Climate Resilience and Implementation in the Upper Snake River Basin of the Intermountain West

Tribes and First Nations Climate Change Summit
July 30, 2019
Upper Snake River Tribes (USRT) Foundation

- Burns Paiute Tribe
- Fort McDermitt Paiute-Shoshone Tribe
- Shoshone-Bannock Tribes of the Fort Hall Reservation
- Shoshone-Paiute Tribes of the Duck Valley Reservation

Charter
Restore the Snake River Basin to a natural condition and facilitate tribal unity to protect and nurture all compacting tribes' rights, languages, cultures, and traditions.
USRT Climate Change Priorities

- Cultural Impacts
  - Traditions, cultural identity, and economics

- Water
  - Assess impacts to aquatic habitats and species
  - Precipitation and streamflow changes
  - Water temperature changes

- Sagebrush Steppe
  - Associated native plants and habitats
  - Proliferation of invasive weeds
  - Increased fire frequency
Project Area

- 97,060 miles$^2$
- 62,118,234 acres
- 10,164 miles of rivers
USRT Climate Change Work

- Climate Change Vulnerability Assessment (2016-2017)
- Climate Change Adaptation Strategies for Rangeland Managers (2018-2019)
- Climate-based Community Outreach and Education (2019-2020)
Collaborative Vulnerability Assessment Approach

Step 1: Creation of localized temperature and precipitation projections for the Project Area

Step 2: Site visits to USRT member tribes’ reservations to identify climate change Shared Concerns

Step 3: Use of the Climate Change Vulnerability Index to evaluate the vulnerability of the Shared Concerns

Step 4: Vulnerability workshop in Boise with USRT member tribes’ staff and leadership
Results

- Vulnerability rankings of 26 habitats, plants and animals
- Technical Report
- High level summary hand outs

Climate change vulnerability summarization handouts and technical report from this project are available at: http://www.usrtf.org/climate
USRT Adaptation Plan

Multi-phased Approach:

- Reservation Workshops
- Adaptation Strategies Workbook & Literature Library
- Climate Resilience Videos
- Adaptation Implementation Pilot Projects
Within the tabs of this workbook are draft strategies for assisting a number of ecosystems and species of importance to the Tribes in the Upper Snake River with adapting to climate change.

Strategies have been grouped together based on what changing climate condition they are suitable for, with many strategies providing value for a range of changing climate conditions.

To the extent possible, we have inserted information to help support implementation of given adaptation strategies.

Importantly, this workbook is meant to be living, meaning that all stakeholders are encouraged to add in additional strategies or refine the strategies provided in order to make them more appropriate to your local context.

To access the strategies identified in this workbook, either click on the tabs at the bottom of this page or use the hyperlinks listed below.

- Wet Meadow
- Sagebrush Steppe
- Aquatic
- Riparian
- Forest
- Mule Deer
- Bull Trout
- Chinook Salmon
- Redband Trout
- Steelhead Trout
- Big Sagebrush
- Elk
- Black Tail Jackrabbit
- Black Cottonwood
- Columbia Spotted Frog
- Quaking Aspen
<table>
<thead>
<tr>
<th>Habitat / Species</th>
<th>Adaptation Actions</th>
<th>Focus Species</th>
<th>SOURCES</th>
<th>FEASIBILITY FACTORS</th>
<th>Timeline</th>
<th>Evaluation Indicators</th>
<th>Notes / Rationale / Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Sagebrush Steppe Ecosystem</td>
<td>Increases in frequency and severity of wildfires.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Incorporate climate change into fire-management plans (wildfire projections), anticipate more opportunities to use wildfire for resource benefit.</td>
<td>Sage Grouse, Mule Deer</td>
<td>1</td>
<td>Technically Feasible (Yes/No with pertinent notes)</td>
<td>Near-Term</td>
<td></td>
<td>The assessment describes potential for landscape level increase in wildfire occurrence.</td>
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<tr>
<td></td>
<td>Identify areas important for Wyoming Sage and Big Sagebrush in situ gene conservation (quantifiable measurement).</td>
<td>Wyoming Sage, Big Sagebrush</td>
<td>1, 4</td>
<td>Does Political Will Exist (Yes/No with potential source(s))</td>
<td>Medium-Term</td>
<td></td>
<td></td>
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<td></td>
<td>Increase production of native plants for post-fire plantings.</td>
<td>Sage Grouse</td>
<td>1, 4</td>
<td>Funding Available (No/Yes with potential source(s))</td>
<td>Medium-Term</td>
<td></td>
<td>Intensive horticulture requires staff and expertise to grow native species that may require additional capacity building before implementation.</td>
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<tr>
<td></td>
<td>Develop proactive comprehensive fuels management plan (for high priority habitat areas) to protect critical areas from fire.</td>
<td>Big Sagebrush</td>
<td>35, 37</td>
<td>Co-Benefits (Short description of the value to other species, ecosystems, or areas of concern)</td>
<td></td>
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<td></td>
<td>Increase interagency communication of shared fire risk (between tribes and other natural resource managers in the region).</td>
<td></td>
<td>35</td>
<td>Potential Unintended Consequences (short description of any potential negative side effects)</td>
<td>Near-Term</td>
<td></td>
<td>Information and education efforts do not require permits or exorbitant costs, can be implemented as a complement to existing programs.</td>
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<td></td>
<td>Consider climate change in post-fire rehabilitation and determine where native seed may be needed for post-fire planting. Enhance plans for post-fire responses for large fires (i.e., limiting cheatgrass spread, looking at burn severity, replant when needed, keeping cattle out of burned area).</td>
<td></td>
<td>1</td>
<td>Partnership Required (Yes/No with notes of possible partners needed)</td>
<td>Near-Term</td>
<td></td>
<td>Regular communication protocol can be amended into existing MOUs for coordination and consultation.</td>
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</table>
USRT Climate Resilience Videos

Objectives:

1. Provide each tribe with a video resource that can be used to help them reach their own unique communication goals and target audiences.

2. Promote climate adaptation planning efforts and investments.

3. Tell stories of climate adaptation and resilience building actions that each of the tribes is taking.

Timeframe: Spring/Summer 2019
USRT Climate Resilience Implementation Pilot Projects

Burns Paiute

Beautification and restoration of Rainbow Park.

Fort McDermitt Paiute-Shoshone

Tribal youth education and engagement, cultural practices, and wildflower seed collection.

Shoshone-Bannock

Wyoming big sagebrush restoration.

Shoshone-Paiute

Relocating beaver populations.
Climate Change Adaptation Strategies for Rangeland Managers

USFS Pacific Northwest Research Station HUB Grant

- Develop Adaptation Strategies for Rangeland Managers in preparation for a changing climate
  - Conducted an in-depth literature review
  - Host workshop in Harney County, Oregon to reach rangeland managers
  - Develop bound technical report, brochures, flyers, and workshop displays
Climate-based Community Outreach and Education: Implementation Strategies

- Resilience Action Service-Learning Projects
- Climate Resilience Afterschool Youth Program
- In-Home Family Resilience Projects
- Inter-Tribal Youth Tour