



Species

ISSUE 65

2024-2025 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 that were generated during 2024 (full year) and 2025 (first quarter), 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, ML, and Shin, PKS. (2025). 2024-2025 Report of the Horseshoe Crab Specialist Group. In: IUCN SSC and Secretariat. *Species: Annual Report of the IUCN Species Survival Commission and Secretariat 2024-2025*. Gland, Switzerland: IUCN. 6 pp.

IUCN SSC Horseshoe Crab Specialist Group



SOCIAL MEDIA AND WEBSITES

Facebook: [Asian Horseshoe Crab Group](#)



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NUMBER OF MEMBERS

106

Mission statement

The four extant species of horseshoe crabs are imperilled because of overfishing for use as food, bait, the production of biomedical 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



Juvenile horseshoe crab monitoring in Malaysia, as part of the Asian Horseshoe Crab Observation Network in 2024
Photo: Faridah Mohamad

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: Achieved

Activities and results 2024-2025

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 draft Red List Assessment (RLA) for the Mangrove Horseshoe Crab has been completed, and the findings were presented at the 5th International Workshop on the Science and Conservation of Horseshoe Crabs, which was held in Singapore in late June 2024. With additional contributions from workshop participants, the HSC SG has now

completed the draft. It has been reviewed by the Group's Co-Chairs, and after revisions, it will be sent to the HSC SG's Red List Review Team for their comments. The finalised RLA is planned to submit to IUCN in latter half of 2025.

A dedicated planning workshop was also held in the Singapore meeting to identify and map key issues to begin the process of the RLA for the Coastal Horseshoe Crab. Since there is significant overlap in the geographic ranges of *T. gigas* and *C. rotundicauda*, much of the information about habitat threats that the HSC SG has already collected for the *C. rotundicauda* RLA can be applied to the *T. gigas* RLA. The draft RLA for *T. gigas* is expected to be completed in 2025, with a target submission date to IUCN in 2026.

Green List

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: The Green Status of Species Assessment (GSA) team for the Tri-spine Horseshoe Crab, comprising 11 members from nine countries/regions, held Zoom meetings approximately every two weeks beginning from January to June 2024. The team also met in person at the 5th International Workshop on the Science and Conservation of Horseshoe Crabs in Singapore in late June 2024. The team presented a synopsis of the GSA process and the preliminary results at that meeting, and input to the draft GSA was solicited

from conference attendees. The draft GSA was completed in September 2024 after an internal review and sent to the SSC for their comments. The GSA document is being revised to address points raised in SSC's review and the final GSA will be submitted to IUCN in early January 2025.

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: A keynote presentation on 'Population Status and Recovery of the American Horseshoe Crab' was given at the 5th International Workshop on the Science and Conservation of Horseshoe Crabs, which was held in Singapore in late June 2024. The presentation summarised the advancement in management and monitoring over recent decades, the current population status throughout the species' range, and the potential future status and recovery. The science-based conservation of the American Horseshoe Crab has advanced remarkably over the past two decades. While near-term threats are increasingly understood and controllable, recovery potential is constrained by the long-term effects of coastal development and climate change, which are uncertain and difficult to mitigate at the spatial scale



Measuring the prosomal width of juvenile Tri-spine Horseshoe Crabs (*Tachypleus tridentatus*) in Japan, as part of the Asian Horseshoe Crab Observation Network
Photo: Shinji Itaya

necessary to ensure ecologically functional populations throughout the species' range. Based on this presentation, a paper entitled '[Recovering the American horseshoe crab through collaboration](#)' is now in press (*Fisheries*, 2025, 00, 1–13).

