



THESE CRITICALLY ENDANGERED DOLPHINS MAY DISAPPEAR BEFORE WE EVEN KNEW WHERE THEY WERE

The Atlantic humpback dolphin balances on the brink of extinction. Unique to the west coast of Africa, fewer than 3000 remain in the entire range. Please consider supporting our efforts to protect this species through research, awareness, capacity building, and decisive action.



CCAHD FUNDING FLYER 0.0:

OVERVIEW AND INTRODUCTION



Photography: ©G. Minton/CCAHD

HELP US TO

HELP THEM!

WITHOUT URGENT

CONSERVATION

INTERVENTION,

THIS SPECIES MAY

DISAPPEAR.

THE ATLANTIC HUMPBACK DOLPHIN IS ONE OF THE THREE MOST ENDANGERED DOLPHIN SPECIES IN THE WORLD.

Found only in the shallow nearshore coastal waters of the west coast of Africa, fewer than 3000 individuals are thought to remain in a 7000 km long range.

This limited habitat is characterized by high levels of small-scale artisanal fishing and large-scale coastal development to support ever-growing human populations. Entanglement in fishing gear and habitat loss due to port construction and coastal development in the region are driving this species toward extinction.

The Consortium for the Conservation of the Atlantic Humpback Dolphin (CCAHD) is working to save the species from extinction. With over 90 partners consisting of international scientists and conservation organisations as well as scientists, NGOs, and government agencies from 15 of the 19 countries within the species' range, the CCAHD focuses on protecting populations and their habitats through research, awareness, capacity-building and action.

Six pillars of action allow us to tackle urgent conservation needs from multiple angles. Click on the links below to learn more about each pillar and how you can support it:

Photography: ©A. Malapert, Biotope



Photography: ©L. Keith-Diagne, AACF



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Photography: ©Biotope Guinea



Photography: ©G. Minton, CCAHD



Photography: ©G. Minton, CCAHD

1) ADDRESSING KNOWLEDGE GAPS

Governments and industries require convincing scientific data before they put protective measures in place, and these data are lacking in most parts of the species' range. The CCAHD is mapping where the dolphins are and which areas need to be protected from man-made threats.

2) EMPOWERING COASTAL COMMUNITIES TO BECOME CONSERVATION PARTNERS

Fishers and their families are well placed to share and collect data on dolphin sightings, strandings, and bycatch. By providing them with the right resources, they can help to design and implement effective means to reduce threats.

3) REDUCING FISHERIES BYCATCH

Most small-scale artisanal fishers use gill nets that result in bycatch of turtles, sharks, rays and dolphins. Collaboration between scientists, sociologists, and fishing communities is required to develop alternative fishing gears and practices that will reduce dolphin bycatch without reducing incomes or food security.

4) SUPPORTING MANAGERS AND DECISION MAKERS

Communication, capacity building, and engagement are essential to ensure that these government and industry stakeholders understand why dolphins are threatened and can enshrine protective measures in policies and laws that can be implemented and enforced.

5) FOSTERING REGIONAL COLLABORATION

AND CAPACITY BUILDING

The CCAHD provides a forum for exchange of tools, resources, information and inspiration. A well-resourced Secretariat is needed to support the flow of communication through email, the CCAHD trilingual website, social media, webinars and face-to-face meetings.

6) ASSESSING POPULATION HEALTH AND GENETICS

We need to understand whether individual populations are healthy or affected by disease, genetic isolation, or environmental as well as direct human threats. An international network of experts in dolphin health and genetics is on hand to work with local scientists to make these assessments through non-invasive techniques.

THE CCAHD HAS DEVELOPED A 5-YEAR STRATEGIC PLAN
THAT PROVIDES MORE DETAIL AND INSIGHT INTO HOW
THESE ELEMENTS WILL BE IMPLEMENTED TO IMPROVE
THE SPECIES' CHANCES OF SURVIVAL. THE CCAHD IS
ALSO GOVERNED BY A FINANCIAL POLICY AND A DUE
DILIGENCE POLICY THAT ENSURE THE HIGHEST LEVELS OF
TRANSPARENCY AND ACCOUNTABILITY IN OUR WORK.

