



**IUCN SSC China Species
Specialist Group**



Conservation Success Stories

**An integrated approach to
the conservation of the Chinese
Horseshoe Crab**



An integrated approach to the conservation of the Chinese Horseshoe Crab

IMPLEMENTED BY

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THREAT ADDRESSED

The Chinese Horseshoe Crab was once abundant along the southeastern coast of China. However, in the past 40 years, habitat destruction, overfishing, and environmental pollution — driven by multiple human-induced intertidal disturbances — have led to a rapid decline in its population.

TARGET

Horseshoe Crab conservation
in Guangdong [Implementer:
XIE Xiaoyong]. (T-0129)



SUCCESS LEVEL

Successful

Combining science and community engagement allows lasting conservation impact



Success category: Local people involvement

Success story:



REASONS FOR SUCCESS

The success of this project is rooted in the synergy between rigorous scientific research and effective community engagement. The publication of research papers not only fostered academic discussion but also influenced government agencies, especially fisheries management, to take more proactive measures in protecting the Chinese Horseshoe Crab. Equally important, the team's public outreach efforts, including media exposure and the creation of a conservation community on Naozhou Island, galvanised local support and significantly raised public awareness. By combining scientific advocacy with grassroots action, the team was able to create lasting conservation impacts for this endangered species.

The Chinese Horseshoe Crab (*Tachypleus tridentatus*), a marine arthropod belonging to the class Merostomata, has an evolutionary history spanning over 500 million years, making it one of the planet's oldest living species, predating even dinosaurs. Once abundant along the southeastern coast of China, particularly in the nearshore waters, the population of the Chinese Horseshoe Crab accounted for as much as 95% of the global total according to historical records. However, in the last 40 years, this species has experienced a dramatic population decline due to habitat degradation, over-fishing, and pollution caused by extensive human activities in intertidal zones.

In 2019, the Chinese Horseshoe Crab was listed as an Endangered species on the IUCN Red List and, in 2021, it became a Class II National Protected Species in China. Despite these protections, public knowledge about the species remains limited, often requiring media outlets to explain the species with phonetic cues when reporting on it. This lack of awareness has been a significant barrier to conservation efforts, coupled with the insufficient research dedicated to understanding the species' ecological needs.

To address these challenges, the Chinese Horseshoe Crab Conservation Research Team has conducted extensive research over the years, focusing on habitat identification, restoration, and conservation. By 2023, the team had published eight peer-reviewed papers on topics such as the wild population's ecology, habitat suitability modelling, and the mechanisms of detoxification from heavy metals. These studies not only contributed to scientific knowledge but also advocated for a marine conservation strategy that optimises resource use to achieve the highest conservation outcomes. Their research has also highlighted the detrimental effects of marine pollution on the species' survival, providing crucial data to support policy interventions.

Understanding that scientific research alone was insufficient, the team has also prioritised public outreach. In 2023, they organized a series of educational campaigns to raise awareness about the importance of Horseshoe Crab conservation. From 2022 to 2023, their efforts were widely covered by major media outlets, including CCTV, helping to elevate the species' profile in the public consciousness. Crucially, the team also engaged local communities, which proved instrumental in advancing conservation goals. In 2022, they established China's first Horseshoe Crab conservation community on Naozhou Island, Zhanjiang. This initiative brought together local fishermen, educators, and volunteers to work collectively to reduce bycatch and mortality. The community programs focused on educating children about conservation, thereby influencing their families and the broader community. This grassroots approach not only raised awareness but also created a lasting conservation culture within the community. ■ GAO YUFANG

SUPPORTING DOCUMENTS

<https://doi.org/10.1016/j.scitotenv.2023.168763>;
<https://doi.org/10.1016/j.marpolbul.2023.114726>



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

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

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

Story photo credits
No description
Photo: Xiaoyong Xie

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

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