prefer to negotiate a settlement of these water rights along with associated issues and funding needs. You know that water allocations in the basin need will be a focus of the negotiations you are being called to now. Downstream users are concerned that if your tribal water rights are quantified and put to use, it will likely lead to decreased flows for them.

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NGO Community Briefing Points**HANDOUT (H-I.9F)**

General: You have been lobbying for decades now for improving the water quality and water flows in the late summer for the blue finn and sparkle finn. As the Basin has developed there have been other periods of time when the flows need to be adequate for fish migration, and increasingly they are not. There is much that is still unknown about the lifecycle needs of these remarkable fish, but it is clear that there are things that can be done.

Oceana National Finn Recovery Plan: There hasn't been adequate focus on temperature in the plan. In late summer, many tributaries are too warm for the finn. Further, the sediment levels from logging have increased, particularly in recent years when precipitation has tended to be as rain instead of snow in the winter. Logging practices must be examined as well as other land uses that are disturbing slopes.

Further, it has become clear that flows, particularly from small tributaries, need to be enhanced in the late summer, conflicting with growers needs for irrigation in these dry summer months. An incident recently with a stream drying up and with an associated fish-kill prompted your group to threaten legal action. This is in part why everyone is at the table now.

Everyone realizes the need for each other in solving this problem, as well as the basinwide problems with providing what these fish need. The challenge remains that much is still not known about the needs of these fish. This renders legal action as more of a general threat, but not a very real tool for change, study, and investment. Past discussions have broken down with everyone pointing at each other as being responsible for the decline of the finn.

Oceana Federal Government Briefing Points**HANDOUT (H-I.9G)**

General: You are pleased to have this meeting convened by United Rivers. Recent data has shown that the Finn Recovery Plan has not had the results you'd hoped for. There is a lot of pushback and fingerpointing at other users and at you for inadequate funds to implement your existing plan. You also know that you are vulnerable to lawsuits under the Endangered Species Act, and that any outcome from legal action won't add up to what is needed for the fish.

Both States need to get more active in addressing nonpoint source pollution. Sediment and temperature are big problems for finn. Dam operations and hatchery practices need to be reviewed as well. You have been using existing tools to partner with the states and stakeholders, but they have not had the results that are ultimately needed. You think that there are federal programs and funding that might be useful to work with landowners if the decisionmakers in Capitol City would be willing to be flexible with some of this region's needs and differences.

You also favor settling the Tribes rights – water rights as well as fishing rights. The uncertainty perpetuated by not having this settled creates difficulties in the forward motion of finn recovery and planning for the future.

Many of the ideas you have will require more funding and regional participation and coordination. There needs to be a way to discuss the potential effects of proposed water diversions and development. Making decisions about diversions on a case-by-case basis without considering the basinwide cumulative effects will contribute to degraded conditions for finn. If all of the players could see this as a common goal, there might be hope to get the needed funds and flexibility as well as information that would improve management.

Top Secret Letter**HANDOUT (H-I.3.1)**

State Department of Internal Affairs
Government Center, Independence St
Port City, Hamilton
Oceana Nation

February 20XX

TOP SECRET: Port City, Hamilton

Memorandum to City Directors of Water Resources
Sandus River Negotiations

After consultation with my colleague, the Executive Director of Water Resources, you are hereby instructed regarding the forthcoming negotiations on the Sandus River.

You must take part in the negotiations and make your decisions on behalf of the government which are in the interests of our city. You must make it clear to all concerned that any decisions will need to be ratified by State Cabinet.

We are very concerned about the water quality in the river and have shared our concerns with all stakeholders in the basin. We must all be responsible to our neighbors. We should help with further studies and modeling of the basin so that everybody understands the impact of all possible actions and proposed development. You should push for establishing some sort of river basin organization responsible for the gathering of information, including usage monitoring and reporting, water quality testing, groundwater recharge and wildlife habitat assessment. It makes sense that these activities should be undertaken *before* water resources of the Sandus River are to be developed further; otherwise we (and everyone in the basin) do not really know what we are doing.

Another very important note, the City Council has approved the issuance of the *Port City Environmental Bond*. The funds from this bond are to be used to acquire critical riparian acreage along the Kigala and Sandus rivers into conservation easements and to upgrade irrigation systems with more efficient equipment. This strategy is not only economical for the agricultural communities of our watershed, but it also ensures safe drinking water and a sustainable future for Port City. It is of great importance that you make connections and agreements with the agriculture community. Please advise other cities and states to consider this innovative economic approach towards appreciating the ecosystem service provided from healthy riparian zones.

Dr. M. G. Ruth
Executive Director of Internal Affairs and Water Resources

Top Secret Letter, Sandus Republic

HANDOUT (H-I.3.2)

Ministry of Water Resources
Capital Buildings
Freedom St
Sandus City
Sandus Republic

February 20XX

TOP SECRET: Sandus Republic

Memorandum to Director General: Water Resources
Sandus River Negotiations

You are hereby instructed by his Excellency, the Minister of Water Resources, regarding the forthcoming negotiations on the Sandus River.