Over 3 million Euros are needed to support the CCAHD's ambitious 5-year plan. Your contribution, no matter how big or small, can make a difference!

- 10-100 Euros can facilitate the printing of the children's book 'Keita and the Dolphins' or other educational materials used in community outreach.
- **500-1000 Euros** can help a range country scientist attend a regional meeting or conference to gain valuable knowledge.
- **2,000-10,000 Euros** can support local or national awareness-raising workshops for coastal communities, government or industry stakeholders.
- 20,000-50,000 Euros can enable a boat-based survey to be organised in an area where dolphins are known to occur, but no reliable studies have been conducted.

Donations in kind are also welcomed, & can include things like:

- Cameras or other specialist equipment for research and monitoring.
- Boats, cars, and fuel for marine surveys and transportation to and from survey sites.
- Flights for international travel and accommodation to field study sites and/or meetings and conferences.
- Services to support CCAHD operations and outreach, including graphic design, printing, professional translations, etc.

All donors will receive a donation certificate. Donors who contribute 1000 Euros or more can choose to have their logos and links to their websites featured on the CCAHD Partners and Support page.

CLICK HERE or scan the QR code to make a donation, or get in touch with Gianna Minton at infoccahd@gmail.com to learn more.

CCAHD FUNDING FLYER 1.0:

ADDRESSING KNOWLEDGE GAPS

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WITHOUT URGENT ACTION, ATLANTIC HUMPBACK DOLPHINS MAY DISAPPEAR BEFORE WE EVEN KNEW WHERE THEY WERE.

Atlantic humpback dolphins (Sousa teuszii) are shy and inconspicuous. Confirmed records of their presence are available from 13 of the 19 possible countries encompassed in their range on the west coast of Africa. In the six countries where there are no records, we do not know whether this reflects a true gap in distribution, or a lack of dedicated research. Where records do exist, they are often based on single strandings, entanglements in fishing gear, or one-off scientific surveys of small geographical areas.

We do know that throughout the species' range, habitat is being drastically changed by coastal development and ever-increasing levels of fishing with gillnets that are known to entangle dolphins as well as fish. CCAHD scientists are in a race against time to document where the dolphins are, when and why they are there, and exactly which threats they face throughout their range.

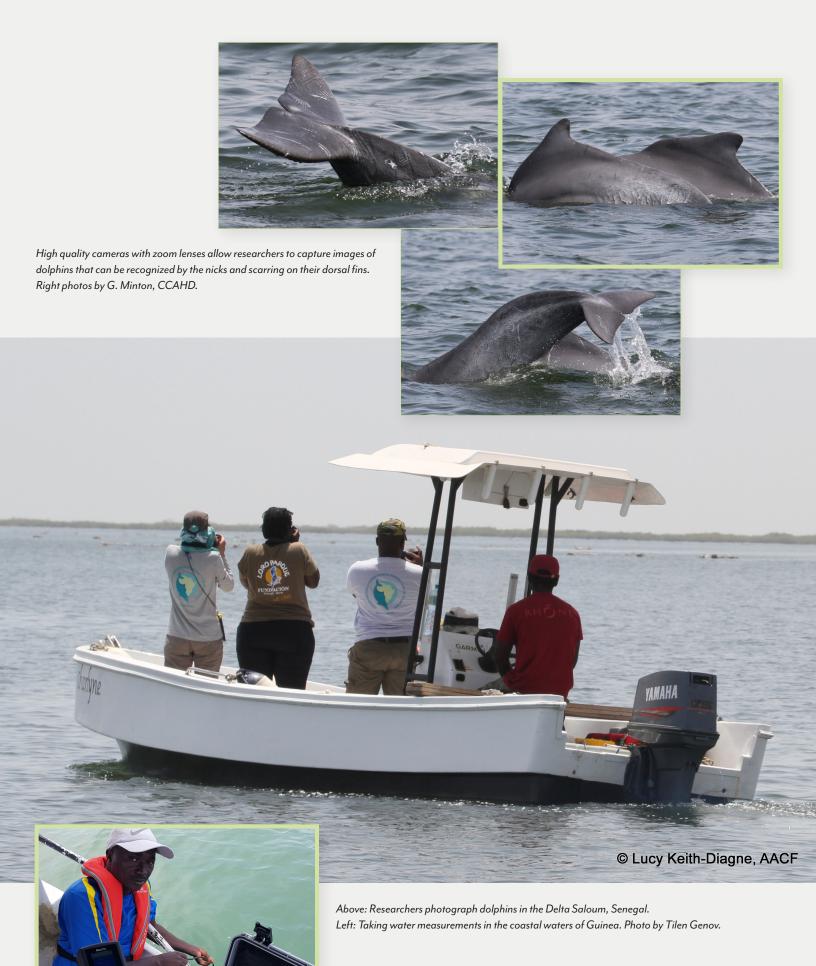
Without this knowledge, government and industry decision makers cannot be expected to enact policies or practices that will reduce threats and protect dolphins.

