Lake Abert & the Chewaucan Basin

Assessment Report

Oregon Consensus | February 2023

Assessment Team

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About Oregon Consensus

Oregon Consensus was established by state statute[1] as the State of Oregon's program for public policy conflict resolution and collaborative governance. The program provides mediation and other collaborative services to public bodies and stakeholders who are seeking new approaches to challenging public issues. Oregon Consensus conducts assessments and, where appropriate, designs and facilitates impartial and transparent collaborative processes that foster equitable participation and durable agreements. The program is housed in the National Policy Consensus Center in the Mark O. Hatfield School of Government at Portland State University.

About Oregon State University

Oregon State University has broad expertise in water resources management, including a focus on conflict and cooperation, and annually brings students from its water resources graduate program to the Chewaucan Basin and Lake Abert area to understand the relationship between ranching, the environment, and water.

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Photo credit: Abert Lake, Susan Vineyard, iStock.com

[1] Mediation and other alternative dispute resolution services for public bodies, ORS 36.179, Accessed at https://oregon.public.law/statutes/ors_36.179.

Contents

1.0. Executive Summary

In 2022, a number of people with interest in Lake Abert and the Chewaucan River Basin convened to find ways to sustain livelihoods, get more water into Lake Abert, and explore collaborative solutions that balance people living with the landscapes that make the region special. Oregon Consensus and Oregon State University were asked to assess the opportunities and challenges of a possible collaborative process to benefit the Basin. Oregon Consensus and Oregon State University conducted thirty-one interviews across a wide variety of people interested in Lake Abert and the Chewaucan Basin.

All interviewees recommended moving forward with a collaborative effort. For some interviewees, that recommendation was linked to a collaborative effort focused on restoring the Lake Abert ecosystem. There are different perspectives on historic and current water conditions in Lake Abert, and there are different ideas about how and whether irrigation efficiency and flood irrigation might lead to additional water in Lake Abert. Interviewees, and Oregon Consensus and Oregon State University agree that there is enough interest, trust, and opportunity for people to have a productive conversation about these differences.

Oregon Consensus and Oregon State University recommend moving forward with a collaborative process that is inclusive of agriculture, local agencies, Tribes, environmental groups, and others interested in Lake Abert and the Chewaucan Basin. That process might begin with a charter that describes inclusive participation and how a collaborative effort will make decisions—an approach that centers building trust and prioritizing actions that sustain livelihoods, protect habitat, and effectively manage water. The process will also need to work early to establish that joint base of information on the historic, current, and possible future conditions of Lake Abert and the Chewaucan Basin.

This assessment is designed to support the thirty-one people interviewed and others, who care deeply about Lake Abert and the Chewaucan. The next steps are for that group to decide how they want to move forward and what kinds of supports they might need.

2.0. Introduction

2.1. Overview

In 2021 and again in 2022, Oregon's Lake Abert dried up. Abert is one of the world's only hypersaline[2] lakes and an Important Bird Area[3] to migrating birds. The Chewaucan River and surrounding area that feeds water to Lake Abert is also important as ancestral homelands of the Northern Paiutes and to the ranching community centered near the City of Paisley.

In 2022, a number of people with interest in Lake Abert and the Chewaucan Basin convened to find ways to sustain livelihoods, get enough water into Lake Abert to support bird habitat, and explore collaborative solutions that find balance between the people and ecosystems that make the region special. Oregon Consensus and Oregon State University were asked to assess the opportunities and challenges of a possible collaborative process to benefit the basin. This assessment was designed to explore what a wide variety of community members, Tribes, interested organizations, and other leaders who care about the Chewaucan Basin think about

- the important events in the Chewaucan Basin's history that inform its present and future;
- why the Chewaucan Basin is important;
- which topics a collaborative process could, should, or should not cover;
- what success might look like;
- possible barriers to achieving that success; and
- the people, information, and resources that may be available to a collaborative process.

This report provides background on the issues important to the region, summarizes the results of assessment interviews, and offers recommendations for structuring a collaborative process to address stakeholder concerns.

2.2. Methods

The report synthesizes information from thirty-one assessment interviews conducted in person and by phone by Oregon Consensus and Oregon State University between November and December 2022, and provides an analysis of documents provided by people interviewed. Note that, although the assessment team was not able to interview everyone with an interest in the Chewaucan Basin, every effort was made to capture the full range of perspectives. (See Appendix A for a list of interviewees, Appendix B for interview questions, Appendix C for a resource list, and Appendix D for a summary of comments received on a first draft).

[2] Hypersaline lakes are saltier than ocean water (more than 3.5 percent salts) and provide unique ecosystems. Hammer, U.T. (1986). Saline Lake Ecosystems of the World. Springer Dordrecht.

[3] National Audubon Society. 2023. Important Bird Areas: Lake Abert, Oregon. Accessed at https://www.audubon.org/important-bird-areas/lake-abert.

3.0. Background

3.1. Ecological Context

The Chewaucan River is the primary source of water for Lake Abert.[4] Abert is a hypersaline lake and an Important Bird Area. When it has water, the brine shrimp and alkali flies are a feast for migratory birds on the Pacific Flyway–especially shorebirds migrating south in the fall. Abert is one of only a handful of hypersaline lakes in the world.[5] Lake Abert can host hundreds of thousands of shorebirds at the peak of migration, making it a critical stop along the Pacific Flyway.[6] Lake Abert's delicate ecosystem functions best for bird and the invertebrates birds eat when lake levels are not too low and not too high, balancing salinity and invertebrate water habitat just right. That balance depends a lot on the flows entering Lake Abert from the Chewaucan River.

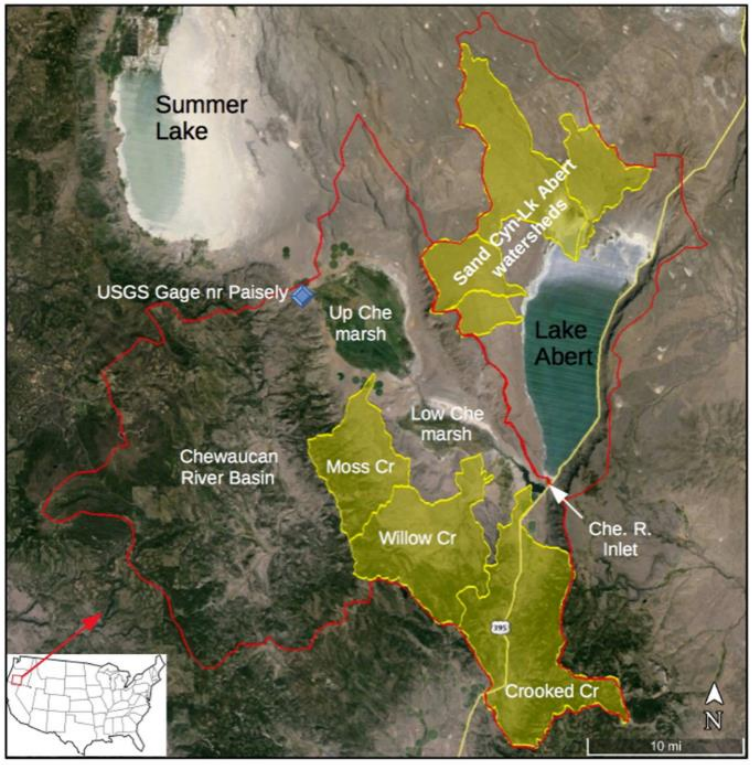
The Chewaucan River begins in the mountains of the Fremont-Winema National Forest and flows down toward the City of Paisley, Oregon (see Figure 1). The Chewaucan River's upper reaches are habitat for Chewaucan redband trout. State agencies and watershed groups have expanded fish passage in recent years to restore habitat access for redband trout. The upper watershed burned heavily in 2019, 2020, and 2021, and the US Forest Service, watershed groups, and ranchers are wrestling with recovery–how and if to revegetate hillsides with grasses or trees and managing the increased erosion and sediments in the river.

