FONDATION SEGRÉ CONSERVATION ACTION FUND

Key results and highlights 2021–2025

FONDATION SEGRÉ

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CONTENTS

CASE STUDIES

● Conservation Action Grant ○ Research Support Grant

LIST OF ACRONYMS AND ABBREVIATIONS

AFD	Agence Française de Développement (French Development Agency)
CAG	Conservation Action Grant
CSO	Civil Society Organisation
CR	Critically Endangered
DD	Data Deficient
DPRK	Democratic People's Republic of Korea
eDNA	environmental DNA
EN	Endangered
FSCAF	Fondation Segré Conservation Action Fund
GBF	Global Biodiversity Framework
HWC	Human–Wildlife Conflict
IUCN	International Union for Conservation of Nature
IUCN HQ	IUCN Headquarters
Norad	Norwegian Agency for Development Cooperation
NT	Near Threatened
PUWR	Pian Upe Wildlife Reserve
RL	IUCN Red List of Threatened Species™
RSG	Research Support Grant
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
Sida	Swedish International Development Cooperation Agency
SOS	Save Our Species
SSC	Species Survival Commission
UN	United Nations
VU	Vulnerable

FOREWORDS

DR GRETHEL AGUILAR

Director General, International Union for Conservation of Nature (IUCN)

Across the world, people and communities are stepping up to protect the wildlife and ecosystems we all depend on. From young researchers conducting fieldwork in remote areas to community leaders creating local solutions, the drive and commitment to conservation are both inspiring and essential for a healthier, more resilient planet. Through our partnership with Fondation Segré, the International Union for Conservation of Nature (IUCN) is proud to support this vital work on the ground.

Nature is essential for the well-being and livelihoods of many communities around the world. By supporting those who live closest to and depend directly on nature, we can strengthen resilience, enhance livelihoods, and build more equitable, thriving communities. Targeted, well-coordinated support can empower those working on the frontlines of conservation to drive meaningful change for people and nature together.

Together with the Fondation Segré, IUCN is channelling critical support to where it is most needed: to scientific research, community-led initiatives, and field-based conservation efforts. IUCN Save Our Species (SOS) Conservation Action Grants and Research Support Grants have played a vital role in equipping researchers, local organisations and practitioners with the resources they need to protect threatened species and the ecosystems they depend on. Beyond funding, IUCN connects partners with expert guidance, tailored technical support, training opportunities, and platforms for knowledge exchange. This holistic approach strengthens local capacity and enables partners to deliver more effective, impactful conservation on the ground.

Supporting early-career researchers and young conservationists has been another key element of this work. Their leadership, knowledge and commitment are already making a tangible difference on the ground. By enabling the next generation to participate in and shape conservation efforts, we are investing in solutions that will endure and adapt over time.

Through its Save Our Species programme, IUCN has also pioneered scalable grant-making mechanisms. Small and mid-size grants are particularly powerful as a crucial and accessible source of income for many local organisations. They offer a cost-effective, low-risk and flexible way to generate impact and lay the groundwork for large-scale funding. These grants are also especially impactful when they support young conservationists, who often need financial backing to carry out fieldwork and, in doing so, build valuable expertise.

IUCN joins the Fondation Segré Conservation Action Fund (FSCAF) in recognising that long-term conservation success depends on inclusive, locally rooted approaches.

I extend my sincere thanks to the Fondation Segré for their longstanding support for IUCN's conservation action; and to all who have contributed to this initiative, from scientists and conservationists to local communities. Together, we are showing that conservation, when grounded in science and driven by collaboration, can deliver real and lasting impact.

PROF. LUIGI BOITANI

Chief Executive Officer, Fondation Segré

The Fondation Segré is honoured to continue its longstanding commitment to the conservation of biodiversity through our collaboration with IUCN Save Our Species in this impactful Conservation Action Fund. The pressing threats to the world's most vulnerable species demand urgent and collaborative action. Through targeted funding for both conservation action and research, we have worked together to drive meaningful change for wildlife and their habitats.

As we have seen throughout the duration of this initiative, the challenges faced by threatened species require not only scientific knowledge but also a collective effort that spans governments, non-governmental organisations, local communities, and individuals.

By providing essential grants and resources, we have enabled on-the-ground conservation actions that directly benefit species in need and support the well-being of the communities that depend on these ecosystems. Over the past five years, the initiative has enabled the implementation of localised conservation actions and the generation of new data across taxonomic groups that are often neglected in mainstream funding mechanisms.

Our partnership with IUCN underscores our shared vision of a world where wildlife and people can coexist sustainably. The results of this initiative are a testament to what can be achieved when diverse actors come together with a common purpose and highlight the value of continued investment in evidence-based, locally grounded conservation. As we look to the future, it is clear that continued investment in conservation is not just a moral imperative, but a necessity for the health of our planet.

As we approach the conclusion of this five-year cycle, I would like to express my deepest gratitude to all the partners, researchers, and local communities who have contributed to the success of this initiative. Their field expertise, scientific rigour, and long-term commitment are fundamental to the advancement of conservation science and practice.

EXECUTIVE SUMMARY

Since 2021, the Fondation Segré Conservation Action Fund (FSCAF) – a collaboration between the International Union for Conservation of Nature (IUCN) and Fondation Segré – has made a significant contribution to halting biodiversity loss and supporting locally rooted conservation.

With a focus on often-overlooked and underfunded animal species, the Fund provided 84 grants across 41 countries, targeting 152 threatened species and supporting local civil society organisations and early-career researchers. Through both Conservation Action Grants (CAGs) and Research Support Grants (RSGs), the Fund empowered frontline conservation actors to deliver practical, science-based solutions on the ground.

BY THE NUMBERS

84
projects funded

49
Conservation Action Grants

35
Research Support Grants

€2.6 MILLION
committed

152
threatened species targeted across 122 sites

560,000+
hectares protected or managed

10,000+
hectares under restoration

77,000+
direct beneficiaries

20,000+
people supported through sustainable livelihood initiatives

3,800+
people trained

© Fundacion de Conservación Jocotoco

STRATEGIC FOCUS

The Fund spotlighted various taxonomic groups through four calls for proposals, ranging from all animal species, to reptiles, freshwater species, and ungulates, responding to emerging needs and aligning with priorities from the IUCN Red List of Threatened Species™. While each call targeted different species groups, the Fund maintained a consistent geographic focus on regions with high biodiversity value and urgent conservation needs, particularly across Asia, Africa, Latin America and the Caribbean, and the Middle East.

> "THE FONDATION SEGRÉ CONSERVATION ACTION FUND HAS MADE A SIGNIFICANT CONTRIBUTION TO HALTING BIODIVERSITY LOSS AND SUPPORTING LOCALLY ROOTED CONSERVATION."

OUTCOMES AT A GLANCE

- **Local conservation leaders** were empowered through the removal of funding barriers and the provision of hands-on support
- **Early-career researchers** gained critical field experience and professional development opportunities, enabling new talent in biodiversity science
- **National policies and species recovery plans** were influenced, contributing to the development of conservation strategies and the establishment of protected areas
- **Long-term stewardship** was strengthened by investing in Indigenous Peoples, women-led groups, and community institutions
- **Short, targeted grants sparked lasting conservation impact** by serving as effective entry points to larger-scale initiatives

This report highlights the Fund's impact across four grant cycles, featuring data-driven insights, compelling case studies, and key lessons learned for future grant-making. It affirms the power of well-targeted, flexible funding to catalyse conservation action and support the people on the frontlines of protecting our planet's biodiversity.

INTRODUCTION


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IUCN

IUCN is a membership Union uniquely composed of both government and civil society organisations. It provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.

Created in 1948, IUCN is now the world's largest and most diverse environmental network, harnessing the knowledge, resources and reach of more than 1,400 member organisations and around 16,000 experts. It is a leading provider of conservation data, assessments and analysis. Its broad membership enables IUCN to fill the role of incubator and trusted repository of best practices, tools and international standards.

IUCN provides a neutral space in which diverse stakeholders including governments, NGOs, scientists, businesses, local communities, Indigenous Peoples' organisations, and others can work together to forge and implement solutions to environmental challenges and achieve sustainable development.

Working with many partners and supporters, IUCN implements a large and diverse portfolio of conservation projects worldwide. Combining the latest science with the traditional knowledge of local communities, these projects work to reverse habitat loss, restore ecosystems and improve people's well-being.

www.iucn.org

IUCN SAVE OUR SPECIES

IUCN Save Our Species supports science-based conservation action to address the main threats to biodiversity and save species from extinction. We focus our efforts where they will have the biggest impact by funding frontline conservation organisations across the world who have unique knowledge of their region and their local biodiversity.

Harnessing IUCN's global network of experts and partners, including the IUCN Species Survival Commission, we design and implement conservation initiatives. Our projects prioritise species most in need, in particular those that have been assessed as Vulnerable, Endangered and Critically Endangered by the IUCN Red List of Threatened Species™.

We never look at species in isolation. All of our projects follow a three-pillar approach to provide positive outcomes for threatened species, their habitats, and people.

- **Species:** We create the conditions necessary for species populations to increase, thrive, and naturally recolonise their habitats.
- **Habitat:** We aim to improve the management of protected and conserved areas, restore degraded ecosystems and enhance connectivity of critical species habitats.
- **People:** We involve local people in conservation action. By supporting Indigenous Peoples and local communities to develop sustainable or alternative livelihoods and practices, we empower nature's stewards to coexist with wildlife and ensure the conservation of species and ecosystems.

Through its initiatives, IUCN Save Our Species provides tailored grant management, technical assistance, capacity development, knowledge management, policy influencing and communications to support successful conservation action. Our initiatives contribute to the implementation of the Global Biodiversity Framework as well as regional and national biodiversity policies. IUCN Save Our Species projects also tackle urgent issues such as climate change, poverty, and food and water security, contributing to the Sustainable Development Goals.

https://iucnsos.org/


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THE IUCN RED LIST OF THREATENED SPECIES

The IUCN Red List of Threatened Species™ is the world's most comprehensive information source on the global conservation status of animal, fungi and plant species. The Red List shows where urgent conservation action needs to be taken and thus guides the selection of the IUCN Save Our Species projects.

THE FONDATION SEGRÉ CONSERVATION ACTION FUND

OBJECTIVES

Despite their critical role in maintaining ecosystem health, species conservation remains significantly underfunded and fragmented, particularly for lesser-known, lesser-charismatic and understudied taxa. The **Fondation Segré Conservation Action Fund** (hereinafter "the Fund") aimed to address this gap.

The Fund's overarching goal was to improve the conservation of threatened animal species and their habitats, while also enhancing the livelihoods of people who depend on them, particularly in biodiversity-rich priority areas across Asia, the Pacific, Latin America and the Caribbean, Africa, and the Middle East.

To achieve this, the Fund provided direct financial support for frontline conservation efforts and invested in strengthening scientific knowledge, while creating opportunities for young scientists to advance their careers in conservation.

At the core of the Fund's strategy was the belief that small, well-targeted grants can drive meaningful results. Designed to be accessible to a wide diversity of conservation actors, including local NGOs, grassroots organisations, and early-career researchers, small-sized grants serve as a strategic tool to broaden participation in species conservation, particularly in regions and contexts where conservation potential exists but resources are limited or difficult to access.

> "AT THE CORE OF THE FUND'S STRATEGY WAS THE BELIEF THAT SMALL, WELL-TARGETED GRANTS CAN DRIVE MEANINGFUL RESULTS."

Throughout this report, we refer to small grants and mid-size grants to distinguish between the two main funding types awarded under this initiative. For clarity, small grants are defined here as grants of up to EUR 7,000 (Research Support Grants). Mid-size grants are defined as grants of up to EUR 50,000 (Conservation Action Grants).

FUND MECHANISM

The Fund operated through two types of grants:

Conservation Action Grants (CAGs)

These grants were directed at local civil society organisations (CSOs) and supported practical, on-the-ground efforts to protect threatened species and their habitats. Priority was given to projects aligned with IUCN Species Survival Commission (SSC) Action Plans and to those that actively engaged local communities in conservation.

- **Maximum amount: EUR 50,000**
- **Duration: Up to 12 months**

Research Support Grants (RSGs)

These grants were intended for students pursuing careers in species conservation. Their primary objective was to support field research that advances knowledge on threatened species and their role in natural ecosystems, ultimately contributing to more effective conservation and management. In addition to generating valuable knowledge, the grants offered recipients practical field experience and professional development opportunities.

- **Maximum amount: EUR 7,000**
- **Duration: Up to 12 months**

No minimum funding amount or co-financing was required for either grant type.

From 2021 to 2024, Conservation Action Grants and Research Support Grants were awarded annually through competitive calls for proposals.

Calls for both types of grants were launched simultaneously each year (four calls in total), and were aligned in terms of target species and geographic priorities.

However, the taxonomic focus for calls for proposals shifted annually, ensuring both focus and flexibility in addressing underfunded conservation gaps, and responsiveness to emerging conservation needs when guided by IUCN Red List updates.

INSTITUTIONAL SET-UP

The Fund was financed by Fondation Segré and implemented through IUCN Save Our Species.

Strategic priorities, including target species and geographical focus, were jointly defined by Fondation Segré and IUCN for each call for proposals. These priorities were often informed by the latest updates of the IUCN Red List of Threatened Species™, which served as a key guiding tool for setting taxonomic priorities.

All applications received in response to the calls for proposals were first screened for admissibility and eligibility by IUCN. Shortlisted applications were then reviewed by a small selection panel composed of representatives from Fondation Segré and IUCN.

The knowledge and expertise from the IUCN Species Survival Commission experts were occasionally sought to support and strengthen the selection process.

DURATION AND BUDGET

The Fund has an implementation duration of five years (3 May 2021–2 May 2026), with a total contribution from Fondation Segré of EUR 3,000,000.


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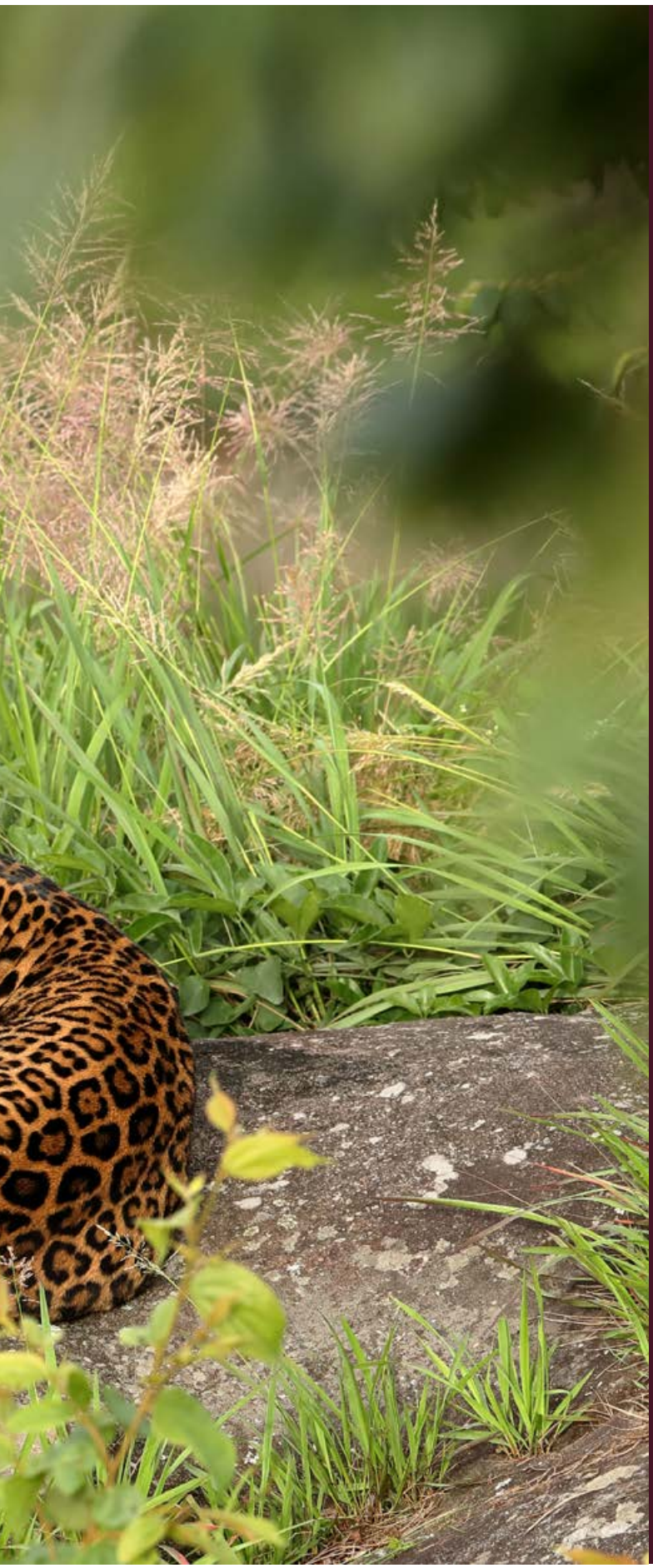


TIMELINE

While the Fondation Segré Conservation Action Fund is a five-year initiative (2021–2026), this report mainly focuses on the results of grants which were implemented between 2022 and 2025.

2021

3 May
Start of the Fondation Segré Conservation Action Fund

2022

1 July–31 August
Launch and duration of the first calls for proposals

2023

3 August–3 October
Launch and duration of the second calls for proposals

2024

19 June–31 August
Launch and duration of the third calls for proposals

2025

5 February–4 April
Launch and duration of the fourth calls for proposals

2026

2 May
Completion of the Fondation Segré Conservation Action Fund

IN FOCUS: SPECIES PRIORITISED FOR FUNDING

Species are the building blocks of ecosystems. As predators, prey, pollinators, seed dispersers, and habitat engineers, they shape ecological processes and uphold the delicate balance of nature. Together, they ensure the health, stability and resilience of the natural systems that sustain life on Earth. When these building blocks begin to collapse, through the decline or extinction of species, entire ecosystems can unravel, triggering cascading effects on biodiversity, human well-being, and global environmental health.

Today, these building blocks are under threat. Habitat destruction, climate change, pollution, invasive species, overexploitation, and illegal wildlife trade are accelerating biodiversity loss at an alarming rate. As ecosystems degrade, their ability to provide essential services such as carbon storage, water purification, and food security weakens. Urgent, targeted conservation efforts are needed to safeguard species and preserve the structural integrity of the ecosystems they support.

> SPECIES ARE THE BUILDING BLOCKS OF ECOSYSTEMS [...] TOGETHER, THEY ENSURE THE HEALTH, STABILITY AND RESILIENCE OF THE NATURAL SYSTEMS THAT SUSTAIN LIFE ON EARTH.

In response to this challenge, the Fondation Segré Conservation Action Fund directed its resources where they could make the greatest difference: towards the world's most threatened species, those listed as **Vulnerable (VU), Endangered (EN), or Critically Endangered (CR)** on the IUCN Red List.

To diversify funding and allow for adaptative management, each annual calls for proposals adopted a strategic focus on specific taxonomic groups, while maintaining a consistent geographic focus across **Asia, Africa, Latin America and the Caribbean, and the Middle East.**

© Sebastian Serna

The first calls for proposals focused broadly on improving the status of threatened (i.e., VU, EN, CR) **terrestrial, freshwater and marine animal species**, excluding plants and fungi.

The second calls for proposals focused on improving the status of Endangered (EN) or Critically Endangered (CR) **lizards, snakes, or worm lizards**, a highly diverse group essential to ecosystem function but often overlooked in conservation.

