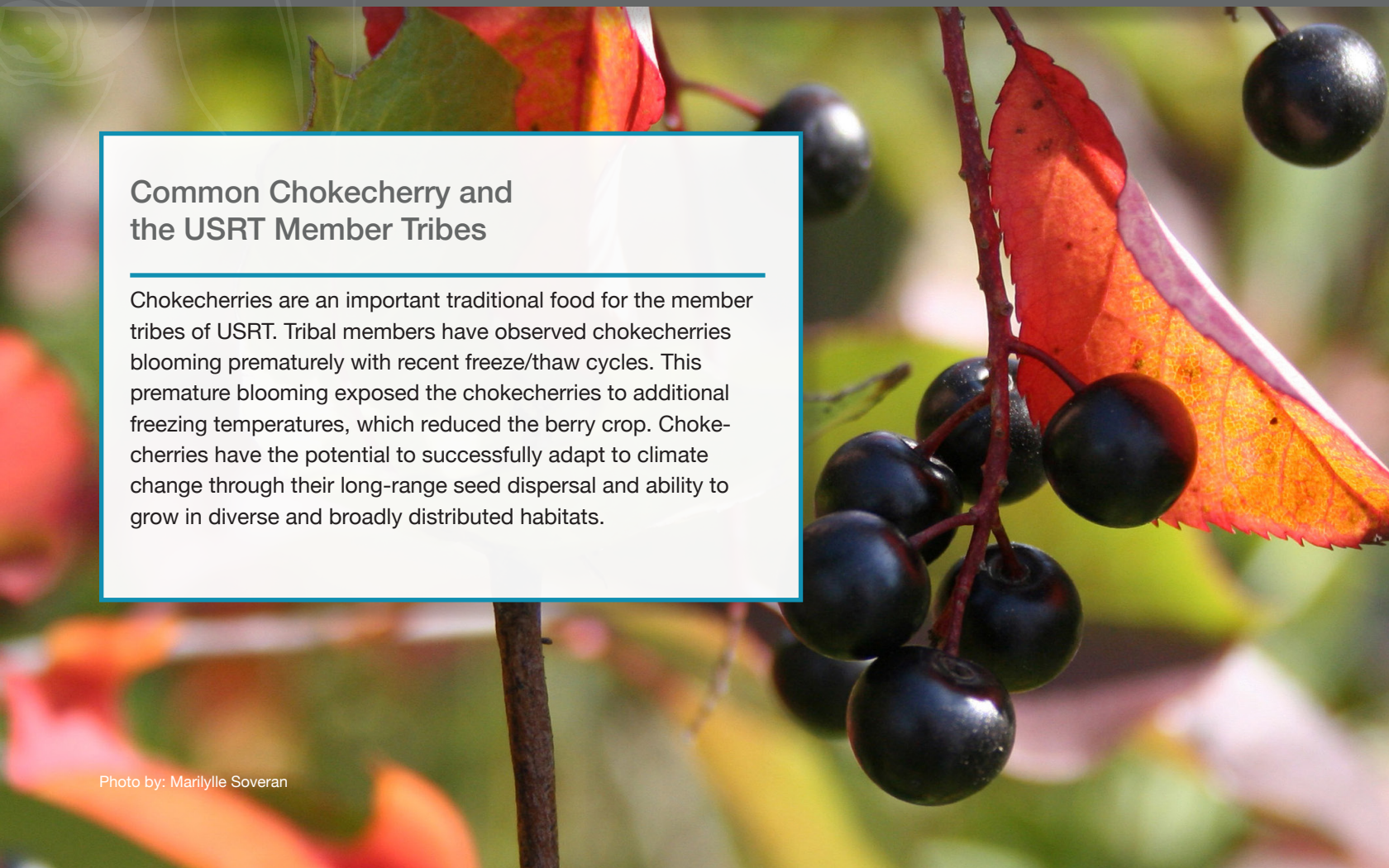
Climate Change Vulnerability Assessment in the Upper Snake River Watershed

Common Chokecherry

MORE WARMING	LOW VULNERABILITY	Medium Vulnerability	High Vulnerability	Extreme Vulnerability
LESS WARMING	LOW VULNERABILITY	Medium Vulnerability	High Vulnerability	Extreme Vulnerability

Results above highlight **common chokecherry climate change vulnerability in the 2050s** for two different climate change scenarios. The higher climate change scenario (RCP 8.5) is labeled “More Warming” and the lower climate change scenario (RCP 4.5) is labeled “Less Warming”. Generally, more greenhouse gas emissions over a longer time will lead to more severe impacts from climate change.

