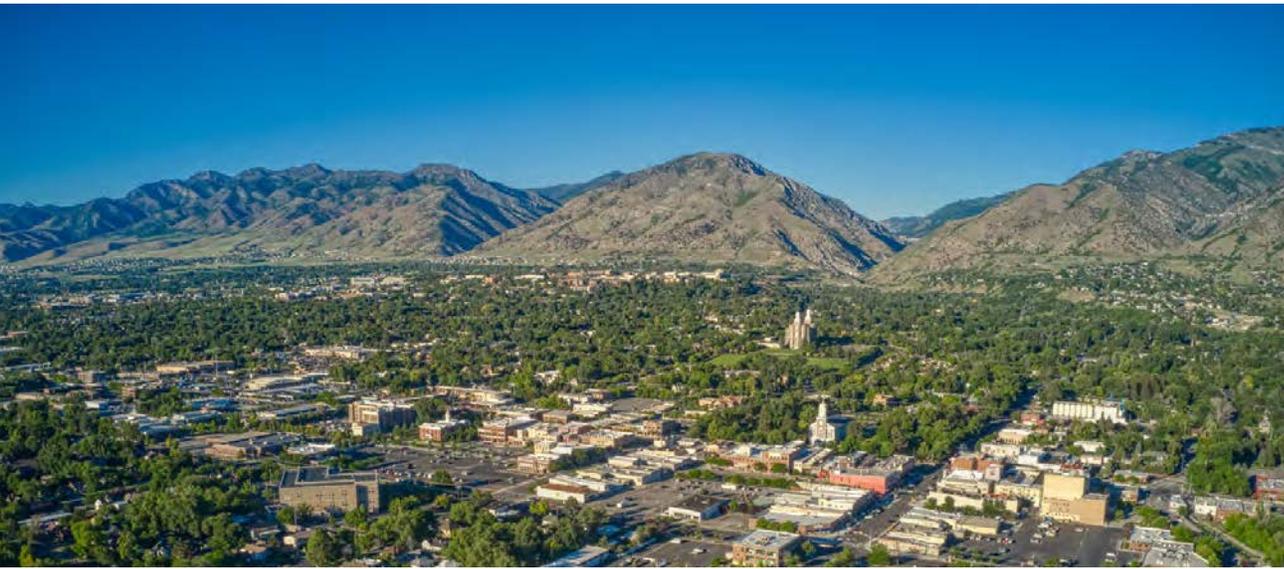


The Lower Bear River Watershed Action Plan 2022



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The Lower Bear River Watershed

The area of land that drains into the Bear River spans an enormous area of 7,400 square miles and is referred to as its watershed. The watershed originates in Utah's Uinta Mountains and terminates in Great Salt Lake. On its course back and forth across three states - Utah, Wyoming, and Idaho - the Bear River supplies vital services to our community. Agriculture, industry, and municipalities all rely on the Bear River's water. The watershed is also home to high value cultural assets, recreation, and natural resources like fisheries and waterfowl.