Between Paisley and Lake Abert, the Chewaucan marshes are ranched and irrigated for native grasses and hay. Those grasses are also significant habitat for waterfowl migrating north in the spring. Ranchers, conservation groups, and the USDA Natural Resources Conservation Service have implemented several projects to enhance habitat on the marshes.

Lake Abert and the Chewaucan marshes are important parts of the SONEC (Southern Oregon, Northeastern California) wetlands complex. Migratory bird populations in North America have decreased by about 30 percent since the 1970s.[7]

[4] Crooked Creek, Willow Creek, a handful of springs along Abert's north and west sides, ephemeral streams on Abert's east side, and rain and snow falling directly on the lake also provide water to Abert. These inputs are not currently measured, but are thought to provide much less water to Lake Abert compared to the Chewaucan River.
[5] Wurtsbaugh, W.A., Miller, C., Null, S.E., DeRose, R.J., Wilcock, P., Hahnenberger, M., Howe, F., and Moore, J.M. 2017. Decline of the world's saline lakes. *Nature Geoscience*, Vol. 10, pp. 816-821. Accessed at https://www.fs.usda.gov/research/treesearch/55579.
[6] Keister, G. 1992. The Ecology of Lake Abert: Analysis of Further Development. Oregon Department of Fish & Wildlife, Technical Report 92-5-02. p3. Accessed at https://digital.osl.state.or.us/islandora/object/osl:985327.
[7] Rosenberg, K. V., Dokter, A. M., Blancher, P. J., Sauer, J. R., Smith, A. C., Smith, P. A., Stanton, J. C., Panjabi, A., Helft, L., Parr, M., & Marra, P. P. 2019. Decline of the North American avifauna. *Science*, Vol. 366(6461), pp. 120–124. Accessed at https://doi.org/10.1126/science.aaw1313.

Figure 1: Lake Abert, the Chewaucan River, and Subwatersheds[8]



3.2. Cultural Context

Since time immemorial, Native people have lived and traveled through the area following the seasonal paths of food and water supply. Some of the oldest dated human DNA has been found in the Paisley caves. The Chewaucan Basin and surrounding areas are sacred to at least some of the Northern Paiute bands, which are also part of at least four federally recognized Tribes–the Burns Paiute, Klamath Tribes, Confederated Tribes of the Warm Springs, and the Fort Bidwell Indian Community (in California). The Northern Paiutes moved, and continue to move, seasonally across different parts of the landscape following food and water supplies. The Tribes have generational ties to the land in the Chewaucan Basin and surrounding area.

> "The Burns Paiute Tribal Council recognizes the Chewaucan River Drainage, Abert Rim, Tucker Hill, and the River's End Ranch area as sacred sites which include spiritual quest, sacred and cultural sites." Burns Paiute Tribal Council Resolution No. 95-04, 1995.

Some ranchers also have generational ties to the land in the Chewaucan Basin. The majority of the irrigated acres in the Chewaucan Basin are in the upper and lower Chewaucan marshes and

[8] Moore, J.M. 2016. Recent Desiccation of Western Great Basin Saline Lakes: Lessons from Lake Abert, Oregon, *USA Science of the Total Environment*, Vol. 554–555, pp. 142–154. Accessed at https://pubmed.ncbi.nlm.nih.gov/26950628/.

are managed by a few large ranches (e.g., ZX Ranch/Simplot, O'Leary, J-Spear, Murphy, and others). The upper and lower Chewaucan marsh wetlands were modified to include irrigation channels to allow for more controlled movement of water between 1884 and 1915.[9] Irrigation water for the marshes is diverted from the Chewaucan River at Paisley[10] to support irrigated pasture land and native hay. Those flood-irrigated lands return water, which then flows into the lower Chewaucan marsh where it is used again to irrigate pasture land. Those large ranches hold decreed water rights dating back to pre-1900, and other senior rights date to the early 1920s. The decreed rights are for more than 1,000 cubic feet per second of water, which is often more water than is flowing in the Chewaucan River. The Oregon Water Resource Department (OWRD) has not updated its water availability tables in some time (beyond accounting for the consumptive use portion of new surface water rights that are issued).

As the Chewaucan River leaves the marshes, it flows into the reservoir at Rivers End Ranch. The reservoir and related irrigation are controversial. In the early 1990s, a dam spanning the main channel of the Chewaucan River was raised to increase reservoir levels for bird habitat and irrigation water. The reservoir is just upstream of where the Chewaucan River flows into Lake Abert. The dam raise also included a request to issue associated water rights to the ranch, using public and private money. The project disturbed ancestral burial grounds and Native cultural sites. Federal[11] lawsuits were settled in part, but not all Tribes were party to those lawsuit settlements. There remains an ongoing, contested water right certificate for the stored water for the reservoir, and for an extension of time for irrigation use of water from the reservoir at River's End Ranch that expired nearly 30-years ago.[12]

[9] Phillips, K. and Van Denburgh, A.S. 1971. Hydrology and Geochemistry of Abert, Summer, and Goose Lakes, and Other Closed-Basin Lakes in South-Central Oregon. US Geological Survey Professional Paper, 502-B, pp. 13. Accessed at https://pubs.er.usgs.gov/publication/pp502B.

[10] Paisley (population 252) is the city in the Lake Abert and Chewaucan Basin area. According to one interviewee, about a third of the families are involved in agriculture, the Forest Service and Paisley School are the larger employers, and several families commute into Lakeview for work. Paisley School is K-12 and recruits twelve to fifteen exchange students each year, which also helps keep student numbers up for the high school. The drinking water and sewer infrastructure in the city is older and in need of upgrades, which Paisley hopes to fund through a pending Drinking Water State Revolving Fund application.

[11] Settlement agreement attached to Consent Decree, Wewa v. US Army Corps of Engineers (Civil No. 95-881-MA). Dist. Oregon. July 10, 1997; Settlement agreement with state defendants attached to Consent Decree, The Klamath Tribes v. US Army Corps of Engineers (Civil No. 95-975-MA). Dist. Oregon. July 9, 1997; Settlement agreements resolve all of the claims in Spires v. US Army Corps of Engineers (Civil No. 95-473-MA). Dist. Oregon, and some of the claims in Ft. Bidwell Indian Community v. US Army Corps of Engineers (Civil No. 95-1283-MA). Dist. Oregon.

[12] Oregon Water Resources Department. Permit S 51164. Accessed at https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_details.aspx?snp_id=49736.
Oregon Water Resources Department. Permit R 11347. Accessed at https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_details.aspx?snp_id=199095.