Research is desperately needed to address knowledge gaps that are preventing effective conservation:

- In areas where the species has not yet been documented, the CCAHD continues to form partnerships with local NGOs who can conduct interview surveys and solicit reports from the public.
- In areas where there is (past) evidence that the species is present, boat-based surveys are urgently needed to map their current distribution and habitat use, employing methods that will also allow recognition of individuals over time and calculation of population size.
- Passive acoustic recorders are ideal tools to be used in addition to boat-based surveys, to detect the presence of dolphins at any time of night or day and over longer periods, allowing insight into activity patterns related to times of day, tidal states, or seasons.
- In areas where more recent surveys have been conducted, continued research is needed to detect potential changes in distribution, population size or habitat parameters in response to increasing threats or conservation measures.



- 1 · MOROCCO
- 2 · MAURITANIA
- 3 · SENEGAL
- 4 THE GAMBIA
- 5 GUINEA BISSAU
- 6 · GUINEA
- 7 · SIERRA LEONE
- 8 · LIBERIA
- 9 · CÔTE D'IVOIRE
- 10 · GHANA
- 11 · TOGO
- 12 · BENIN
- 13 · NIGERIA
- 14 · CAMEROON 15 · EQUATORIAL GUINEA
- 16 · GABON
- 17 REPUBLIC OF CONGO
- 18 · DEMOCRATIC REPUBLIC OF THE CONGO
- 19 · ANGOLA









Over 1 million Euros are needed to conduct the CCAHD's ambitious 5-year research plan that will address the knowledge gaps that are hindering effective conservation. Your contribution, no matter how big or small, will make a difference!

- 100-500 Euros can purchase vital survey equipment like GPS units.
- 1,000-5,000 Euros can purchase a high-end camera with a zoom lens suitable for photo-identification of individual dolphins that can be recognized over time, providing insight into population size and ranging patterns.
- 10,000-50,000 Euros can fund a boat-based survey in a location where dolphins are likely to be present.
- **50,000-100,000 Euros** could fund repeated boat-based surveys complemented by passive acoustic methods.

Note that ALL research conducted through CCAHD includes and builds upon regional capacity building and hands-on training for range country scientists.

Donations in kind are also welcomed, & can include things like:

- High resolution digital single lens reflex cameras with 100-400mm zoom lenses for photography to identify individual dolphins during boat-based surveys.
- Boats, cars, and fuel for marine surveys and transportation to and from survey sites.
- Flights for biologists to travel and accommodation at field sites.
- Specialized acoustic monitoring devices and equipment to measure water parameters including salinity, turbidity, depth and temperature.



