



# Species

ISSUE 64

## 2023 Report of the IUCN Species Survival Commission and Secretariat



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## The IUCN Species Survival Commission (SSC)

The IUCN Species Survival Commission (SSC) is a science-based network of thousands of volunteer experts from almost every country of the world, all working together toward achieving the vision of “a just world that values and conserves nature through positive action to both prevent the loss and aid recovery of the diversity of life on earth.”

Members of SSC belong to one or more of near 200 Specialist Groups, Red List Authorities, Action Partnerships, Task Forces, and Conservation Committees that make up the Network, each focusing on a taxonomic group (plants, fungi, mammals, birds, reptiles, amphibians, fishes, and invertebrates), national species, or a disciplinary issue, such as sustainable use and livelihoods, translocation of species, wildlife health, climate change, and conservation planning.

Framed by the Species Conservation Cycle, SSC’s major role is to provide information to IUCN on biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods. This information is fed into the IUCN Red List of Threatened Species.

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### 2021-2025 Species Strategic Plan

The IUCN Species Strategic Plan encompasses the joint work of the IUCN Species Survival Commission and a number of partnerships to achieve more than 2,700 targets proposed by the Network during the 2021-2025 quadrennium.

To accomplish those targets, the Species Conservation Cycle was established, which is the conceptual framework for the Network activities. The Species Conservation Cycle’s main purpose is to guide efforts for valuing and conserving biodiversity through three essential components that are linked to each other:

**ASSESS:** Understand and inform the world about the status and trends of biodiversity.

**PLAN:** Develop collaborative, inclusive and science-based conservation strategies, plans and policies.

**ACT:** Convene and mobilise conservation actions to improve the status of biodiversity.



Their implementation requires two transversal components:

**NETWORK:** Enhance and support our immediate network and alliances to achieve our biodiversity targets.

**COMMUNICATE:** Drive strategic and targeted communications to enhance our conservation impact.

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### SSC Species Report

Annual progress in the implementation of the 2021-2025 Species Strategic Plan is documented in the SSC *Species Report*, which consists of a comprehensive description and analysis of the activities and results generated by the members of the SSC Network and Centers for Species Survival (CSS) each year. Each SSC and CSS group contributes to this document by providing a yearly summarised description of their achievements, which is presented in stand-alone reports.

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## Structure of the IUCN SSC and CSS Stand-alone Reports

Stand-alone reports summarize the activities conducted and results generated by each group member of the SSC and CSS. Following, is the structure of the stand-alone report and the contents under each session.

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### Title of the group

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### Photograph(s) of the Chair/Co-Chairs

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### Group information

Includes names of Chair/Co-Chairs, Vice-Chairs, Deputy Chairs, Red List Authority Coordinators, Program Officers, Species Survival Directors, and Species Survival Officers, their institutional affiliations, number of members and social networks currently active.

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### Logo of the group

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### Mission statement

Includes the mission of the group.

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### Projected impact for the 2021-2025 quadrennium

Includes the description of the impact on species conservation resulting from the implementation of the targets formulated by the group for the 2021-2025 quadrennium.

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### Targets for the 2021-2025 quadrennium

Includes the targets planned by the SSC or CSS group for the 2021-2025 quadrennium ordered alphabetically by component of the Species Conservation Cycle. Each target is labeled with a numerical code (e.g., T-001, T-012) that identifies it in the SSC DATA database and its status for the reported year is indicated (Not initiated, On track or Achieved).

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### Activities and results

Includes the targets for which activities were conducted and results were generated during the reported year, ordered alphabetically, first by component of the Species Conservation Cycle, and second by Activity Category. Description of activities and results includes the indicator that best describes progress, its associated quantitative or qualitative result, and the narrative description of the activity conducted or result obtained. Each activity or result reported is linked to the Key Species Result to which it is mainly associated (e.g., KSR#1, KSR#5).

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### Acknowledgements

Includes the acknowledgements to funding agencies, partners, and persons who contributed to the progress of the targets of the group.