4.0. Key Themes from Assessment Interviews

4.1. All interviewees expressed an interest in a collaborative process to benefit Lake Abert and the Chewaucan Basin

Some interviewees reported that they did not have the capacity to participate actively in a collaborative process, but they agreed it could be helpful and wanted a way to stay informed and have their interests represented during any such process. Different interviewees reported different visions for success of a collaborative process, but there was broad recognition that the interest of all parties had value, even if there were disagreements over which of those interests were most important.

Some visions of success were as follows:

- There is a shared understanding of the importance of habitat and land manager roles in that habitat, and the patterns of how water is used and where it goes in wet and dry years.
- There is a restoration of "equilibrium" between land, water, and people.
- Additional water flows into Lake Abert
- Agriculture in the Chewaucan Basin is viable, sustainable, and resilient.
- There are defined goals for water management and habitat for wet and dry years that are sensitive to climate change, connected to management actions, and possible and realistic.
- Stronger trust and collaborative capacity exist in the basin among landowners, agencies, and environmental groups.
- There exists a common voice for the Lake Abert and Chewaucan Basin that can inform policy, funding, and other people about the importance of the area.
- The Lake Abert ecosystem is healthy with ample water to sustain ecosystem functions and the many birds that rely upon Lake Abert.

4.2. There needs to be a more common understanding of historic and current conditions in Lake Abert and the Chewaucan Basin

Many interviewees mentioned that there are disagreements over some of the foundational science around water in the Chewaucan Basin (see Appendix C for a list of published resources reviewed for this assessment). Some interviewees characterized these as disagreements over known facts, but others suggested the disagreements may be rooted in missing information. Overall, interviewees did acknowledge the need and benefit of some collaborative fact-finding to clarify what is known, unknown, and knowable in terms of science to support water management, agricultural practices, and habitat management in the Chewaucan Basin. There seems to be a shared understanding that most of the water in Lake Abert is provided from the Chewaucan River and arrives as snow melts in January through May, and that flows in the Chewaucan River drop quickly in June and often dry up in July.

During interviews, three key questions about the science seemed to emerge repeatedly:

- *Is Lake Abert naturally dry, or what role does irrigation play in contributing to the extent and frequency of low lake levels?*

  Different interviewees expressed different views on this question. Some said that Lake Abert has dried up or experienced low levels frequently since consistent measurement began in the 1930s. Others said the lake has completely dried up only in the 1930s, in 2014, 2015, 2020, and 2021. The Keister Report (1992) was cited in support of both interpretations during interviews.[13]

  Interviewees mostly agreed that less snow and precipitation mean less water for agriculture and for Lake Abert. They also mostly agreed the evapotranspiration[14] rates are high,[15] and getting higher–both for Lake Abert and for water flooding the marshes.

  Interviewees did not point to definitive climate change projections for the Lake Abert and Chewaucan Basin area. However, climate scenarios point to warmer temperatures. Those scenarios are more mixed regarding future changes to precipitation–which could go up, go down, or stay similar.[16] One interviewee mentioned that annual precipitation may stay similar, but may fall in two concentrated periods–winter snow and summer monsoon. With warmer temperatures, evapotranspiration rates increase and snowmelt occurs earlier in the winter and spring.

- *Would changes to water management on irrigated agricultural lands result in additional water into Lake Abert? Would that water be enough to maintain lake levels and salinity needed to support ecosystems? And would that water arrive in dry years too?*

  The Chewaucan marshes were historic wetlands, likely without defined channels, and likely with evapotranspiration as water spread out across the land. For some interviewees, this pattern of water movement and cycling is not so different from current flood irrigation practices. Some interviewees asked for more information on hydrologic conditions prior to the late 1800s. Other interviewees said there is room to modernize the flood irrigation system and to experiment with irrigation efficiency–but there is uncertainty about whether the water saved from those actions would deliver additional water to Lake Abert in volumes, or in dry years, in a way that would also increase lake levels to the point where brine shrimp and alkali flies begin to produce.

[13] See Keister, 1992. See note 6.

[14] The process by which water is transferred from the land to the atmosphere by evaporation from surface water and soil, and by transpiration from plants. More available at https://www.usgs.gov/special-topics/water-science-school/science/evapotranspiration-and-water-cycle.

[15] See Phillips and Van Denburgh, 1971. See note 9.

[16] Oregon Department of Fish and Wildlife. 2023. Climate Change. Oregon Conservation Strategy. Accessed at https://oregonconservationstrategy.org/key-conservation-issue/climate-change/.

- *Which species are we managing water and habitat to support?*

  All interviews recognized the significant importance of Lake Abert and the Chewaucan marshes to migrating birds in the Pacific Flyway. Many also pointed to those two areas as important parts of the SONEC (Southern Oregon, Northeastern California) wetlands complex. Interviewees understood that birds, especially shorebirds, used Lake Abert heavily, and different birds used the Chewaucan marshes. Interviewees acknowledged that both nesting and feeding habitat are important.

  Interviewees placed different levels of importance on protecting habitat for several groups of birds. Some emphasized the importance of shorebird habitat in Lake Abert as rarer habitat, and others emphasized the productivity of marsh habitat. One interviewee asked how important the habitat in the marshes is for species like sage grouse or antelope.

  It is unclear where shorebirds go when Lake Abert goes dry. Some interviewees recognized that historically, birds using the SONEC wetlands could adapt to find water and habitat if one place was drier. For those interviewees, regionwide drought reduces available water and habitat across the region, increasing the impact on bird populations of Lake Abert drying because birds did not have alternative habitats to use. Others recognized that bird populations were adaptable, and could grow and shrink or move up and down the Pacific Flyway based on water and food availability.

4.3. Measurement of water availability and use can be improved

Many interviewees pointed to the need for more precise information on the water budget for Lake Abert and the Chewaucan Basin. Other interviewees wondered whether more precise data would actually provide different information from what already exists to inform actions.

While interviewees had different opinions on the kinds of information needed, many of the interviewees agreed the following measurements would help inform actions:

- Additional snow telemetry (SNOTEL)[17] and AgriMet[18] stations to provide information on snowpack, precipitation, and soil moisture.
- Measurement of flows in the Chewaucan River leaving the marshes and entering Rivers End Ranch and entering Lake Abert, water diversions, and agricultural water use.

Additional flow measurements may be in progress or have been tried before. OWRD has attempted to monitor flow on major diversions in the marshes, but the combination of almost no elevation change and aquatic plant growth in the ditches made it so only two or three of

[17] The closest SNOTEL site is in the winter range in the Sycan watershed. SNOTEL sites monitor temperature, precipitation, and the amount of water stored as snow in mountain sites across the West. A map of SNOTEL sites is available at https://www.nrcs.usda.gov/wps/portal/wcc/home/quicklinks/imap.

[18] AgriMet is a network of automated agriculture weather stations throughout the Northwest. A map of AgriMet sites is available at https://www.usbr.gov/pn/agrimet/agrimetmap/agrimap.html.

those diversion monitors worked. Interviews pointed to the utility of having flow measurements on the Chewaucan River at a point leaving the marshes and entering River's End Reservoir and entering Lake Abert below the Reservoir. Several interviews also pointed to an interest in increased groundwater monitoring, and others felt more precise evapotranspiration measures would be useful.