CCAHD FUNDING FLYER 2.0:

EMPOWERING COASTAL COMMUNITIES TO BECOME ALLIES IN CONSERVATION

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COASTAL
COMMUNITIES
HOLD THE KEY
TO BETTER
UNDERSTANDING
AND PROTECTION
OF THE SPECIES
WITH WHICH THEY
SHARE HABITAT
AND RESOURCES.





Atlantic humpback dolphins (Sousa teuszii) are confined to shallow waters in estuaries, mangroves and open coastlines. They can often be spotted from a beach or a jetty, as well as by small scale artisanal fishers who use the same waters and target many of the same fish species for food. Members of coastal communities throughout the species' range are perfectly placed to drive better understanding and to protect the species from extinction.

Scientists cannot be everywhere at once, and boat-based surveys can be expensive and logistically challenging, particularly in areas where this work has never been conducted. CCAHD partners are using a range of strategies and tools to enable coastal communities and other marine stakeholders to share their local ecological knowledge and help address critical knowledge gaps that will support effective conservation today:

- Interview surveys with fishers use a questionnaire developed by a team of
 international and range-country scientists, which provides vital insight
 into whether Atlantic humpback dolphins are present in an area, and if
 so, how they are perceived and whether they interact with fisheries.
- National reporting networks, supported by social media and specialized smartphone apps like Siren (see https://www.ammco.org/telecharger_siren) allow fishers and other coastal users to report live sightings, strandings, or incidents of bycatch of dolphins.
- Outreach and awareness-raising materials are needed to encourage community members to value the role that dolphins play in healthy coastal ecosystems, and to report dolphin sightings, strandings and bycatch. These materials would include paper posters or books that are physically displayed in schools, fish landing sites, and other public venues, or digital media that can be shared through smart phones.
- Where communities provide good evidence that Atlantic humpback dolphins are present, CCAHD partners would organise follow-up boatbased or acoustic surveys to accurately document their habitat use, (relative) abundance, and conservation needs.
- Where entanglement in fishing nets is documented, fishers can work
 with scientists and fisheries experts to design and test the use of more
 selective fishing gears like lines that result in higher quality target
 catch but less bycatch, or alternative livelihoods to reduce or
 eliminate unwanted bycatch.





Over 700,000 Euros are needed to conduct the CCAHD's ambitious outreach and citizen science plan over 5 years. Your contribution, no matter how big or small, will make a difference!

- 100-500 Euros can support the printing and distribution of awareness-raising posters or the children's book, 'Keita and the Dolphins', or provide a fisher with a mobile phone that he can use to take photos and send reports.
- 1,000-5,000 Euros can fund a local community workshop to raise awareness of dolphins and empower community members to become citizen scientists.
- 10,000-50,000 Euros could fund a project to conduct interview surveys in a (suspected) Atlantic humpback dolphin range country using tools and resources developed by the CCAHD.
- 50,000-100,000 Euros can fund a national reporting network, supported by a smart phone App and a national database coordinator.

Note that tools and <u>resources</u> developed to support CCAHD outreach and citizen science projects will be produced in the appropriate languages for the communities involved.



CCAHD FUNDING FLYER 3.0:

REDUCING FISHERIES BYCATCH

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Atlantic humpback dolphins (*Sousa teuszii*) are found only in shallow waters in estuaries, mangroves and open coastlines- the same waters that are used by small-scale artisanal fishers. These fishers predominantly use gillnets and beach seine nets for catching fish from within the same waters where the dolphins are found. These nets are relatively inexpensive and easy to operate, and gillnets are often deployed before sunset, left to catch fish overnight, and recovered the next morning.

Gillnets are designed to entangle fish. Unfortunately, they also entangle turtles, sharks, rays and dolphins. Although dolphins are not the intended catch of most fishers in the region, once caught, dolphin meat is often used for bait, and sometimes for human consumption, creating a commercial value and market for dead dolphins in some locations.