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: At the 5th International Workshop on the Science and Conservation of Horseshoe Crabs, which was held in Singapore on June 19-23, 2024, one and one-half days were dedicated to the development of the Conservation Action Plan (CAP) for the three Asian horseshoe crab species. Early in the planning process, it was decided by the HSC SG to pursue a CAP jointly for the three species, because of their similar ecology and the commonality of threats (e.g. loss/degradation of essential spawning and nursery habitats and human exploitation). The planning process was facilitated by the IUCN SSC Conservation Planning Specialist Group (CPSG) and Mandai Nature, and resulted in developing workshops and Specialist Group discussions led by the HSC SG for the development of the CAP. Attendees were divided into four breakout groups focused on the following topics: (1) Species Protection, (2) Habitat Protection, (3) Education and Awareness, and (4) Research Priorities. A set of short term (ca. 1-3 years) and medium term (ca. 4-10 years) priorities were developed by each breakout team. Representatives from each breakout team then reported back to the entire group for questions and comments. These workshop activities and their reports have served as a starting point for the production of the formal CAP, which is under development at the present time and should be completed in draft form during 2025.

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: The 2024 International Horseshoe Crab Day on June 20 coincided with the 5th International Workshop on the Science and Conservation of Horseshoe Crabs, which was held in Singapore on June 19-23. At this workshop, about 100 registered participants attended in addition to various Singaporean official guests, volunteers from the co-host of the workshop (Nature Society Singapore), and local students. Apart from presentations and workshop discussions, we celebrated the International Horseshoe Crab Day together, particularly with a poster presentation led by the Education Working Group of the HSC SG summarizing the previous four years of global conservation activities since the International Horseshoe Crab Day was initiated in 2020. In addition, public outreach activities were organised in other places, such as the Horseshoe Crab Celebration at the Explorers Club, New York, US, and TV programs on the conservation importance of horseshoe crabs and release of laboratory cultured juvenile horseshoe crabs into their natural spawning beaches to enhance local populations in China (TV program in China: [link 1](#), [link 2](#), [link 3](#)).

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 2023 result summary from the Asian Horseshoe Crab Observation Network was released in June

2024 during the International Horseshoe Crab Day (June 20) awareness campaign in Beibu Gulf University, China. The monitoring summary was also uploaded by the university through its official [WeChat News](#) and 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. The 2023 survey results showed that Suixi station in Guangdong and five stations in Guangxi (Haijiao, Zhongguansha, Zhongsandun, Daguansha and Ronggenshan), China, had the highest juvenile Tri-spine Horseshoe Crab densities (range: 1.8-3.3 individuals/100 m²), while Yuzhouping South in Guangxi and Huachangwan in Hainan, China, ranked the top two highest juvenile Mangrove Horseshoe Crab densities (1.6-2.0 individuals/100 m²). 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: Two online training sessions on systematic surveying of horseshoe crabs for the participating member institutions were conducted on June-July 2024. In addition, two hands-on workshops were organised for staff members/volunteers of WWF Hong Kong and Guangxi Biodiversity Research and Conservation Association in April and July 2024, to better understand the biology and ecology of Asian horseshoe crabs.



A break-out discussion group on education and public awareness at the Conservation Action Planning Workshop, a focal event at the 5th International Workshop on the Science and Conservation of Horseshoe Crabs
Photo: Paul Shin



The team of Horseshoe Crab Specialist Group members who contributed to the drafting of the IUCN Green Status Assessment of the Tri-spine Horseshoe Crabs
Photo: Nature Society Singapore

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 2024, the institution members of the Asian Horseshoe Crab Observation Network have reached 25, with 41 monitoring stations from China – including Hong Kong –, Japan, Malaysia and Indonesia. Three new monitoring stations were set up in Malaysia and Indonesia, with financial support by WWF Hong Kong.

