



SHELLBANK

Global Marine Turtle Traceability Toolkit



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BACKGROUND

Five of the world's seven marine turtle species are threatened with extinction. Illegal and unsustainable harvest, bycatch, and trade continue to drive population declines. More than 1.1 million marine turtles have been illegally exploited since 1990 (Senko et al., 2022). However, it often remains unclear which populations are being impacted and where interventions should be targeted. This lack of traceability continues to limit effective conservation, management, and law enforcement action.

A GAMECHANGER

ShellBank is the world's first traceability toolkit and global database of marine turtle DNA. It enables researchers, wildlife managers, and law enforcers to identify distinct marine turtle populations, understand connectivity, and trace turtles, turtle parts, and turtle products back to their origin. By revealing populations most affected by illegal trade, unsustainable harvest, or fisheries bycatch, ShellBank helps target action where it is needed most. ShellBank makes turtles traceable, safeguarding them now and into the future.

DATA BANKS

ShellBank’s “banks” of genetic data enable traceability, and are a rapidly growing global repository of marine turtle DNA. Built through contributions from international collaborators, the database integrates data from nesting beaches, in-water habitats, and activities such as illegal harvests, trade, and bycatch.

Standardized, quality controlled, and openly accessible, ShellBank is constantly updated. Bolstering accessibility to users around the world, the database provides an unprecedented resource and vital tool to trace marine turtle populations and their movements and to detect where and to which populations threats occur.

A COMPREHENSIVE TOOLKIT

ShellBank consists of a raft of resources. It offers:



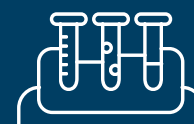
An open-access global database of marine turtle DNA



In-country capacity building and training, technical advice and support



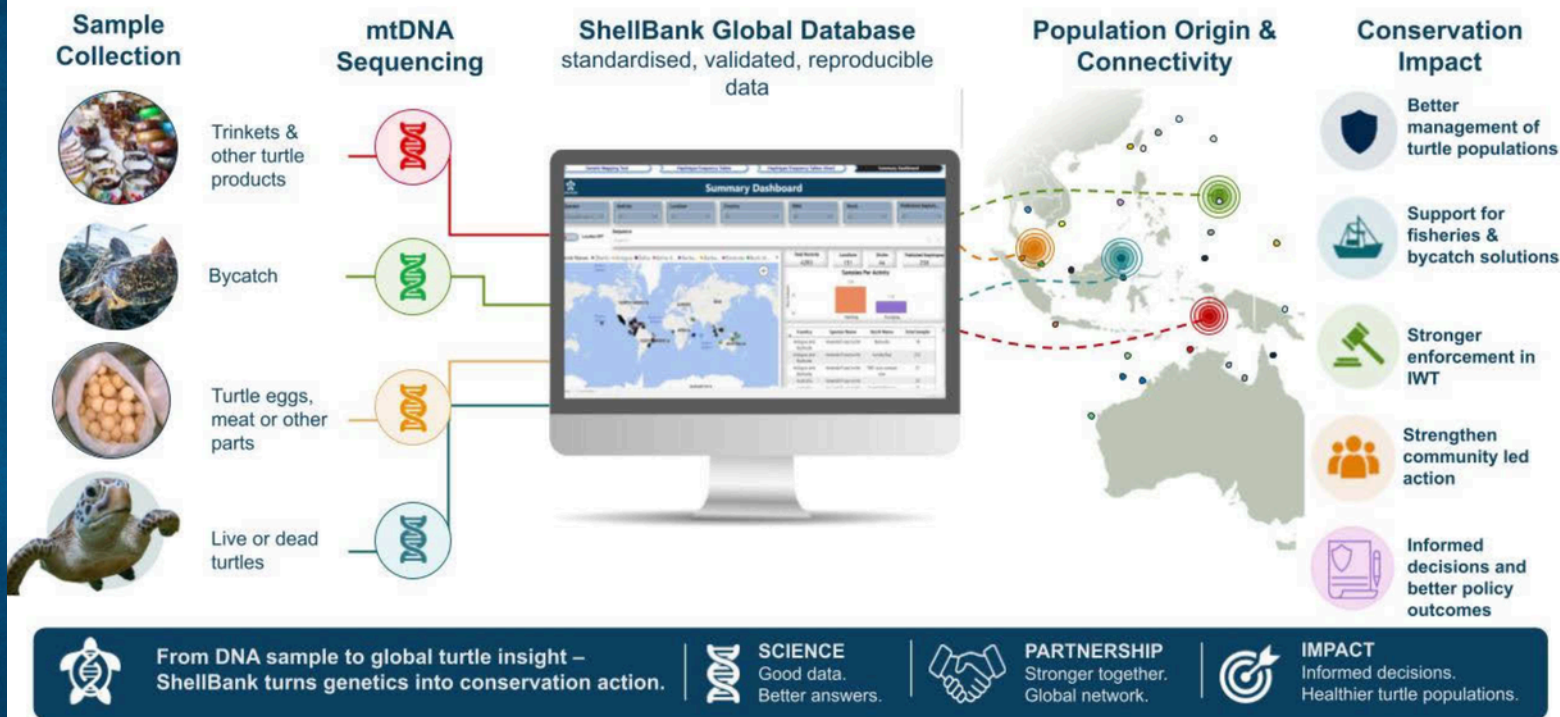
Standardized protocols, sampling kits, collection and laboratory guidelines