Fishers in remote coastal regions usually do not realise how rare and threatened Atlantic humpback dolphins are. Once they understand how rare dolphins are, and what an important role they play in maintaining healthy ecosystems, fishers can be valuable partners in reporting and monitoring bycatch, and developing and testing strategies to reduce it.

The CCAHD has several strategies to reduce the most pervasive threat to Atlantic humpback dolphins:

- Interview surveys and national reporting networks are essential means of accurately documenting bycatch when it occurs. Supporting national reporting networks is the first step to identifying and mapping bycatch hotspots.
- Interview data and boat-based survey data can be used to map dolphin distribution against fishing effort to conduct scientifically robust bycatch risk assessments. These can be used to identify where interventions are most needed to reduce bycatch.
- CCAHD partners include the International Whaling Commission's Bycatch Mitigation Initiative and its Expert Panel members who are at the forefront of bycatch reduction research and developments.



• In areas where bycatch is recorded, or bycatch risk is high, social scientists and fisheries experts can work with local communities to explore, design and test alternative fishing gears or practices, such as banning the use of gillnets in the dolphins' core habitats, promoting more selective fishing gears like bottom-set traps or hand-lines, shorter deployments of gillnets to reduce the opportunity for entanglement, or placing acoustic warning devices or reflectors on nets gillnets to make them more 'visible' to dolphins.



Fishermen carry a dead Atlantic humpback dolphin from their boat onto the beach. Photo by Tim Collins, WCS.



An Atlantic humpback dolphin calf entangled in an artisanal gillnet in Congo. Photo by Tim Collins.





250,000 Euros are needed to conduct the CCAHD's ambitious bycatch reduction plan over 5 years. Your contribution, no matter how big or small, can make a difference!

- 100-500 Euros can support the printing and distribution of posters and materials to encourage coastal communities to report bycatch, or provide a fisher with a mobile phone that he can use to take photos and send reports.
- 1,000-5,000 Euros can fund a local community workshop to raise awareness of dolphins and empower community members to become allies in developing bycatch reduction strategies.
- 10,000-50,000 Euros could fund a bycatch risk assessment project in a location where data on fishing effort and dolphin distribution has already been collected.
- **50,000-100,000 Euros** can fund a project to trial bycatch reduction strategies in one or more bycatch hotspots.



CCAHD FUNDING FLYER 4.0:

SUPPORTING GOVERNMENT AGENCIES, MANAGERS AND DECISION-MAKERS

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GOVERNMENT
AND INDUSTRY
STAKEHOLDERS
CAN'T BE EXPECTED
TO PROTECT
DOLPHINS IF THEY
DON'T KNOW THAT
THEY'RE THERE.

Conservation planning and actions work when both 'top down' and 'bottom up' approaches are coordinated and align. Both are needed in the urgent race to protect Atlantic humpback dolphins from further decline and extinction. While we pursue a range of activities to empower fishers and coastal communities, we also need to ensure that government and industry stakeholders have the necessary information and resources to environmental protections that safe-guard dolphins and other species when they plan, approve, regulate or implement coastal development activities.

Effective conservation measures also require awareness and collaboration between multiple categories of government agencies and the communities that they serve. While we usually think about agencies responsible for the environment, wildlife and protected areas, addressing threats also requires the involvement of bodies that regulate fisheries, transport, tourism, (marine) protected areas, and economic development (especially

coastal construction, like ports and harbours). Law enforcement agencies like the coastguard and customs agents may also come into play to prevent illegal fishing or targeted hunting of dolphins. Many of these agencies are unaware of Atlantic humpback dolphins and their precarious conservation status.