The Bureau of Reclamation manages the AgriMet network in Oregon, and USDA Natural Resources Conservation Service (NRCS) manages the SNOTEL sites. State and federal agencies are identifying areas across Oregon where there is missing measurement instrumentation, and are working on funding to grow the networks of these sites. There may also be several legislative concepts in the 2023 Oregon legislative session that could include additional funds for water measurement.

4.4. There may be opportunities for irrigation efficiency and flood irrigation management system improvements, but talking about changes to water rights will be tricky

Several agricultural managers expressed an openness to talking about changes to agriculture practices that could increase irrigation efficiency. Several others also were open to looking at the current flood irrigation management system to see if there were opportunities for water savings that also allowed ranches and hay operations to continue functioning. However, there was significantly more hesitancy when the interview moved from talking about changes in water management to changes in water rights.

Many interviewees felt changes to water rights policy should not be part of the collaborative conversation. Some interviewees wanted to talk about instream water rights, and others did not want to talk about instream water rights. Some interviewees wanted to talk about water transactions (e.g., changing points of water use or diversions, using water in different seasons, or leasing some water instream), others did not, and some were open to that conversation, recognizing that it would be a difficult one. Several interviewees mentioned that the Oregon Department of Fish and Wildlife's (ODFW) recent filings for instream water rights across Lake County (including four in the upper Chewaucan Basin) had a cooling and worrying effect on landowners' interests in voluntary conservation; landowners did not feel recognized for the voluntary work they had been doing and worried about the constraints instream rights would place on their water usage relative to transferring points of water use or diversion. Others felt instream water rights were important, would not significantly alter existing water uses, and are an important part to building trust. Regardless of whether interviewees did or did not support instream water rights, many linked the issue to opportunity and challenge for building trust.

Some interviewees recognized the opportunity for irrigation efficiency, but questioned whether that water would be enough to reach Lake Abert or raise lake levels enough to activate brine shrimp and alkali fly production. Others felt it is critically urgent to address Lake Abert going dry, and any actions to deliver more water to Lake Abert should be considered. This was noted as an area for increased data and information.

4.5. Rivers End Reservoir and associated irrigation is important, but there are separate processes for addressing the Rivers End Ranch water rights and resolving those issues may not be appropriate for a collaborative process

Most interviewees recognized the important role of Rivers End Ranch Reservoir in managing the flow of water into Lake Abert. Those interviewees also recognized that actions at Rivers End Reservoir would not solve the issues at Lake Abert, but would be one part of a solution.

However, several interviewees mentioned that the issues at Rivers End Ranch should not be part of this collaborative conversation, but for different reasons, such as

- there remains an ongoing, contested water right certificate for the stored water and an extension of time for use of water from a reservoir at River's End Ranch[19] that are separate regulatory decisions that need to be made by OWRD;
- their belief that water in Rivers End Reservoir is not what is going to significantly change water levels in Lake Abert; and
- the land managers at Rivers End Ranch may not want to be part of a collaborative conversation right now.

Yet, several interviewees pointed to how hard it might be to have a conversation on improved water management and more precise water budgets without acknowledging the role Rivers End Ranch plays as the last stop for water before the Chewaucan River enters Lake Abert. However, while acknowledging the difficulties this might pose, interviewees felt that a collaborative effort focused on other aspects of the Chewaucan Basin would still be worthwhile.

4.6. The Chewaucan Basin and Lake Abert are rich cultural landscapes

Since time immemorial, Native people have lived and traveled through the area following the seasonal paths of food and water supply. Some of the oldest, dated human DNA has been found in the Paisley caves. Burial and cultural sites exist throughout the basin. Disturbance of those sites during the raising of the Rivers End dam in the early 1990s remains fresh in the memories of many of the Northern Paiute bands. Those bands were incorporated into several reservations, now part of federally recognized Tribes who want to stay connected with collaborative efforts in the Chewaucan Basin: the Burns Paiute Tribe, The Klamath Tribes, Confederated Tribes of the Warm Springs, and Fort Bidwell Indian Community. The Confederated Tribes of the Umatilla Indian Reservation are also interested in staying connected to a collaborative effort based on their broader interest in protecting cultural resources and collaborative approaches to water management.

Some of the topics interviewees raised as important to protecting the heritage and culture of Tribes included

- protecting burial and other sacred sites and artifacts from looters;

[19] See Permit S 51164. and Permit R 11347. See note 12.

- preserving access to land and water for spiritual practice and the seasonal rounds of gathering first foods; and
- finding an equilibrium where people, land, and water are in more reciprocal relationships.

The Burns Paiute Tribe passed a resolution naming the Chewaucan Basin as a sacred site. Tribes are sovereign entities. It is important to continue working with the different Paiute bands and associated Tribes on whether and how they want to engage in a collaborative effort. Tribes, as sovereigns, retain the right for government to government consultations with federal and state agencies.

4.7. Management in the upper Chewaucan Basin is important, but may not be a high priority issue to address in this collaborative process

Interviewees recognized that the upper Chewaucan River is the source water for Lake Abert and the marshes, and there was broad recognition of the negative impact from the 2019–2021 fires. Different interviewees placed different importance on including upland management in a collaborative conversation. Many interviewees recognized that the soil and water conservation district, watershed council, US Forest Service, and landowners in the upper Chewaucan Basin had a history of working together and had the issues well under control. Some interviewees wanted to make sure the habitat improvements for redband trout and the needs of those fish were celebrated and not forgotten. There was also recognition of high sediment erosion rates, but it was unclear how those sediment rates might impact water availability for Lake Abert.

Other interviewees wondered what opportunities there might be for natural storage (e.g., beaver ponds and wetland) and other conservation measures in the upper Chewaucan watershed and Crooked Creek watershed that could deliver additional water to Lake Abert in wetter years.

4.8. The role of groundwater in the basin hydrology is not fully understood and perspectives on whether it should be included in a collaborative discussion varied

Interviewees recognized there is a need to compile and improve on groundwater data in the Chewaucan Basin, including how groundwater pumping may be affecting the lake. Some wanted to know more and wanted the collaborative to look at groundwater withdrawals and irrigation efficiency on groundwater-irrigated fields. Others noted that several thousand acres are irrigated with groundwater and that improved groundwater management in the basin might be complicated, slow, and not yield much additional water for Lake Abert, and should not be a priority for the collaborative.

The Chewaucan Basin has an abundance of ecosystems that depend on groundwater. One interviewee suggested it would be helpful to know the percentage of groundwater in Lake Abert and to know the lateral movement of groundwater in the area.

4.9. Trust is growing, needs to go deeper, and can be built through action

Most interviewees recognized the newness of the relationships between local ranchers, scientists and other experts, and environmental groups. Some of the state and federal agency staff are also just getting to know some of the people who care about Lake Abert and the Chewaucan Basin. Several interviewees expressed a lot of hope for collaboration based on a successful previous gathering in August 2022 that included ranchers, environmental groups, and others.

