



**IUCN SSC Spider and Scorpion
Specialist Group**



Conservation Success Stories

**Operation Spider:
a Bridge, a Rock Nursery,
the Web of Life & Beyond**



Operation Spider: a Bridge, a Rock Nursery, the Web of Life & Beyond

IMPLEMENTED BY

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THREAT ADDRESSED

Rock Nurseries were created to mitigate the impact of a bridge construction project that altered the microhabitat of ground-dwelling spiders and impacted ecological balance.

TARGET

Translocation of population of *Castianeira* spiders (Araneae: Corinnidae) in the Snake River Range, south of the Teton Mountains. (T-033)

A “rock nursery” to ensure spiders’ life cycle



SUCCESS LEVEL

Highly successful

Success category:

Reduction in threat magnitude

Success
subcategory:

**New policies
implemented**

Success story:



REASONS FOR SUCCESS

Science-based mitigating actions were proposed and successfully undertaken by District Rangers, who led a workshop to help fire and trail crews identify spider egg sacs and move the historically used rocks into rock nurseries in another area of the canyon, where they would be safe from habitat loss. Rock bars, shovels, Pulaskis, and pick-up trucks were used to position rocks before construction and winter began, to build the first rock nursery for these species in the Northern Rocky Mountains, USA, supporting the ecological balance of these remarkable ecosystems.

The “web of life” is a familiar metaphor, yet the animals that make silken webs are often overlooked. Spiders have inspired cultures across time and geography, from the Akan people’s Anansi and Lakota’s Iktomi to innovations in medicine, as well as embracing our interconnectedness.

Just south of the Teton Mountain Range, a delicate balance of critical needs was at risk due to impact of a bridge replacement project. It took a collaborative science-based approach to transform the effects of constructing a bridge across the canyon into a bridge-building among communities and care for some of the smallest animals in this ecosystem.

Around the time the researcher noticed large rocks split-open in the study site, the US Forest Service Lands Specialist noticed a direct conflict between two permits that came across her desk: one for behavioural ecology research and environmental interdependence, where a population of mound-building spiders was thriving, and the other for a multi-million-dollar bridge replacement project. The Lands Specialist reached out to the researcher, and “Operation SpiderSave” was born.

Several boots-on-the-ground site visits led to an invitation for the researcher to write a public comment based on recent fieldwork and knowledge of another population that had been inadvertently subsumed nearby. The researcher noticed that here, too, invertebrates were not receiving the attention they deserved relative to their importance.

This project brought together nearly every department of the Jackson Ranger District to move rocks holding spiders’ shimmering egg sacs across the highway to create a “rock nursery” – letting them complete their life cycle and support overall ecological balance. Wildland firefighters, trail crews, a NEPA coordinator, a permit administrator, and the entire River Ranger crew extracted rocks, burying them in the same relative depth and angle as their original site within this nursery. The Lands Specialist led a workshop to teach volunteers how to identify the spiders’ nursery rocks, which led to finding even more egg sacs within the proposed construction area.

Spiders play a key role in ecosystems, especially in the health of insect populations, which in turn ripples out to impact fish, bears, eagles, anglers, river runners—and beyond. Operation Spider was not just protecting a single spider species. The volunteers’ actions were in support of our collective interdependence. Invertebrates like these are experiencing dramatic global declines. They form critical foundations of life.

An orb-weaving spider can remind us that vibrating any thread affects the entire web. Spiders draw silk from deep within, and while we humans may not have silk, we have imagination and capacity for care; combined, these can increase the beneficial role humans play throughout the web of life together.

When shared at an international conference, this story served as “Ambassadors of Hope.” Scientists from more than twenty countries—including some from conflict zones—were moved to sign a letter thanking the U.S. Forest Service for their leadership in “care-in-action.” It is a testament to how people can come together beyond politics and borders to share information to help unravel the mysteries of our world and put this knowledge exchange in service of our shared home. It also illustrates how sharing stories like this can inspire further actions. Our fates are intertwined.

How might this story inspire you? ■ SARAH KARIKÓ, TODD STILES,

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Vulnerable Northern River Shark,
(*Glyphis garricki*)
Photo: Grant Johnson

Interviews about human wildlife
interactions with local inhabitants
Photo: Kiran Thapa Magar

Vicuña management by Cooperativa
Agroganadera de Santa Catalina and Comunidad
Aborigen Atu Shapi de Morritos.
Santa Catalina, Jujuy Province, Argentina
Photo: Yanina Arzamendia

Story photo credits

Castianeira sp. spiral seeds
Photo: Sarah Karikó

Mason Spider with rock
Photo: Sarah Karikó

Community songbird monitoring and
protection, Indonesia
Photo: Asian Songbird Trade SG archives

Cacti from genera *Copiapoa* and *Eriosyce*
confiscated in Italy and repatriated to Chile in 2021
Photo: Andrea Cattabriga