

## FEATURE

# Ancient Chinese Poems Reveal Tragic Decline of Yangtze's Endangered Porpoise

Researchers used over 700 ancient Chinese poems to trace 1,400 years of ecological change



by [Mihai Andrei](#)

May 5, 2025

<https://www.zmescience.com/science/ancient-chinese-poems-reveal-tragic-decline-of-yangtzes-endangered-porpoise/>

Edited and reviewed by [Zoe Gordon](#)



*Image courtesy of the authors.*

The [Yangtze porpoise](#) (*Neophocaena asiaeorientalis*) used to be a common sighting in the Yangtze River. Boaters would watch their sleek silhouettes break the surface like ghosts from the deep. Today, those encounters have become extremely rare. Because

of industrial activity, illegal fishing, and dams, you almost never see the porpoise anymore.

The species is critically endangered, with only a thousand or so individuals left in the wild. To trace the contours of its slow disappearance,

scientists turned not to satellites or sensors — but to the pages of ancient Chinese poetry.

### A River Remembered in Verse

[The Yangtze River](#) is one of the most consequential waterways on Earth. It stretches over 6,300 kilometers from the glaciers of the Tibetan Plateau to the East China Sea. It's the [longest river](#) in Asia and for millennia, it has shaped the geography, economy, and culture of China. It nourishes one of the most densely populated and agriculturally productive regions on the planet, supports hundreds of millions of people, and is home to an extraordinary array of biodiversity.

But the Yangtze is also a river under siege. [Dammed](#), dredged, diverted, and polluted, its ecological balance is pushed to the brink by the pressures of industrialization and development.

And the Yangtze finless porpoise is one of the many victims of this change.

Published today in *Current Biology*, a new study shows that the Yangtze finless porpoise has lost over 65% of its historic range in the past 1,400 years — most of that loss occurring in just the last century. To map this decline, researchers didn't rely on modern surveys or fossil records. Instead, they sifted through 724 ancient poems.

### Art and Biodiversity

“We're connecting 2,000 years of Chinese culture with biodiversity,” says author Zhigang Mei of the Chinese Academy of Sciences, who grew up alongside the Yangtze River revering the porpoises. Elders in his community taught that they were like spirits, predicting the weather and the fish levels, and that hurting them was bad luck.

“Our work fills the gap between the super long-term information we get from fossils and DNA and the recent population surveys. It really shows how powerful it can be to combine art and biodiversity conservation.”



A Ming Dynasty woodblock-printed poem from *Sancai Tuhui*.  
Image credits: “Sancai Tuhui,” compiled by Wang Qi

The study tracked the poems for any information on the Yangtze finless porpoise, the world's only freshwater porpoise. These animals were once found all along the 6,300 km river and its lakes and tributaries. But today, they are mostly restricted to isolated stretches of the [main stem](#).

### Poems as Ecological Time Capsules

The idea sounds whimsical, using poems to track a species. How could that even work? But, in China, poetry has long served as both art and record. For millennia, poets chronicled not only their emotions but also the world around them — landscapes, weather, animals.

“One of the biggest challenges in this research was just the sheer number of Chinese poems out there, and the fact that every poet had such a different style,” says Mei. “We had to figure out how accurate the poets were being.”

To turn the poems into data, the team cross-referenced the content of each poem with the known life history of its author. By understanding where a poet lived and traveled, and by analyzing their descriptive tendencies, the researchers could map sightings with surprising accuracy.

The most poetic period turned out to be The [Qing dynasty](#), which yielded 477 references to the porpoise. Many of them were written by [river travelers](#) and emperors like Qianlong, who documented his encounters in verse. Earlier eras had fewer mentions: only 5 from the earlier Tang dynasty, for instance, though that likely reflects gaps in preservation rather than actual absence.

Each poem with a porpoise mention became a data point. The researchers used these to reconstruct the animal’s historical range and found that, while porpoises once surfaced across tributaries and lakes, those habitats now show almost total absence. Since the Tang dynasty, the porpoise’s range has declined by 33% in the main river and by a staggering 91% in its connected waterways.

### What Does the Poem Data Tell Us?



*Landscape, Yangtze River, China, 2008. Image credits: Terry Feuerborn.*

The decline, as told by historical poems, mirrors China’s rapid development and the reshaping of its waterways.

In the 1950s, a wave of dam-building began to alter the Yangtze basin permanently. By the time the Gezhouba Dam was completed in 1988, it had already cut off upstream access for porpoises and other species. The collapse of the Yangtze ecosystem has claimed other victims, too: the baiji dolphin and the Chinese paddlefish are now functionally extinct.

As it turns out, in this case, art was a remarkably reliable tracker. And this could be owed to the spectacular appearance of the porpoise itself.

“Compared to fish, Yangtze finless porpoises are pretty big, and they’re active on the surface of the water, especially before thunderstorms when they’re really chasing after fish and jumping around,” says Mei. “This amazing sight was hard for poets to ignore.”

### Recognition Needs Action

The problem, of course, is that this does nothing to reverse this decline. We know that the porpoise is critically endangered. But this is a new way of looking at conservation, researchers say. It is not just a biological concern, but a cultural one. This could help spark more interest and support for conservation, they add.

“Protecting nature isn’t just the responsibility of modern science; it’s also deeply connected to our culture and history,” says Mei. “Art, like poetry, can really spark an emotional connection, making people realize the harmony and respect we should have between people and nature.”

Things are grim for the Yangtze porpoise, but there is hope. In 2014, there were only 505 Yangtze finless porpoises in the river’s main section. Yet [conservation efforts](#) are beginning to show signs of success. By 2017, the population had doubled to over 1,000, and sightings have returned to areas like Nantong. Protected reserves and [captive breeding](#)

[programs](#), including the birth of the first captive porpoise in 2005, are now helping to secure the species' fragile future.

*Journal Reference: Current Biology, Zhang et al., "Range contraction of freshwater megafauna was inferred from ancient poems." [https://www.cell.com/current-biology/fulltext/S0960-9822\(25\)00266-0](https://www.cell.com/current-biology/fulltext/S0960-9822(25)00266-0)*

Tags: [chinapoems](#)[porpoise](#)[Yangtze](#)

*Mihai Andrei*

*Dr. Andrei Mihai is a geophysicist and founder of ZME Science. He has a Ph.D. in geophysics and archaeology and has completed courses from prestigious universities (with programs ranging from climate and astronomy to chemistry and geology). He is passionate about making research more accessible to everyone and communicating news and features to a broad audience.*