Industry stakeholders including those that engage in commercial fishing, coastal construction, or transportation are also often unaware of dolphins and the impact their activities are having on these populations of animals. The CCAHD aims to enable

managers and decision-makers to account for Atlantic humpback dolphins in their planning and policies by:

- Developing and disseminating communication materials for government and industry managers to promote awareness and highlight conservation needs. These can include printed and electronic posters and infographics, power point presentations that can be adapted for different audiences, and videos.
- Creating best practice guides on the inclusion of dolphins in Environmental Impact Assessments (EIAs) for coastal development projects, including mitigation of negative impacts. This would benefit developers responsible for conducting EIAs, as well as the government agencies responsible for assessing and approving them.



Government stakeholders during the launch of a dolphin conservation project in Guinea. Photo by Biotope.

- Hosting face-to-face engagement meetings that bring together different government and industry stakeholders to start the process of national conservation planning.
- Conducting training for government agencies, including wildlife/park rangers, stranding responders, and research organisations to improve their capacity to collect and apply data to conservation management.







Over 400,000 Euros are needed to conduct the CCAHD's ambitious government and industry stakeholder outreach plan over 5 years.
Your contribution, no matter how big or small, will make a difference!

- 100-500 Euros can help to print posters and infographics and other vital outreach materials.
- 1,000-5,000 Euros can help to fund a national government stakeholder engagement meeting in one range country.
- 10,000-50,000 Euros can fund a consultancy to develop best practice manuals for the conducting of environmental impact assessments and mitigation plans for coastal development projects in the Atlantic humpback dolphin range.
- **50,000-100,000 Euros** could fund a regional meeting for government and industry stakeholders to help raise awareness and promote implementation of the Convention on Migratory Species' Single Species Action Plan for *Sousa teuszii*.



CCAHD FUNDING FLYER 5.0:

FOSTERING REGIONAL COLLABORATION AND CAPACITY BUILDING

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STAKEHOLDERS
WORKING
TO PROTECT
DOLPHINS FROM
EXTINCTION
ARE STRONGER
TOGETHER.

Atlantic humpback dolphins (*Sousa teuszii*) are found only on the west coast of Africa. Their possible range includes 19 countries. However, within that range, very few dedicated studies have been conducted on any species of dolphins and further training is needed to increase the pool of qualified and experienced cetacean scientists.

The CCAHD fosters exchange of experience, expertise and resources between partners who currently represent Intergovernmental organisations, NGOs and academic organisations as well as national and local NGOs, universities and government research institutes. By pooling resources and experience, CCAHD partners can work much more effectively, building on existing strengths with partners learning with and from each other, gaining skills and experience that enable more qualified people to study and protect Atlantic humpback dolphins.



The CCAHD has several strategies to foster regional collaboration and capacity building:

- The CCAHD Website serves as a focal point for disseminating information about the species, ongoing projects, news, and resources for the general public and the research community. This website is complemented by Facebook, Twitter and Instagram accounts accessible to CCAHD partners and the wider public. The website and social media accounts are maintained by part-time paid professionals contracted through the Secretariat.
- 10 thematic working groups harness the expertise of both international and range country partners to focus on specific topics such as outreach and capacity building, field surveys, genetics, strandings and health, interview surveys, acoustic surveys, bycatch, coastal development and fundraising. These groups, open to all of CCAHDs 90+ partners are convened by volunteers and are coordinated and supported by the Secretariat.
- CCAHD partners provide both formal and informal mentoring and advice to young range-country scientists pursuing higher degrees specializing in cetacean research and conservation.
- Webinars and in person workshops allow CCAHD partners to showcase their work and transfer important skills and knowledge to others.

 The CCAHD Foundation's Secretariat maintains a Google Group mailing list, coordinates working groups, webinars, fundraising and all aspects of internal and external communication. It also ensures synergy between CCAHD efforts and those of partner organisations on a regional and global scale.

International organisations



Donors



International and range country partners





An online meeting of the CCAHD Working Group on outreach and capacity building in May 2022. All content on the CCAHD website (https://www.sousateuszii.org/) is available in the three main official languages spoken in the region, and provides an essential means of disseminating information and resources.