Most interviewees reported that they would like higher trust levels than currently exist. Several interviewees noted that a collaborative effort should emphasize building trust and relationships and provide an ongoing space to resolve differences. One interviewee made an important distinction that trust is different than agreement. They could trust someone to listen and follow through on their commitments, even if they disagreed on how water should be used in the Chewaucan Basin. Some interviewees agreed that trust building was important, and wanted to ensure trust building could happen alongside early actions.

4.10. The issues in the Chewaucan Basin and Lake Abert are not isolated

The Great Basin is experiencing a significant, prolonged drought. Lake Abert is part of the SONEC wetlands complex that is key habitat on the Pacific Flyway. Birds that use Lake Abert and the Chewaucan marshes use other lakes and wetlands in the area as well.

Several interviewees noted that it is important to think regionally when addressing issues in the Chewaucan Basin. Some noted that irrigation in Christmas Valley could affect Summer Lake and maybe even the Chewaucan River. Some emphasized that management decisions for Lake Abert and the Chewaucan Basin should consider the impacts on bird habitat in the SONEC complex overall. Others noted that successful collaboration addressing the Chewaucan Basin could inform similar collaborative efforts in other basins. A few interviewees pointed to similar conversations occurring regarding the Great Salt Lake and some of the strategies being explored there.[20]

[20] Great Salt Lake Advisory Council. 2020. Water Strategies for Great Salt Lake: Legal Analysis and Review of Select Water Strategies for Great Salt Lake. Accessed at https://documents.deq.utah.gov/water-quality/standards-technical-services/great-salt-lake-advisory-council/activities/DWQ-2020-017844.pdf.

5.0. Process Insights and Recommendations

Successful collaboration to address Lake Abert and the Chewaucan Basin has to hold the tension of a desire for quick action and the recognition that solutions need to be durable and long-term. A collaborative group may need to move step by step, for example by

- establishing the collaborative process and a common base of information;
- deciding how to measure water availability and use and options for water use efficiency; and
- discussing actions that address the broader Lake Abert and Chewaucan Basin ecosystems, water use, and how to sustain livelihoods.

Questions Oregon Consensus asks itself to ensure an equitable collaborative process
In Oregon Consensus' experience, collaboration has the potential to disadvantage less vocal and less politically experienced participants. Access to social and economic resources and differences in groups' abilities to influence decisions are important to be mindful of. These are some questions Oregon Consensus asks itself as it makes process recommendations:

- Who will the decisions resulting from this process impact? What does it look like to meaningfully involve these communities and individuals?
- How do impacted communities and individuals define meaningful involvement?
- How best can Oregon Consensus communicate with these communities and community members?
- Is a collaborative process appropriate for this situation? When would it not be appropriate?

Based on Oregon Consensus' interpretation of the thirty-one interviews, we make the following recommendations for a collaborative effort to benefit the Chewaucan Basin and Lake Abert:

5.1. Convene a collaborative effort—people seem ready

Across all interviews, people wanted to collaborate and felt the conditions were ripe for collaboration. Starting a collaboration does not guarantee successful outcomes. The themes we heard are complex, and negotiations will be challenging. There are important early steps for the collaborative to walk through, including trust-building, developing a shared base of information, and negotiating goals, scope, and process. These will help a collaborative group identify near- and long-term actions they can take together.

Some other recommendations from Oregon Consensus specific to bringing a collaborative group together include the following:

- *Start by using a neutral process manager and facilitator*. Interviewees recommended a third party facilitator could help build the trust and relationships needed to start a collaborative.

- *Start early building the capacity for local convening and facilitation*. Start early building local capacity to support the collaborative effort. The impacts of drought in Lake County are likely to be ongoing and not unique to Lake Abert and the Chewaucan Basin and investment in local capacity may help sustain long term efforts and may have benefits beyond this particular collaborative. It is worth noting that any process support (e.g., facilitation) requires the trust of all parties involved.
- *Be clear with the naming and roles for different groups and organizations.* The role of this collaborative effort vis a vis the existing Chewaucan Watershed Collaborative, forums convened by individual organizations, and the different people affiliated with Oregon State University should be clarified, and that is important to many interviewees.

It is not uncommon that collaboration around a first set of topics leads to collaboration around future topics. Interviewees commonly mentioned that Lake Abert and the Chewaucan Basin were facing issues that were also important to other parts of Lake County and Oregon. Several collaboratives in Oregon are thinking about how one collaborative engagement builds the experience and capacity needed for the next challenge a community might face.

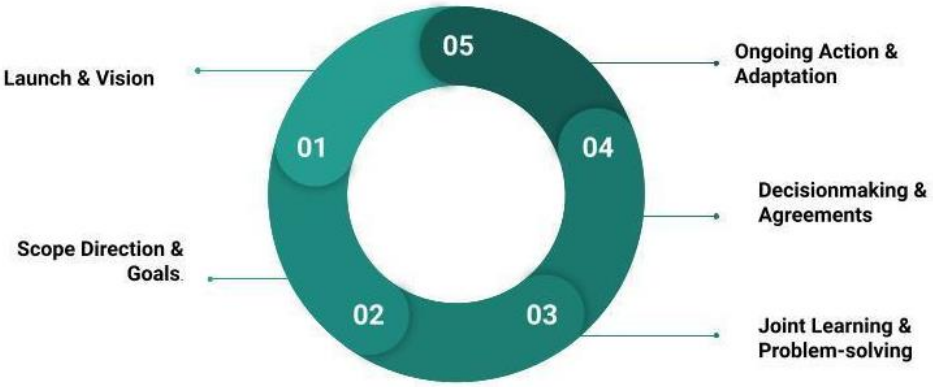
5.2. Develop a charter for how the group will operate and make decisions

We recommend, and several interviewees suggested, a charter document be developed collaboratively. It would define how decisions will get made, who sets agendas, expectations for participants, how the group will communicate with each other and to others, and what steps to follow when there are disagreements.

5.3 Develop a process map to follow

A process map is a tool that can help a collaborative move through the stages of process design and organization, deliberation and decision making, and implementation and adaptation (see Figure 2 for an example process map). A complete process map would include timelines and when key information might be available or when decisions might get made. This helps participants with limited capacity plan and make space to participate over time.

Figure 2. Example Process Map



5.4. Ensure inclusive participation

Interviewees regularly commented that the people being interviewed were the key people to include in this collaborative process. There may be some need for a core, representative group to invite people to the process, set agendas, and work with a third party facilitator to manage the process. This core team could also be made up of the different kinds of voices represented at the collaborative (e.g., Tribes, ranchers, and environmental groups). Otherwise, it feels manageable to include the wide range of parties currently interested in collaboration.

Some of those parties interviewed have limited time to participate in regular meetings on a wide range of issues (e.g., ranchers who are not paid to participate, statewide environmental groups and state agencies covering a range of issues, and Tribes who are being asked to engage in a lot of places). A process should

- clarify what it means to be an active participant in the collaborative, and what are alternative ways of participating (e.g., one-on-one or formal government-to-government consultation with a Tribe, participation in topic-specific work groups);
- make it as easy to participate as possible (e.g., not meeting during calving season, designing meeting agendas so the first half of a meeting focuses on one set of topics and the second half on a different set, or making stipends available for time and travel costs);
- be efficient with time and allow adequate time for thorough discussion; and
- establish how the group will communicate regularly with other interested people who want to track the collaborative effort (e.g., the legislature, other Lake County irrigators, or the members of organizations who are participating in the collaborative process).

