



Species

ISSUE 64

2023 Report of the IUCN Species Survival Commission and Secretariat



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.

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.

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.

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.

Title of the group

Photograph(s) of the Chair/Co-Chairs

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.

Logo of the group

Mission statement

Includes the mission of the group.

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.

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).

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).

Acknowledgements

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

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

Example for the recommended citation:

Botton, M.L. and Shin, P.K.S. 2024. 2023 Report of the Horseshoe Crab Specialist Group. In: IUCN SSC and Secretariat. *2023 Report of the IUCN Species Survival Commission and Secretariat*. Gland, Switzerland: IUCN. 6 pp.

IUCN SSC Horseshoe Crab Specialist Group



SOCIAL MEDIA AND WEBSITE

Facebook: [Asian Horseshoe Crab Group](#)



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NUMBER OF MEMBERS

97

Mission statement

The four extant species of horseshoe crabs are imperilled because of overfishing for use as food, bait, the production of bio-medical products derived from their blood, and habitat loss or alteration due to shoreline development and armouring against coastal erosion. The group aims to protect horseshoe crabs in the world through collaborative effort in conservation of their populations and habitats, and in raising public awareness of their importance in evolutionary history, marine coastal ecology and biomedical uses.

Projected impact 2021–2025

Two species of horseshoe crabs in Southeast Asia, the Mangrove Horseshoe Crab (*Carcinoscorpius rotundicauda*) and Coastal Horseshoe Crab (*Tachypleus gigas*), are currently Data Deficient. Our group is currently working on updating their Red List status based on information being provided by our members residing in the range states of both species. The assessment of the Green Status of Species has been completed for the Vulnerable American Horseshoe Crab (*Limulus polyphemus*) and is being prepared for the Endangered

Tri-spine Horseshoe Crab (*Tachypleus tridentatus*). Collectively, these activities should be completed during this quadrennium and lead to greater protection for all four species of horseshoe crabs.

Targets 2021–2025

ASSESS

T-003 Complete the Green Status of Species assessment for the Tri-spine Horseshoe Crab (*T. tridentatus*).

Status: On track

T-004 Complete the Red List assessment for the two species of Asian horseshoe crabs, the Mangrove Horseshoe Crab (*C. rotundicauda*) and the Coastal Horseshoe Crab (*T. gigas*).

Status: On track

PLAN

T-005 Conduct regional conservation planning for the American Horseshoe Crab (*L. polyphemus*) to identify local and regional actions.

Status: On track

T-006 Develop a conservation plan for the Tri-spine Horseshoe Crab (*T. tridentatus*) through the Conservation Planning Specialist Group's (CPSG) species conservation process.

Status: On track

T-007 Plan worldwide outreach/education events concerning the conservation of horseshoe crabs and their coastal habitats for the annual International Horseshoe Crab Day on June 20, 2023, using social media. Status: Achieved

ACT

T-008 Explore the feasibility of naming horseshoe crabs as a World Heritage Species through UNESCO. Status: Not initiated

NETWORK

T-001 Develop best practices for adult and juvenile horseshoe crab population assessments for capacity building among members of the Specialist Group. Status: On track

T-002 Establish an Asian Horseshoe Crab Observation Network programme in partnership with government agencies, NGOs and/or conservation organisations. Status: Achieved

T-009 Conduct two online training sessions/seminars on juvenile horseshoe crab survey protocols through the Asian Horseshoe Crab Working Group to support participants joining the Asian Horseshoe Crab Observation Network. Status: Achieved



A member of the Asian Horseshoe Crab Observation Network, conservationists from The Nature Conservancy conducted horseshoe crab population surveys at Pak Nai of Hong Kong
Photo: Tom Chan

COMMUNICATE

T-010 Publish a book based on papers presented at the 3rd and 4th International Workshops on the Science and Conservation of Horseshoe Crabs in 2015 and 2019.

Status: Achieved

T-011 Publish an overview on the threats and conservation of horseshoe crabs for *Imperiled: The Encyclopedia of Conservation*.
Status: Achieved

T-012 Organise/coordinate at least three meetings or workshops on the science and conservation of horseshoe crabs for various stakeholders.

