

THE HEAT IS ON

Species feeling the effects of climate change



© DAVID LAWFER/ROM

Desert Bighorn Sheep

Ovis canadensis nelsoni

Region:

Southwest

Area affected:

Southern California

Climatic change:

Drought

Impact:

Reproductive failure,
local extinction

ABOUT THIS SPECIES

Bighorn sheep are the native wild sheep of the mountainous areas of the West. “Desert” bighorns are those populations found at higher elevations in the Southwest. They prefer steep terrain, where their outstanding agility helps them avoid predators, which is particularly important for ewes and young. Due to the isolation of their preferred habitats, the sheep are often found in small and fragmented populations. One population, found in southern California and Baja, is federally protected as “endangered.” Bighorns graze on a wide range of grasses, broad-leaved plants and even cacti. Both males and females have horns that grow throughout their lives, although the rams’ horns are much larger and more curved than the ewes’.

DESCRIPTION OF IMPACT

Although bighorn sheep are very well adapted to the desert, they are still sensitive to the range of moisture within that arid environment. Adults can survive extended periods on only the water contained in vegetation or rainwater collected in depressions in rocks. However, for lambs to survive, nursing ewes need both regular access to water and high-quality forage. Both of these resources are in short supply during extended drought, which is becoming more common in the southwestern United States. In Canyonlands National Park, which has recorded long-term population data, breeding success is 44 percent on average, but rises to 77 percent in wet years and plummets to 15 percent in dry years. **In California, 26 bighorn sheep populations have vanished over the course of the 20th century, mostly from lower elevation sites, which tend to be hotter and drier than higher areas.** Populations at high elevations may run out of room to further shift as they reach the tops of mountains.

References

Crech, T. et al. 2020. Genetic and environmental indicators of climate change vulnerability for desert bighorn sheep. *Frontiers in Ecology and Evolution* 8(279). <https://doi.org/10.3389/fevo.2020.00279>

Epps, C.E. et al. 2004. Effects of climate change on population persistence of desert-dwelling mountain sheep in California. *Conservation Biology* 18(1): 102-113. http://nature.berkeley.edu/BrasharesLab/documents/epps_Conbio2004.pdf

U.S. Fish and Wildlife Service. 2011. Peninsular Bighorn Sheep 5-Year Review. http://ecos.fws.gov/docs/five_year_review/doc3637.pdf



DEFENDERS OF WILDLIFE

1130 17th Street, NW
Washington, DC 20036-4604

For more information on other wildlife affected by climate change, visit our website at www.defenders.org/climatechange