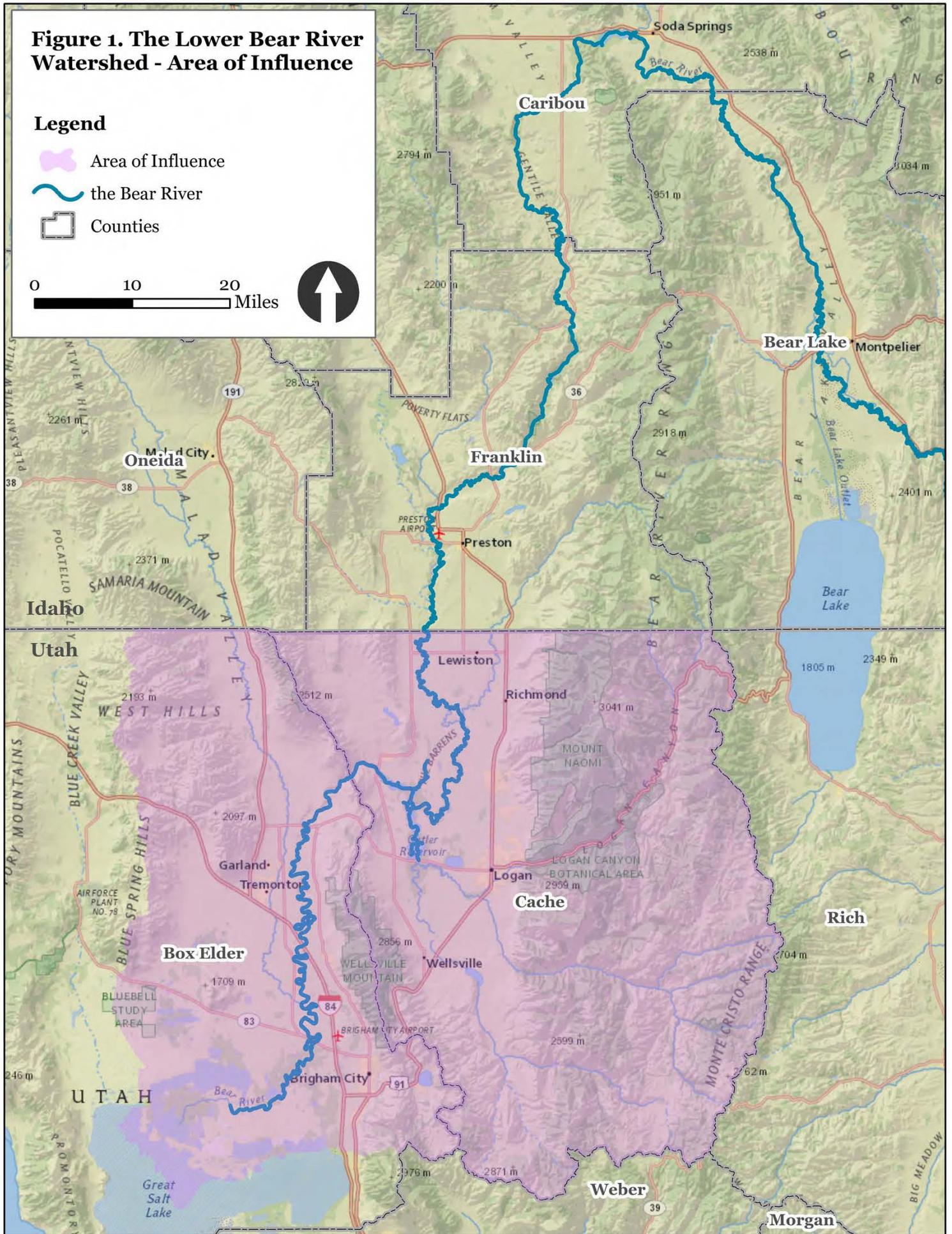
Within the Bear River watershed the health of the Lower Bear River watershed was identified as at risk, Figure 1. In 2009, the Lower Bear River Conservation Action Plan was finalized by a team of stakeholders, known as the Implementation Team, led by The Nature Conservancy. Since then, they have worked collaboratively to tackle threats to key conservation targets.

Figure 1. The Lower Bear River Watershed - Area of Influence

Legend

-  Area of Influence
-  the Bear River
-  Counties

0 10 20 Miles



Towards a Healthy Watershed

At the 10-year anniversary of the Lower Bear River Conservation Action Plan, the Implementation Team began to assess their work, how their partnership fits in with activities in the watershed, and a path forward. This Lower Bear River Action Plan (Action Plan) is a result of workshops and surveys of stakeholders in the watershed. The team sought to build on the insightful work accomplished during the creation of the 2009 Conservation Action Plan and incorporate new themes.

Strengths, Weaknesses, Opportunities, and Threats

Watershed initiatives and groups further shared watershed goals. They work collaboratively to implement on-the-ground projects ("action level"), inform watershed programs ("organizational level"), and / or influence policy and legislation ("policy level"). In their absence, these watershed activities would not be accomplished.

The Lower Bear River watershed is highly valued by many and the Bear River is often described as "life". The strengths, weaknesses, opportunities, and threats to the existing team are summarized in Figure 2. Their existing culture of collaboration is a significant strength. However, outside of their team, they are not well known and other stakeholders crave more information about the watershed's health.

The Lower Bear River watershed is facing major, pressing environmental issues which include drought and development of open space like agricultural fields. Like many watershed groups in the region, the existing team is challenged to measure if their goals are being accomplished. They are also missing involvement from key socio-economic users within the watershed. Based on this, key opportunities are recruiting new stakeholders to their team, being a source of information sharing, and connecting with new watershed planning resources.