Scientific development, new tools, technologies, approaches and applications

HOW SHELLBANK WORKS

Linking DNA, locations, and populations to reveal the full turtle story



GUIDING CONSERVATION ACTION

ShellBank is a powerful tool changing the course of turtle conservation. It equips researchers, conservation practitioners, and decision-makers to precisely identify which genetically distinct populations exist, to map how they are connected across habitats, and track those most impacted by threats in ways that were previously impossible. ShellBank provides data vital for developing conservation strategies across their migratory range and in areas of high threat, to improve management (e.g. fisheries bycatch), strengthen habitat protection (e.g. marine managed areas), support community-led action, and aid recovery at local, regional, and global scales.

AIDING LAW ENFORCEMENT AND DECISION MAKING

ShellBank transforms genetic data into action—providing actionable intelligence for law enforcement and decision makers. It generates robust evidence to identify where targeted interventions are most needed. By tracing illegally harvested, traded or bycaught marine turtles, ShellBank helps detect and map at-risk populations and hotspots, pinpointing critical areas for improved monitoring, surveillance, and protection (e.g. marine managed areas). ShellBank also supports reliable species identification and provides evidentiary lines for trade investigations and prosecutions. Together, these insights strengthen wildlife crime enforcement and enable governments, conservation organizations, and communities to make evidence-based decisions in support of marine turtle recovery efforts.



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COLLABORATORS AND PARTNERSHIPS

ShellBank is a collaborative effort that thrives on the collective expertise and support of a diverse array of stakeholders. Our partnerships include government agencies, conservation organizations, research institutions, universities, and local communities.

ShellBank is currently being led by the World Wide Fund for Nature (WWF) in partnership with the Australian Museum - Australian Centre for Wildlife Genomics, NOAA - Southwest Fisheries Science Center, and TRACE Wildlife Forensics Network.



SCALING SHELLBANK

Since its launch in 2022, ShellBank has trained and equipped hundreds of researchers, conservation managers, and law enforcement personnel, while integrating tens of thousands of genetic records from around the world. Our vision is to build a truly global genetic network for marine turtles—expanding coverage across all species, closing critical data gaps, and empowering countries worldwide to use DNA-based traceability to protect marine turtles. Over the next five years, ShellBank aims to scale its global impact by:

- Engaging 50+ countries, including supporting formal in-country adoption in at least 15 countries
- Expanding its genetic baseline to 30,000+ records across all seven marine turtle species
- Training 600+ practitioners

Realizing this vision requires sustained investment in locally-led projects, sample collection and analysis, training and capacity building, and the long-term maintenance of ShellBank's global infrastructure and team. Together, we can strengthen local leadership, improve conservation and enforcement outcomes around the world, and help marine turtle populations recover for generations to come.

**WE ARE URGENTLY SEEKING \$15M USD BY
2030 TO SCALE SHELLBANK'S CRUCIAL
LEAP FROM PRACTICE TO GLOBAL IMPACT
OVER THE NEXT 5 YEARS.**



**HELP US TO BUILD
SHELLBANK.
SAVE TURTLES.**

Learn more



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