5.5. Start by building a joint base of information

Many interviewees noted a need to establish a common understanding of historic and current conditions. Those same interviewees mentioned several times that it is not helpful to point fingers at the root causes of Lake Abert going dry. There was common understanding that

drought cycles led to drier conditions for agriculture and Lake Abert. And yet, interviewees pointed to different interpretations on the role of agricultural water use in dry lake conditions, the total amount of water available in the Chewaucan River, and what impact particular actions would actually have on increasing water flowing into Lake Abert.

A collaborative group could use process tools[21] that allow groups to a) jointly develop the questions they want answered, b) select a group of people to analyze data that all trust and support, and c) collectively receive and evaluate the analytical results. This kind of joint discovery can rely on existing data, can commission new studies, or both.

Some interviewees noted a need for more data, but did not want to burden landowners with collecting and interpreting that data (e.g., measuring their water use). Others voiced the need to understand how water is being used, citing the often quoted "you can't manage what you don't measure." As suggested above, there also seems to be a need for trusted people to provide parties the range of information they need to decide on actions. Using a combination of trusted outside and local technical advisors might also be helpful.

The broader collaborative group will need to set a process for

- building a common understanding of historic and current conditions;
- identifying and prioritizing science questions that need answers; and
- identifying the data collection and analysis needs to answer those science questions.

5.6. Keep a wide range of issues on the table

Many interviewees felt it will be important to look at Lake Abert and the Chewaucan Basin as a system–even a system that spans more of the Great Basin is some instances. A number of interviewees flagged issues that may not be appropriate to address as part of this collaborative effort (e.g., Rivers End Reservoir or changes to water rights), an equal number of other interviewees felt those issues needed to be acknowledged, even if not directly addressed in this collaborative effort.

The group will need to set shared goals for the collaborative effort and paint a picture of what success could look like. A number of interviewees suggested a broad scope for the collaborative at the beginning would be advantageous because it would

- be easier to integrate across issues;
- be easier for local groups to participate who are already active in many issues; and
- allow for work on hard issues sometimes and easier issues at other times.

Other interviewees were wary about diluting the focus and taking time away from the issue of getting more water into Lake Abert because

[21] MIT Science Impact Collaborative. 2023. Joint Fact-Finding. Accessed at https://scienceimpact.mit.edu/joint-fact-finding.

- the lake provides rare and critically important habitat for many migrating birds that rely upon it; and
- when the lake does not get adequate water, it cannot support these birds.

As people decide to move a collaborative effort forward, it will be for the group to agree to a shared initial scope of issues that will be addressed through the collaborative effort. These issues could be addressed in sequence over time, as groups of topics, or through parallel efforts.

5.7. Build trust and a common voice over time

There are open invitations for dialogue right now, and an interest in building trust. That is an important opening that can be used as a principle for guiding a collaborative effort's work. There is also growing state and national interest in Lake Abert, so a common voice from and for the area would have strength–even if that common voice did not agree on everything. Climate is changing, and drought cycles will likely occur again. Interviewees were interested in sustaining a collaborative space to address future drought cycles and conflict, not just the current situation.

Building trust is important to a lot of interviewees. Building trust can be an intentional part of how every meeting begins and ends. The group can also be intentional about building trust outside of meetings via field trips and meals together. In fact, several interviewees remarked how impactful the two-day field tour organized by Oregon State University Extension in 2015 was for them the previous time Abert was dry. Others noted the importance of events being broadly inclusive if they were to be successful means for building trust. Allocating the space and time to build trust will be important for setting up durable solutions for the long term.

Groups can be more successful if they can be specific about what trust and distrust look and feel like. Disagreement is not the same as distrust. But what would trust mean for this group? That would be an important conversation to have early on.

5.8. Look for opportunities for early success or implementation

Some early successes can build trust and momentum for a collaborative group. Those successes could be oriented around process (e.g., agreements on how the group will make decisions), or information (e.g., more detailed water information). Several interviewees suggested that identifying near-term actions to increase water flowing out of the Chewaucan marshes might be another way to build that trust and momentum that comes from early successes (e.g., several interviewees expressed a willingness to talk about near-term changes to agriculture practices in the marshes and more localized measurement). A collaborative effort will need to find a way to hold that tension that comes with a desire for near-term action and wanting to better understand which actions could make a longer-term impact for agricultural and ecological viability.

The group might ask itself if there are some early actions that people are already planning to take? What are those actions? Do those people need any support to implement them (e.g., money, access, thought partnership)? Are there any opportunities to understand or expand the impact of those actions?

6.0. Conclusion

Interviewees want to collaborate in Lake Abert and the Chewaucan Basin to find ways to sustain livelihoods, get more water into Lake Abert to sustain its ecosystem and the birds that rely upon it, and explore collaborative solutions that balance people living with the landscapes that make the region special. We agree, and see the need for collaboration long-term as climate changes affect the future availability of water.

Oregon Consensus and Oregon State University have presented this assessment to the thirty-one people interviewed, and will leave it to that group to decide if and how to move forward with collaboration.

Appendix A: Assessment Interviewee List

The following list represents only entities or individuals interviewed as part of the Oregon Consensus assessment. It is not intended to represent or imply that those named would be the specific invitees or participants in the collaborative process recommended in this report. Further, several entities or individuals with relevant knowledge and interests tied to improvements in the Lake Abert and Chewaucan Basin area were not interviewed as part of this assessment due to time and budget constraints, and their involvement and input should be considered with respect to any next steps.

Anton Chiono; **Confederated Tribes of the Umatilla Indian Reservation**

Autumn Muir; **Lake County Umbrella Watershed Council**

Barry Shullanberger; **Lake County Commissioner**

Bob Sallinger; **Portland Audubon**

Bobby Brunoe and Brad Houslet; **Confederated Tribes of the Warm Springs**

Cassie Smith, **US Geological Survey**

Chris Colson; **Ducks Unlimited**

Craig Foster; **Local Expert, Former Oregon Department of Fish & Wildlife (ODFW)**

Colleen Withers; **Withers Ranch**

Dan Shoun; **Local Expert, Former County Commissioner**

Dan Withers; **Withers Ranch**

Diane Teeman; **Burns Paiute Tribe**

Ed Contreras; **Intermountain West Joint Venture (IWJV)**

Greg Cianella; **Oregon Watershed Enhancement Board**

Karly Foster, Ryan Houston, Ann White; **Oregon Natural Desert Association (ONDA)**

Kasey Johnson; **Oregon Dept. of Forest (ODF)**

Jennifer Wigal; **Oregon Dept. of Env. Quality (DEQ)**

Jonathan Van Roekel; **Lake County Resources Initiative (LCRI)**

Justin Ferrel; **Lake County Soil & Water Conservation District**

Larry O'Neil; **Oregon State Climatologist**

Lisa Brown; **WaterWatch**

Marcelle Shoop; **National Audubon**

Martin "Marty" St. Louis; **Local Expert; Former Oregon Dept. of Fish & Wildlife (ODFW)**

Matthew Anderson, Ryan Andrews, Ivan Gall, Kyle Gorman, Jon Lamarche, Racquel Rancier; **Oregon Water Resources Dept. (OWRD)**