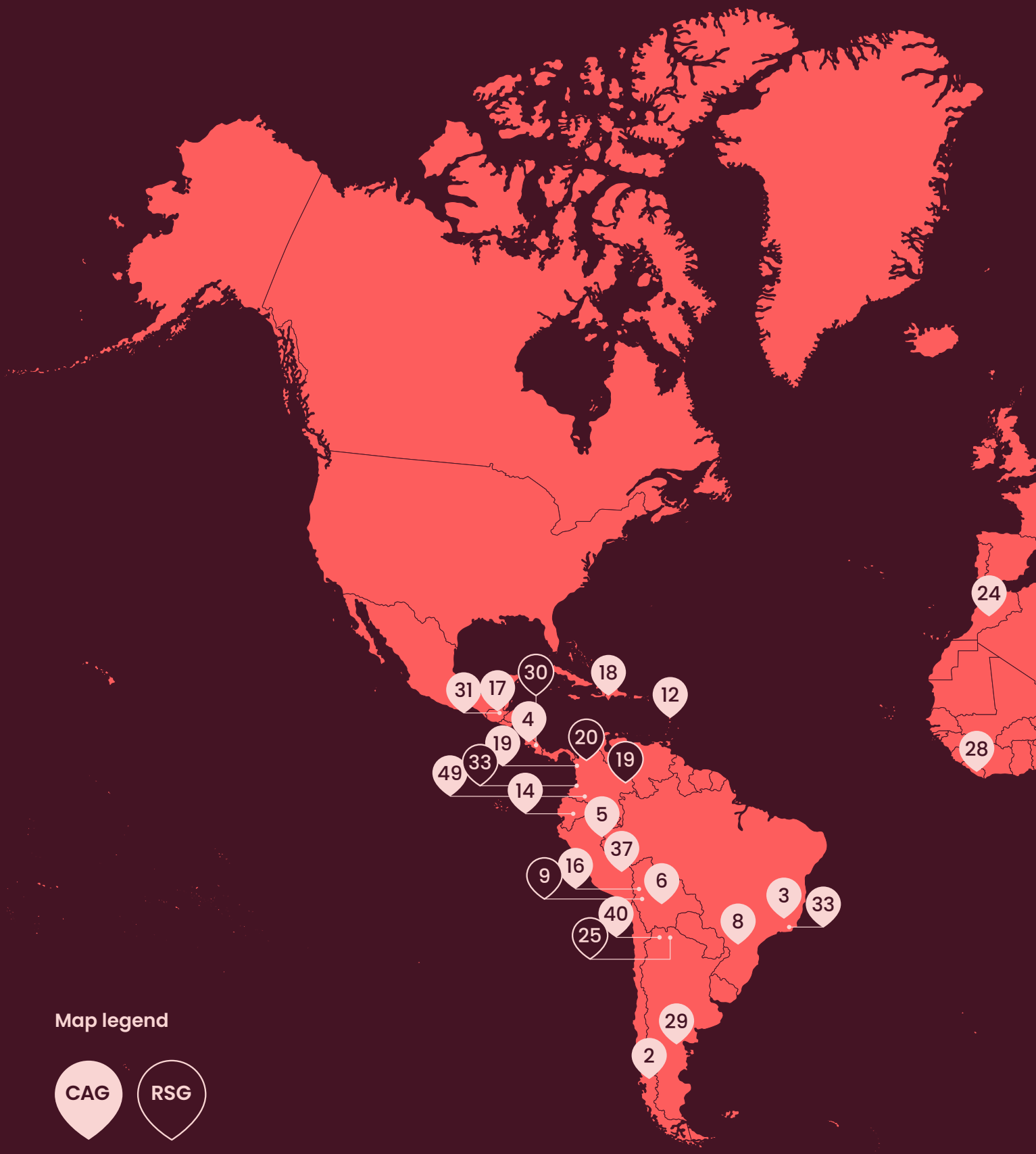
The third calls for proposals focused on freshwater biodiversity, targeting threatened (i.e., VU, EN, CR) **freshwater decapods, freshwater fishes, freshwater odonates and freshwater molluscs**, cornerstones of freshwater systems that face escalating threats.

Finally, the fourth calls for proposals prioritised **threatened** (i.e., VU, EN, CR) ungulate species from the families Equidae, Tapiridae, Rhinocerotidae, Suidae, Tayassuidae, Hippopotamidae, Camelidae, Tragulidae, Giraffidae, Antilocapridae, Moschidae, Cervidae, and Bovidae. These large herbivores play critical roles in shaping landscapes and maintaining ecosystem dynamics, yet many remain underfunded and at risk.

Through this evolving and targeted approach, the Fund ensured that conservation efforts not only addressed immediate threats but also directed attention and resources to species that are often underrepresented, underappreciated, and understudied, yet essential to the integrity of the natural systems we all depend on.

© Nuwejaars River Nature Reserve

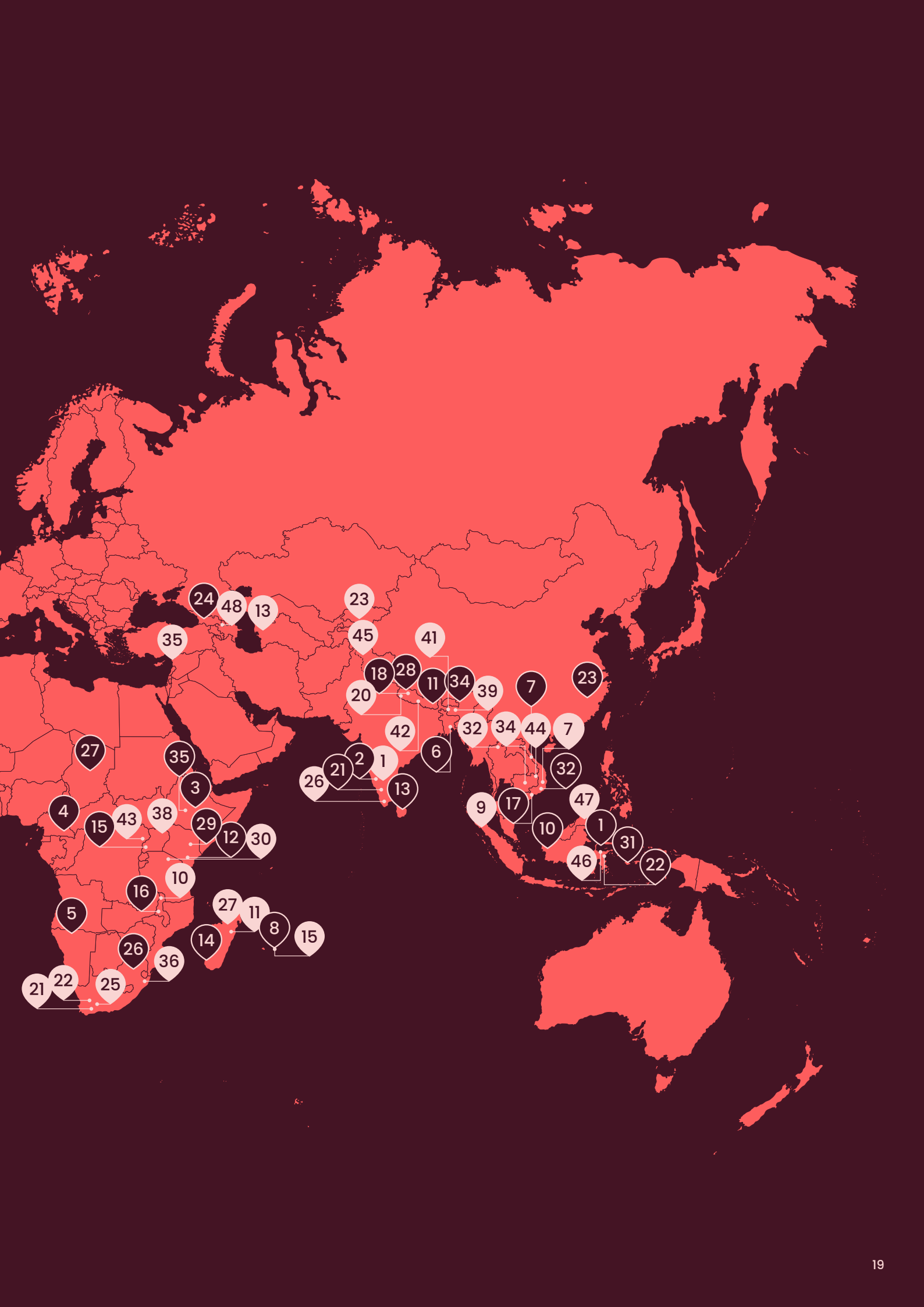
PROJECT LOCATIONS



Map legend

CAG RSG

Number refers to the project listed in the tables "List of projects funded"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OUR IMPACT IN NUMBERS

The Fund provided 49 Conservation Action Grants (CAGs) to civil society organisations and 35 Research Support Grants (RSGs) to young researchers across Asia, Latin America and the Caribbean, Africa, and the Middle East.

49

CONSERVATION ACTION GRANTS

With 49 civil society organisations supported

35

RESEARCH SUPPORT GRANTS

With 36 young scientists supported

€2,625,078
committed for all grants

- €2,381,252 committed for CAGs
- €243,826 committed for RSGs

768 APPLICATIONS RECEIVED

152 THREATENED SPECIES TARGETED

122 SITES IN 41 COUNTRIES

- 3 new species discovered
- 560,000+ hectares protected, managed or conserved
- 10,000+ hectares under restoration
- 8,700+ hectares under removal of invasive/ problematic species
- 50+ trainings provided with 3,800+ people trained
- 77,000+ direct beneficiaries and 1,150,000+ indirect beneficiaries
- 20,000+ people benefitted from development of sustainable livelihoods
- 12 projects addressed human-wildlife conflict

Figure 1. Number of grants per region

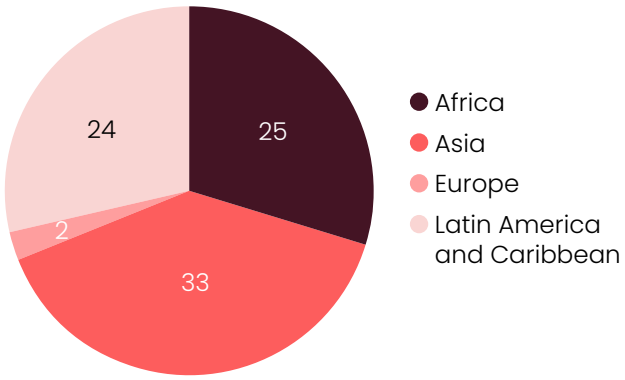


Figure 2. Number of target species per taxa

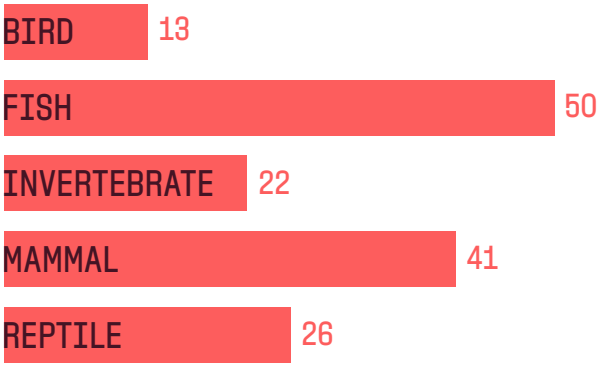


Figure 3. IUCN Red List status of target species

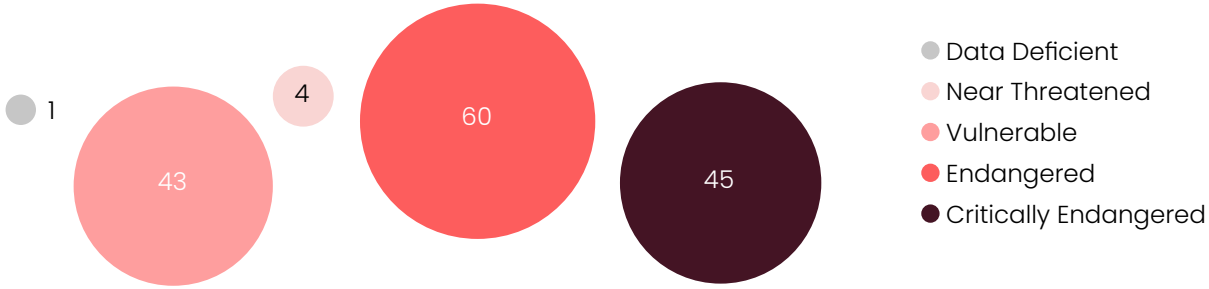


Figure 1. provides an overview of the total number of grants (84) awarded per region[1] across all calls for proposals for Conservation Action Grants and Research Support Grants. Asia[2] emerged as the region with the highest number of grants (33), followed by Africa (25) and Latin America and Caribbean (24). A small number of grants (two) were implemented in Eastern Europe[3]. This distribution reflects a strong emphasis on regions with high biodiversity and pressing conservation challenges. The relatively even distribution between Africa and Latin America and Caribbean also highlights the Fund's balanced support across continents.

Figure 2. highlights the strong taxonomic diversity of unique species (152) supported across all calls for proposals, grouped by major taxonomic categories. Fish species were the most represented (50 species), followed by mammals (41), reptiles (26), invertebrates (22), and birds (13). This wide coverage underscores the Fund's commitment to supporting the conservation of a broad range of threatened species, including those that are often underfunded or overlooked.

Figure 3. IUCN Red List status of all unique species targeted across all calls for proposals. The portfolio has primarily focused on species at the highest risk of extinction, with the majority classified as Endangered (EN, 60 species) and Critically Endangered (CR, 45 species). Vulnerable (VU, 43 species) species also featured prominently, while very few Near Threatened (NT, four species) or Data Deficient (DD, one species) species were targeted. This distribution demonstrates a clear prioritisation of conservation efforts towards species facing the most urgent extinction risks, in line with the objective of contributing to Target 4 of the Global Biodiversity Framework: halting species extinction and improving the status of threatened species.

1 Regions have been classified according to the United Nations (UN) regional groups. https://www.un.org/dgacm/en/content/regional-groups

2 Türkiye participates fully in both the group of Western European and other States and the group of Asia-Pacific States, but for purposes of this analyses, Türkiye is considered a member of the group of Asia, in line with UN regional classifications.

3 Although the guidelines for applicants classified Georgia under Central Asia, for the purposes of this analysis Georgia is treated as part of the group of Europe, in line with UN regional classifications.

MAIN ACTIVITIES FUNDED

FOR CONSERVATION ACTION

	Why is it important?
Species management and population monitoring	Knowing where species are, how many remain, and what threatens them is the foundation of conservation. Monitoring population trends and habitat use helps conservationists act early before declines become irreversible. It also builds the evidence needed to advocate for protection, shape recovery plans, and adjust strategies as conditions change. Regular monitoring is essential not only for tracking conservation progress, but also for identifying emerging threats. In many cases, ecological patrols that monitor wildlife also act as the eyes and ears on the ground, uncovering illegal activities like poaching or logging.
Habitat management and restoration	Even the most resilient species cannot survive without a place to live. As forests are logged, rivers polluted, and grasslands fragmented, species lose the food, shelter, and breeding grounds they need to thrive. Restoring ecosystems is key to reversing these losses, and ensuring species have the resources they need to survive and thrive.
Community engagement and human-wildlife conflict mitigation	Wildlife often shares space with people, and conflict can arise when animals threaten crops, livestock, or safety. When communities are excluded from conservation, mistrust grows. But when they are empowered as stewards, they become conservation's strongest allies.
Education, awareness, and behaviour change	Conservation is not just about acting to protect, or build knowledge to better protect, it is also about shifting minds and hearts. Awareness campaigns and environmental education help people understand why species matter, counter misconceptions, and inspire the next generation of environmental stewards.
Sustainable livelihoods and community enterprises	Many of the planet's richest biodiversity hotspots are also home to communities whose daily survival depends on natural resources, from fishing and farming to forest use. When survival is at stake, conservation can feel like a threat. But when it creates new opportunities, through eco-enterprises, sustainable harvesting, or value-added products, it becomes a force for economic resilience.
Policy Influence and institutional strengthening	Lasting conservation change often depends on the right laws, policies, and institutions. Strong governance can enshrine species protection, scale up successful efforts, and ensure that conservation outlives any one project. Developing national strategies, management plans, or species action plans helps translate field-based evidence into policy, guide long-term priorities, and embed conservation into institutional frameworks.

FOR RESEARCH

	Why is it important?
Species distribution and habitat characterisation	You can't protect what you don't know exists. For many lesser-known species, we still lack basic information about where they live, how many remain, or what habitats they depend on. Mapping these factors is the first step towards effective conservation.
Threat assessments	Knowing what puts species at risk, whether it's poaching, land conversion, or tourism, helps conservationists take targeted action. Without this understanding, interventions may miss the mark or come too late.
Understanding community perceptions	Local attitudes and experiences shape how people relate to wildlife and whether they choose to protect it. Understanding these perspectives is critical to building lasting conservation solutions.
Communicating results to drive action	The most powerful research doesn't sit on a shelf, it drives decisions, shapes priorities, and empowers people to act. Whether it informs protected area design or builds the case for species recovery, science is a catalyst for conservation.

GRANTS FOR ALL ANIMAL SPECIES – 2021

In 2021, the first calls for proposals were launched for Conservation Action Grants (CAGs) and for Research Support Grants (RSGs). These calls were open to projects targeting any terrestrial, freshwater and marine animal species across Asia, the Pacific, Latin America and the Caribbean, Africa, and the Middle East.

The response was substantial: **497 applications** were received from **92 countries**, including 329 proposals for CAGs and 168 for RSGs. Following the evaluation process, **19 small grants** were selected for funding.

These open calls for proposals were intentionally broad in scope to maximise inclusivity, but also to help assess requirements from the global conservation landscape and provide insights into where support is most needed, both in terms of species taxa and regions. However, they also presented challenges in terms of volume of submissions and number of grants awarded.

A more focused taxonomic scope was adopted in subsequent calls, resulting in increased chances of success for the applicants and a more manageable selection process for IUCN and Fondation Segré.

> THE GEOGRAPHIC REPRESENTATIVITY OF APPLICATIONS CONFIRMED STRONG GLOBAL INTEREST, INCLUDING FROM OFTEN UNDERREPRESENTED COUNTRIES.

© Lilongwe Wildlife Trust

The geographic representativity of applications confirmed strong global interest, including from often underrepresented countries such as Bhutan, Democratic People's Republic of Korea (DPRK), El Salvador, Mongolia, Palestine, Panama, and São Tomé and Príncipe. Countries generating the highest number of applications included Brazil, Cameroon, India, Indonesia, Kenya, Madagascar, South Africa, Tanzania, and Uganda.

In terms of species, mammals received the greatest focus, with about 50% of proposals addressing threatened mammal species. By contrast, only 12% of proposals focused on birds, 10% on reptiles, 7% on fish (including sharks and rays), 5% on invertebrates and 4% on amphibians. This revealed a significant imbalance in conservation attention and underscored the need to elevate funding support for underrepresented and underserved taxa in future calls.