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: The 5th International Workshop on the Science and Conservation of Horseshoe Crabs, co-hosted by the HSC SG and Nature Society Singapore (NSS), was held in Singapore on June 19-23, 2024. The workshop had several primary objectives: (1) to present current research on all four species of horseshoe crabs; (2) to review and update the Red List and Green Status Assessments for Asian horseshoe crabs; and (3) to develop a Conservation Action Plan (CAP) for the three species of Asian horseshoe crabs. Some 100 persons from 15 countries and regions registered for the conference, in addition to various Singaporean official guests, volunteers from NSS, and local students who contributed poster presentations. During the first 2.5 days of the workshop,

five keynote talks, 42 contributed oral presentations, and 29 poster presentations were made. The remaining 1.5 days of the workshop were dedicated to the development of the CAP for the three Asian horseshoe crab species, with guidance from the IUCN SSC Conservation Planning Specialist Group (CPSG) and Mandai Nature, Singapore. Field trips were also organised for the last day of the workshop, including one to visit the Sungei Buloh Wetland Reserve (SBWR) and Mudflats in northwest of Singapore to view mangrove horseshoe crabs. In addition to the Singapore meeting which is discussed in detail, other meeting/workshop activities included the following: HSC SG members helped lead the National Workshop on Conservation of Indian Horseshoe Crabs and Associated Organisms, organised by the Centre for Research and Conservation of Indian Horseshoe Crabs at Fakir Mohan University, India, held on August 18-19, 2024, and a proposal to convene a Special Scientific Session on 'Biology and Conservation of Horseshoe Crabs and their Essential Habitats' at the next meeting of the Coastal and Estuarine Research Federation (CERF) in 2025 was submitted in December 2024.

Acknowledgements

The HSC SG appreciates the guidance from the Steering Committee and support from its members over the years. In particular, we are grateful to the Indianapolis Zoo for providing funding, and to Dr Sérgio Henriques and Ms Coralie Palmer from the Global Center for Species Survival for their encouragement, to support the 5th International Workshop on the Science and Conservation of Horseshoe Crabs. We also thank the Ocean Park Conservation Foundation Hong Kong for providing additional travel support. Ms. Roopali Raghavan

from the Conservation Planning Specialist Group and Mandai Nature, Singapore skillfully guided us through the Conservation Action Plan process. Additional support for the Singapore Workshop was provided by Resorts World Sentosa and the S.E.A. Aquarium, Singapore. We thank Mr Laurent Ballesta for contributing his underwater photography and narrative to the closing dinner and ceremony of the workshop. We are especially grateful to Dr Seng Beng Yeo, President of the Nature Society (Singapore) and his staff for hosting the workshop and for arranging and guiding our post-workshop field trips to the Sungei Buloh Wetland Reserve and S.E.A. Aquarium. The funding support from an EDGE Grant of the SSC to support a study of global trade data on Asian horseshoe crabs led by a HSC SG member, and from WWF(Hong Kong) to assist in juvenile horseshoe crab monitoring in Malaysia and Indonesia under the Asian Horseshoe Crab Observation Network is much appreciated.

Summary of achievements

Total number of targets 2021–2025: 12

Geographic regions: 4 Global, 3 America, 7 Asia

Actions during 2024–2025:

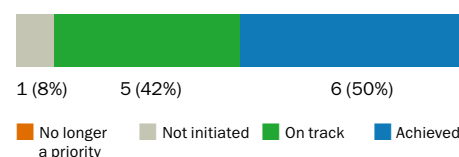
Assess: 2 (KSR 6)

Plan: 3 (KSR 8, 9)

Network: 3 (KSR 2)

Communicate: 1 (KSR 12)

Overall achievement 2021–2025:



Suweon Treefrog
(*Dryophytes suweonensis*)
Photo: Amael Borzee



Marsh Cinquefoil
(*Comarum palustre*)
Photo: Magnus Goransson



Phallus aureolatus
Photo: Juliano Baltazar



Eurasian Griffon (*Gyps fulvus*)
Photo: Andre Botha



Black Rhino (*Diceros bicornis*)
Photo: Save The Rhino Trust Namibia



Azores Nursery Spider
(*Pisaura acoreesins*)
Photo: Paulo A.V. Borges



Black and White Snapper
(*Macolor niger*)
Photo: David B. Snyder