Status: On track

Activities and results 2023

ASSESS

Red List

T-004 Complete the Red List assessment for the two species of Asian horseshoe crabs, the Mangrove Horseshoe Crab (*C. rotundicauda*) and the Coastal Horseshoe Crab (*T. gigas*). (KSR 6)

Number of species that have been assessed through the different tools: 0

Result description: A first draft of the Red List Assessment (RLA) of the Mangrove

Horseshoe Crab was prepared and initial comments were received from the Co-Chairs. A further revision was being undertaken. A presentation based on the draft RLA of the Mangrove Horseshoe Crab was also given at the Regional Meeting on the Conservation of Asian Horseshoe Crabs in November 2023 in Malaysia, so as to solicit comments and suggestions as well as to gather additional information on the RLA of the Coastal Horseshoe Crab from participants from Asia.

Green Status

T-003 Complete the Green Status of Species assessment for the Tri-spine Horseshoe Crab (*T. tridentatus*). (KSR 6)

Number of new Green Status of Species assessments completed: 0

Result description: A Green Status of Species Assessment team for the Tri-spine Horseshoe Crabs, comprising 11 members of the Specialist Group from nine countries/regions, has been formed to conduct the assessment following the 'Background and Guidelines for the IUCN Green Status of Species' and 'Assessment Instructions, IUCN Green Status of Species, Version 2, March 2022'.

PLAN

Planning

T-005 Conduct regional conservation planning for the American Horseshoe Crab (*L. polyphemus*) to identify local and regional actions. (KSR 8)

Identification of local and/or regional actions for conservation of the American horseshoe crabs: Ongoing.

Result description: Apart from the completion of the [Green Status of Species Assessment of the American Horseshoe Crab in 2022](#) indicating that the current population is moderately depleted, a paper was published summarizing the assessment process and further conservation measures: Smith, DR. *et al.* (2023). '[Assessment of recovery potential for the American Horseshoe Crab \(*L. polyphemus*\): An application of the IUCN green status process](#)' Aquatic Conservation: Marine and Freshwater Ecosystems, 1-25. A key summary from the assessment is that to conserve critical habitats for spawning and early life stages and achieve ecological functionality, it is imperative to identify and develop conservation plans at appropriate spatial scales.

High school students measuring juvenile horseshoe crabs at Tsuyazaki, Japan, under Asian Horseshoe Crab Observation Network program
Photo: Shinji Itaya



T-006 Develop a conservation plan for the Tri-spine Horseshoe Crab (*T. tridentatus*) through the Conservation Planning Specialist Group's (CPSG) species conservation process. (KSR 8)

Number of conservation plans/strategies developed: 0

Result description: Given the common threats faced by the three species of horseshoe crabs in Asia are similar, it has been decided to develop a Conservation Action Plan (CAP) for these three species. In this regard, the [Conservation Planning Specialist Group \(CPSG\) – Southeast Asia](#), which is based at Mandai Nature (Singapore), has agreed to facilitate development of the CAP for the three species of Asian horseshoe crabs at the upcoming International Workshop of the Science and Conservation of Horseshoe Crabs, which will be held in June 19-23, 2024 in Singapore. Preliminary online meetings were held to discuss how the planning will proceed and what arrangements will need to be made in advance of the 2024 meeting.

T-007 Plan worldwide outreach/education events concerning the conservation of horseshoe crabs and their coastal habitats for the annual International Horseshoe Crab Day on June 20, 2023 using social media. (KSR 9)

Participation in outreach/education events on International Horseshoe Crab Day: Ongoing.

Result description: More than 26 activities were organized in Bangladesh, China, India, Japan, Malaysia and the US in celebration of the Fourth International Horseshoe Crab Day in June 2023. These included horseshoe crab surveys and tagging events, spawning and beach habitat cleanups, release of juvenile horseshoe crabs reared from the laboratory, series of online public

posts on the conservation of horseshoe crabs, scientific seminars, singing presentations, open days and exhibitions about horseshoe crabs at aquarium and museum, and online screening of a special documentary on 'Mass Horseshoe Crab Spawning along the Coast in the Past, and How is it Now?' by the Chinese National Geographic. The event also attracted media coverage in Hong Kong and mainland China.