DATA ON 2021 SELECTED GRANTS

10 CONSERVATION ACTION GRANTS

9 RESEARCH SUPPORT GRANTS

33 THREATENED SPECIES TARGETED

14 COUNTRIES

≈ EUR 507,000 COMMITTED FOR 2021 SELECTED GRANTS

- 1 new species discovered
- 10+ trainings provided with 350+ people trained
- 556,000+ hectares protected, managed or conserved
- 8,300+ direct beneficiaries and 5,500+ indirect beneficiaries
- 25+ hectares under restoration
- 3 projects addressed human-wildlife conflict

LIST OF PROJECTS FUNDED FROM THE 2021 GRANTS

	Type	Lead partner	Project title	Duration
1	CAG	Keystone Foundation	Pre empting human-wildlife conflict in Kotagiri — a hill town in the Nilgiri Biosphere Reserve, Western Ghats, India	12 months
2	CAG	Rewilding Chile	Protecting huemul subpopulations in the core of Cerro Castillo National Park: Control and reduction of domestic animals through collaborative work neighboring farms	18 months
3	CAG	Associação para a Conservação das Aves do Brasil	Saving three of Brazil's most threatened species from the brink of extinction: the Alagoas antwren, marsh antwren and the blue-eyed ground-dove	14 months
4	CAG	Asociación Conservacionista Misión Tiburón	Strengthening the scalloped hammerhead shark in Golfo Dulce, Costa Rica: an integrated model of climate action, coastal resilience, and marine conservation	12 months
5	CAG	Acate Amazon Conservación	Action program for enabling the Matses indigenous community to protect Endangered giant otters in Amazonian Peru	9 months
6	CAG	Asociación Civil Armonia	Protecting the key breeding areas for the Critically Endangered redfronted macaw	13 months
7	CAG	WildAct	Improving protection of the threatened Annamite endemics in Chu Yang Sin National Park through evidence-based community conservation	12 months
8	CAG	Wild Animal Conservation Institute - ICAS	Creating integrated management areas for giant armadillo conservation in the Cerrado of Mato Grosso do Sul, Brazil	12 months
9	CAG	Wildlife Asia	Protecting Sumatran rhinos in Kemiri, Western Leuser Ecosystem, Aceh, Indonesia	19 months
10	CAG	Lilongwe Wildlife Trust	Conserving Malawi's vultures: Using satellite technology and community enforcement networks to protect critical vulture habitats and inform a long-term Malawi Vulture Conservation Strategy while supporting protection of other Endangered species including elephants	12 months
1	RSG	Agus Sudibyo Jati	Developing an optimal monitoring programme for the Endangered Togean babirusa through the support of citizen scientists	12 months

Country	Site	Total budget EUR	Target species
India	Kotagiri , The Nilgiris, Tamil Nadu	47,940	• Indian sloth bear (*Melursus ursinus*) VU • Gaur (*Bos gaurus*) VU • Leopard (*Panthera pardus*) VU
Chile	Cerro Castillo National Park/ Aysén Region	34,058	• Patagonian huemul (*Hippocamelus bisulcus*) EN
Brazil	Botumirim, Minas Gerais State, Salesópolis, São Paulo State and Murici, Alagoas State	49,971	• Blue-eyed ground-dove, (*Columbina cyanopis*) CR • Marsh antwren (*Formicivora paludicola*) CR • Alagoas antwren (*Myrmotherula snowi*) CR
Costa Rica	Golfo Dulce	50,000	• Scalloped hammerhead shark (*Sphyrna lewini*) CR
Peru	Comunidad Nativa Matsés, District of Yaquerana, Departament of Loreto	29,947	• Giant otter (*Pteronura brasiliensis*) EN
Bolivia	Toro Toro National Park, El Palmar National Park and Red-fronted Macaw Community Nature Reserve	49,909	• Red-fronted macaw (*Ara rubrogenys*) CR
Viet Nam	Red-fronted Macaw Community Nature Reserve	49,999	• Large-antlered muntjac (*Muntiacus vuquangensis*) CR • Owston's civet (*Chrotogale owstoni*) EN • Annamite striped- rabbit (*Nesolagus timminsi*) EN • Vietnamese crested argus (*Rheinardia ocellata*) EN • Sun bear (*Helarctos malayanus*) VU
Brazil	Cerrado, Mato Grosso do Sul	31,500	• Giant armadillo (*Priodontes maximus*) VU
Indonesia	Western Leuser Ecosystem	46,459	• Sumatran rhinoceros (*Dicerorhinus sumatrensis*) CR
Malawi	Nyika National Park and Vwaza Marsh Wildlife Reserve	49,765	• African savanna elephant (*Loxodonta africana*) EN • White-headed vulture (*Trigonoceps occipitalis*) CR • Lappet-faced vulture (*Torgos tracheliotos*) EN • Hooded vulture (*Necrosyrtes monachus*) CR • White-backed vulture (*Gyps africanus*) CR
Indonesia	Togean Archipelago, Central Sulawesi	6,980	• Togian islands babirusa (*Babyrousa togeanensis*) EN

2	RSG	Vivek Chandran A	Understanding the ecology of *Disparoneura apicalis* (Fraser, 1924) in Kuruva Islands, Kerala, southern India	12 months
3	RSG	Ejigu Alemayehu Worku	Conservation of the Endangered mountain nyala (*Tragelaphus buxtoni*): mapping natural habitats and forests to sustain healthy populations	13 months
4	RSG	Romaric Tegang Pagning	Habitat, species distribution modelling and local knowledge of African golden cat in Boumba-Bek National Park, Southeast-Cameroon	12 months
5	RSG	Halleluya Natanael Shaanika	Understanding the local human values in relation to their perceptions and attitudes towards rhino conservation in the north-central community of Namibia	16 months
6	RSG	Sayam U. Chowdhury	Determining population sizes, key sites and threats to globally threatened shorebirds in coastal Bangladesh	12 months
7	RSG	Nguyen Tuan Anh	Conservation study of Endangered muntjacs in Quang Binh, Vietnam	12 months
8	RSG	Vashist Omprasad Seegobin	Using unmanned aerial vehicle for conservation of an Endangered flying fox: Assessing population size, roost characteristics and commercial fruit damage	12 months
9	RSG	Diego Ricardo Mendez Mojica	Characterising critical sites for the conservation of the Andean condor in the southern Tropical Andes	19 months

	India	Kuruva Islands, Wayanad district, Kerala (southern India)	6,877	• Black-tipped bambootail (*Disparoneura apicalis*) VU
	Ethiopia	Bale, Arsi and Ahmar mountains (southeast highlands of Ethiopia)	6,820	• Mountain nyala (*Tragelaphus buxtoni*) EN
	Cameroon	Boumba-Bek National Park, South-East Cameroon	6,997	• African golden Cat (*Caracal aurata*) VU
	Nambia	Etosha National Park and the adjacent community	5,532	• Black rhino (*Diceros bicornis*) CR
	Bangladesh	Central South Coast (Meghna Estuary – KBA) and East Coast (Sonadia Island – KBA)	6,500	• Spoon-billed sandpiper (*Calidris pygmaea*) CR • Nordmann's greenshank (*Tringa guttifer*) EN • Great knot (*Calidris tenuirostris*) EN
	Viet Nam	Thuong Hoa,southern part of Quang Binh	6,987	• Large-antlered muntjac (*Muntiacus vuquangensis*) CR • Roosevelt's muntjac/annamite muntjac (*Muntiacus rooseveltorum/Muntiacus truongsonensis*) DD
	Mauritius	Throughout Mauritius & in four orchards on Mauritius (Beau Songes, Calebasses, Constance and La Flora orchards)	6,743	• Greater mascarene flying fox (*Pteropus niger*) EN
	Bolivia	Eastern Andes (Cordillera Oriental)	6,992	• Andean condor (*Vultur gryphus*) VU

Overall, the majority of projects were implemented in Asia and Latin America and Caribbean, each receiving seven grants, while Africa received five grants. This relatively even allocation highlights a broad regional focus. The majority of supported species were mammals (18 species) and birds (13 species), with only one species each from the fish and invertebrate categories.

Figure 4. Distribution of CAGs and RSGs awarded through the 2021 calls for proposals by region[4].

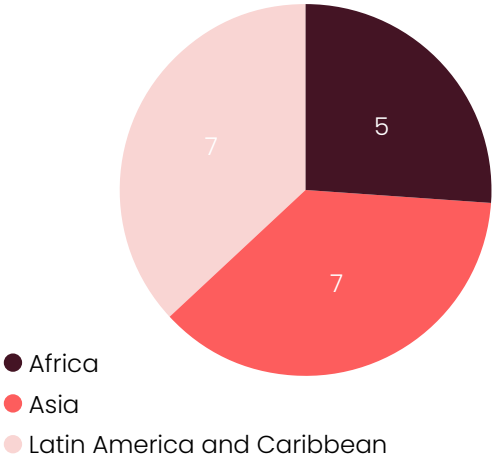


Figure 5. Distribution of CAGs and RSGs awarded through the 2021 calls for proposals by taxonomic categories.

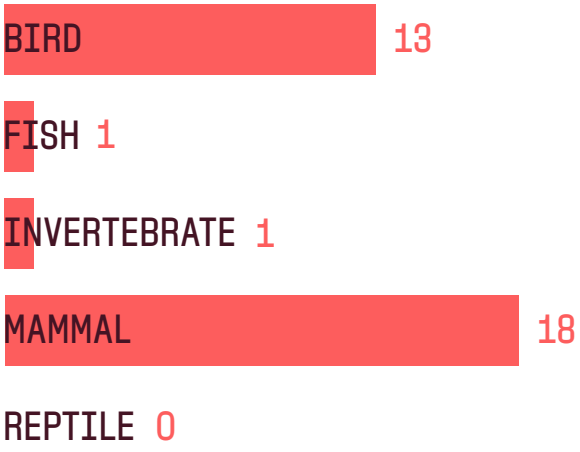
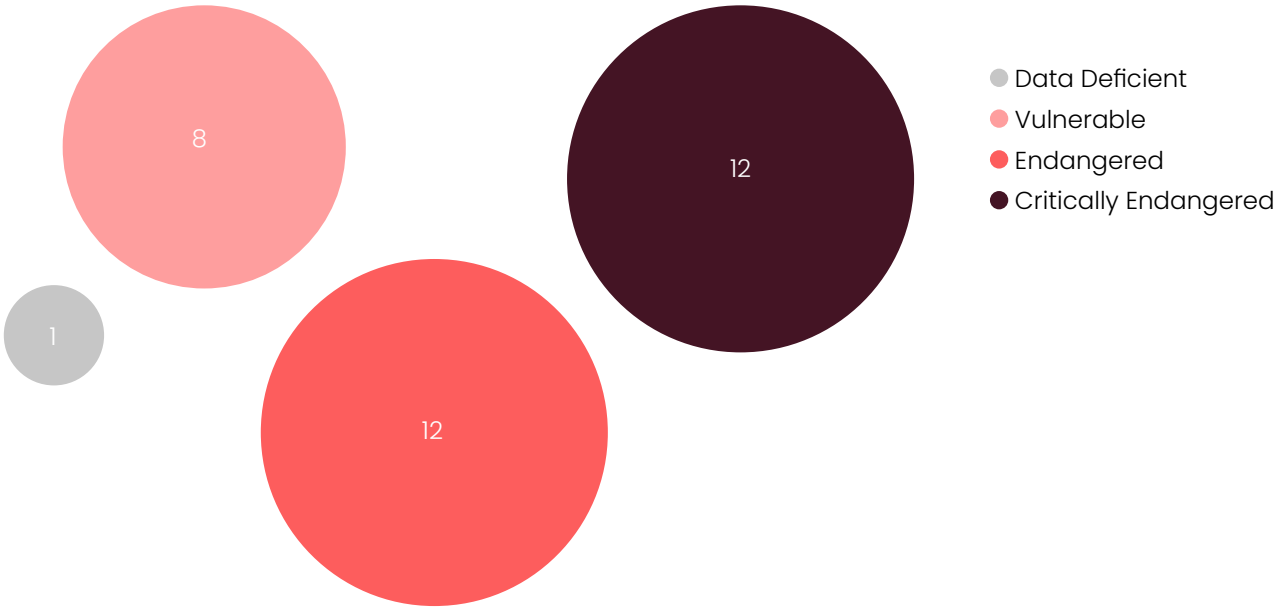


Figure 6. IUCN Red List status of species targeted by projects awarded through the 2021 calls for proposals. The portfolio focused largely on threatened species, with an equal number of Critically Endangered (CR) and Endangered (EN) species (12 each), followed by Vulnerable (VU) species (eight). One Data Deficient (DD) species was also supported.



4 Regions have been classified according to the United Nations (UN) regional groups.

KEY RESULTS FROM THE 2021 GRANTS[5]

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1. Species management and population monitoring

The grants supported field-based population monitoring to track species trends and detect threats in real time. In Bolivia, data collected on the **red-fronted macaw** *(Ara rubrogenys)*, CR) indicated that the species may no longer meet the IUCN Red List criteria for 'Critically Endangered' species and could be downlisted to 'Endangered'[6]. In contrast, alarming results emerged from Brazil, where the monitoring of the **Alagoas antwern** *(Myrmotherula snowi*, CR), a bird that only occurs in northeastern Brazil, showed that the species is about to disappear.

The number of individuals recorded in Murici dropped from 18 in 2016-2017 to just six in the census supported by the project in 2022-2023[7]. This sharp decline is attributed to extensive historical deforestation, as well as elevated populations of nest predators such as snakes and small marsupials, likely due to overhunting and forest degradation.

In Costa Rica's Golfo Dulce, the tagging of 213 individuals from nine shark and ray species, including four Critically Endangered sharks, helped confirm the area's importance as a nursery habitat and support advocacy for its protection. In Malawi, satellite tagging of

5 The examples presented in this section represent a sample of funded projects and activities from this funding round. They were selected to illustrate the diversity of taxa, geographic focus, and conservation activities supported, rather than to provide a comprehensive list of all results achieved. In addition, the activity categories used in this section reflect the types of projects funded under the 2021 calls for proposals. While a common structure was applied across the report, categories were adjusted where necessary to align with the specific conservation priorities and strategies relevant to each taxonomic group. This ensures that the classification remains meaningful and representative of the work funded.

6 Breeding and global population sizes of the Critically Endangered Red-fronted Macaw Ara rubrogenys revisited | Bird Conservation International | Cambridge Core

7 The Alagoas Antwren Myrmotherula snowi is in imminent danger of extinction | Bird Conservation International | Cambridge Core

vultures not only mapped key movement corridors but also helped locate and remove 272 snares in high-risk areas. This work also enabled the team to record the country's first-ever sighting of an **Egyptian vulture** (*Neophron percnopterus, EN*)[8].

2. Habitat management and restoration

Many projects focused on restoring and securing critical habitats for threatened species. In Bolivia, more than 200 native trees were planted to rehabilitate dry-Andean forest, a vital ecosystem for the **red-fronted macaw** (*Ara rubrogenys*, CR). In Brazil, exclusion fencing was installed to protect a highly sensitive site for the **blue-eyed ground-dove** (*Columbina cyanopis*, CR). Fences and gates now prevent access by domestic animals and reduce disturbance for the few remaining doves that live in the area. In Costa Rica, targeted advocacy efforts led to a threefold expansion of the Sanctuary for the scalloped hammerhead shark (*Sphyrna lewini*, CR), increasing protection to 15,500 hectares of critical coastal and marine habitat.

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3. Community engagement and human-wildlife conflict mitigation

Projects actively engaged communities in conservation, often addressing conflict with wildlife. In Chile, livestock and associated dogs entering Cerro Castillo National Park had disrupted the **Patagonian huemul** (*Hippocamelus bisulcus*, EN), a nationally iconic deer species. Collaboration with ranchers led to the relocation of livestock grazing areas and livestock dogs, resulting in no reported incidents between livestock dogs and the huemuls. Adaptative fencing was also introduced, allowing huemul deers to move freely through their habitat while still maintaining boundaries for cattle. In India's Nilgiri Biosphere Reserve, a combination of solar lighting, safe wells, improved waste management, and awareness-raising with communities helped reduce incidents involving wildlife such as **sloth bears** (*Melursus ursinus*, VU), **gaurs** (*Bos gaurus*, VU) and **leopards** (*Panthera pardus*, VU) in residential areas. These animals had notably been drawn into villages by food waste and unlit paths, posing a risk to both people and wildlife.

Projects also strengthened the role of Indigenous and ethnic minority communities in conservation. In Peru, land and river patrols led by the Matses Indigenous community confirmed the population estimates[9] of **giant otters** (*Pteronura brasiliensis*, EN) and successfully deterred illegal activity. In Viet Nam, H'Mong community patrols contributed to a reduction in bushmeat demand and firearm possession, reinforcing local conservation leadership.

4. Education, awareness, and behaviour change

While shifts in awareness take time to translate into widespread behavioural change, many projects undertook efforts to change minds. In Bolivia, the nationwide anti-trafficking campaign 'Les Queremos Libres' (We Want Them Free) helped raise public awareness

8 First confirmed record of Egyptian Vulture (Neophron percnopterus) in Malawi.

9 323 individuals recorded at the end of the project in 2022, while the 2018 census recorded 296, which indicates a stable or slightly increasing population.


© Tziru Perez

about the illegal parrot trade. In Malawi, a behaviour change communication strategy used interviews and illustrated posters to raise awareness of the risks associated with poisoning, both for human health and for scavengers like vultures, which are often unintentionally killed by poisoned carcasses. in Viet Nam, targeted outreach efforts around the Chu Yang Sin National Park led to 26 restaurants to stop serving bushmeat.

5. Sustainable livelihoods and community enterprises

To reduce pressure on ecosystems, several projects supported nature-based livelihoods. In Brazil', a "Giant Armadillo Friendly Honey" certification was developed to support beekeepers living in areas where **giant armadillos** (*Priodontes maximus*, VU) are present. Although armadillos are known to damage hives[10], participating beekeepers committed to coexistence. In return, the certification helped more than 100 certified beekeepers sell their honey at a higher price, turning a source of conflict into opportunity.

6. Policy influence and institutional strengthening

Several projects helped strengthen institutional frameworks and support institutional change. In Chile, a long-term collaboration agreement with the state led to the creation of a National Huemul Corridor, a milestone for Patagonian wildlife conservation. Stretching along the Route of Parks of Patagonia, the corridor connects key conservation areas, offering isolated subpopulations of the **Patagonian huemul** (*Hippocamelus bisulcus*, EN) the chance to move freely across their historic range and reestablish ecological connectivity. In Malawi, the project contributed to the development of the country's first Vulture Conservation Strategy. Co-designed with government, conservation partners, and local communities, the strategy sets out clear measures to reduce poisoning, improve law enforcement, and raise public awareness.

7. Species distribution and habitat characterisation

Several research projects focused on mapping species distribution, identifying critical habitats, and analysing habitat preferences. In Bolivia, surveys of the **Andean condor** *(Vultur gryphus*, VU) used drones and field observations to document roost and foraging sites across 14 locations, contributing to better understanding of habitat use and food availability. In Ethiopia, work on the **mountain nyala** (*Tragelaphus buxtoni*, EN) mapped over 4,500 km² of critical habitat, revealing that most of the remaining population survives in degraded hunting areas heavily impacted by livestock. In India, specimens collected as part of the project played a crucial role in describing a new damselfly species from the Western Ghats[11]. Research on the **Togean babirusa** *(Babyrousa togeanensis*, EN) in Indonesia revealed that

10 Desbiez, Arnaud & Oliveira, Bruna & Catapani, Mariana. (2020). Bee careful! Conflict between beekeepers and giant armadillos (Priodontes maximus) and potential ways to coexist Edentata: in press. Edentata. 10.2305/IUCN.CH.2020.Edentata-20-1.2.en.

11 Description of Phylloneura rupestris sp. n. from India, with notes on its reproductive behaviour — Worldwide Dragonfly Association

the species occupies around 70% of the surveyed area, particularly in forests near mangroves, while poaching remains a serious threat, evidenced by photographs of snared individuals.

8. Threat assessments

Many projects also explored drivers of species decline, informing recommendations for mitigations. Although our beneficiary in Cameroon did not detect the **African golden cat** *(Caracal aurata*, VU) directly, interviews and habitat assessments revealed valuable information about its potential presence and the extent of hunting pressure in local forests. A study on the **black-tipped bambootail damselfly** (*Disparoneura apicalis,* VU) in India identified critical host plant species for reproduction and noted tourism-related trampling as a major issue, pointing to the need to increase visitor awareness.

9. Understanding community perceptions

Another major outcome of the grants was improved understanding of community perceptions and the human dimensions of conservation. In Cameroon, interviews indicated that while the **African golden cat** *(Caracal aurata*, VU) was not a source of conflict, broader threats such as deforestation and unsustainable hunting were widespread. These findings underscore the importance of integrating community priorities and perspectives into future interventions. In Namibia, surveys around rhino conservation revealed low levels of community trust and engagement. Respondents reported feeling alienated from anti-poaching efforts, citing fear of retaliation and a lack of benefits from conservation.

10. Communicating results to drive action

Beyond generating data, several projects helped shape on-the-ground conservation planning and advocacy. In Bangladesh,


© Vivek Chandran

fieldwork on migratory shorebirds laid the groundwork for a future national monitoring scheme and provided evidence for coastal biodiversity planning. In Indonesia, the **Togean babirusa** *(Babyrousa togeanensis,* EN) project informed the development of a long-term monitoring protocol in collaboration with protected area authorities. In Bolivia, the **Andean condor** *(Vultur gryphus*, VU) research contributed to national discussions on site-based protection and supported the species' inclusion in conservation policy. In India, findings from the **black-tipped bambootail damselfly** *(Disparoneura apicalis*, VU) study underscored the pressures from tourism and pointed to ecotourism as a strategic opportunity for education and awareness-raising[12].

Disclaimer: This report features eight case studies throughout the calls for proposals to showcase the geographic, taxonomic, and thematic diversity of the portfolio. They include both Conservation Action Grants and Research Support Grants. They are not intended to showcase only "success stories," but rather to illustrate the breadth and depth of work supported by the Fund.

