Wildlife Conservation Society | Doris Duke Charitable Foundation
Climate Adaptation Fund

WCS Climate Adaptation Fund

Supporting on-the-ground projects promoting wildlife adaptation to climate change

2020 Grant Awards

Urban Adaptation Projects

National Wildlife Federation

WCS Grant Award: $236,330; Project Budget: $475,859

Installing Resilient Urban Native Landscapes in South Texas to Support Pollinator and Bird Species Adaptation to Climate Change

The unique subtropical ecosystem of the Lower Rio Grande Valley supports exceptional biodiversity, including many endemic species. However, 95% of this ecosystem was cleared for development during the past century, resulting in highly fragmented habitat that is now more vulnerable to climate-driven drought and warming. National Wildlife Federation will restore 75 acres of climate-resilient native wildflower and grassland habitat on urban land. These plant communities will support wildlife impacted by warming, alleviate fragmentation, increase rainwater infiltration to ameliorate drought, and serve as a prototype for future climate-adaptive urban-greening projects.

North American Butterfly Association

WCS Grant Award: $250,000; Project Budget: $799,508

Restore Our Pine Rocklands: Saving a Global, Critically Imperiled Ecosystem From Climate-Change Storm Surges

Pine rockland ecosystems are under threat globally. In the US, they are found only in the very southernmost part of Florida, and 80% of these ecosystems lie within elevations of 0-2.4 meters, making them extremely vulnerable to climate-driven sea-level rise and storm surges. Crucially, these ecosystems support 24 federally listed threatened and endangered species and over 200 other species of concern. North American Butterfly Association will pilot the transformation of degraded agricultural land to new high elevation pine rocklands within their historic ranges.

Joint Mitigation and Adaptation (JMA) Projects

Borderlands Restoration Network

WCS Grant Award: $244,783; Project Budget: $490,183

Migratory Wildlife Corridor Restoration Along the Path of the Jaguar

Ongoing regional climate-driven aridification has left 96% of Arizona's historic rivers without surface flows and exacerbated soil erosion. This has resulted in cascading effects on vegetation, water availability and wildlife habitat integrity for species such as the jaguar, which must traverse an increasingly divided and deteriorating landscape. Borderlands Restoration Network will work on a corridor between the Huachuca and Santa Rita Mountains, building

integrated rock structures across an eroding landscape to stabilize soils, re-establishing native vegetation and increasing soil carbon. Once installed, these structures will help this system and its species adapt to climate change by increasing water availability for the benefit of downstream riparian vegetation and wildlife. In addition to their implementation strategy, the project team will investigate measurement methodologies and data collection protocols to assess the carbon sequestration impact of revegetation in southern Arizona.

Northwest Natural Resource Group

WCS Grant Award: $101,905; Project Budget: $203,810

Using adaptive forestry to prepare Northwest forests for hotter, drier times

As the climate warms, Pacific Northwest forests are expected to suffer the impacts of increased summer drought, heat waves, and wildfire, making it harder for forests to protect biodiversity and sequester carbon. Additionally, these elevated temperatures are predicted to reduce snowpack at middle elevations, leading to drier soils and lower summer stream flows. On 240 acres, Northwest Natural Resource Group will demonstrate the impact of forest thinning to lower-than-usual densities, which will spread available soil moisture among fewer trees, enhancing their odds of survival. They will also make patch cuts, forming gaps that accumulate snow more effectively than continuous forest canopy. These snow gaps will extend spring and early summer snowmelt, releasing water into the soil and headwater streams when it is most needed. The project team will then reforest the gaps with seedlings grown from seed collected at lower elevations that are more adapted to warmer climates.

Piikani Lodge Health Institute

WCS Grant Award: $246,000; Project Budget: $500,000

Promoting Native Grassland Biodiversity and Riparian Health on Amskapi Piikani Lands

The Blackfeet Nation is home to high biological diversity, containing about 50% of all known native plants, amphibians, and reptiles, 66% of native birds and fish, and 80% of native mammals occurring within the State of Montana. Over the past 70 years, climate change has altered snowmelt, resulting in spring floods and summer droughts that impact this wealth of local species. Piikani Lodge Health Institute, along with members of the Blackfeet Nation, will help improve ecosystem health and water supply by implementing wildlife friendly perimeter fencing, stock-water improvements, site-based snow fences, and bioreactor soil amendments. In addition to adaptation benefits, the 50,000 acres of wetlands within this landscape will be conserved, storing carbon and preventing its release. Wetlands store up to 40% of soil carbon globally.