Philip Milburn; **Oregon Dept. of Fish & Wildlife (ODFW)**

Sara Slater; **Oregon Dept. of Environmental Quality**

Tess Baker; **Simplot**

Todd Forbes, Jami Ludwig; **Bureau of Land Management**

Trish Carroll, Theo Dreher, Ron Larson; **Oregon Lakes Association**

Zach Freed; **The Nature Conservancy**

Invited for interviews, but were not reached

Rivers End Ranch, ranch managers
Fort Bidwell Indian Community, cultural affairs representatives
University of Montana, emeritus professor
Klamath Tribes, Tribal Council, cultural affairs, and natural resources representatives

Appendix B: Interview Questions

ISSUES AND VISION OF SUCCESS

1. Tell me a little bit about yourself and your connection to the Chewaucan Basin.
    a. What about the Chewaucan's history and past is important to you before we talk about its present and future?
    b. What else about why the Chewaucan Basin is important to you?
2. What do you perceive are the major topics that, from your perspective, *might be addressed* through a collaborative effort to benefit the Chewaucan Basin?
    a. Is there a need/opportunity for a collaborative effort to address these?
    b. Are there issues or topics that *should not be addressed* through a collaborative process?
3. What impact is this issue(s) having (or would this solution have) on you (or your community)?
4. What are the challenges or barriers to addressing these topics? Do you have any suggestions for how they might be overcome? Are there any approaches or ideas that are non-starters for you?
5. What does success look like/what do you hope for, from your perspective? What happens if the status quo continues?

RELATIONSHIPS

6. Who is needed to achieve this success or could stop it from going forward? Are there historically underrepresented or over-represented communities that may be interested/affected by the issue or its resolution?)
7. Are there similar collaborative efforts or organizations in place locally that this effort could build from, enhance, or receive support from?

8. How would you describe the level of trust and/or strong social connections to be mindful of?

PROCESS, RESOURCES, AND INFORMATION

9. Are there lessons learned (positive or negative) from past efforts (in the Chewaucan Basin or elsewhere) that should be applied to this process?
    a. *Follow-on if time:* What would be important components/qualities for a collaborative process? (E.g., scope, goals/outcomes, facilitation, participation, sideboards, timelines, ground rules, etc.)
10. Are there information, data, or other technical resource needs (sources of data and resources) that you think should be addressed, utilized and considered as part of informing any effort to benefit the Chewaucan? Are there data gaps that would need to be addressed?
11. Are there resources *you have* that could be brought to bear in support of a Chewaucan effort?
12. Are there resources *you would need/are the limitations on your ability to participate* so that you could participate fully in a collaborative conversation?

CLOSING

13. Is there anyone else you think we should interview and why?
14. Do you have any questions for us? Is there anything we didn't ask that we should be asking?
15. What documents/websites/other background info would be good for us to review to learn more about the Chewaucan?

Appendix C: Resources

Interviewees were asked to provide information and published resources they thought could be helpful. Below are the resources mentioned by interviewees.

1. Bureau of Land Management Lakeview District. 1996. High Desert Management Framework Plan Amendment and Record of Decision for the Lake Abert Area of Critical Environmental Concern (ACEC) in Lake County, Oregon. Bureau of Land Management. Accessed at https://www.blm.gov/or/districts/lakeview/plans/files/lake-abert-acec-rod.pdf.
2. Resolution No. 2006-12: Burns Paiute Tribe Aboriginal Territorial Protection Policy. 2006. Burns Paiute Tribal Council. Accessed through https://burnspaiute-nsn.gov/resources/documents/
3. Resolution No. 95-04. Sacred Sites. 1995. Burns Paiute Tribal Council.
4. Traditional Territory (Burns Paiute Tribe). nd. Burns Paiute Tribal Council.
5. National Association of Conservation Districts. 2022. Breaking Down the Inflation Reduction Act. Accessed at https://www.nacdnet.org/2022/08/16/breaking-down-the-inflation-reduction-act/.
6. Conservation, Protection and Management of Lake Abert, Oregon Letter. 2022. [From Environmental Coalition to the Governor & State Agencies]. Accessed at https://www.audubon.org/news/audubon-and-partners-take-lake-abert-issues-straight-oregon-governor
7. Conservation and Management of Lake Abert. 2022. [Response to Environmental Coalition from the Governor & State Agencies].
8. Donnelly, J.P., King, S.L., Silverman, N.L., Collins, D.P., Carrera-Gonzalez, E.M., Lafon-Terraza, A., and Moore, J.M. 2020. Climate and human water use diminish wetland networks supporting continental waterbird migration. *Global Change Biology*, Vol 26, pp. 2042–2059. Accessed at https://www.researchgate.net/publication/338754442_Climate_and_human_water_use_diminish_wetland_networks_supporting_continental_waterbird_migration.
9. Marker, M.A. 1998. Evaluation of a Basic GIS for Mapping and Monitoring Cultural Resources at the River's End Ranch, Lake County Oregon. Oregon State University Graduate Project. Accessed at https://www.semanticscholar.org/paper/Evaluation-of-a-basic-GIS-for-mapping-and-cultural-Marker/b8e230dbc02303e5d5a4bb6c36158bdee465fbc2
10. Bach, M. 1990. History of the Fremont National Forest. US Forest Service. Accessed at https://foresthistory.org/ wp-content/uploads/2017/01/HISTORY-OF-THE-FREMONT-NATIONAL-FOREST.pdf.
11. Wigal, J., Rancier, R., Gall, I., Andrews, R., Colbert, D., Milburn, P. 2022. Overview of Lake Abert. House Committee on Agriculture, Land Use, and Water.
12. Herbst, D. 1988. Comparative population ecology of Ephydra hians Say (Diptera: Ephydridae) at Mono Lake (California) and Abert Lake (Oregon). *Hydrobiologia*, Vol. 158,