12 Odonata diversity of the Kuruva Islands, southern India, with notes on the ecology of Disparoneura apicalis (Fraser, 1924) (Odonata: Platycnemididae)

CASE STUDY 1

Empowering coastal communities to protect the Critically Endangered scalloped hammerhead shark in Golfo Dulce

● CONSERVATION ACTION GRANT

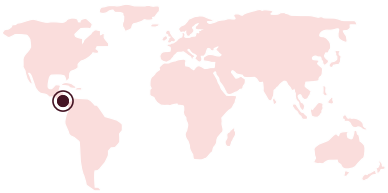
14 February 2022 to
13 February 2023

Project

Strengthening the scalloped hammerhead shark Golfo Dulce, Costa Rica: an integrated model of climate action, coastal resilience, and marine conservation

Location

Golfo Dulce, **Costa Rica**



Implementing partner

Asociación Conservacionista Misión Tiburón in collaboration with Costa Rica's Ministry of Environment, Ministry of Security (Coast Guards), and National System of Conservation Areas.

Target species

Main focus:

- Scalloped hammerhead shark (*Sphyrna lewini*) – Critically Endangered (CR)

Other threatened species that benefitted from the project due to shared habitat and conservation measures:

- Great hammerhead shark (*Sphyrna mokarran*) – Critically Endangered (CR)
- Scalloped bonnethead shark (*Sphyrna corona*) – Critically Endangered (CR)
- Bonnethead shark (*Sphyrna tiburo*) – Endangered (EN)
- Smalltail shark (*Carcharhinus cerdale*) – Critically Endangered (CR)
- Nurse shark (*Ginglymostoma unami*) – Endangered (EN)
- Oceanic blacktip shark (*Carcharhinus limbatus*) – Vulnerable (VU)
- Sharpnose shark (*Rhizoprionodon longurio*) – Vulnerable (VU)
- Tiger shark (*Galeocerdo cuvier*) – Near Threatened (NT)
- Longtail stingray (*Hypanus longus*) – Vulnerable (VU)

© Enrique Uribe

PROBLEM

The scalloped hammerhead shark and other threatened sharks in the Eastern Tropical Pacific are facing drastic population declines due to overfishing and habitat degradation. While much conservation focus in the region has been placed on offshore islands, critical coastal nursery habitats like Golfo Dulce have received less attention. The region also suffers from high poverty and limited economic alternatives, creating pressure on marine ecosystems from unsustainable resource use.

APPROACH

In response to the alarming decline of the scalloped hammerhead shark and other threatened elasmobranchs in the Eastern Tropical Pacific, this project scaled up scientific research, community engagement, and education within the Golfo Dulce Scalloped Hammerhead Shark Sanctuary in Costa Rica.

The project carried out **regular shark monitoring expeditions**, identifying critical habitats for several species through tagging and field observations. Simultaneously, it focused on **strengthening community education** by working with local schools and engaging over 1,000 students through the UNESCO Ocean Literacy toolkit and on-site learning.

To reduce pressures on marine ecosystems and empower local actors, the project helped **expand a women-led alternative livelihood initiative, *"Mujeres Martillo,"*** growing the group from 13 to 20 members. The women began producing new ocean-friendly products, including reusable coffee cups and bottles, received training in handmade organic soap production, and developed their first business plan to guide their activities.

Outreach extended to decision-makers, with targeted communications and stakeholder events building the political will to expand the sanctuary's legal boundaries. Community participation was further reinforced through mangrove restoration and wetland patrols led by fishers, women, and youth.

"THANKS TO THE FONDATION SEGRÉ CONSERVATION ACTION FUND, WE WERE ABLE TO ESTABLISH AN INTEGRATED MODEL THAT EMPOWERS COASTAL COMMUNITIES...

...to protect the Scalloped Hammerhead Shark Sanctuary Golfo Dulce—the nursery ground for the Critically Endangered scalloped hammerhead shark. Local leadership is at the forefront, driving community awareness, education, and active engagement in ocean conservation, while providing socio-economic opportunities for the most vulnerable groups in our society. This approach, rooted in shark and ocean conservation, now represents a tangible solution that benefits both people and nature."

Ilena Zanella, Director, Misión Tiburón

© Asociación Conservacionista Misión Tiburón

© Asociación Conservacionista Misión Tiburón

KEY RESULTS

Species monitoring and identification of critical habitats:

- **71 shark monitoring expeditions** were conducted, documenting **213 individuals from 14 threatened elasmobranch species**;
- A **critical nursery area** for the **great hammerhead shark (*Sphyrna mokarran*)** was identified at **Punta Tigre**, improving understanding of coastal habitat use for this Critically Endangered species.

Habitat restoration through community-led conservation efforts:

- **24 community conservation actions** were carried out, including **mangrove reforestation and beach cleanups**;
- These efforts led to the **removal of over 20 tons of waste** from critical shark habitats in Golfo Dulce.

Alternative livelihood support for women and girls:

- **13 women** were trained and empowered through the ***Mujeres Martillo*** initiative, which promotes ocean-friendly products and sustainable income alternatives;
- Sales from their eco-products helped support **the education of 56 local girls from vulnerable households**, strengthening the link between conservation, gender equity, and community development.

Community education and local pride-building:

- **Over 1,000 students** participated in educational programmes and interactive workshops at the **Shark Sanctuary Educational Station**;
- Local pride in conservation was enhanced by **redesigning the Golfito municipal logo** to feature a hammerhead shark.

Capacity building for marine stewardship and surveillance:

- **56 wetland patrols** were conducted with the active participation of local fishers, women, and youth, improving local conservation enforcement and community engagement.
- Policy advocacy and formal expansion of marine protection:
- The **Shark Sanctuary was officially expanded threefold** from **5,000 to 15,500 hectares** through a **Presidential decree in April 2022**;
- The expanded legal boundary secures additional nursery habitats and reinforces Costa Rica's leadership in marine conservation.

CASE STUDY 2

Mapping Bangladesh's key shorebird sites and threats to migratory species through data-driven research

○ RESEARCH SUPPORT GRANT

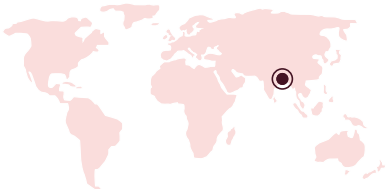
28 February 2022 to 27 February 2023

Project

Determining population sizes, key sites and threats to globally threatened shorebirds in coastal Bangladesh

Location

Coastal intertidal areas of **Bangladesh**, including the Meghna Estuary and Sonadia Island, both Key Biodiversity Areas



Target species

- Spoon-billed sandpiper (*Calidris pygmaea*) – Critically Endangered (CR)
- Nordmann's greenshank (*Tringa guttifer*) – Endangered (EN)
- Great knot (*Calidris tenuirostris*) – Endangered (EN)

Implementing partner

Sayam U. Chowdhury, PhD candidate (at the time of implementation), University of Cambridge, affiliated with the SCOPE Foundation (Bangladesh)

"THE FONDATION SEGRÉ CONSERVATION ACTION FUND PROVIDED TIMELY SUPPORT FOR MY PHD FIELDWORK – WITHOUT IT, MUCH OF THIS IMPORTANT WORK WOULD NOT HAVE BEEN POSSIBLE."

Sayam U. Chowdhury, PhD candidate, University of Cambridge

© Sayam U. Chowdhury

PROBLEM

Bangladesh's dynamic intertidal mudflats support globally important populations of migratory shorebirds, yet their distribution, abundance, and threats are poorly documented. This lack of data hinders the design of effective conservation strategies, especially as the country faces increasing coastal development and vulnerability to climate change.

APPROACH

This research project pioneered the first comprehensive mapping of Bangladesh's coastal shorebird populations and threats using an integrated, data-driven approach. A grid-based sampling system was applied across the entire coastline, combining previous knowledge, satellite imagery, and stratified sampling to estimate national population sizes of over 30 shorebird species. To complement ecological data, 150 interviews were conducted with local fishers, land users, and community leaders to understand the scope and nature of threats. The project also used species tagging, site assessments, and modelling techniques to identify key sites for conservation, delivering actionable insights for national biodiversity planning.

KEY RESULTS

Species monitoring and population baseline establishment:

- **200 coastal grid cells** were surveyed using a 5x5 km stratified sampling approach, covering **43% of Bangladesh's coastline**;
- The project estimated that **108,684 individuals (95% CI: 100,013–117,840)** winter in Bangladesh, **67% more** than previously assumed highlighting the country's global importance for migratory shorebirds;
- **Population estimates were generated for 35 species**, including **17 spoon-billed sandpipers, 705 great knots**, and **111 nordmann's greenshanks** providing critical data to inform conservation priorities and Red List updates.

Identification of priority sites for conservation action:

- **10 critical shorebird sites** were identified, but **only 50% currently benefit from formal protection** revealing major gaps in the national protected area network;
- Shorebirds were found to **use tidal flat areas that remain exposed for 2–6 hours per tide cycle,** identifying and protecting these zones are critical for long-term conservation of migratory shorebirds.

Habitat threat assessment and data-driven planning:

- The project identified key threats to shorebirds, including **sand dredging, illegal noose trapping, unplanned mangrove afforestation and disturbance from fishing and other activities**;
- These findings were formally submitted to the **Bangladesh Forest Department** to guide **site-specific protection strategies**.
- Community awareness and stakeholder engagement:
- **150+ local stakeholders**, including fishers and land users, were interviewed to document threats and raise awareness of the region's conservation value;
- The study helped strengthen the case for **coastal ecosystem protection within Bangladesh's national planning frameworks**.

Capacity building and scientific dissemination:

- Project findings are being prepared for **peer-reviewed publication** and are being integrated into national shorebird conservation strategies;
- The methodology has laid a replicable foundation for **long-term species and habitat monitoring** across other parts of the East Asian–Australasian Flyway.

GRANTS FOR REPTILES - 2022

The Global Reptile Assessment published in 2022 on the IUCN Red List of Threatened Species™ revealed an alarming truth: **more than one in five reptile species worldwide is threatened with extinction**[13]. This finding underscores the urgent need to accelerate global conservation efforts for this often-overlooked group.

To echo the need to ramp up global efforts to conserve them, the 2022 calls for proposals for Conservation Action Grants and Research Support Grants were specifically dedicated to the conservation of threatened squamate species, commonly known as "scaled reptiles". Squamates represent the largest order of reptiles and most diverse of all the reptile groups, yet they are also among the least studied and protected.

This vast group includes lizards (*Lacertilia*), which are the most diverse among squamates and encompass species such as iguanas, chameleons, geckos, skinks, anguids, and others. It also includes snakes (*Serpentes*), such as boas, pythons, vipers, colubrids, and blind snakes. The final group is the Amphisbaenians, or worm lizards (*Amphisbaenia*), which are burrowing reptiles that spend much of their lives underground.

While these species may not receive the same public attention as large mammals or charismatic birds, they play essential roles in ecosystems around the world. As both predators and prey, they help regulate populations of insects, rodents, and other small animals, maintaining the balance within food webs. In addition, many squamates also contribute to ecosystem health through seed dispersal and by improving soil quality, thereby supporting long-term resilience.

Despite their ecological importance, squamates face increasing threats, including habitat loss, climate change, pollution, invasive species, and illegal wildlife trade. Immediate conservation efforts are necessary to protect these reptiles, safeguard their habitats, and mitigate the pressures driving their decline.

> 'MORE THAN ONE IN FIVE REPTILE SPECIES WORLDWIDE IS THREATENED WITH EXTINCTION.'

A total of **34 applications** were received across both calls for proposals (23 for CAGs and 11 for RSGs), for project sites in **23 countries.**

Following the evaluation process, **13 small grants** were selected for funding.

13 Comprehensive Study of World's Reptiles: More Than One in Five Reptile Species are Threatened with Extinction


© Fundacion de Conservación Jocotoco

DATA ON 2022 SELECTED GRANTS

8 CONSERVATION ACTION GRANTS

5 RESEARCH SUPPORT GRANTS

26 THREATENED SPECIES TARGETED

12 COUNTRIES

≈ EUR 389,000 COMMITTED FOR 2022 SELECTED GRANTS

1 new species discovered

15+ trainings provided with 50+ people trained

3,500+ hectares protected, managed or conserved

6,500+ direct beneficiaries and 75,000+ indirect beneficiaries

280+ hectares under restoration

1 project addressed human-wildlife conflict

LIST OF PROJECTS FUNDED FROM THE 2022 GRANTS

	Type	Lead partner	Project title	Duration
11	CAG	Madagasikara Voakajy	Saving the Critically Endangered tarzan chameleon from extinction through greater engagement of local communities in monitoring, management, and improving livelihoods	12 months
12	CAG	Durell Wildlife Conservation Trust	Securing the future of two Critically Endangered Saint Lucia endemic reptiles	18 months
13	CAG	WWF Central Asia	Using watering holes to improve livelihoods and conserve the southern even-fingered gecko (*Alsophylax laevis*) in western Turkmenistan	12 months
14	CAG	Fundacion de Conservación Jocotoco	Conservation of the remaining population of the Critically Endangered peters' ameiva in southern Ecuador	12 months
15	CAG	Ebony Forest	Reducing the risk of extinction of the lowland forest day gecko, upland forest day gecko and macchabé skink by establishing new sub-populations in endemic forest	15 months
16	CAG	Fundación para el Desarrollo de la Ecología	Network of small protected areas to ensure the conservation of *Liolaemus aparicioi*: background science, public outreach and formal designation	16 months
17	CAG	Fundación para el Ecodesarrollo y la Conservación	Protecting Endangered and Critically Endangered Abronia lizards in the Guatemalan´s Highlands	12 months
18	CAG	Grupo Jaragua	Conservation of Hispaniola's rock iguanas through habitat restoration, improved surveillance and education	12 months
10	RSG	Harits Yowansyah Pandayu Putra	Habitat characteristics and population of the earless monitor lizard (*Lanthanotus borneensis*) in Landak district and Sanggau district West Kalimantan Province	12 months
11	RSG	Santosh Bhattarai	Ecological assessment of Critically Endangered dark sitana (*Sitana fusca*) in Nepal	12 months
12	RSG	Thomas Nyaranga Odeyo	Promoting community awareness and conservation of the Endangered *Kinyongia tenuis* and *Prosymna semifasciata* in Shimba Hills	18 months

Country	Site	Total budget EUR	Target species
Madagascar	Ambatofotsy Protected Area and Ankorabe Protected Area	49,758	• Tarzan chameleon (*Calumma tarzan*) CR
Saint-Lucia	Maria Islands (Major and Minor), Praslin Island and Rat Island	42,276	• Saint Lucian whiptail (*Cnemidophorus vanzoi*) CR • Ornate ground snake (*Erythrolamprus ornatus*) CR
Turkmenistan	Maliy Balkhan, Bolshoi Balkhan and Uzboy	49,990	• Southern even-fingered gecko (*Alsophylax laevis*) CR
Ecuador	Yunguilla Reserve and surroundings	42,179	• Peters' ameiva (*Holcosus orcesi*) CR
Mauritius	Ebony Forest, Chamare, Vallee de L'Est, Anse Jonchee, Providence, Providence and Montagne Longue, Montagne Longue	47,624	• Lowland forest day gecko (*Phelsuma guimbeaui*) EN • Upland forest day gecko (*Phelsuma rosagularis*) EN • Macchabé skink (*Gongylomorphus fontenayi*) EN
Bolivia	Valle de La Paz (Nuestra Señora de la Paz, Achocalla, Mecapaca and Palca Municipalities), La Paz Bolivia	24,150	• Liolaemus aparicioi (*Liolaemus aparicioi*) CR
Guatemala	Cerro Amay site, in Cerro El Amay and Xapper Conservation Site/La Soledad site, in Cuchumatanes	50,000	• Cope's arboreal alligator lizard (*Abronia aurita*) EN • Drangoncito espinozo (*Abronia fimbriata*) EN • Frost's arboreal alligator lizard (*Abronia frosti*) CR
Dominican Republic	La Florida Corridor area (Independencia Province), Jaragua National Park, Loma Charco Azul Protected Landscape and Lake Enriquillo National Park	49,452	• Ricord's rock iguana (*Cyclura ricordii*) EN • Hispaniolan rhinoceros iguana (*Cyclura cornuta*) EN
Indonesia	Landak District and Sanggau District	5,063	• Earless monitor lizard (*Lanthanotus borneensis*) EN
Nepal	Madhesh Province, Bardibas	7,000	• Dark sitana (*Sitana fusca*) CR
Kenya	Shimba Hills	7,000	• Usambara flap-nosed chameleon (*Kinyongia tenuis*) EN • Banded shovel-snout snake (*Prosymna semifasciata*) EN

13	RSG	Adhikari Mudiyanselage Himash Gayashan Adhikari	Evaluating the phylogenetic and population status of Critically Endangered and Endangered agamid lizard species in Knuckles and Morningside Forest	12 months
14	RSG	Hajaniaina Rasoloarison	Assessment of the conservation status of the Belalanda chameleon (*Furcifer belalandaensis*) in southwestern Madagascar	12 months

	Sri Lanka	Knuckles Forest Reserve and Morningside Forest Reserve	6,850	• Manamendra-arachchi's whistling lizard (*Calotes manamendrai*) EN • Pethiyagoda's crestless lizard (*Calotes pethiyagodai*) EN • Tennent's leaf nosed lizard/ rhinoceros agama (*Ceratophora tennentii*) EN • Dumbara agama (*Cophotis dumbara*) CR • Karu's horned lizard (*Ceratophora karu*) CR • Erdelen's horned lizard (*Ceratophora erdeleni*) CR • Morningside lizard (*Calotes desilvai*) CR
	Madagascar	Ranobe Protected Area, PK 32	7,000	• Belalanda chameleon (*Furcifer belalandaensis*) CR

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Overall, the projects selected through the calls for proposals in 2022 were relatively balanced across the three regions represented, with Latin America and Caribbean receiving slightly more grants (five) compared to Africa and Asia (four each), focusing on a diverse range of families, with all species being reptiles.

Figure 7. Distribution of CAGs and RSGs awarded through the 2022 calls for proposals by region[14].

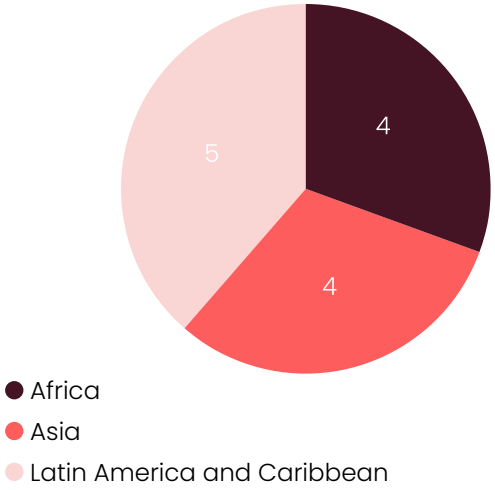
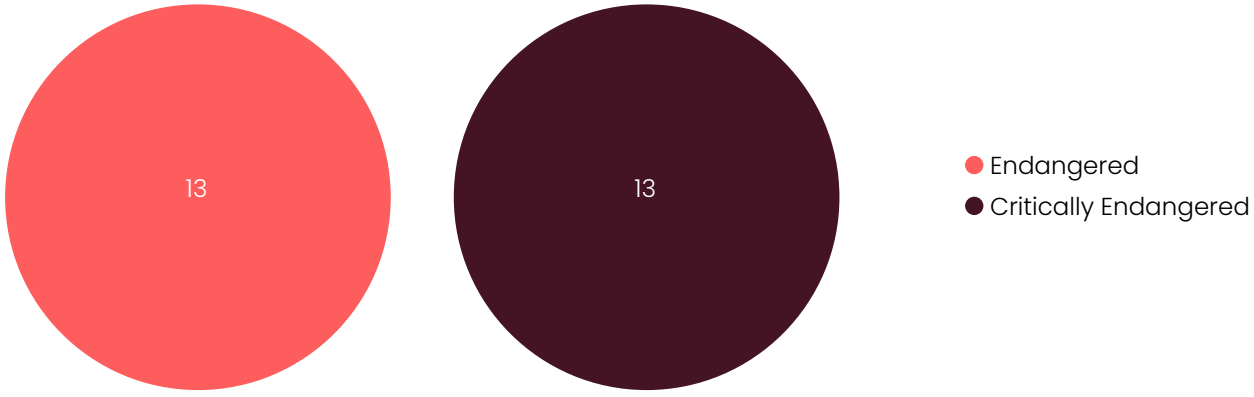


Figure 8. Distribution of CAGs and RSGs awarded through the 2022 calls for proposals by taxonomic families.

Figure 9. IUCN Red List status of target species supported under the 2022 calls for proposals.