Practical Farmers of Iowa

WCS Grant Award: $250,000; Project Budget: $520,128

Accelerating the adoption of climate-ready pollinator habitat in the Driftless Area of Iowa, Minnesota, and Wisconsin

The Driftless Area of Iowa, Minnesota, and Wisconsin is a fragmented, agricultural landscape increasingly lacking the habitat quality, quantity, and connectivity that pollinators and other wildlife need to withstand climate-driven temperature increases and volatile precipitation patterns. These climate impacts have also led to flooding and drought. The Practical Farmers of Iowa will implement a multi-pronged strategy to adaptation, including diverse prairie plantings of climate-adapted species and timber stand improvements to enhance habitat. This restoration of pollinator habitat will also increase carbon sequestration, increase water infiltration, and reduce run-off to help maintain spring-fed cold water stream temperatures that support local fish species.

Wildland Adaptation Projects

Oikonos

WCS Grant Award: $200,000; Project Budget: $440,460

Creating resilient nesting habitat for seabird communities in climate-threatened island ecosystems

California islands are scarce, have high endemism, and serve as a refuge for 385,000 of 17 species of seabirds. These species are critical to the biodiversity and ecosystem function of islands, serving as "ecosystem engineers" through terrestrial nesting and depositing essential marine nutrients in their guano. Increasing temperatures resulting from climate change have created conditions that are less favorable for seabird survival. Oikonos has customized durable, climate-resilient ceramic nests that prevent temperatures that are fatal for eggs and breeding birds. In addition to temperature control, the ceramic nests also prevent trampling caused by climate-driven spatial and temporal shifts of marine mammals. The project team plans to install 185 of these nests in restoration areas that can provide long-term climate-adapted habitat, helping protect seabird species from multiple climate stressors.

Mountain Studies Institute

WCS Grant Award: $249,854; Project Budget: $562,300

Drought Resilience for Flows, Fish, and People in the Mancos Watershed, Colorado

Southwest Colorado's Mancos River supports cold and warm water fisheries, riparian and wetland ecosystems, irrigation for 11,300 acres, and the livelihoods and Indigenous lands of over 4,000 people. However, this river is highly vulnerable to future climate challenges, specifically drought due to loss of snowpack. Mountain Studies Institute, along with partners including the Ute Mountain Ute Tribe (UMUT), aims to slow down water, improve fish habitat connectivity, restore riparian areas, and build community and cultural resilience. The project team will implement four pilot projects that include designing and installing fish-friendly diversion infrastructure, installing

swales and infiltration structures to increase soil moisture, and restoring cottonwood and willow carrs through climate-smart and Tribal-led revegetation. These actions will connect native warm water fish to future habitat, improve river flows, and restore culturally and ecologically important riparian and fish species.

The Nature Conservancy, Oklahoma

WCS Grant Award: $249,592; Project Budget: $499,519

Creating a Resilient Landscape in the Arbuckle Plains and Blue River region of Oklahoma

The Arbuckle Plains and Blue River Conservation Area of Oklahoma has high biodiversity, high resiliency, and is within the Chickasaw Nation's tribal territory, making it a strategic location for conservation efforts. Further, this watershed feeds the Arbuckle-Simpson Aquifer, the sole drinking water source for Durant, Oklahoma, capital of the Choctaw Nation. To ensure this landscape remains resilient in the face of climate change, TNC Oklahoma and the Chickasaw Nation will reinstate prescribed fire, promote native fire- and drought-adapted species, reduce woody encroachment, and improve species genetic diversity.

Tolani Lake Enterprises

WCS Grant Award: $250,000; Project Budget: $254,764

Native Seeds: Mitigating drought and building cultural-economic-ecological resilience at the scale of a nation

For the Navajo Nation, climate change is driving drought and warming, resulting in soil erosion and the loss of vegetation cover. These impacts threaten the land, culture and traditions, grazing operations, wildlife habitat, human health, and water supply. The project team is addressing cross-cutting barriers to climate-informed land management and building the capacity of tribal governments and communities to rise to the challenges posed by climate change. The pilot project, which will restore over 100 acres with native, climate-adapted plant species, will offer a replicable model for climate resilient restoration in the area.