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### Summary of achievements

Summarises information of the group's strategic plan for the quadrennium and progress achieved implementing targets for all the components of the Species Conservation Cycle during the reported year.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

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### Example for the recommended citation:

Knapp, C. and Quintana, Y. 2024. 2023 Report of the CSS Freshwater - Shedd Aquarium. In: IUCN SSC and Secretariat. *2023 Report of the IUCN Species Survival Commission and Secretariat*. Gland, Switzerland: IUCN. 6 pp.

## 2023 Report

# CSS Freshwater - Shedd Aquarium



**DIRECTOR**  
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**SPECIES SURVIVAL OFFICER**  
Yasmin Quintana  
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### Mission statement

Not stated yet.

### Projected impact 2021–2025

Not stated yet.

### Targets 2021–2025

#### ASSESS

**T-001** Conduct a comprehensive gap analysis on threatened species based on the Global Red List of Threatened Species and the National Lists of Endangered Species in Guatemala, El Salvador, and Costa Rica.  
Status: On track

**T-002** Investigate freshwater biodiversity in Central America using holistic approaches in collaboration with Central American stakeholders  
Status: On track

**T-003** Increase research efforts on Data Deficient (DD) freshwater fishes in Guatemala, El Salvador and Costa Rica, with a special focus on endemic species.  
Status: Not initiated

**T-004** Contribute to the Red List assessments of freshwater fish species classified as Not Evaluated (NE) and DD, including primary and secondary species in Central America.  
Status: Not initiated

**T-005** Contribute to the Red List assessments of freshwater mussels in Central America.

Status: Not initiated

**T-006** Conduct a KBA gap analysis in Guatemala, El Salvador, and Costa Rica.  
Status: Not initiated

**T-007** Identify KBAS in Central America.  
Status: Not initiated

#### PLAN

**T-008** Identify candidate species or countries with the potential for developing conservation action plans.  
Status: Not initiated

#### ACT

**T-009** Provide an aquatic conservation and research training program for the next generation of conservation science practitioners aligned with global standards established by the IUCN.  
Status: On track

**T-010** Implement a coalition on freshwater mussel conservation in Central America.  
Status: Not initiated

**T-011** Facilitate a project on freshwater mussel reproduction, i.e. *ex situ*-reared population, at Universidad de San Carlos de Guatemala.  
Status: Not initiated

#### NETWORK

**T-012** Establish a partnership among the Morton Arboretum, the Field Museum of Natural History and Shedd's applied

conservation programs to initially seed collaborative partnerships and facilitate capacity building in Central America.  
Status: On track

**T-013** Collaborate with Central American stakeholders to organize a regional symposium to disseminate current knowledge on freshwater topics, strengthen cross-country collaborations, and discuss conservation needs and priorities.  
Status: Not initiated

**T-014** Work with coordinators from the KBAS, Red List, Conservation Planning, and freshwater-related working groups to identify high-level opportunities to implement the Species Conservation Cycle and the 2021-2025 Species Strategic Plan.  
Status: Not initiated

**T-015** Promote and facilitate the participation of Mesoamerican researchers in the IUCN SSC - Mollusc and Freshwater Fish Specialist Groups.  
Status: On track

#### COMMUNICATE

**T-016** Work collaboratively across the network of Centers – to share updates on CSS: Freshwater's progress and find opportunities for joint storytelling to highlight unique partnerships – and maximize awareness locally, regionally, nationally and internationally with key media targets.  
Status: On track



Mussel survey in El Salvador  
Photo: Veronica Melara

**T-017** Disseminate the work of Shedd's Center for Species Survival: Freshwater in Central American in collaboration with in-country partners.  
Status: On track

**T-018** Leverage Shedd's growing platform of existing media relationships, owned communications channels, civic connections and access to onsite guests to build awareness of the CSS: Freshwater's work and underscore the broader network and partnership with the IUCN SSC.  
Status: On track