NETWORK

Capacity building

T-001 Develop best practices for adult and juvenile horseshoe crab population assessments for capacity building among members of the Specialist Group. (KSR 2)

Documentation of standardised survey protocols: Ongoing.

Result description: The 2022 results summary from the Asian Horseshoe Crab Observation Network was released in June 2023 during the International Horseshoe Crab Day (June 20) awareness campaign at Beibu Gulf University, China. The monitoring summary was also uploaded by the university through its official WeChat News, translated into English, and released on the Facebook 'Asian Horseshoe Crab Group'. Three indicators of juvenile horseshoe crabs have been used to analyse the core distribution areas and availability of suitable nursery habitats, including (1) quadrat mean density, (2) quadrat highest density, and (3) percentage of quadrat with occurrence. This set of data will serve as a basis for ongoing refinement for horseshoe crab population assessment across Asia.

T-009 Conduct two online training sessions/seminars on juvenile horseshoe crab survey protocols through the Asian Horseshoe Crab Working Group to support participants joining the Asian Horseshoe Crab Observation Network. (KSR 2)

Number of training sessions/seminars offered: 4

Result description: Four online training sessions on systematic surveying of horseshoe crabs for the participating member institutions were conducted from April to June 2023.

Synergy

T-002 Establish an Asian Horseshoe Crab Observation Network programme in partnership with government agencies, NGOs and/or conservation organisations. (KSR 2)

Collection of standardised Asian horseshoe crab population data across their geographical range: Ongoing.

Result description: In 2023, the institution members of the Asian Horseshoe Crab Observation Network has increased to 29, with 31 monitoring stations from China, including Hong Kong, and Japan. However, only survey data from 22 monitoring stations were collected due to the pandemic restrictions in China. A new exhibition board was established at a participatory fishery conservation group in Fujian province, China.

**COMMUNICATE
Communication**

T-012 Organise/coordinate at least three meetings or workshops on the science and conservation of horseshoe crabs for various stakeholders. (KSR 12)

Number of meetings/workshops: 1

Result description: A Regional Meeting on Asian Horseshoe Crab Conservation, co-organised by the University Sains Malaysia and Beibu Gulf University, China and supported by the Horseshoe Crab Specialist Group and an SSC Internal Grant, was held in Malaysia on November 16-17, 2023. This two-day hybrid face-to-face and online meeting featured three keynote addresses



Regional Meeting on Asian Horseshoe Crab Conservation, 16-17 November 2023, Malaysia, supported by a SSC Internal Grant
Photo: Akbar Johni



A public conservation awareness program by Fujian Ecology Society in Xiamen, China
Photo: Yuhong Li

and 22 regular papers presented by participants from diverse Asian countries/regions, including Mainland China, Hong Kong, India, Indonesia, Malaysia, Singapore, Taiwan, and Thailand. A key success of the meeting is to foster collaborative efforts among countries, share resources, and develop conservation measures that will help protect the declining horseshoe crab populations in Asia. The 5th International Workshop on the Science and Conservation of Horseshoe Crabs was finalized and will take place in June 2024 in Singapore, to be hosted by Nature Society (Singapore). This Workshop will have several important goals: (1) the presentation of current research on all four species of horseshoe crabs, (2) review/update their species status, (3) development of a Conservation Action Plan (CAP) for the three Asian horseshoe crab species, and (4) identification of pilot conservation projects in selected countries. The Workshop will facilitate the completion

of two 'Assess (T003, T-004)', one 'Plan (T-006)' and one 'Communicate (T-012)' targets in our group's 2021-2025 quadrennium plan. Information on the workshop can be accessed online [here](#).

Summary of achievements

Total number of targets 2021–2025: 12

Geographic regions: 4 Global, 3 America, 7 Asia

Actions during 2023:

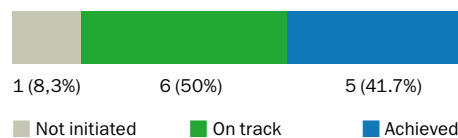
Assess: 2 (KSR 6)

Plan: 3 (KSR 8, 9)

Network: 3 (KSR 2)

Communicate: 1 (KSR 12)

Overall achievement 2021–2025:





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



Lactifluus neotropicus
Photo: Aida Vasco



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