14 Regions have been classified according to the United Nations (UN) regional groups.

KEY RESULTS FROM THE 2022 GRANTS[15]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1. Species monitoring and management

One of the most significant achievements was the discovery of previously undocumented populations. In Bolivia, two new populations of the lizard species *Liolaemus aparicioi,* CR were found. In Ecuador, the **peters' ameiva** (*Holcosus Orcesi*, CR) was recorded in 13 new locations, dramatically expanding known distribution. These discoveries were complemented by strengthened monitoring frameworks, including the development of long-term survey protocols, GPS-based transects, and the use of SMART tools for patrolling, which were successfully adopted in places like Madagascar for the **tarzan chameleon** (*Calumma tarzan*, CR) and in the Dominican Republic for the **ricord's and rhinoceros iguanas.** (*Cyclura ricordii*, EN) and (*Cyclura cornuta,* EN). In Mauritius, surveys identified three new, previously unrecorded subpopulations of the **lowland forest day gecko** (*Phelsuma guimbeaui,* EN).

2. Habitat management and restoration

Many squamates are highly dependent on specific habitats for shelter, food, and breeding. Habitat restoration, such as restoring degraded grasslands or forests, is essential to ensure that these species have the resources they need to survive. It helps preserve critical microhabitats like rock crevices, tree canopies, or leaf litter where many squamates thrive.

In Bolivia, discussions began to establish a protected area for the newly discovered population of *Liolaemus aparicioi*, CR.

In Guatemala, two detailed conservation plans were developed for the La Soledad and Cerro Amay sites, covering a combined area of 3,785 hectares. These plans are designed to safeguard essential habitat for three Endangered abronia lizard species (*Abronia aurita, Abronia fimbriata, Abronia frosti,* EN),

15 The examples presented in this section represent a sample of funded projects and activities from this funding round. They were selected to illustrate the diversity of taxa, geographic focus, and conservation activities supported, rather than to provide a comprehensive list of all results achieved. In addition, the activity categories used in this section reflect the types of projects funded under the 2022 calls for proposals. While a common structure was applied across the report, categories were adjusted where necessary to align with the specific conservation priorities and strategies relevant to each taxonomic group. This ensures that the classification remains meaningful and representative of the work funded.

laying the groundwork for long-term protection and management.

In Madagascar, community patrols led to a 50% reduction in slash-and-burn agriculture and illegal mining in the Ambatofotsy reserve, while the Ankorabe reserve recorded no fire or tree cover loss alerts during the project period.

In Turkmenistan, the construction of separate water reservoirs for livestock helped reduce grazing pressure in critical habitat for the **southern even-fingered gecko** *(Alsophylax laevis*, CR), stabilising populations while improving socio-economic conditions for over 5,000 community members.

Several projects also contributed to advancing legal protection for key habitats. In Turkmenistan, new boundary proposals were submitted for the Balkhansky Strict Nature Reserve, Malo-Balkhansky Sanctuary, and Western Uzboysky Sanctuary.


© Fundacion de Conservación Jocotoco

3. Community engagement and education

In Ecuador, more than 2,400 students participated in school workshops, while public events and media campaigns helped raise the profile of **peters' ameiva** *(Holcosus orcesi, CR)* conservation. In Madagascar, five youth teams from surrounding villages were trained in beekeeping and received equipment and business planning support. Environmental campaigns also reached thousands of children and community members across several project areas. Similar efforts in the Dominican Republic and Saint Lucia included the creation of educational materials, lesson plans, and outreach strategies targeting perceptions of snakes and iguanas.

4. Research and scientific knowledge

The projects made significant strides in generating new data and informing conservation planning for poorly studied or highly threatened squamate species.

In Madagascar, the **Belalanda chameleon** (*Furcifer belalandaensis*, CR) was surveyed across multiple sites, revealing seasonal population dynamics and habitat use, while highlighting the impact of bushfires and logging.

In Mauritius, field surveys led to the first population estimate of the **upland forest day gecko** *(Phelsuma rosagularis*, EN) since the 1990s, with a total of 327 individuals recorded. Alarmingly, the results confirmed a sharp population decline and severe fragmentation, reinforcing the urgency for targeted protection measures and updated conservation strategies for the species.

Studies on the **earless monitor lizard** (*Lanthanotus borneensis,* EN) in Indonesia and the **dark sitana** (*Sitana fusca,* CR) in Nepal provided the first field-based records and distribution maps for these species, identifying key habitat characteristics and major threats like illegal trade and habitat degradation.

In Saint Lucia, genetic sampling supported the development of a genetic management plan for two Critically Endangered reptiles, the **Saint Lucia racer** *(Erythrolamprus ornatus*, CR) and the **Saint Lucia whiptail** *(Cnemidophorus vanzoi,* CR). This work provides a critical foundation for future population reinforcement and translocation strategies.

In Sri Lanka, phylogenetic research on seven threatened **agamid lizard** species (*Calotes manamendrai, Calotes pethiyagodai, Ceratophora tennentii,* EN) and (*Cophotis dumbara, Ceratophora karu, Ceratophora erdeleni, Calotes desilvai*, CR) clarified species boundaries, confirmed genetic distinctiveness, and revealed signs of local extinction and inbreeding, especially in *Ceratophora karu*. This work produced over 200 tissue samples and supports future genetic management and anti-trafficking efforts.

Several researchers also produced conservation tools such as habitat models and population estimates, and many intend to expand their work through PhD research or conservation planning proposals, laying the groundwork for sustained impact.

CASE STUDY 3

Restoring critical habitats and reducing threats for Hispaniola's Endangered rock iguanas

● CONSERVATION ACTION GRANT

15 June 2023 to
14 June 2024

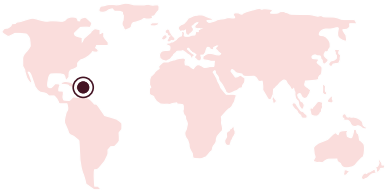
Project

Conservation of Hispaniola's rock iguanas through habitat restoration, improved surveillance and education

Location

Jaragua-Bahoruco-Enriquillo Biosphere Reserve, **Dominican Republic**

Including: Lake Enriquillo National Park (Ramsar site), Loma Charco Azul Protected Landscape, Jaragua National Park, and La Florida corridor



Target species

- Ricord's iguana (*Cyclura ricordii*) – Endangered (EN)
- Rhinoceros iguana (*Cyclura cornuta*) – Endangered (EN)

Implementing partner

Grupo Jaragua, with support from: INDECO (Duvergé) and OJAA youth group (Pedernales-Ansapit area)


© Yolanda León

PROBLEM

The ricord's and rhinoceros iguanas of Hispaniola are under severe threat due to habitat loss from charcoal production, agriculture, and livestock grazing, as well as poaching for meat and the pet trade. Despite existing protection laws, enforcement in key habitats many located in dry forests outside protected areas has been weak. The degradation of cactus-rich ecosystems critical for feeding and nesting, coupled with low local awareness, had pushed both species closer to extinction.

APPROACH

To address the urgent threats facing Hispaniola's Endangered iguanas, the project deployed a holistic conservation model that combined habitat restoration, community surveillance, and environmental education. Over 277 hectares of degraded forest were restored across key sites through the planting of native and threatened plant species favored by iguanas. Simultaneously, local residents, including former poachers were trained and equipped to carry out regular foot patrols, using mobile technology to record iguana sightings and threats in real time.

Education played a central role in building long-term support, more than 400 children participated in the innovative "Nature Kids Camp," which used storytelling, costumes, and interactive learning to foster pride in local biodiversity. These efforts were anchored in strong community partnerships, with youth groups and grassroots organisations leading much of the work on the ground. The combined impact helped reduce illegal activity, support ecosystem recovery, and empower local stewards to play a sustained role in iguana conservation.

© Grupo Jaragua

"THIS PROJECT BROUGHT US AND THE LOCAL COMMUNITIES CLOSER THAN EVER. WE'VE BUILT REAL TRUST, AND WE'RE SURE THEY'LL BE LIFELONG ALLIES IN PROTECTING THESE INCREDIBLE IGUANAS."

Yolanda Leon, President of Directive Board, Grupo Jaragua


© Grupo Jaragua

KEY RESULTS

Secured and restored critical habitat for globally threatened iguanas:

- **277 hectares of degraded dry forest restored**, including key nesting and feeding areas, through the planting of native and iguana-preferred species such as semaphore cactus and the Samson tree cacti (*Leptocereus undulosus)* (EN)
- Restoration supported the **regeneration of eight threatened plant species**, like the Lake Enriquillo rose (*Pereskia portulacifolia)* (VU) contributing to long-term habitat viability for iguanas and other dry forest specialists.

Strengthened population monitoring and threat reduction:

- **291 ricord's iguana nests monitored** across Pedernales (Dominican Republic) and Ansapit (Haiti), **nearly double the number recorded in 2023**, offering valuable data for future population assessments.
- **181 foot patrols conducted** using a smartphone app, enabling real-time data collection on iguana sightings and human pressures.
- In key patrol areas like southern Lake Enriquillo, **no traps or charcoal kilns were detected during foot patrols**, suggesting **a possible reduction in poaching and deforestation activity in these monitored zones**.

Built community knowledge and conservation leadership:

- **401 children** participated in targeted environmental education activities, including school talks and the immersive "Nature Kids Camp."
- After participating, **84% of students could correctly identify both native iguana species**, and **mean knowledge scores on iguanas improved from 57.1% to 74.1%**, demonstrating effective knowledge transfer.
- The project directly engaged and provided income to **over 100 local residents**, including former poachers and charcoal producers, helping to align local livelihoods with conservation outcomes.

Informed long-term species recovery and conservation planning:

- The project impacted an estimated **70% of the global ricord's iguana population** and **20% of the global rhinoceros iguana population**, marking it as a globally significant intervention.
- Monitoring data are now used to guide site-level management and inform **updates to the ricord's iguana Recovery Plan**, helping to institutionalise conservation gains.

CASE STUDY 4

Rediscovery and habitat mapping of the Critically Endangered dark sitana lizard in Nepal

○ RESEARCH SUPPORT GRANT

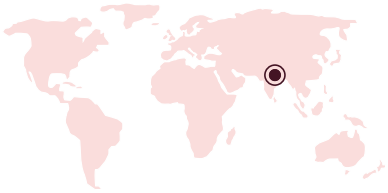
1 April 2023 to
31 March 2024

Project

Conservation and ecology of Critically Endangered dark sitana (*Sitana fusca*) in Nepal

Location

Bardibas and surrounding areas, Madhesh Province, **Nepal**



Target species

Dark sitana (*Sitana fusca*) – Critically Endangered (CR)

Implementing partner(s)

Santosh Bhattarai, PhD candidate (at the time of implementation), Federation University Australia, in collaboration with Nepal Conservation and Research Center (NCRC)

PROBLEM

The dark sitana (*Sitana fusca*), a terrestrial lizard endemic to Nepal, was described in 1998 and had not been studied since. Its known range was limited to a small area (~4 km²) outside the protected area network in Bardibas, a rapidly urbanising town in central-lowland Nepal. With mounting habitat degradation, urban expansion, and intentional forest fires, there were growing fears that the species might already be extinct. Conservation attention and baseline ecological data for the species were entirely lacking, and local awareness of its existence was negligible.

APPROACH

The project focused on confirming the **continued existence** of the **Critically Endangered dark sitana** (*Sitana fusca*) in Nepal, mapping its distribution, and assessing key threats. Extensive **Visual Encounter Surveys (VES)** were conducted across its potential range, with active searches in different habitats to record sightings. Habitat features such as vegetation structure, canopy cover, and proximity to human activity were carefully documented at each detection site, providing vital context for the species' survival.

Behavioural observations were also incorporated to understand how the species interacts with its environment, with special attention to activity patterns and territorial behaviours. The project used these findings to create a detailed distribution map and develop a **checklist of associated species**, providing a broader ecological context for conservation. The results were presented to local government agencies and conservation stakeholders, laying the groundwork for future collaborative efforts in the species' recovery.

KEY RESULTS

Species monitoring and range expansion:

- The project **confirmed the continued existence of the Critically Endangered dark sitana**, with **20 individuals recorded across nine locations in four districts,** the species' first confirmed sightings in over two decades.
- A **new distribution map** was created and shared with authorities, significantly expanding the known range and providing a spatial foundation for future management.
- **351 behavioral events** were recorded across six categories (e.g. foraging, courtship, territorial displays), offering new insights into how the species interacts with its environment.

Habitat baseline definition for future restoration:

- Habitat assessments revealed that **dark sitana prefers dry forest and scrubland habitats**, often in degraded but regenerating areas.
- Surveys of vegetation structure at presence and absence points highlighted **key microhabitat features** and **threat drivers**, such as intentional fires, fuelwood collection, and nearby infrastructure development.

Broader biodiversity documentation:

- A **checklist of 60 amphibian and reptile species** was compiled during fieldwork, strengthening understanding of the local herpetofauna community and reinforcing the ecological value of the region.
- These data support broader conservation planning and may contribute to habitat-based prioritisation for multiple species.

Community engagement and institutional momentum:

- Findings were shared with the **Department of Forests**, which expressed interest in co-developing a **community-based conservation initiative** focused on dark sitana and its habitat.
- Local awareness of the species, previously virtually unknown, was raised through field interactions and early outreach efforts.

Foundation for long-term conservation planning:

- The project's dataset, including distribution maps and behavioural observations, will feed into **future site occupancy models** and **peer-reviewed publications**, contributing to Nepal's national research and conservation agenda.
- It also offers a **baseline for assessing climate change vulnerability** in Terai Savannah Grassland ecoregion increasingly threatened by fire and habitat fragmentation and modification.

GRANTS FOR FRESHWATER SPECIES - 2023

Freshwater species, including **fishes, molluscs, odonates (dragonflies and damselflies), and decapods (crabs, shrimps, and lobsters)**, are vital to the health of freshwater ecosystems. They play essential roles in water quality, nutrient cycling, and food webs, supporting both biodiversity and human livelihoods. However, freshwater ecosystems are among the most threatened on the planet, with species declining at an alarming rate.

Key threats to these species include habitat destruction, pollution, overextraction of water, invasive species, and climate change. To address these challenges, the 2023 calls for proposals focused on supporting projects aimed at improving the conservation status of freshwater decapods, fishes, odonates, and molluscs. By funding both conservation action and research, the initiative sought to mitigate key threats, enhance habitat protection, and support long-term species recovery efforts across freshwater ecosystems.

In 2023, calls for Conservation Action Grants and Research Support Grants specifically targeting projects aimed at improving the conservation status of threatened freshwater decapods, fishes, odonates, and molluscs. These calls were launched as part of a broader response to the ongoing largest global assessment of freshwater animals on the IUCN Red List of Threatened Species™.

The Red List assessment revealed that **24% of the world's freshwater species including fish, dragonflies, damselflies, crabs, crayfish, and shrimp are at high risk of extinction**[3]. This alarming reality highlighted the critical need for focused conservation efforts. **The IUCN study also emphasised that species like crabs, crayfishes, and shrimps face the greatest risk, with 30% of them threatened**[16].


© Sebastian Serna

> '24% OF THE WORLD'S FRESHWATER SPECIES ARE AT HIGH RISK OF EXTINCTION.'

This finding underscored the need for immediate action to protect these vital species. This focus was directly aligned with the need to address the immediate threats to freshwater ecosystems.

Both calls received a combined total of **103 applications**, 57 for CAGs and 46 for RSGs from **45 countries**.

Following the selection process, **26 small grants** were selected for funding, all aimed at addressing the immediate threats identified by the Red List.

16 One quarter of freshwater animals at risk of extinction - IUCN Red List - Press release | IUCN

DATA ON 2023 SELECTED GRANTS

14 CONSERVATION ACTION GRANTS

12 RESEARCH SUPPORT GRANTS

70 THREATENED SPECIES TARGETED

18 COUNTRIES

≈ EUR 795,773 COMMITTED FOR 2023 SELECTED GRANTS

- 1 new species discovered
- 20+ trainings provided with 3,100+ people trained
- 8,800+ hectares protected, managed or conserved
- 51,000+ direct beneficiaries and 1,080,000+ indirect beneficiaries
- 10,000+ hectares under restoration
- 1 project addressed human-wildlife conflict

LIST OF PROJECTS FUNDED FROM THE 2023 GRANTS[17]

	Type	Lead partner	Project title	Duration
19	CAG	Women Environmental Corporation	Guardians of the Siluriformes: a holistic strategy for the conservation of the Bearded Fish in the Colombian Andes	12 months
20	CAG	National Trust for Nature Conservation	Saving golden mahseers in the Himalayan foothills: A community-based conservation in Babai River	12 months
21	CAG	Nuwejaars River Nature Reserve	Understanding and protecting threatened Nuwejaars fynbos fish species	12 months
22	CAG	Freshwater Research Centre	Restoring a river to create a threatened fish sanctuary in South Africa	12 months
23	CAG	Fauna & Flora International	Empowering local communities to conserve the Endangered pike asp (*Aspiolucius esocinus*) in the Toktogul reservoir, Kyrgyzstan	14 months
24	CAG	Centre de Développement de la Région de Tensift	Contribution to the conservation of the Critically Endangered pearl mussel (*Margaritifera marocana*) in Morocco	15 months
25	CAG	Groot Vaders Bosch Conservancy Trust	Creating a safe home in the Huis River for the Tradouw redfin	20.5 months
26	CAG	Tropical Institute of Ecological Sciences	Protection of fresh water ecosystems for the conservation of threatened species in Munnar, Western Ghats, India	12 months
27	CAG	The Aspinall Foundation	Engaging local fishers and community members in the management & conservation of endemic fish species in the Wetlands of Maevatanana/Ambato-Boeni, Madagascar	13 months

17 Due to leftover funding certain budgets were increased at the donor's discretion.

Country	Site	Total budget EUR	Target species
Colombia	Atrato river basin	30,000	• Barber fish (barbudo) (*Pimelodus grosskopfi*) CR
Nepal	Babai River and Sharada River	49,697	• Golden mahseer (*Tor putitora*) EN
South Africa	Nuwejaars Wetlands Special Management Area	49,988	• Heuningnes redfin (*Pseudobarbus sp nov heuningnes*) EN • Heuningnes galaxia (*Galaxia sp nov heuningnes*) EN
South Africa	Biedouw River	49,969	• Clanwilliam sandfsh (*Labeo seeberi*) EN • Clanwilliam rock catlet (*Austroglanis gilli*) NT • Clanwilliam redfin (*Pseudobarbus calidus*) NT • Clanwilliam sawfin (*Pseudobarbus serra*) NT • Clanwilliam yellowfish (*Labeobarbus seeberi*) NT
Kyrgyzstan	Toktogul reservoir	49,986	• Pike asp (*Aspiolucius esocinus*) EN
Morocco	Oued El Abid, Oum Er Rbia Basin, Bzou Commune, Azilal Province	49,996	• Grande moule perlière (*Margaritifera marocana*) CR • Moule de foucauld (*Unio foucauldianus*) CR • Crevette marocaine (*Dugastella marocana*) EN • Atlas scaper (*Pterocapoeta maroccana*) VU • Rife barbel (*Luciobarbus zayanensis*) VU
South Africa	Huis River with a focus on the town of Barrydale (including Smitsville)	64,997	• Tradouw redfin (*Pseudobarbus burchelli*) CR
India	Munnar Hills, Kerala	49,220	• Anamalai mountain hawk dragonfy (*Chlorogomphus xanthoptera*) VU • Red spot reedtail damselfy (*Protosticta sanguinostigma*) VU • Saffron reedtail damselfy (*Indosticta deccanensis*) VU • Kerala loach (*Indoreonectes keralensis*) VU • Cardamon garra fish (*Garra hughi*) EN
Madagascar	The Wetlands of Maevatanana - Ambato-Boeny KBA and the Corridor of the Northwestern Landscape	49,993	• Damba mipentina (*Paretroplus maculatus*) CR • Kotsovato (*Paretroplus kieneri*) VU • Marakely (*Paratilapia polleni*) VU • Amboaboa round herring (*Sauvagella robusta*) EN