**T-019** Disseminate the work of Shedd's Center for Species Survival: Freshwater to the SSC Network by contributing quarterly reports and at least one longer-form article for the annual IUCN SSC report.  
Status: On track

**T-020** Collaborate with Reverse the Red on an ongoing basis, supplying examples of work from the CSS: Freshwater to celebrate efforts to protect vulnerable aquatic species.  
Status: Not initiated

## Activities and results 2023

### ASSESS

#### Research activities

**T-001** Conduct a comprehensive gap analysis on threatened species based on the Global Red List of Threatened Species and the National Lists of Endangered Species in Guatemala, El Salvador, and Costa Rica. (KSR 6)

Number of countries assessed: 1

Result description: We created a database of freshwater fishes enlisted at the national level in each Central American country and contrasted this list with the IUCN Red List. In collaboration with experts working in Central America and the FGFSG, we are contributing to this Gap Analysis and expect to publish results in 2024.

**T-002** Investigate freshwater biodiversity in Central America using holistic approaches in collaboration with Central American stakeholders. (KSR 5)

Number of surveys: 2

Result description: In 2023, we conducted the first freshwater mussel survey in El Salvador in collaboration with the El Salvador Ministry of Environment staff, and in Costa Rica with researchers from the University of Costa Rica.

### ACT

#### Conservation actions

**T-009** Provide an aquatic conservation and research training program for the next generation of conservation science practitioners aligned with global standards established by the IUCN. (KSR 10)

Number of people trained: 4

Result description: Within the freshwater mussel survey, the Center provided field and laboratory training opportunities for researchers in Costa Rica and El Salvador. The participants learned to collect specimens in different ecosystems, identify

genera through morphology, collect tissue samples for molecular analysis and preserve specimens for museum collections. One of the participants is a master's student at the University of Costa Rica, sponsored by the Center. This student is conducting the freshwater mussel inventory in Costa Rica, co-advised by Shedd's freshwater mussel specialist and a faculty from the University of Costa Rica.

### NETWORK

#### Membership

**T-015** Promote and facilitate the participation of Mesoamerican researchers in the IUCN SSC - Mollusc and Freshwater Fish Specialist Groups. (KSR 2)

Number of SSC members recruited: 1

Result description: The CSS: Freshwater manager, who is originally from Central America, recently joined the Freshwater Fish Specialist Group and the Freshwater Conservation Committee.

#### Synergy

**T-012** Establish a partnership among the Morton Arboretum, the Field Museum of Natural History and Shedd's applied conservation programs to initially seed collaborative partnerships and facilitate capacity building in Central America. (KSR 1)

Number of 'in-kind' partnerships established and maintained: 4

Result description: In 2023, we launched a new collaboration with Morton Arboretum



Costa Rica survey  
Photo: Chuck Knapp



Freshwater Mussel survey  
Photo: Chuck Knapp

and the Field Museum of Natural History to contribute to freshwater monitoring and biodiversity inventories throughout Central America, including local partners such as the University of Costa Rica and the El Salvador Ministry of Environment. Shedd's team and researchers from the Field Museum of Natural History and the University of Costa Rica conducted the first combined fish and freshwater mussel survey in December, specifically in the Guanacaste province. In collaboration with Morton's team, we are working to establish a monitoring baseline within the Cotón Watershed in Costa Rica with local partners, including conservation NGOs and the University of Costa Rica.

**COMMUNICATE**  
**Communication**

**T-016 Work collaboratively across the network of Centers – to share updates on CSS: Freshwater's progress and find opportunities for joint storytelling to highlight unique partnerships – and maximize awareness locally, regionally, nationally and internationally with key media targets.** (KSR 13)

Number of collaborative stories placed in highly visible, reputable and prestigious media outlets: 0

Result description: In 2023, we had three publications: (1) Alvarez-Clare S, Mileham K, Rodríguez JP, Knapp CR. (2023). 'Two Centers for Species Survival launch collaborative conservation programmes'. *Oryx*.