Figure 2. Implementation Team Strengths, Weakness, Opportunities, and Threats

Strengths

- High value watershed
- Expertise & knowledge
- Motivated
- Existing relationships and trust
- Committed facilitator
- Collaborative culture



Weaknesses

- Uncertainty if objectives are being accomplished
- Lack of community recognition
- Challenges addressing policy issues
- Lacking socio-ecological approach
- Missing key watershed users



Opportunities

- Recruit different watershed users to Team: agricultural, policy/planning
- Share information between users
- Key into new management plans in watershed
- Prioritize activities



Threats

- Major, pressing environmental issues in the watershed
- Maintaining relevance as a group
- Ability to measure outcomes
- Funding to sustain Team



The Socio-Ecological System

In order to reach successful outcomes for the Lower Bear River watershed, we need to consider the benefits of conservation for the watershed's people and community. How humans are coupled with their environment is referred to as the socio-ecological system. By recognizing the socio-ecological benefits a health watershed provides to us, we are compelled to act. While not exhaustive, many of the of watershed's diverse stakeholders are included as Figure 3.

Watershed Planning & Policy

In the past decade, there has been great interest in strategic planning in the watershed and region, Table 1. By taking advantage of existing plans and documents, the team can magnify their interests and connect ideas to action.

Many plans, such as the Bear River Comprehensive Management Plan, were developed by government agencies to protect public resources. A selection of the Lower Bear River watershed's planning documents are listed in Table 1. This selection represents plans that were completed in the past decade, incorporated public comment from stakeholders, or set specific objectives.

Policies have also shifted to emphasize the value of watershed partnerships and stakeholder groups in resolving the growing stress on our water supply and resources. In 2020, the Utah Legislature mandated the Watershed Councils Act (House Bill 166). These Councils are designed to encourage and facilitate discussion and collaboration by and among the stakeholders based on watershed boundaries. It is important to understand overlapping goals of the new Bear River Watershed Council in order to share knowledge and opportunities.

Major funding programs like Utah Department of Natural Resource's Watershed Restoration Initiative have grown exponentially since their inception and continue to promote partnerships.

Taking Action

While the Lower Bear River watershed benefits from new planning documents, most plans lack detailed objectives that can be measured. The existing team recognizes that objectives must be specific and actionable in order to document positive outcomes. Many plans also do not assign how and who will measure metrics for objectives. By using the goals and objectives in existing plans as a foundation for the Lower Bear River Watershed Action Plan, we can better support our partners and government agencies who are entrusted to implement respective plans and manage public resources.

Focal Interests and Threats

A situation analysis was used to workshop focal interests in the watershed and threats to those interests. A summary is provided below and detail of the situation analysis is included in a separate document titled "Lower Bear River Watershed Collaboration for the Future: A Summary of Activities." These focal interests and the most direct threats are prioritized for action.