28	CAG	Community Aid for Rehabilitation & Development	Mitigating human threats on freshwater species and ecosystems in Cestos-Senkwen of Liberia	12 months
29	CAG	Fundación Hábitat y Desarrollo Blue Victoria	Avoiding the extinction of the only endemic fish in arid Argentine Patagonia: the naked characin (*Gymnocharacinus bergii*)	12 months
30	CAG	Blue Victoria	Establishing Community Conservation Area (CCA) in Mara Bay Key Biodiversity Area (KBA) for conservation of Critical Endangered *Labeo victorianus*	12 months
31	CAG	Fundación Defensores de la Naturaleza	Conservation of the tarpon (*Megalops atlanticus*): promoting sustainable fishing and governance in the Bocas del Polochic Wildlife Refuge (RVSBP)	18 months
32	CAG	Living river Association	Empowering communities with local knowledge and science to conserve species and protect the habitat of the Mekong freshwater stingray in the Mekong River through community participation	12 months
15	RSG	Francis Ssenkuba	Inventory and conservation assessment of selected threatened molluscs and crustacean in Lakes Mutanda, and Bunyonyi in Southwestern Uganda	12 months
16	RSG	Righteous Wanangwa Kachali	Assessing habitat connectivity and fragmentation for *Opsaridium microlepis* conservation in Malawi: a comparative study of the Linthipe and Bua Rivers	12 months
17	RSG	Tran Chau Bao Tram	Diversity inventory of threatened freshwater fishes in Bung Binh Thien, Mekong Delta	12 months
18	RSG	Shivish Bhandari	Understanding how environmental variables influence the Critically Endangered fish, *Schizothorax spp.*, in the Karnali River and its tributary in Nepal	12 months
19	RSG	Yiselle Patricia Cano Cobos	Dragonflies of Guainía: The search of *Heteragrion demarmelsi*	12 months
20	RSG	Sebastian Arango Quintero	Population dynamics of two Endangered dragonfly species endemic to the páramos of the Colombian Cordillera Central	14 months

	Liberia	Cestos-Senkwen	49,309	• Shrimps (*Caridea, Dendrobranchiata*) EN • Crabs (*Liberonautes nanoide*) EN • Paramphilius frestone (*Paramphilius frestonei*) EN • Lungfish (*Dipnoi*) EN • Tree-hole dwelling crab (*Arachnothelphusa merarpensis*) EN • Common carp (*Cyprinus capio*) VU • Dwarf river crab (*Liberonautes nanoides*) CR
	Argentina	Valcheta stream, Somuncura Plateau and Río Negro province	49,541	• Naked characin (*Gymnocharacinus bergii*) CR
	United Republic of Tanzania	Mara Bay Key Biodiversity Area	43,063	• Ningu (*Labeo victorianus*) CR
	Guatemala	Bocas del Polochic Wildlife Refuge	64,993	• Tarpon/sábalo (*Megalops atlanticus*) VU
	Thailand	The Mekong river from Ban Don to Ban Muang Kan, Rimkhong Subdistrict, Chiang Khong District and Chiang Rai Province	44,480	• Mekong freshwater stingray (*Dasyatis laosensis*) EN
	Uganda	Lake Mutanda and Lake Bunyonyi	6,986	• Lake mutanda crab (*Potamonautes mutandensis*) EN • Bulinus snail (*Bulinus mutandensis*) VU
	Malawi	Linthipe and Bua Rivers	6,990	• Mpasa (*Opsaridium microlepis*) VU
	Viet Nam	Bung Binh Thien (Binh Thien Lakes) (Vietnamese: Búng Bình Thiên)	6,865	• Giant carp (*Catlocarpio siamensis*) CR • Mekong giant catfish (*Pangasianodon gigas*) CR • Small scaled mud carp (*Cirrhinus microlepis*) VU • Long-faced loach (*Acantopsis octoactinotos*) VU • Goonch (*Bagarius yarrelli*) VU
	Nepal	Karnali River	7,000	• Rara snow trout (*Schizothorax raraensis*) CR • Snow trout (*Schizothorax nepalensis*) CR
	Colombia	Mavecure, Inírida, Guainía	7,000	• Flatwing damselflies (*Flatwing damselflies*) EN
	Colombia	Belmira, Antioquia, Páramo de Belmira	6,757	• Blue-eyed darners (*Rhionaeschna caligo*) EN • Blue damselfly (*Mesamphiagrion gaudiimontanum*) EN

21	RSG	Sri Ranjni Thangavelan Swaminathan	Overcoming hydropower barriers to habitat connectivity and conservation of threatened fish species of the Moyar river of India's Western Ghats	27 months
22	RSG	Diky Dwiyanto	Conservation of the endemic freshwater shrimp genus *Caridina* from Lake Poso, an ancient tectonic lake in Central Sulawesi, Indonesia	12 months
23	RSG	Xi Xi	Utilising geographic information systems and remote sensing technologies for ship sturgeon habitat assessment and conservation strategy	12 months
24	RSG	Tamar Beridze	Using acoustic telemetry to foster the conservation and recovery of Endangered sturgeons in Georgia; a proof of concept study	18 months
25	RSG	Marcos Waldbillig	Conserving Vulnerable Chacoan killifish: ecology, ontogeny and environmental parameters in a challenging context	12 months
26	RSG	Mahlatse Fortunate Mashaphu	eDNA monitoring of native *Oreochromis mossambicus* populations in South Africa	12 months

	India	River Moyar, Nilgiris, Western Ghats	6,990	• Hump-backed mahseer (*Tor remadevii*) CR • Chameen (Kanada) (*Hypselobarbus pulchellus*) CR • Korhi barb (*Hypselobarbus micropogon*) EN • Periyar barb (*Hypselobarbus periyarensis*) EN • The nilgiri danio (*Devario neilgherriensis*) EN • Arulius barb (D*awkinsia arulius*) EN • The nilgiris barb (*Hypselobarbus dubius*) EN • Kolus barb (*Hypselobarbus kolus*) VU
	Indonesia	Lake Poso, Sulawesi	6,950	• Caridean shrimp (*Caridina acutirostris*) VU • Blue leg poso (*Caridina caerulea*) VU • Red morph shrimp (*Caridina ensifera*) VU • Sulawesi fan shrimp (*Caridina longidigita*) VU • Caridean shrimp (*Caridina sarasinorum*) VU • Caridean shrimp (*Caridina schenkeli*) VU
	China	Xinjiang River	6,240	• Ship sturgeon (A*cipenser nudiventris*) CR
	Georgia	Rioni River and Eastern Black Sea Coast	7,000	• Stellate sturgeon (*Acipenser stellatus*) CR • Russian sturgeon (*Acipenser gueldenstaedtii*) CR • Ship sturgeon (*Acipenser nudiventris*) CR • Beluga (great sturgeon) (*Huso huso*) CR
	Argentina	Los Palmares Provincial Reserve	6,994	• Killifish (*Titanolebias monstrosus*) VU • Killifish (*Austrolebias vandebergi*) VU
	South Africa	Limpopo Province, Mpumalanga Province and KwaZulu-Natal Province	6,835	• Mozambique tilapia (*Oreochromis mossambicus*) VU

Out of a total of 26 grants, the largest share was allocated to Africa (10 grants) and Asia (nine grants), followed by Latin America and Caribbean (six grants) and Europe[18] (one grant). This reflects a strong focus on biodiversity hotspots in Africa and Asia, particularly in the context of freshwater species conservation with a clear emphasis on fish (49 species) and invertebrates (21 species), primarily freshwater decapods, odonates, and stingrays.

Figure 10. Distribution of CAGs and RSGs awarded through the 2023 calls for proposals by region[19].

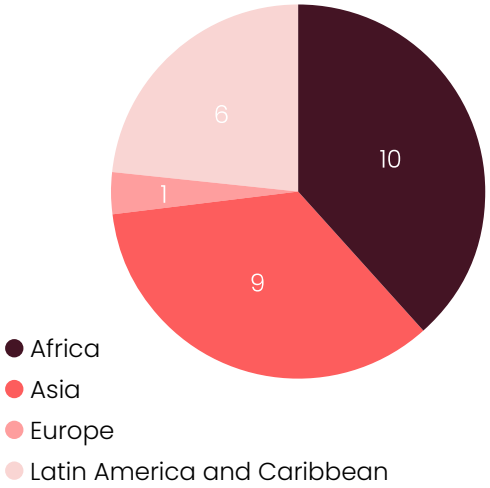
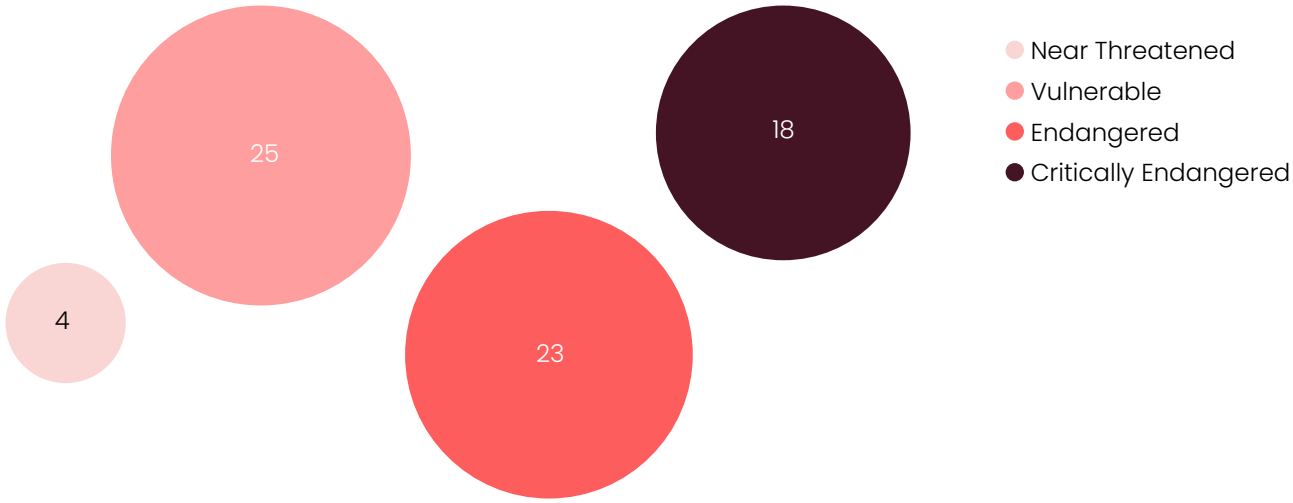


Figure 11. Distribution of CAGs and RSGs awarded through the 2023 calls for proposals by taxonomic categories.

Figure 12. IUCN Red List status of species targeted under the third calls for proposals. The majority of supported species were classified as Vulnerable (VU, 25 species), followed by Endangered (EN, 23 species) and Critically Endangered (CR, 17 species). A smaller number of Near Threatened (NT, four species) were also included.



18 Although the guidelines for applicants classified Georgia under Central Asia, for the purposes of this analysis Georgia is treated as part of the group of Europe, in line with UN regional classifications.

19 Regions have been classified according to the United Nations (UN) regional groups.

KEY RESULTS FROM THE 2023 GRANTS[20]

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1. Species monitoring and management

Understanding population dynamics through monitoring is key to assessing the effectiveness of conservation efforts. This includes tracking population sizes, migration patterns, and reproductive success, which informs management strategies like establishing protected areas or regulating fishing practices. In Nepal, 18 River Guard Groups conducted over 1,000 patrols along the Babai and Sharada rivers, identifying key hatchling sites and raising awareness among nearly 12,000 community members to protect the **golden mahseer** (*Tor putitora*, EN). In the Heuningnes catchment of South Africa, researchers surveyed 669 km of river systems to map the distribution and threats facing two endemic fish species **Heuningnes redfin** (*Pseudobarbus sp. nov. heuningnes*, EN) and **Heuningnes Galaxias** (*Galaxia sp. nov. heuningnes*, EN). Their findings informed a comprehensive Conservation Mitigation Plan and led to the removal of over 425 invasive fish.

2. Habitat management and restoration

Freshwater species are highly sensitive to habitat loss, pollution, and water quality changes. Restoring degraded wetlands, riverbanks, and freshwater habitats helps provide critical breeding, feeding, and sheltering areas. It also improves water quality and helps regulate ecosystems, supporting the biodiversity of freshwater species. In Colombia's Atrato River Basin, over 4,600 native trees were planted and erosion control measures reduced sedimentation in spawning sites by 38%. These actions contributed to a 145% increase in the

20 The examples presented in this section represent a sample of funded projects and activities from this funding round. They were selected to illustrate the diversity of taxa, geographic focus, and conservation activities supported, rather than to provide a comprehensive list of all results achieved. In addition, the activity categories used in this section reflect the types of projects funded under the 2023 calls for proposals. While a common structure was applied across the report, categories were adjusted where necessary to align with the specific conservation priorities and strategies relevant to each taxonomic group. This ensures that the classification remains meaningful and representative of the work funded.

barbudo catfish (*Pimelodus grosskopfii*, CR) population. In South Africa's Biedouw River, 8.5 km of freshwater habitat have undergone restoration through the removal of 1,569 invasive trees. A downstream barrier weir was constructed to prevent reinvasion, creating a secure sanctuary for the **Clanwilliam sandfish** (*Labeo seeberi,* EN).

3. Water quality monitoring

Many freshwater species, particularly fish and amphibians, are sensitive to changes in water quality, including pH, temperature, oxygen levels, and contamination from pollutants. Monitoring these parameters is essential for assessing the health of aquatic ecosystems and triggering corrective conservation measures, such as pollution control or water treatment. In Georgia, a researcher used acoustic telemetry and environmental modelling to map suitable habitats for threatened **sturgeons** (*Acipenser stellatus, Acipenser gueldenstaedtii, Acipenser nudiventris* and *Huso huso,* CR) in the Ili River system. The study highlighted the role of dams, irrigation channels, and pollution in disrupting habitat connectivity and proposed integration of conservation into water management plans. In the Western Ghats of India, water samples revealed widespread contamination in freshwater habitats critical to threatened odonates and fish. In response, 100 biosand filters and a model bio-toilet were installed, benefiting thousands of people.


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4. Invasive species management

Invasive species, such as non-native fish or aquatic plants, often outcompete or prey on native freshwater species. Control measures like trapping, chemical treatment, or habitat modification are vital to protect native species from the detrimental impacts of invasives, ensuring the survival of endangered freshwater fauna. In Argentina, a series of artificial ponds were created to establish a new subpopulation of the **naked characin** (*Gymnocharacinus bergii*, CR), after eradicating invasive fish from key stream sections. Within weeks, thousands of individuals had colonised the ponds.

5. Community-based conservation programmes

Engaging local communities in protecting freshwater ecosystems can greatly enhance conservation success. Programmes that promote sustainable fishing practices, reduce water pollution, and encourage eco-tourism can reduce human pressures on freshwater species and their habitats, while providing local benefits. In Madagascar, four no-fishing zones were established and stocked with 905 native fish, including the **damba mipentina** (*Paretroplus maculatus,* CR), thanks to voluntary contributions by local fishers. In Nepal, a community-linked homestay and angling site were developed to provide sustainable alternatives to traditional, destructive fishing practices. The initiative aimed to reduce the local community's dependence on harmful fishing methods that negatively impacted the **golden mahseer** (*Tor putitora*, EN). By establishing the homestay, local families were offered a source of income through eco-tourism, promoting conservation while still benefiting economically. Additionally, youth from the community were engaged as conservation stewards, participating in patrols to monitor and protect local natural resources. They also led awareness campaigns, educating others about sustainable fishing practices


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and the importance of preserving the local ecosystem. This approach not only provided economic incentives but also fostered a sense of responsibility and stewardship among the younger generation, contributing to long-term conservation efforts.

6. Research on species breeding and reproductive success

Understanding the breeding behaviours, reproductive cycles, and threats to reproduction of freshwater species is critical. Research helps identify environmental factors that influence successful breeding and guides interventions, such as controlled breeding or the restoration of specific spawning habitats. In China's Ili River basin, ground surveys and remote sensing were used to identify suitable spawning areas for the **ship sturgeon** (*Acipenser nudiventris*, CR). These data were combined with environmental models to assess reproductive habitat viability and propose long-term monitoring based on future tracking data from 30,000 tagged juveniles.

7. Addressing climate change

Freshwater species are particularly vulnerable to climate change, as changes in temperature and rainfall patterns can alter their habitats. Monitoring how climate change impacts species distribution and health helps in predicting shifts in population and guides adaptive conservation strategies. In Colombia, long-term monitoring of odonates in the páramo ecosystem revealed seasonal shifts in population size, life span, and reproductive patterns. The project described larval stages for two **dragonfly species** (*Rhionaeschna caligo* and *Mesamphiagrion gaudiimontanum*, EN) for the first time and recommended continued monitoring to assess the impacts of climate change on this climate-sensitive ecosystem[21].

21 Rhionaeschna caligo revisited: female and larval descriptions, new geographical records and natural history notes (Odonata: Aeshnidae)

CASE STUDY 5

Community-led action and eDNA science to protect the Endangered Mekong freshwater stingray

● CONSERVATION ACTION GRANT

1 February 2024 to
31 January 2025

Project

Empowering communities with local knowledge and science to conserve species and protect the habitat of the Mekong freshwater stingray in the Mekong River through community participation

Location

Kon Phi Long Rapids, Mekong River, Chiang Rai Province, **Thailand** (Chiang Saen, Chiang Khong, and Wiang Kaen Districts)

Target species

Mekong freshwater stingray (*Hemitrygon laosensis*) – Endangered (EN)

Implementing partner

Living River Association, with support from: Chiang Mai University, University of Phayao, and local fisheries networks

© Living river Association

"FIRST AND FOREMOST, WE WOULD LIKE TO EXPRESS OUR SINCERE GRATITUDE TO THE FONDATION SEGRÉ CONSERVATION ACTION FUND FOR SUPPORTING OUR WORK...

Your support has allowed us to broaden our perspective on conservation by integrating scientific approaches with community-based efforts in the study of Endangered freshwater fish species. Thanks to the support from the Fondation Segré Conservation Action Fund, we have achieved tangible success at the community level, and we have seen effective collaboration among NGOs, academic institutions, and government agencies working together on conservation initiatives. This has laid a strong foundation for long-term efforts. The support process provided by the Fondation Segré Conservation Action Fund is well-structured, enabling smooth implementation without issues in documentation, activities, or financial procedures."

Sayan Khamnueng, Director, Living River Association

© Living river Association

PROBLEM

The Mekong freshwater stingray is one of the world's rarest and least understood large freshwater fish. Once widespread in the Mekong Basin, it is now nearly absent from Thai waters, with sightings in Chiang Rai province dwindling over the past two decades. Habitat degradation from hydropower dams, unsustainable fishing, and sediment changes caused by erratic water levels threaten its survival. Despite its Endangered status, conservation action and population data have been nearly non-existent, and community awareness was low.

APPROACH

Faced with the near disappearance of the Mekong freshwater stingray from Thai waters, this project combined cutting-edge science with local knowledge to catalyse conservation. Community consultations were held in 10 riverside villages to document past stingray sightings, identify current threats, and gather support for habitat protection. Simultaneously, the team deployed **environmental DNA (eDNA) surveys** at 29 sites across 97 km of the Mekong River, marking the first systematic effort to detect the species using molecular tools.

Building on community momentum, the project helped establish **Thailand's first local conservation zones** for the stingray and launched broad public awareness initiatives, including school programmes, youth camps, and media campaigns. These actions were supported by active engagement with subdistrict and provincial authorities, culminating in policy commitments to protect stingray habitats and promote the recovery of native fish populations.

KEY RESULTS

Habitat protection through community-led conservation zones:

- **Two fish conservation zones** (300m each) were designated and legally recognised at **Don Thi and Chiang Saen Noi**, securing critical refuge areas for the stingray and other native species.
- **Five local authorities formally endorsed the zones**, demonstrating strong political backing and replicability of the model.

Improved species monitoring and confirmed presence of stingray:

- **eDNA analysis detected the presence of** Mekong freshwater stingray (***Hemitrygon laosensis***, EN) in Thai Mekong waters for the first time in recent years, providing crucial evidence that the species persists and validating community knowledge.
- A **map of 32 historical stingray encounter sites** was developed using community memory, offering spatial context for future monitoring and recovery plans.

Community mobilisation and stakeholder leadership:

- **Over 150 fishers and local leaders** participated in habitat mapping, conservation planning, and surveillance design, helping ensure long-term stewardship of conservation zones.
- A **Memorandum of Understanding (MOU)** signed by **eight subdistrict governments**, the Chiang Rai Fisheries Office, NGOs, and communities secured a multi-actor commitment to freshwater biodiversity conservation.

Public awareness and youth engagement:

- The project indirectly reached **over one million people** through coordinated campaigns, including **media coverage, posters, school activities**, and a widely shared documentary film.
- A **youth camp trained children from fishing families** in aquatic ecology and ecosystem restoration, building the next generation of river guardians.