Relative vulnerability rankings were determined by combining the best available climate change science with the local and traditional knowledge of the Upper Snake River Tribes (USRT) Foundation’s four member tribes. These rankings are based on climate change projections, species-specific sensitivities, and the ability of species to adapt and respond to the projected changes.



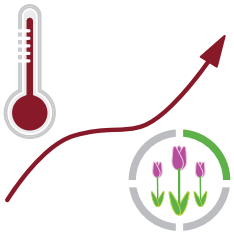
Common Chokecherry and the USRT Member Tribes

Chokecherries are an important traditional food for the member tribes of USRT. Tribal members have observed chokecherries blooming prematurely with recent freeze/thaw cycles. This premature blooming exposed the chokecherries to additional freezing temperatures, which reduced the berry crop. Chokecherries have the potential to successfully adapt to climate change through their long-range seed dispersal and ability to grow in diverse and broadly distributed habitats.

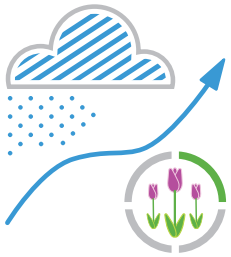
Photo by: Marilylle Soveran

Key Climate Impacts

Climate change projections for the Upper Snake River Watershed include warming temperatures and increased winter runoff. By the 2050s, spring maximum temperatures are projected to increase 6° to 7° Fahrenheit. Higher temperatures will lead to more spring precipitation falling as rain, instead of snow, thereby increasing the risk of spring flooding. Warming temperatures will continue to alter the timing of freeze/thaw cycles and, when combined with increasing evaporation rates, increase the risk of more frequent and intense wildfires.



Maximum spring temperatures are projected to increase 6ºF to 7ºF.



Spring precipitation is projected to increase 7% to 10%.

Common Chokecherries have:

factors that "**somewhat increase**" vulnerability

Dependence on water availability
Chokecherries grow between low- and mid-elevations in areas with above-average soil moisture levels and adequate drainage. If climate change increases instances of flooding it could negatively impact chokecherries.

Sensitivity to disease
Chokecherries are susceptible to a fungus, *Plowrightia stansburiana*. It is currently unclear if or how this fungus will be affected by climate change. However, climate change is expected to alter the chokecherry's ability to withstand such infection, potentially leading to increased mortality among plants with the fungus.

factors that "**do not increase**" vulnerability

Seed dispersal
While large numbers of chokecherry seeds are deposited beneath plants, long-distance dispersal is also very common and occurs through berry consumption by a wide range of birds and large mammals.

Tolerance of disturbance
Chokecherry is well adapted to disturbance by fire. Although susceptible to top-kill from fire, it resprouts rapidly from surviving root crowns and rhizomes. Seed germination also improves with heat treatment.

Success in a variety of habitats
The chokecherry is a widely occurring plant that grows with several different plant associations in a variety of habitat types.

Photo by: Charles de Mille-Isles

These are select results of a more comprehensive climate change vulnerability assessment developed collaboratively by the Upper Snake River Tribes Foundation, Burns Paiute Tribe, Fort McDermitt Paiute-Shoshone Tribe, Shoshone-Bannock Tribes, Shoshone-Paiute Tribes, Adaptation International, the University of Washington Climate Impacts Group, and Oregon Climate Change Research Institute.

For more information on this assessment or to get involved, visit: www.uppersnakerivertribes.org/climate or contact Scott Hauser, Executive Director, USRT at scott.hauser@usrtf.org.