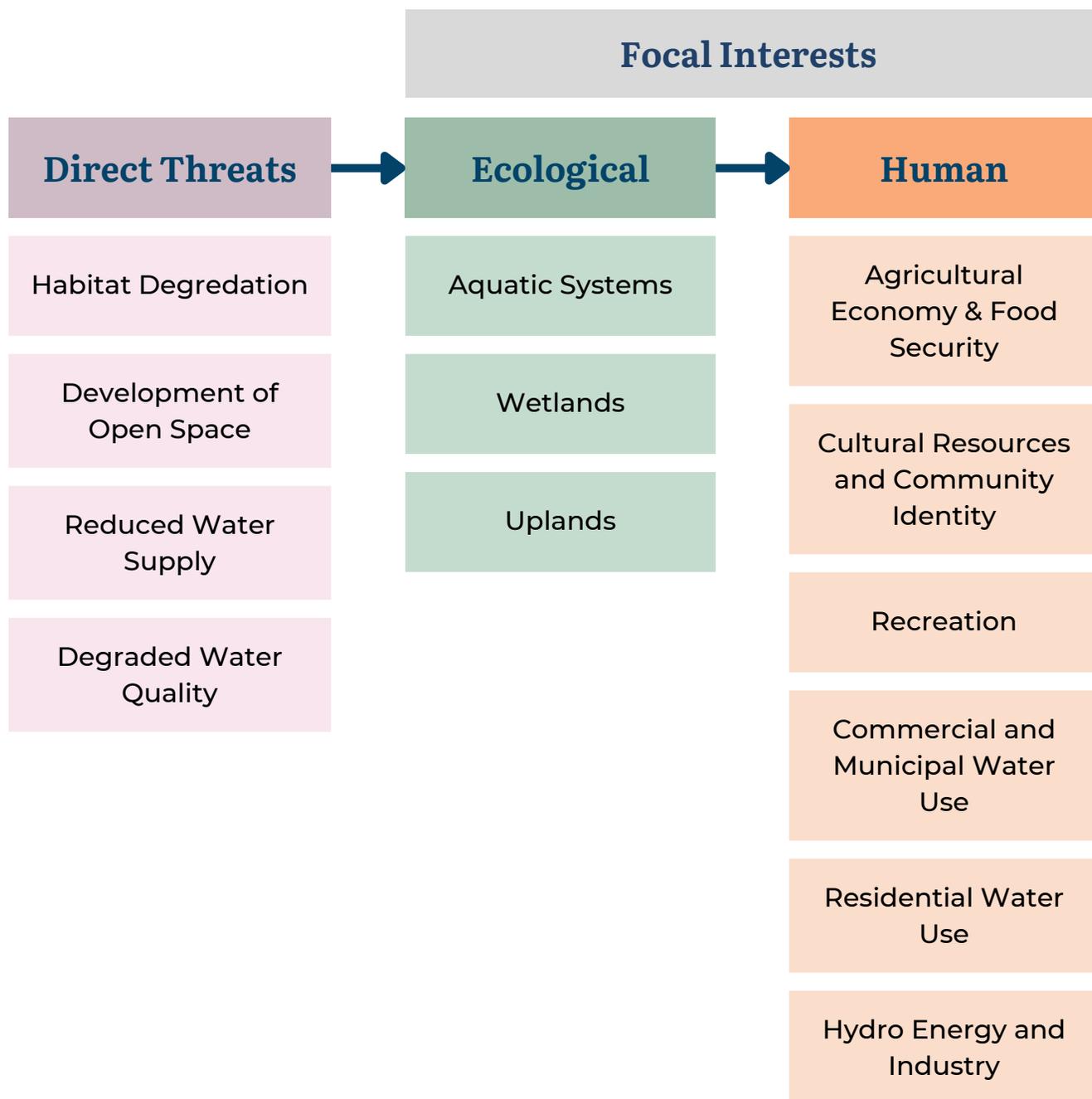


Figure 3. Lower Bear River Watershed Stakeholders

Utility & Industry



Agriculture



Natural Resources



Economic Development, Community, or Planning



Table 1. Selected Watershed Plans

Plan	Responsible Entity	Year
<u>Bear River Comprehensive Management Plan</u>	Utah Forestry, Fire and State Lands	2017
<u>Bear River Water Conservancy District Conservation Plan</u>	Bear River Water Conservancy District	2021
<u>Box Elder County General Plan</u>	Box Elder County	2021
<u>Draft Cache County General Plan</u>	Cache County	2022
<u>Cache Water District Master Plan</u>	Cache Water District	2019
<u>Cutler Hydroelectric Project Resource Management Plan</u>	PacifiCorp	1995
<u>Great Salt Lake Comprehensive Management Plan</u>	Utah Forestry, Fire and State Lands	2013
<u>Habitat Management Plan Bear River Migratory Bird Refuge</u>	U.S. Fish and Wildlife Service	2021
<u>Land Protection Plan: Bear River Watershed Conservation Area</u>	U.S. Fish and Wildlife Service	2013
<u>Little Bear River TMDL & Implementation Plan</u>	Utah Department of Environmental Quality	2000
<u>Lower Bear River Conservation Action Plan</u>	The Nature Conservancy and Implementation Team	2009
<u>Lower Bear River Watershed Plan</u>	Utah Department of Environmental Quality	2018
<u>Middle Bear River and Cutler Reservoir TMDL & Management Plan</u>	Utah Department of Environmental Quality	2010
<u>Recommended State Water Strategy</u>	Governor's Office, State of Utah	2017
<u>Wasatch Cache Revised Forest Plan</u>	U.S. Forest Service	2003
<u>Utah Water Resources Plan</u>	Utah Division of Water Resources	2021

Action Plan Goal and Objectives

The Action Plan Team set a goal that guides the vision for a healthy watershed and is designed to include values that many watershed users share.