You are mandated to take part in the negotiations but you have no authority to make any decisions on behalf of the Republic which may bind the government in the future. If called upon to make such a decision, you are instructed to first get clearance directly from my office endorsed by me in person.

With our decreasing glaciers and snowfall in the Sandus Alps, the future of our natural water storage is unpredictable and we must increase our capacity to store and utilize of our abundant water resources instead of letting it flow to Oceana Nation. Sandus Republic has approved the development of the Sandus Reservoir to be located at the confluence of the two Sandus River tributaries just upstream of Sandus City. We expect great resistance from basin neighbors, as the water of the Sandus River is already over-allocated downstream of the international border. It is of utmost importance that you express and negotiate our interests. The minimum flow rate of 100,000 cfs described in the 1961 Sandus River Basin Agreement will be upheld, but river levels will inevitably decrease due to our national water demands.

We also have been informed that our national bird, the Common Loon, will be listed under the Endangered Species Act next month. It is known that the Common Loon uses the Sandus River and its adjacent marshes/wetlands during its long migration. Since the majority of its migratory flyway is in the states of Skyland and Hamilton, please discuss measures with these jurisdictions to secure and protect appropriate habitats to save our national emblem. The listing will bring with it ramifications to regional water resources and future development plans. Please bare this information in mind as you represent our positions and interests.

Mr. J. K. Frisell, MP
Minister of Water Resources

A Sandus River Basin Commission?**HANDOUT (H-IV.1)**

Based on the results of your earlier negotiation efforts, the leaders of the five Sandus River Basin jurisdictions have decided to explore forming a Sandus River Basin Coordinating Unit (SARBaCU). They have decided that the SARBaCU would consist of a Council of Departments (COD), and a Technical Support Committee (TSC), each of which would have a representative from each jurisdiction, with a rotating chair. There would also be a professional Secretariat. The precise authority and functions of the SARBaCU must now be determined. Your task is to consider the following possible functions of the SARBaCU and to prepare a list of recommended functions for the consideration of the five leaders. The leaders would appreciate a joint recommendation from as many representatives as possible, preferably all. Please note that you may add any clarifications, modifications, or additions to the following list of options (which was prepared by an outside consultant).

“We hereby recommend that the SARBaCU have the following authority, functions, and responsibilities:

No.	Item	Recommend Yes/No?	Comments (Interests, drawbacks)
1	Promote and coordinate studies related to the creation of the SARBaCU.		
2	Implement development plans approved by the COD		
3	Monitor and publish rates of flow of the Sandus River at each jurisdictional boundary plus any other points agreed on by COD		
4	Monitor levels of pollution at each jurisdictional boundary, and other points in the river, lakes, or aquifer		
5	Monitor and publish each jurisdiction's contribution to, and withdrawal from, the waters of the SRB		
6	Annually determine and publish a report on the equitable use of SRB waters by jurisdictions.		
7	Monitor adherence by each jurisdictions to equitable use regimes and recommend any appropriate adjustments.		
8	Determine if requested by any jurisdiction, whether that jurisdiction has sustained significant harm and the source of the harm.		
9	Grant or deny permits for uses or development projects in one jurisdiction that may cause significant harm in another jurisdiction or jurisdictions.		
10	Resolve, by mediation or arbitration, any disputes between jurisdictions regarding SRB waters		

Please meet with your fellow representatives. You have a limited amount of time, but the jurisdiction leaders have great expectations of your productivity.

SARBaCU Aquifer Exercise**HANDOUT (H-IV.2)**

It has been five years now since the Sandus River Basin Coordinating Unit (SARBaCU) was established, pursuant to your recommendation. Now, acting on a complaint by Hamilton State and Port City, the SARBaCU's staff has determined that the Century Aquifer has been contaminated by heavy metals. Research conducted for the SARBaCU and its Technical Support Committee (TSC) by outside experts determined that the origin of the heavy metals was waste discharged into the Sandus River from an Industrial Park, located on the Coast Fork River, established seven years ago in Skyland State. Skyland is also the major user of the aquifer water reserves. Port City is currently investing in exploitation designs and infrastructure to supply safe drinking and municipal water to its residents. The outside experts, after reviewing the facts and the authority of the SARBaCU and consulting with the TSC, recommended the following actions:

- (1) Skyland State must compensate Hamilton and Port City for the harm sustained.
- (2) Skyland State must require all activities utilizing the Coast Fork River for waste disposal to take cost-effective measures to treat their waste before discharging it into the river to ensure the removal of heavy metals.
- (3) Skyland must decrease overall aquifer withdrawals by 5% + 1% every year for the next 15 years to promote adequate long-term recharge.
- (4) Port City must ensure that any water withdrawn from the aquifer for domestic use is treated prior to such use to ensure that harmful heavy metals are removed.

The COD has scheduled a meeting to decide whether or not to approve any or all of these recommendations. Because of your superb work during the negotiations establishing the SARBaCU, your leader appointed you to the COD last year. Please attend the meeting, and represent your jurisdiction well. As you know, in an act unusual at the time, the jurisdiction leaders agreed that only four votes would be needed to approve any action by the SARBaCU.

Recommendation Number	Approve or Disapprove?	Comments
1		
2		
3		
4		