2023;57(5):553-553.; (2) 'The Great Big Unknown: Studying Freshwater Mussels in Central America.'; (3) 'New Center for Species Survival Dives into Freshwater Biodiversity of Central America.

**T-017 Disseminate the work of Shedd's Center for Species Survival: Freshwater in Central American in collaboration with in-country partners.** (KSR 12)

Number of media articles mentioning IUCN Species theme: 7

Result description: The Center disseminated work through the following publications: (1) 'IUCN website: Shedd Aquarium and The Morton Arboretum named new Centers for Species Survival'; (2) 'WBEZ Chicago: Chicago leads in global conservation efforts'; (3) 'WTTW News: Morton Arboretum, Shedd Aquarium Taking Conservation to Next Level as Global Centers for Species Survival'; (4) 'Morton Arboretum, Shedd Aquarium gain global designation as Centers for Species Survival' in the Daily Herald, (5) 'New partnership between Shedd Aquarium, Morton Arboretum focuses on conservation efforts' in WBBM Newsradio; (6) 'Morton Arboretum, Shedd Aquarium named "Center of Species Survival"' in the Lion Newspaper, and (5) Podcast - GreenSense Show with Robert Colangelo (GreenSense) and Chuck Knapp (Shedd Aquarium).

**T-018 Leverage Shedd's growing platform of existing media relationships, owned communications channels, civic connections and access to onsite guests to build awareness of the CSS: Freshwater's work and underscore the broader network and partnership with the IUCN SSC.** (KSR 13)

Number of people reached and engaged: 5,000

Result description: We are building awareness of the [CSS: Freshwater's work in Central America](#) and the importance of freshwater biodiversity conservation.

**T-019 Disseminate the work of Shedd's Center for Species Survival: Freshwater to the SSC Network by contributing quarterly reports and at least one longer-form article for the annual IUCN SSC report.** (KSR 12)

Number of reports submitted: 1

Result description: We submitted our first quarterly report in December 2023.

**Acknowledgements**

The Center for Species Survival: Freshwater thanks the IUCN SSC Chair office for their guidance and support in accomplishing the proposed targets. We also thank the FWFG and FWCC members for helping us establish our network within the IUCN SSC. We want to thank the staff from the Indianapolis Zoo's Global Center for Species Survival, CSS New Mexico BioPark Society, and the Center for Species Survival Brazil for their mentorship. We want to thank our partners from the Morton Arboretum, the Field Museum of Natural History, the University of Costa Rica, and the El Salvador Ministry of Environment for joining our efforts to highlight the importance of freshwater biodiversity and work towards its conservation in Central America. Also, we thank Shedd's team for their continued support in increasing the visibility of the Center's work and the incredible partnerships established with the IUCN SSC and other organizations.



First meeting with collaborators from the IUCN SSC network  
 Photo: Topiltzin Contreras

### Summary of achievements

Total number of targets 2021–2025: 20

Geographic regions: 5 Global, 15 America

Actions during 2023:

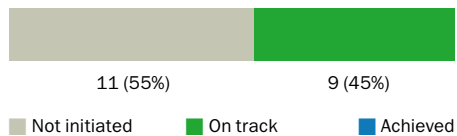
Assess: 2 (KSR 5, 6)

Act: 1 (KSR 10)

Network: 2 (KSR 1, 2)

Communicate: 4 (KSR 12, 13)

Overall achievement 2021–2025:



■ Not initiated   ■ On track   ■ Achieved



*Nothobranchius fuscotaeniatus*  
Photo: Csenge Nagy



*Tetra Parnaiba*  
Photo: Karina Molina



*Trioceros hoehnelii*  
Photo: Christopher V. Anderson



*Sternberia lutea*  
Photo: Hayri Duman



*Egretta rufescens*  
Photo: Ernesto Gómez



Mayfly nymph (*Ecdyonurus* sp.)  
Photo: Astrid Schmidt-Kloiber and Wolfram Graf



*Lactifluus neotropicus*  
Photo: Aida Vasco