Integrated model for conservation impact:

- The project's combined use of **eDNA technology, participatory mapping**, and **community governance** was recognised as a **model approach** at the provincial level in Thailand for conserving data-deficient freshwater species, particularly those vulnerable to hydropower and sediment change in large river systems.

CASE STUDY 6

Mapping habitat connectivity to safeguard mpasa migration in Malawi's river systems

RESEARCH SUPPORT GRANT

1 December 2023 to 30 November 2024

Implementing partner(s)

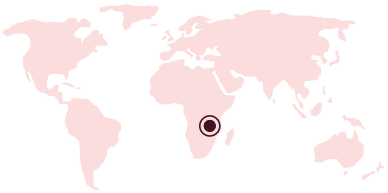
Righteous Kachali, Master's Degree Student (at the time of implementation), affiliated with Lilongwe University of Agriculture and Natural Resources (LUANAR)

Project

Assessing habitat connectivity and fragmentation for Opsaridium microlepis conservation in Malawi: a comparative study of the Linthipe and Bua Rivers

Location

Linthipe and Bua Rivers, **Malawi**



Target species

Mpasa (*Opsaridium microlepis*) – Vulnerable (VU)

"THIS PROJECT PROVIDED THE FIRST SCIENTIFIC EVIDENCE LINKING LAND-USE CHANGE TO OPSARIDIUM MICROLEPIS HABITAT AND POPULATION DECLINE IN MALAWI...

It taught us that saving this species isn't just about regulating fishing, it's about restoring rivers, landscapes, and livelihoods. This work has reshaped how we think about climate-resilient freshwater species management."

Righteous Kachali, Master's Degree Student, Lilongwe university of Agriculture and Natural Resources (LUANAR)

Dr. Thomas Wagner (CC BY-SA 3.0)

PROBLEM

The endemic mpasa (*Opsaridium microlepis*, VU) is a migratory freshwater fish of high ecological and socio-economic importance in Malawi, but its populations are in sharp decline. Overfishing, agricultural expansion, urbanisation, and water obstructions have fragmented spawning habitats in rivers feeding into Lake Malawi. Lack of data on habitat connectivity and the spatial extent of degradation has hindered conservation planning. The Linthipe and Bua Rivers, once vital spawning corridors, are now severely impacted, yet little was known about the degree of fragmentation or how it has influenced mpasa population dynamics over time.

APPROACH

To tackle the dramatic decline of mpasa, a Vulnerable migratory fish endemic to Lake Malawi, this research project combined ecological modelling, catch trend analysis, and community engagement to map habitat connectivity and propose solutions. Using nearly two decades of satellite imagery, the project quantified land use change and its effects on two historically important spawning rivers, the Linthipe and Bua. This was complemented by interviews with local fishers and spatial analysis of river fragmentation. Community members and traditional leaders participated in mapping exercises and workshops to identify the most urgent threats and shape appropriate, locally led conservation measures. By comparing the ecological and socio-economic context of both rivers, the study also highlighted where conservation interventions could have the greatest impact.

KEY RESULTS

Quantified habitat fragmentation and connectivity loss:

- **Connectivity in the Linthipe River declined by 99.5%, and by 94.8% in the Bua River**, confirming the near-total loss of free-flowing habitat essential for mpasa migration and spawning.
- **Land use change, particularly deforestation, agriculture, and infrastructure was strongly correlated** with fragmentation (**R^2 = 0.93 in Linthipe; 0.89 in Bua**), providing clear evidence of landscape-level drivers of habitat loss.

Tracked long-term species decline and fisheries impact:

- **Mpasa catch per fisher per week declined by 77% in Linthipe** (from 150 to 34 fish) and **by 42% in Bua** (from 183 to 107 fish) over a 20-year period, reinforcing the urgent need for recovery measures.
- These data form a critical baseline for future species monitoring and for evaluating the success of restoration efforts.

Identified restoration priorities and movement corridors:

- The study **mapped key movement barriers,** such as weirs and blocked tributaries and identified **priority areas for conservation corridors** and habitat restoration.
- Outputs included detailed **land cover and habitat connectivity maps**, now used to inform national and local river basin planning.

Advanced policy dialogue and site-level action planning:

- The project proposed **stakeholder-driven strategies**, including **riparian buffer restoration**, **seasonal fishing bans**, and the creation of **protected spawning zones**, grounded in both science and community input.
- These proposals are now feeding into **landscape-scale conservation planning discussions**, helping bridge research and real-world impact.

Built research capacity and tools for adaptive management:

- A **full Master's thesis was completed and submitted for academic review**, supporting national freshwater conservation training and policy advocacy.
- Project findings are now influencing ongoing dialogue with natural resource agencies and river basin stakeholders, providing a model for **climate-resilient freshwater species management**.

GRANTS FOR UNGULATE SPECIES - 2024

Ungulates or hooved mammals such as antelopes, deer, rhinos, tapirs, and wild equids are critical to ecosystem functioning. As herbivores, they shape landscapes through grazing and browsing, influence plant community dynamics, and serve as prey for large predators. Some ungulates also play key roles in seed dispersal, helping maintain healthy ecosystems.

SOME UNGULATES PLAY KEY ROLES IN SEED DISPERSAL, HELPING MAINTAIN HEALTHY ECOSYSTEMS.

Despite their ecological significance, many ungulate species are under severe threat. Habitat loss due to deforestation, agricultural expansion, and infrastructure development has led to significant population declines. Overhunting, poaching for meat, horns, and hides, as well as competition with livestock, further endanger their survival.

Recognising the urgency of ungulate conservation, the 2024 funding calls focused on improving the status of threatened species from families such as Equidae, Tapiridae, Rhinocerotidae, Cervidae, and Bovidae, among others. The calls aimed to support targeted conservation actions, habitat protection, and research to mitigate threats, promote population recovery, and ensure the long-term survival of these vital species.

In 2024, two distinct calls for proposals were issued for Conservation Action Grants and Research Support Grants.

Both calls targeted threatened ungulates across Asia, the Pacific, Latin America and the Caribbean, Africa, and the Middle East.

HABITAT LOSS DUE TO DEFORESTATION, AGRICULTURAL EXPANSION, AND INFRASTRUCTURE DEVELOPMENT HAS LED TO SIGNIFICANT POPULATION DECLINES.

A total of **134 applications** were received across both calls for proposals (83 for CAGs and 51 for RSGs), for sites in **47 eligible countries**.

Following the selection process, **26 small grants** were selected for funding.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DATA ON 2024 SELECTED GRANTS

17 CONSERVATION ACTION GRANTS

9 RESEARCH SUPPORT GRANTS

27 THREATENED SPECIES TARGETED

21 COUNTRIES

≈ EUR 910,986 COMMITTED FOR 2024 SELECTED GRANTS

10,000+ hectares under restoration

8,600+ hectares under removal of invasive/ problematic species

5+ trainings provided with 300+ people trained

10,500+ direct beneficiaries and 3,000+ indirect beneficiaries

7 projects addressed human-wildlife conflict

LIST OF PROJECTS FUNDED FROM THE 2024 GRANTS

	Type	Lead partner	Project title	Duration
33	CAG	Refauna	Reintroduction of lowland tapirs in the Atlantic Forest	16 months
34	CAG	WWF-Cambodia	Community-based conservation agreements as a vehicle for hog deer conservation in Cambodia	12 months
35	CAG	Doga Dernegi (BirdLife Türkiye)	Securing the future of mountain gazelle through collaborative conservation endeavors	12 months
36	CAG	Wildlife ACT	Securing the future of community-owned Somkhanda Game Reserve's Critically Endangered black rhino and their contribution to the species' conservation	15 months
37	CAG	Amazonicos por la Amazonia	Community actions for the conservation of the Amazonian tapir and its habitat in the Gran Pajatén Biosphere Reserve: contributing to the participatory management of Los Otorongos Conservation Concession and the surrounding risk areas	12 months
38	CAG	Space for Giants	Improving security, community engagement and monitoring to increase the nubian (rothschild's) giraffe population in Pian Upe Wildlife Reserve (PUWR)	12 months
39	CAG	Aaranyak	Strengthening conservation of rhinos by sustaining community stewardship in Pobitora Wildlife Sanctuary, Assam	12 months
40	CAG	Foundation for Study and Conservation of Biodiversity (CEBio)	Conservation of tarucas (*Hippocamelus antisensis*) through local communities involvement in Salta and Jujuy Provinces, Argentina	15 months
41	CAG	Durrell Wildlife Conservation Trust	Ensuring released and wild pygmy hogs thrive by securing critical sub-Himalayan grasslands through community-led habitat restoration	15 months
42	CAG	Himalayan Nature	Habitat restoration to conserve Vulnerable greater one-horned rhino (*Rhinoceros unicornis*) and support local community livelihood through nature-based enterprises in Chitwan National Park, Nepal	12 months
43	CAG	Virunga National Park	Establishing an immediate conservation presence at Mount Hoyo Reserve to protect the Endangered & endemic okapi population of the Semliki Valley, eastern DRC	12 months
44	CAG	Rising Phoenix Co. Ltd.	Sustainable livelihoods, sustainable wildlife: Taking action to address the decline of wild ungulates populations in Siem Pang wildlife Sanctuary, Cambodia	12 months
45	CAG	PET Environmental Services	Recovering the Ladakh urial in Gilgit Baltistan	15 months

Country	Site	Total budget EUR	Target species
Brazil	Três Picos State Park, Serra dos Órgãos National Park and Guapiaçu Ecological Reserve	49,958	• Lowland tapir (*Tapirus terrestris*) VU
Cambodia	Prek Prasab Wildlife Sanctuary	49,870	• Hog deer (*Axis porcinus*) EN
Türkiye	Incirli Hills Key Biodiversity Area, Hatay province	49,987	• Mountain gazelle (*Gazella gazella*) EN
South Africa	Somkhanda Game Reserve	49,996	• Black rhino (*Diceros bicornis*) CR
Peru	Los Otorongos Conservation Concession (located in Huicungo and Campanilla districts, Mariscal Cáceres province, San Martín region)	49,926	• Lowland tapir (*Tapirus terrestris*) VU
Uganda	Pian Upe Wildlife Reserve	49,616	• Nubian giraffe (*Giraffa camelopardalis*) VU
India	Pobitora Wildlife Sanctuary, Assam	49,038	• Greater one-horned rhino (*Rhinoceros unicornis*) VU
Argentina	Jujuy and Salta provinces, northwestern Argentina	49,926	• Taruca andean deer (*Hippocamelus antisensis*) VU
India	Manas National Park, Assam	49,989	• Pygmy hog (*Porcula salvania*) EN • Hog deer (*Axis porcinus*) EN
Nepal	Pithauli, Kawasoti, Western Sector of Chitwan National Park	49,995	• Greater one-horned rhino (*Rhinoceros unicornis*) VU
Democratic Republic of the Congo	Mount Hoyo	49,999	• Okapi (*Okapia johnstoni*) EN
Cambodia	Siem Pang Wildlife Sanctuary	49,966	• Eld's deer (*Rucervus eldii*) EN • Banteng (*Bos javanicus*) VU • Sambar (*Rusa unicolor*) VU • Gaur (*Bos gaurus*) VU
Pakistan	Diamir, Astore and Shigar districts of Gilgit Baltistan	49,688	• Ladakh urial (*Ovis vignei vignei*) VU

46	CAG	Yayasan Konservasi Alam dan Satwa Indonesia	Fostering harmony: Promoting coexistence between humans and the Togean Islands babirusa in the Togean Archipelago, Indonesia	12 months
47	CAG	Borneo Rhino Alliance	Accelerating recovery of Bornean bearded pig	16 months
48	CAG	World Wide Fund for Nature (WWF) Caucasus Programme Office	Strengthening the conservation of the newly established population of goitered gazelle (*Gazella subgutturosa*) in the transboundary area of Azerbaijan and Georgia	12 months
49	CAG	Sacha Huagra Foundation	Strengthening participatory mountain tapir conservation in a community-managed area in the southern Andes of Colombia	12 months
27	RSG	Caleb Ngaba Waye Taroum	Ecological niches partitioning mechanisms definition and habitats suitability mapping for sub-Saharan antelopes in Ouadi Rimé-Ouadi Achim Reserve in Chad	12 months
28	RSG	Tilak Thapamagar	Exploring activity patterns, occurrence, and conservation challenges of Himalayan musk deer (*Moschus leucogaster*) in Rara National Park, Nepal	12 months
29	RSG	Royford Mwenda Mbaka	A survey of possible vectors of rhino *Stephanofilaria* in Solio, Nairobi and Meru Rhino Sanctuaries	12 months
30	RSG	Jorge Rojas Jiménez	Establishing a national baird's tapir (*Tapirus bairdii*) population health surveillance programme through a collaborative system in Costa Rica	12 months
31	RSG	Tri Sayektiningsih	Efforts to conserve moluccan babirusa (*Babyrousa babyrussa*) on Buru Island, Indonesia	12 months
32	RSG	Quy Tan Le	Field research and conservation of large-antlered muntjac in the Southern Annamites of Viet Nam	18 months
33	RSG	Jorge Mario Becoche Mosquera	Assessing the conservation status of mountain tapir in Puracé National Park and surrounding area	16 months
34	RSG	Jyotish Ranjan Deka	Accessing the habitat distribution and connectivity of threatened ungulates in northeast India	12 months
35	RSG	Melkam Getachew Gebru	Spatial ecology and conservation of beisa oryx (*Oryx beisa*) in Awash and Omo National Park, Ethiopia	12 months

	Indonesia	Togean Archipelago	49,940	• Togean islands babirusa (*Babyrousa togeanensis*) EN
	Malaysia	Eastern Sabah, within the Kinabatangan foodplain	49,177	• Bearded pig (*Sus barbatus*) VU
	Azerbaijan and Georgia	Samukh and Gakh (transboundary area of Azerbaijan and Georgia)	49,970	• Goitered gazelle (*Gazella subgutturosa*) VU
	Colombia	Corridor located between the Puracé National Natural Park and the Cueva de los Guácharos National Park	46,063	• Mountain tapir (*Tapirus pinchaque*) EN
	Chad	Ouadi-Rimé Ouadi-Achim Reserve	6,979	• Scimitar-horned oryx (*Oryx dammah*) EN • Addax (*Addax nasomaculatus*) CR
	Nepal	Rara National Park	6,999	• Himalayan musk deer (*Moschus leucogaster*) EN
	Kenya	Meru National Park, Solio Sanctuary and Nairobi National Park	6,980	• Black rhino (*Diceros bicornis*) CR
	Costa Rica	Tenorio-Miravalles Biological Corridor and Macizo de la Muerte	7,000	• Baird's tapir (*Tapirus bairdii*) EN
	Indonesia	East of Buru Island	6,464	• Moluccan babirusa (*Babyrousa babyrussa*) VU
	Viet Nam	Bình Thuan province and Lâm Đong province	7,000	• Large-antlered muntjac (*Muntiacus vuquangensis*) CR
	Colombia	Puracé National Natural Park	7,000	• Mountain tapir (*Tapirus pinchaque*) EN
	India	Kaziranga-Karbi Anglong Landscape	7,000	• Indian gaur (*Bos gaurus*) VU • Indian hog deer (*Axis porcinus*) EN • Asiatic wild water buffalo (*Bubalus arnee*) EN • Swamp deer (*Rucervus duvaucelii*) VU • Sambar deer (*Rusa unicolor*) VU • One-horned rhino (*Rhinoceros unicornis*) VU
	Ethiopia	Awash National Park and Omo National Park	7,000	• Beisa oryx (*Oryx beisa*) EN

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A total of 26 grants were awarded, with a strong concentration in Asia[22] (13 grants), accounting for half of all awards. Both Africa and Latin America and Caribbean received six grants each, while Europe[23] received one grant. The call targeted a wide range of ungulate families, with the Bovidae and Cervidae being the most represented.

Figure 13. Distribution of CAGs and RSGs awarded through the 2024 calls for proposals by region[24].

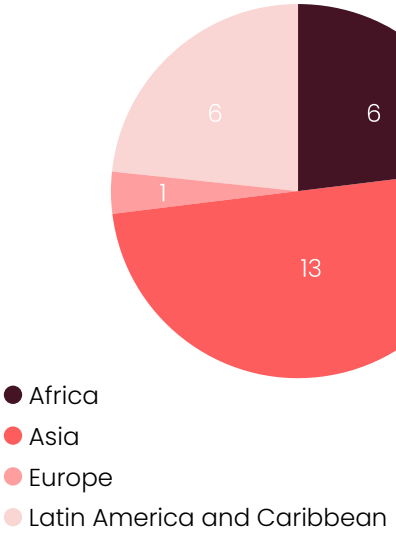


Figure 14. Distribution of CAGs and RSGs awarded through the 2024 calls for proposals by taxonomic families.

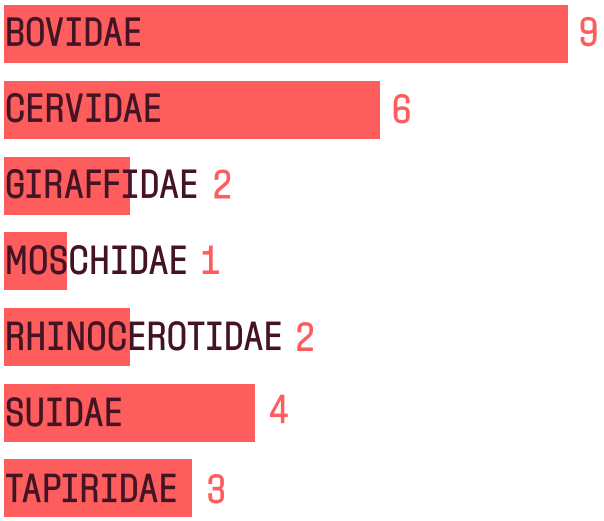
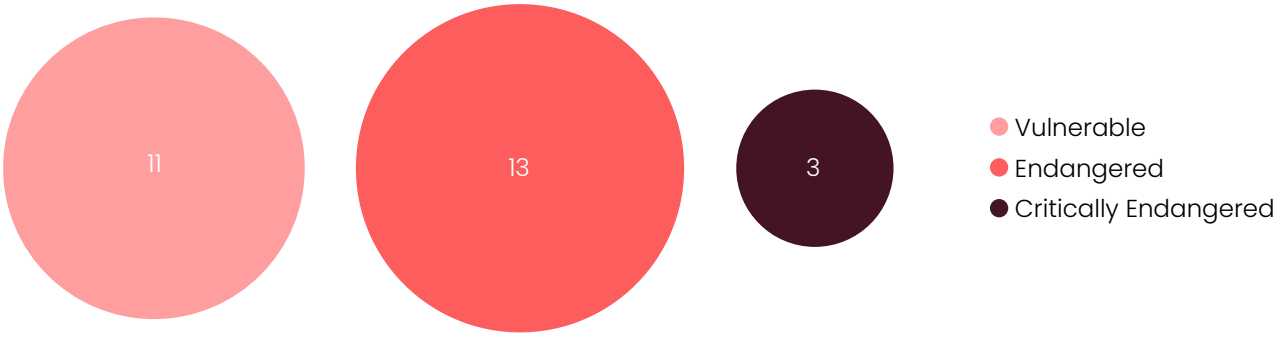


Figure 15. The majority of species targeted under the fourth calls for proposals were Endangered (EN, 13 species), followed by Vulnerable (VU, 11 species) and a smaller number of Critically Endangered (CR, three species). No Near Threatened or Data Deficient species were targeted directly.



22 Türkiye participates fully in both the group of Western European and other States and the group of Asia-Pacific States, but for purposes of this analyses, Türkiye is considered a member of the group of Asia, in line with UN regional classifications.

23 Although the guidelines for applicants classified Georgia under Central Asia, for the purposes of this analysis Georgia is treated as part of the group of Europe, in line with UN regional classifications.