The CCAHD's five-year plan identifies 375,000 Euros being needed to support central coordination and capacity building objectives over that period. Your contribution, no matter how big or small, will make a difference!

- 100-500 Euros can help to purchase an annual subscription to virtual meeting software and/or professional translation software used to support internal and external communication.
- 1,000-5,000 Euros can fund a part-time social media coordinator for one year.
- 10,000-50,000 Euros could fund core secretariat staff and overhead costs, essential to maintaining momentum and coordination within the Consortium or an in-person meeting of regional partners.
- **50,000-100,000 Euros** can fund one or more scholarships for range country scientists wishing to pursue formal qualifications (e.g MSc or PhD) in cetacean research and conservation.



CCAHD FUNDING FLYER 6.0:

ASSESSING POPULATION **HEALTH AND GENETICS**

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POPULATIONS OF ATLANTIC **HUMPBACK DOLPHINS ARE** BECOMING FRAGMENTED AND ISOLATED. WHERE THEY CLING TO **EXISTENCE THEIR HEALTH AND FUTURE SURVIVAL** MAY BE AT RISK.



Atlantic humpback dolphins (Sousa teuszii) appear to be distributed in small, fragmented populations throughout their 7000km long range along the west coast of Africa. Ever-mounting threats from human activities are degrading and destroying more habitat, potentially further reducing populations, rendering them more vulnerable to disease and (localized) extinction.

Where the species is known to occur, it is important to understand whether individual dolphins are in good condition and able to reproduce and care for their young. It is also important to know whether they are completely isolated from other populations, or still genetically connected to neighbouring populations that might help to replenish their stocks if numbers in a particular area are declining for any reason.

Finally, in the event that one or more individual dolphins might require some form of rescue or relocation in the event of a stranding or irreversible damage to their habitat, it is important to have information about their normal vital and reproductive parameters and how they might react to human handling. This data is currently entirely lacking for Sousa teuszii.

The CCAHD has identified several priority non-invasive strategies for collecting valuable data on health and genetics essential for the conservation of the species:

- Field survey protocols are a means to photograph and/or film aspects of dolphin biology and physiology that allow assessment of health parameters, such as external signs of disease, scarring indicative of interactions with fishing gear or boats, overall body condition, and reproductive parameters (for example the presence of calves).
- Drones will be used to improve estimates of dolphin group sizes, and the size and body condition of individual dolphins within the groups.
- Basic stranding response protocols include the collection of photographs that highlight external signs of disease and/or other causes of death and provide a standardized process for collection of tissue samples for genetic analysis and pollutants.
- More advanced training on post-mortem investigation methods for range-country scientists and (terrestrial) veterinary pathologists enable the collection of data on diet (from stomach contents), disease, age (through teeth) and reproductive status and histories (through examination of sexual organs).

• Studies of other related dolphin species like the Indian Ocean humpback dolphins (Sousa plumbea) is yielding insights into health and reproductive parameters that are likely to be similar for Sousa teuszii.



CCAHD researcher taking teeth from an Indo-Pacific humpback dolphin (Sousa chinensis) in Malaysia. Teeth can be used to age dolphins. Photographs and post-mortem analysis of dead dolphins can also reveal information about cause of death, disease, and reproductive parameters. Photo by Sarawak Dolphin Project.



An estimated 275,000 Euros are needed to support the CCAHD's objectives for assessing health and genetics over 5 years. Your contribution, no matter how big or small, can make a difference!

- 10-100 Euros can help to purchase a stranding response kit for a CCAHD range-country partner.
- 1,000-5,000 Euros can fund a literature study of health and reproductive parameters in other humpback dolphin species.
- 10,000-50,000 Euros could fund a comprehensive analysis of existing data on Sousa plumbea in South Africa.
- **50,000-100,000 Euros** could fund one or two hands-on regional training workshops for stranding response and necropsy (post-mortem analysis of dead dolphins).