The goal of the Lower Bear River Action Plan is to foster collaboration and cooperative actions that create a healthy watershed for the community's livelihood.

The objectives for this Action Plan were developed by:

- Understanding opportunities;
- Considering socio-ecological (i.e., ecological and human) interests;
- Creating synergy with existing watershed policies and plans, Table 2; and
- Identifying threats to focal interests.

Four objectives were selected as priorities for this Action Plan. The objectives are designed to include enough detail so it can be measured during the 10-year lifespan of this Action Plan. Priority strategies to accomplish each objective are listed. These strategies include actions that can be implemented by different stakeholders based on if they work on the project, program, or policy level. Metrics to measure outcomes are provided and include what entity may lead on data collection.



Table 2. Crosswalk of objectives and selected plans.

Plan	Objectives and Threat Addressed			
	Objective 1. Use conservation easements, fee acquisition, and sensitive land ordinances to permanently preserve or protect 10,000 acres of open space and agricultural lands.	Objective 2. Restore 2,000 acres of aquatic and wetland habitat and reduce hazardous forest fuels on 15,000 acres of uplands.	Objective 3. Every Lower Bear River watershed water user has access to water conservation measures and has taken action to reduce water consumption.	Objective 4. Improve the quality of the Bear River, Little Bear River, and Cutler Reservoir water to meet state standards.
	Development of Open Space	Habitat Degradation	Reduced Water Supply	Degraded Water Quality
Bear River Comprehensive Management Plan	●	●		●
Bear River Water Conservation District Plan			●	
Box Elder County General Plan	●	●	●	
Cache Water District Master Plan			●	
Cutler Hydroelectric Project Resource Management Plan		●		●
Draft Cache County General Plan	●		●	
Great Salt Lake Comprehensive Management Plan	●	●	●	●
Habitat Management Plan Bear River Migratory Bird Refuge		●		
Land Protection Plan: Bear River Watershed Conservation Area	●	●		●
Little Bear River TMDL		●		●
Lower Bear River Conservation Action Plan	●	●	●	●
Lower Bear River Watershed Plan		●		●
Middle Bear River and Cutler Reservoir TMDL				●
Recommended State Water Strategy		●	●	
Wasatch Cache Revised Forest Plan		●	●	●
Water Resources Plan	●		●	

Objective 1. Use conservation easements, fee acquisition, and sensitive land ordinances to permanently preserve or protect 10,000 acres of open space and agricultural lands for the ecological and economic benefits they provide the watershed.

Strategies

- Advise federal and state policy makers to increase available funding for conservation easements and land protection.
- Facilitate workshop opportunities with local leaders (e.g., Cache and Box Elder county planners) to educate and advise on protection of sensitive areas, agricultural lands, and open space.
- Support bond initiatives that provide local sources of funding to leverage existing state and federal funds for land preservation and protection.
- Establish 20 conservation easements in the watershed.
- Promote positive socio-economic outcomes of conservation easements through presentations, field tours, press releases, social media, and webpage updates.

Metrics

- A database of grant opportunities in the watershed that is updated and shared biannually
- Document an increase in state and federal and private funding for conservation easements
- Approved Sensitive Lands Ordinance in Box Elder Count
- Applied Land Use Zoning to limit development in sensitive lands in Cache County
- A voter-approved open space bond initiative in Cache and Box Elder counties
- Number people successfully connected to conservation easements or fee-title acquisitions programs
- Acres conservation easements or fee-title acquisitions in the watershed
- Publication of a online spatial database illustrating conservation easements and fee acquisitions in watershed
- Number of local leaders attending workshop on open space preservation
- Annual meeting or field tour with an outreach campaign (e.g., one press release and shared on 15 social channels)
- Bi-annual updates to a watershed webpage

Objective 2. Improve 2,000 acres of aquatic, wetland, and riparian habitat and reduce hazardous forest fuels on 15,000 acres of uplands.