pp. 145-166. Accessed at https://www.researchgate.net/publication/226114620_Comparative_population_ecology_of_Ephydra_hians_Say_Diptera_Ephydridae_at_Mono_Lake_California_and_Abert_Lake_Oregon.
13. Phillips, K., and Van Denburgh, A.S. 1971. Hydrology and Geochemistry of Abert, Summer, and Goose Lakes, and Other Closed-Basin Lakes in South-Central Oregon. US Geological Survey Professional Paper, 502-B. Accessed at https://pubs.usgs.gov/pp/0502b/report.pdf
14. Intermountain West Joint Venture. 2020. Digging Deeper into Flood Irrigation. Intermountain Insights. Accessed at https://iwjv.org/wp-content/uploads/2020/01/IWJV_9927_Intermountain-Insights_Irrigation_v4.pdf.
15. Keister, G. 1992. The Ecology of Lake Abert: Analysis of Further Development. Oregon Department of Fish & Wildlife, Technical Report 92-5-02. Accessed at https://digital.osl.state.or.us/islandora/object/osl:985327.
16. Simpson, A. 2015. Rivers End Reservoir and Lake Abert- Memo for July 2015 Meeting. State of Oregon Department of Environmental Quality.
17. White, A. 2022. Lake Abert at Risk. Oregon Natural Desert Association, In the News. Accessed at https://onda.org/lake-abert-at-risk/.
18. Houston, R. 2022. Lake Abert: What's the Solution?. Oregon Natural Desert Association, Deep Dive. Accessed at https://onda.org/lake-abert-whats-the-solution/.
19. Larson, R., Eilers, J., Kreuz, K., Pecher, W., DasSarma, S., and Dougill, S. 2016. Recent Desiccation-Related Ecosystem Changes at Lake Abert, Oregon: A Terminal Alkaline Salt Lake. *Western North American Naturalist*, Vol. 76, No. 4, pp398-404. Accessed at https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1316&context=wnan.
20. Moore, J.M. 2016. Recent desiccation of Western Great Basin Saline Lakes: Lessons from Lake Abert, Oregon, *U.S.A. Science of the Total Environment*, Vol. 554-555, pp. 142-154. Accessed at https://www.sciencedirect.com/science/article/abs/pii/S0048969716303722?via%3Dihub.
21. Jarvis, T. 2022. Commons Sense for the Common Heritage: Saving Endorheic Basins the Oregon Way. *Water Resources IMPACT*, Vol September/October 2022, pp. 38-40. Accessed at https://online.flippingbook.com/view/336091663/40/.
22. Miller, J. 1983. An Overview of Power in the Great Basin of Native North America. *Journal of Great Basin Anthropology*, Vol 5(2), pp. 337-354. Accessed at https://escholarship.org/uc/item/9f75b16w.
23. Taylor, B. 2018. Abert Chewaucan Story. Unpublished article for Intermountain West Joint Venture.
24. Chewaucan Watershed Collaborative. 2022. Chewaucan Watershed. Accessed at https://chewaucanwatershedcollaborativ.godaddysites.com/.
25. Senner, N.R., Moore, J.N., Seager, S.T., Dougilld, S., Kreuz, K., and Senner, S.E. 2018. A salt lake under stress: Relationships among birds, water levels, and invertebrates at a Great Basin saline lake. *Biological Conservation*, Vol 220, pp. 320-329. Accessed at https://www.sciencedirect.com/science/article/abs/pii/S0006320717314544.

26. Oregon Department of Environmental Quality. 2015. River's End Ranch and Lake Abert—Memo for July 2015 Meeting.

Appendix D: Summary of Comments on Draft Assessment

Oregon Consensus and Oregon State University (OSU) requested feedback on a draft of the Lake Abert and Chewaucan Basin Assessment. The draft assessment report was initially presented to interviewees and other stakeholders at a meeting on January 19, 2023. Feedback was open to all attendees, and comments were received from Oregon Lakes Association (OLA), Tess Baker (Baker) from ZX Ranch, Stan Stenner (Stenner) a researcher from Montana, Oregon Water Resources Department, (OWRD), WaterWatch, Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Oregon Natural Desert Association (ONDA), and Tammy Barnes (Professor of Practice at OSU Extension).

Table D: Summary of Comments and How Comments Were Addressed

Commenter	Comment Theme	Oregon Consensus Response
ONDA	Pre-settlement hydrological and ecological conditions of the basin must be considered and included if the report is intended to present a holistic background of the basin.	There aren't authoritative citations for pre-settlement conditions that we could locate. We added disclaimers about historic conditions.
WaterWatch, OLA, ONDA	The background section should be deleted and/or condensed to avoid disagreement. There is not a shared understanding of basic facts.	The background section was kept and reorganized to focus on ecological and cultural context. Statements that could be a potential source of disagreement have been amended and/or different understandings have been acknowledged.
WaterWatch	There is no citation that Redband Trout overwinter in the River's End Reservoir.	The statement was deleted.
ONDA	There must be acknowledgement that we are only aware of four Tribes with a connection to the basin, but that there could be more.	The statement was qualified to include "at least," though we feel that this is supported through conversations with Burns Paiute, Klamath, and Warm Springs Tribes.
ONDA	Phrasing around historical ties to the basin must be differentiated between the ranchers and the Tribes.	The parallel structure and choice of "generational ties" was intentional to recognize the presence of Native people since time immemorial and ranchers since the 1800s. We amended other statements to emphasize that some ranchers have these ties, not all ranchers.

Commenter	Comment Theme	Oregon Consensus Response
WaterWatch, OWRD	The total number of irrigated acres should be removed, as there is not agreement on that number.	We agreed, and accepted the comment. Other issues on numbers and statistics were addressed on a case by case basis, acknowledging the need for citations when they were possible.
Tess Baker	The marshes have not been significantly altered by settlement, as they are still primarily native grasslands with very similar functionality.	We accepted the removal of the word "significantly."
WaterWatch	The background section does not mention Lake Abert enough and it should. This was the driving force behind the report.	We re-ordered the background section to recognize both the ecological and cultural context, and included some additional citations on bird habitat.
WaterWatch, OLA, Tess Baker	Understandings of water sources (primarily streams and groundwater) for Abert are complicated and not consistently agreed on across stakeholders.	We can provide additional context, and remove reference to specific numbers until verified.
WaterWatch, Stan Senner	Visions of success for Abert must include the health of Lake Abert.	We have included this as an item in the compiled list.
WaterWatch	Statements around areas for collaboration, particularly water rights and allocation levels should not be included if there is not agreement.	We included more nuance in areas where there were disagreements. We also acknowledged that even though people want to collaborate, negotiations will be challenging given the complexity of issues.
WaterWatch	Consensus around interviews believing collaboration should occur, unconditionally, was not universal, and the onus should not be put on conservation groups to "trust" other actors.	This language is important, and we have adjusted our recommendations to show that all participants must build trust. It remains our recommendation that this process build local capacity for collaboration and facilitation, but we clarified that it must be framed and communicated as a neutral process.
Anton Chiono, CTUIR	An emphasis on common fact building is key, and he hopes this can include consensus on the significance of instream water rights.	Thank you for the comment, no change

Commenter	Comment Theme	Oregon Consensus Response
Stan Senner	There must be an emphasis on developing a communal body of knowledge. This could be a line item in a funding request.	Thank you for the comment, no change
OWRD	Language should be amended to reflect our current lack of understanding regarding how and if irrigation efficiencies will result in additional or enough water in Lake Abert.	Clarified that some people felt the uncertainty was both around whether actions would generate a) any water into Abert, and b) enough water to support the ecosystem.
OWRD	Clarity around Lake Abert goals must be addressed, specifically if the goal is to send more water to the lake or to actually increase lake levels.	See response above
OWRD	Discussion of framing the collaborative and capacity of interested parties should acknowledge that state agencies are also asked to engage in many different locations.	Acknowledged limited agency capacity
OSU Lake County Extension	Threat based conservation plans are effective. However, the Snowy Plover is the only bird of high conservation concerns, and irrigated agriculture is not the main threat to their habitat.	We recognized that several guilds of birds rely on Lake Abert and the Chewaucan marshes. We did not make any statements as to the priority of different species, guilds, threats or opportunities. This is something for the group to discuss.
OSU Lake County Extension	A watershed level approach is better than simply managing lake levels, as it is more holistic. Measured lake levels are only comparatively useful after European settlement, and do not reflect pre-settlement flows.	We felt this is part of the need for coming to a shared understanding on historic and current condition and something for the group to discuss.