24 Regions have been classified according to the United Nations (UN) regional groups.

KEY RESULTS FROM THE 2024 GRANTS[25]


© Wildlife ACT

1. Species monitoring and management

Regular monitoring of ungulate populations helps track their health and population trends. Techniques such as aerial surveys, GPS collaring, and camera traps help researchers understand movement patterns, herd structures, and environmental pressures, informing management strategies and conservation decisions. In Puracé National Park, Colombia, the project is assessing the conservation status of the **mountain tapir** *(Tapirus pinchaque*, EN) through occupancy modelling, GPS collaring, and camera trap surveys. So far, 22 camera traps have been deployed along road networks to study tapir presence and behaviour. Transect surveys are underway across 4x4 km grid quadrants to collect presence/absence data, which will inform population estimates and distribution models. In Rara National Park, Nepal, the first-ever camera trap survey was conducted across 40 locations (excluding settlements), leading to the detection of **Himalayan muskdeer** *(Moschus leucogaster*, EN) in seven sites. Fifteen muskdeer latrine sites were recorded, and 18 mammal species were captured overall, including the first-ever documentation of the Asiatic golden cat in western Nepal. In Pakistan, the first-ever joint winter survey of **Ladakh urials** *(Ovis vignei vignei*, VU) *recorded* 228 individuals, including several trophy-sized males. These data were used to inform a new conservation and recovery plan for the species. In South Africa, 422 monitoring sessions were conducted using camera traps and tracking, achieving visual confirmation of 100% of the

25 The examples presented in this section represent a sample of funded projects and activities from this funding round. They were selected to illustrate the diversity of taxa, geographic focus, and conservation activites supported, rather than to provide a comprehensive list of all results achieved. In addition, the activity categories used in this section reflect the types of projects funded under the 2024 calls for proposals. While a common structure was applied across the report, categories were adjusted where necessary to align with the specific conservation priorities and strategies relevant to each taxonomic group. This ensures that the classification remains meaningful and representative of the work funded.

black rhino *(Diceros bicornis*, CR) population. This represents a significant improvement from the previous year's 76% detection rate.

2. Anti-poaching

Many ungulates, especially large species like elephants, rhinos, and antelope, face significant threats from poaching for their tusks, horns, or meat. Anti-poaching initiatives, including patrols, surveillance, and community engagement, are critical to protect these species from exploitation and population decline. In South Africa, eleven poaching incidents were promptly detected through the use of new security camera traps. Meanwhile, LoRaWAN (Long Range Wide Area Network) coverage was extended to 80% of Somkhanda Game Reserve, enhancing real-time data transmission for **black rhino** *(Diceros bicornis*, CR) tracking and strengthening the reserve's anti-poaching response capacity.

3. Habitat management and restoration

Many ungulates require large, intact habitats for grazing, migration, and breeding. Habitat restoration, such as reforesting degraded areas or protecting migration corridors, is essential to maintain viable populations. In Cambodia, four trapeangs (seasonal water holes) were restored for **banteng** *(Bos javanicus,* EN), **eld's deer** *(Rucervus eldii,* EN), and **sambar** (*Rusa unicolor*, VU) populations in Siem Pang Wildlife Sanctuary. These were manually and mechanically deepened to provide vital dry-season water access.

In Türkiye, three new water sources were established and eleven hazardous cisterns were secured to support **mountain gazelles** *(Gazella gazella*, EN) during the dry season and breeding period. Additionally, 10,000 native saplings were planted to supplement forage and enhance habitat quality in a 1-hectare pilot site.

4. Wildlife corridors and migration route preservation

Many ungulate species are migratory, moving over large distances for food, water, and mating. Protecting or creating wildlife corridors that connect isolated habitats ensures these species can safely migrate and access essential resources, maintaining genetic diversity and population health. In Argentina, local "Taruca Guardians" were trained to monitor migration routes and seasonal movements of the Vulnerable **taruca** *(Hippocamelus antisensis*, VU). Findings are being integrated into a local conservation strategy to protect habitat corridors in Salta and Jujuy.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5. Human-wildlife conflict mitigation

As human populations expand, conflicts between humans and ungulates often arise due to crop-raiding or land encroachment. Mitigating these conflicts through strategies like better fence designs, buffer zones, and community awareness programmes helps reduce retaliation killing of ungulates and promotes coexistence. In Brazil, two human-wildlife conflict cases with **tapirs** *(Tapirus terrestris*, VU) were successfully resolved by installing ultrasonic pest repellents in small crop fields. Positive feedback from local farmers indicated growing acceptance of reintroduced lowland tapirs. In Indonesia, over 1,000 stakeholders joined a national seminar on human-wildlife conflict with a focus on **Togean islands babirusas** *(Babyrousa togeanensis*, EN). The seminar raised awareness and was


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recorded and published by the Ministry of Forestry Indonesia, extending its reach. The recording[26] was uploaded to one of the official YouTube channels of the Ministry. Local task forces were established to manage conflicts using traditional knowledge and community-based responses.

6. Sustainable livelihoods and community enterprises

Encouraging local communities to participate in sustainable livelihoods reduces pressure on ungulate habitats. It also provides an economic incentive for communities to protect wildlife, fostering long-term conservation support. In Cambodia, sustainable rice production methods (Ibis rice and Sustainable Rice Platform) were introduced in six villages within the **hog deer's** *(Axis porcinus*, EN) range. Linked conservation agreements promote habitat protection and increase household income.

In Nepal, training in bio-briquette production and nature-based enterprise development was delivered to 22 people (81% women and ethnic minorities), aiming to reduce forest dependency and enhance **greater one-horned rhino** *(Rhinoceros unicornis,* VU*)* habitat protection.

7. Veterinary care and disease monitoring

Monitoring and managing diseases in ungulate populations through regular health checks, vaccination programmes, and early detection systems help protect vulnerable species and prevent the spread of disease. In Kenya, research was conducted to investigate the possible insect vectors responsible for spreading *Stephanofilaria dinniki*, a parasitic nematode causing ulcerative skin lesions in **black rhinos** *(Diceros bicornis*, VU*)*. Using 18 fly trapping sites near rhino tracks and beds, 108 insect samples were dissected and analysed through multiple rounds of PCR and DNA sequencing. Although the first sequencing round captured insect DNA only, the research established laboratory protocols, optimised DNA extraction, and suggested next steps, including metagenomics, to improve detection of parasite DNA.

8. Addressing climate change

Climate change impacts, such as shifts in seasonal rainfall or temperatures, can affect food availability and migration patterns for ungulates. Monitoring these changes and understanding their effects on species' behaviour and populations is vital for adapting conservation strategies to future conditions. In Türkiye, pilot plots with drought-resilient chickpea and high-protein forage shrubs were planted to provide supplementary nutrition for **mountain gazelles** *(Gazella gazella*, EN*)* during extended dry periods. Seasonal water points were also created as a climate adaptation strategy.

26 National seminar on human-wildlife conflict focusing on Togean islands' babirusas, raised awareness and published by Indonesia's Ministry of Forestry

CASE STUDY 7

Expanding the last refuge of the mountain gazelle in Türkiye through habitat restoration and community action

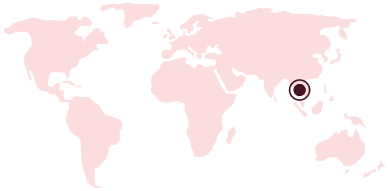
● CONSERVATION ACTION GRANT

Project

Securing the future of mountain gazelle through collaborative conservation endeavors

Location

Incirli Hills Key Biodiversity Area, Hatay Province, **Türkiye**



Target species

Mountain gazelle (*Gazella gazella*) – Endangered (EN)

1 August 2024 to 31 July 2025

Implementing partner(s)

Doğa Derneği (BirdLife Türkiye) in collaboration with: Hatay Nature Conservation Association (Takoder)

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PROBLEM

With fewer than 3,000 individuals remaining globally, the mountain gazelle is restricted to fragmented habitats in Israel, Jordan, Palestine, and Türkiye. In Hatay province, the only region where the species survives in Türkiye, only 1,387 individuals were recorded prior to the project. Habitat degradation from agriculture, infrastructure, disease, and stray dogs severely threatens their survival. Despite the area's designation as a Wildlife Development Area, public awareness and enforcement remain weak, while stray dog attacks, contaminated water sources, and limited food supply further exacerbate risks to this vulnerable population.

APPROACH

This project took urgent, integrated action to safeguard Türkiye's last population of mountain gazelle, fewer than 1,400 individuals living in the Incirli Hills. The team combined practical habitat restoration with direct threat mitigation, including the installation of water sources and securing hazardous cisterns. Control of stray dogs, a major predator and potential disease vectors through water sources, was prioritised through coordinated efforts with local authorities. To strengthen long-term population resilience, a national reintroduction strategy was developed and a new satellite site identified. Community engagement and awareness were central throughout school outreach, farmer and shepherd inclusion in conservation actions, and broad public communications helped build local pride and support. The project was implemented in alignment with Türkiye's national wildlife policy frameworks, ensuring institutional backing and scalability.

KEY RESULTS

Species monitoring and early signs of recovery:

- The **gazelle population increased from 1,387 to 1,504 individuals** within six months, a promising sign that juveniles are surviving and the population is recovering as a result of improved water availability, reduced number of stray dogs, safer cisterns, and greater community vigilance.

Habitat restoration and threat mitigation:

- **8,400 hectares of habitat improved** through the **removal of stray dogs**, reducing direct predation.
- **Three new water sources** were installed and **four troughs restored**, improving access to clean drinking water and reducing disease transmission risk.
- **11 open cisterns were secured** using eco-friendly girds, preventing gazelles from falling and getting injured while allowing bat access.

Conflict mitigation and community integration:

- **50 local shepherds and farmers** were equipped with conservation tools gained awareness through one-on-one meetings and interviews, fostering coexistence and collaboration.
- The cultivation of **a 1-hectare chickpea plot** provided an experimental supplementary food source and model for sustainable land-use alongside wildlife.

Policy advocacy and reintroduction planning:

- A **reintroduction plan** was developed and is now in final stages, with a site in **Gaziantep** identified to establish a genetically resilient second population.
- The project aligned with **Türkiye's Species Action Plan (2018–2022)** and **Wildlife Management and Development Plan (2020)**, embedding its impact in national conservation strategy.

Awareness-building and stakeholder engagement:

- **Over 110,000 people reached** through communications campaigns, including social media, printed materials, and school activities.
- **Five school sessions** engaged more than **300 students**, promoting early conservation values.
- **25 law enforcement officials trained**, enhancing local enforcement and gazelle protection capacity.

© Doga Dernegi (BirdLife Türkiye)

"THE FONDATION SEGRÉ CONSERVATION ACTION FUND HAS BEEN INSTRUMENTAL IN ADVANCING OUR EFFORTS TO PROTECT AND CONSERVE ENDANGERED SPECIES SUCH AS THE MOUNTAIN GAZELLE (*GAZELLA GAZELLA*) IN TÜRKIYE...

...This remarkable species, found only in Israel and a single region of Türkiye, faces a highly restricted distribution and pressing conservation challenges. As a result of the detailed assessments conducted in collaboration with our local partner and species experts, we have been able to identify and prioritise the most critical actions needed for the gazelle's protection. With the Fund's support, we have carried out in-depth field research, engaged local stakeholders, and developed practical conservation strategies tailored to the species' needs.

Importantly, we have implemented concrete steps that address the fundamental requirements for the species' survival and support the successful growth of new generations. This collaboration has not only accelerated our conservation efforts but has also laid a stronger foundation for the long-term recovery and resilience of the mountain gazelle population in Türkiye."

Şafak Arslan, Conservation Manager / Project Coordinator, Doğa Derneği (BirdLife in Türkiye)

CASE STUDY 8

Understanding diet overlap and habitat suitability for the conservation of reintroduced antelopes in Chad

○ RESEARCH SUPPORT GRANT

Project

Ecological niches partitioning mechanisms definition and habitat suitability mapping for sub-Saharan antelopes in Ouadi Rimé–Ouadi Achim Reserve in Chad

Location

Ouadi Rimé–Ouadi Achim Wildlife Reserve (OROAR), **Chad** (largest protected area in the Sahelo-Saharan zone, 77,950 km²)

Target species

- Scimitar-horned oryx (*Oryx dammah*) – Endangered (EN)
- Addax (*Addax nasomaculatus*) – Critically Endangered (CR)

1 August 2024 to 31 July 2025

Implementing partner(s)

Ngaba Waye Taroum Caleb, PhD candidate (at the time of implementation), University of Neuchâtel, with institutional support from: Environment Ministry of Chad Republic, Environment Agency of Abu Dhabi, Livestock Research Institute for Development (IRED Chad), University of Abéché and Sahara Conservation.

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PROBLEM

Scimitar-horned oryx and addax, once extinct in the wild, have been reintroduced into OROAR through international conservation efforts respectively since 2016 and 2020. However, the survival of these iconic antelopes is now threatened by habitat degradation, cropland extension, competition with domestic livestock, and poor knowledge of forage availability and ecological niche use. With increasing pressure on shared pastures from transhumance and climate variability, understanding how these species coexist with livestock is critical for long-term ecosystem management.

APPROACH

To support the conservation of reintroduced Scimitar-horned oryx and addax in Chad's Ouadi Rimé–Ouadi Achim Wildlife Reserve (OROAR), this research project investigated how these antelopes interact with their environment and domestic livestock. By combining field-based vegetation and fecal sampling with molecular analysis, the project aimed to better understand antelope diets and habitat preferences across seasons. Satellite data and GPS-based mapping were used to identify key habitat types and potential seasonal movements. The work also emphasised local research capacity, with students and eco-guards trained to support long-term monitoring. Findings were shared with conservation practitioners to inform adaptive management, habitat restoration, and conflict mitigation strategies for this remote, semi-arid ecosystem.

KEY RESULTS

Species monitoring and habitat use modelling:

- **159 antelope fecal samples** and **321 plant specimens** collected across two seasons (rainy and dry-cold) for DNA metabarcoding and metabolomics;
- **Antelope movement and habitat suitability models** developed using **Remote sensing tools, Modified Soil Adjustment Vegetation Index (MSAVI), Climatic, topographic and fire data** to guide long-term land-use planning;
- Results will help refine post-release monitoring and assess seasonal shifts in antelope distribution.

Data for habitat restoration and forage management:

- **2,564 grasses and 163 tree individuals** documented during vegetation surveys, providing a detailed baseline for **pasture quality assessment and restoration targeting**;
- Findings contribute to the **first habitat classification** for reintroduced antelopes in OROAR.

Local capacity building and conservation leadership:

- **Four Chadian Master's students and four eco-guards trained** in ecological fieldwork techniques, enhancing national capacity for protected area monitoring and research;
- 10 field collaborators, including the four Master's students, received an introductory training in R software thanks to a collaboration with the consulting firm *GeoSIG* (Senegal). This first phase focused on descriptive statistical analyses;
- Project outputs include posters and presentations developed for local stakeholders, kids and academic dissemination.

Conflict mitigation and sustainable grazing strategies:

- Early analysis of diet overlap and habitat use is guiding **recommendations to reduce resource competition between antelopes and livestock**, a growing issue due to transhumance and land pressure.

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"IN A WORLD GRIPPED BY THE HARMFUL EFFECTS OF CLIMATE CHANGE, THE SURVIVAL OF SUB-SAHARAN ANTELOPES REINTRODUCED INTO THEIR HISTORICAL DISTRIBUTION AREA IS A NOBLE CAUSE THAT MOBILISES BOTH THE SCIENTIFIC AND TRADITIONAL KNOWLEDGE OF LOCAL COMMUNITIES....

The Fondation Segré Conservation Action Fund, through the grant awarded, contributed to carrying out the first two inventory and sample collection missions of the flora to assess the specific composition and diversity of the plant cover of the Ouadi Rimé Ouadi Achim Wildlife Reserve (OROAR). These missions also allowed the collection of fecal samples of the Scimitar-horned oryx and addax reintroduced into the OROAR, as well as those of the major livestock species with which they share the reserve's pastures. Thanks to this contribution from the Fondation Segré Conservation Action Fund, at the end of our study, we will be able to: determine the specific composition of the reserve's pastures as well as the plant species under pressure from overgrazing because they are consumed by both reintroduced antelopes and domestic livestock, but also threaten by wildfire. This information, made available to conservationists, decision-makers and local communities, can be used to strengthen targeted conservation efforts for better management of the OROAR ecosystems".

Ngaba Waye Taroum Caleb, PhD candidate, University of Neuchâtel

LESSONS LEARNED AND RECOMMENDATIONS

Through the implementation of the Fund, several lessons have emerged about effective grant-making. These insights, drawn from the management and evolution of the portfolio can inform the design of future conservation funding initiatives.

LESSONS LEARNED

Broad calls attract wide interest, but focus is key. The 2021 calls for proposals drew strong global interest, with applications spanning a wide range of species and geographies. This confirmed the urgent and widespread need for support to threatened species conservation. At the same time, the broad scope posed real challenges: low success rates for applicants, and a high burden on selection processes. The experience underscored the value of refining the focus of subsequent calls to better target funding priorities, ensure more manageable selection processes and offer less competitive opportunities.

Small grants unlock opportunities for grassroots conservation. Small-sized grants proved effective in reaching smaller or emerging organisations, including community-based organisations. These actors often lack the administrative and financial capacity to compete for larger funding mechanisms, which come with more complex risk management, co-financing requirements, and heavier application and reporting burdens. By lowering these barriers, the Fund's grants created space for locally embedded organisations to lead conservation work in their own contexts.

The true impact of short-term projects often lies beyond their immediate lifespan. One of the key reflections from the portfolio relates to the challenge of capturing outcomes and impact within short project cycles (one year). Many of the supported projects were designed to spark change, whether by raising awareness, reducing threats to species, or laying the groundwork for community-driven conservation. Yet, while the activities were completed and outputs delivered, the actual effects, e.g a shift in attitudes, an increase in population numbers, a sustained change in land use, would only become visible months or even years later. This highlights a common limitation in short-term conservation funding: real impact rarely aligns neatly with the end of a grant.

Research grants proved particularly valuable for early-career conservationists, many of whom expressed interest in follow-up support. The research grants component

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was particularly meaningful for early-career conservationists, especially those based in under-resourced universities where funding for fieldwork is often limited. Being able to lead a research project, gain hands-on experience, and engage with species-focused work was described as deeply formative. Beyond the financial support, grantees appreciated the visibility given by IUCN Save Our Species to their project's publications.

> THESE INSIGHTS, DRAWN FROM THE MANAGEMENT AND EVOLUTION OF THE PORTFOLIO CAN INFORM THE DESIGN OF FUTURE CONSERVATION FUNDING INITIATIVES.

Access to technical expertise matters. Some researchers expressed a need for technical guidance or support in connecting with subject matter experts from the IUCN Species Survival Commission (SSC). Embedding this mentorship element within the programme could have added value to the research support grants component, and facilitated important connections for these young scientists.

The dynamic nature of conservation work demanded flexibility. Across the portfolio, projects had to navigate political shifts, erupting conflicts, delayed permits, unexpected weather patterns, etc. Flexibility in grant management, such as allowing no-cost extensions, technical or budgetary adjustments or timeline adjustments proved essential This kind of adaptive management, facilitated by IUCN Save Our Species, allowed grantees to stay responsive and effective, even when plans changed.

Operating in complex environments reinforces the need for risk planning. Whether due to political instability, administrative hurdles, or environmental unpredictability, some projects faced constraints that could not have been avoided. This reinforced the importance of anticipating risks early and building mitigation strategies into project design, so teams could respond proactively when difficulties arose.

Lack of harmonisation limits portfolio-level assessment: The wide diversity of taxa, geographies, and activities across projects made it difficult to aggregate results or identify common strategies that work.

RECOMMENDATIONS FOR GRANT-MAKING MECHANISMS

- For grant-making programmes with such diverse portfolio, establish and maintain a central database for project results, with tools to analyse both quantitative and qualitative data (e.g. monitoring dashboards).
- Encourage and support grantees to share data with national and global biodiversity databases, including the IUCN Red List, and improve mechanisms that make this process more streamlined and accessible.
- Use the grant-making process to build a learning community, and promote exchange of lessons learned between grantees, donors, and technical partners.
- Develop reporting mechanisms that encourage honest reflection, capturing not only achievements but also challenges and what can be learned from less successful experiences.
- Develop a clear theory of change and shared monitoring framework to ensure coherence across projects and facilitate alignment with global conservation goals.
- Introduce a core set of indicators to enable comparison and aggregation of results across projects, more meaningful portfolio-level analysis and allow reporting against global indicators.
- Recognise that meaningful ecological change often takes time; whenever possible, support multi-year projects (e.g. ≥ 5 /10 years) or repeat funding cycles to support continuity. If only short-term grants are feasible, focus monitoring on early outcome or pressure reduction indicators.
- Continue supporting grantees with practical tools, training, and access to subject matter expertise to enhance project design, implementation, and long-term impact.

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