Strategies

- Advise federal and state policy makers on funding mechanisms for Watershed Restoration Initiative and Shared Stewardship programs.
- Noxious weed mapping along Bear River and identification of priority treatments areas.
- Connect landowners and agricultural producers to projects based on socio-ecological outcomes.
- Participate in the northern region Utah Partners for Conservation and Development meetings and connect willing landowners with Watershed Restoration Initiative projects.
- Support upland vegetation treatments that reduce wildfire risk to communities and ecological targets.
- Promote positive socio-economic outcomes of habitat improvements through field tours, press releases, social media, and webpage updates.

Metrics

- A database of grant opportunities proposals in the watershed that is updated and shared biannually
- Acres of aquatic, wetland and riparian habitat that receives management actions
- Acres of aquatic, wetland and riparian habitat that demonstrate improved ecological function (e.g., eradication of noxious weeds, restoration of floodplain connectivity)
- Spatial dataset of priority treatment areas for noxious weeds that is available to land managers
- Acres of improved habitat on private land funded by Watershed Restoration Initiative
- Acres of upland vegetation with reduced hazardous fuels
- Annual meeting or field tour with an outreach campaign (e.g., one press release and shared on 15 social channels)
- Bi-annual updates to a watershed webpage

Objective 3. Every Lower Bear River watershed water user has access to water conservation measures and has taken action to reduce water consumption.

Strategies

- Advise federal and state policy makers on funding mechanisms for agricultural optimization programs.
- Provide recommendations to Utah Legislature to resolve challenges with optimization and water conservation programs.
- Provide water districts recommendations for canal segments to line or pipe based on seepage losses and impacts to instream flows and wetlands.
- Participate in the Utah Division of Water Resources water banking pilot program (e.g., shepherding).
- Support secondary water metering.
- With key community leaders and members, promote the positive outcomes of water conservation programs and projects through field tours, press releases, social media, and webpage updates.
- Incorporate measures that promote climate adaptation and resiliency into water conservation projects and policies.

Metrics

- A database of grant opportunities in the watershed that is updated and shared biannually
- Increase in state and federal funding for water conservation programs
- Participation in three water banking or shepherding projects
- Linear feet of canal segments modified.
- Reduction in Municipal and Industrial (M & I) water use
- Number of agricultural irrigators enrolled in water optimization programs
- Acres of irrigated farmland with water optimization
- Number of water users with secondary water metering
- Number of participants in Utah State University's Center for Water-Efficient Landscaping programs
- Annual field tour with an outreach campaign (e.g., one press release and shared on 15 social channels)

Objective 4. Improve the quality of the Bear River, Little Bear River, and Cutler Reservoir water to meet state standards (i.e., phosphorus and dissolved oxygen) for the designated uses.

Strategies

- Advise federal and state policy makers on funding mechanisms to implement water quality measures as identified by Utah Division of Water Quality.
- Participate in County- and City-level plans to address how wastewater treatment systems and stormwater enter the Bear River watershed.
- Recruit and advise municipalities on development of Water Quality Plans.
- Increase participation in Nutrient Management Plans.
- Use Best Management Practices to reduce field drain discharge from agricultural fields to surface waterways.
- Recruit and sustain membership with diverse water users including industry.
- Promote projects that capture sediment and reconnect streams with historic floodplains.
- Promote positive socio-economic outcomes of water quality improvements through meetings (Northern Utah Conservation District), field tours, press releases, social media, and webpage updates.

Metrics

- A database of grant opportunities in the watershed that is updated and shared biannually
- Number of municipalities with stormwater discharge standards
- Development of five Water Quality Plans for municipalities
- 50 Nutrient Management Plans at animal feeding operations
- Acres of irrigated land converted to sprinkler irrigation
- Number of field drain outlets that are treated with wetlands or media adsorption beds
- Linear feet of stream excluded from livestock and/or riparian vegetation restored
- Increase in dissolved oxygen at existing Bear River monitoring locations
- Reduction in total dissolved solids at existing Bear River monitoring locations
- Reduction in total phosphorus at existing Bear River monitoring locations
- Reduction in total suspended solids at existing Bear River monitoring locations
- All authorized pollutant point sources are in compliance
- Annual field tour that includes outreach campaign (e.g., one press release and shared on 15 social channels)