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Integrated Conservation Planning for Cetaceans: 2022 Update

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INTERNATIONAL
WHALING COMMISSION

Integrated Conservation Planning for Cetaceans: 2022 Update

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ABSTRACT

In 2021 an introduction to Integrated Conservation Planning for Cetaceans was presented by Taylor and Abel, who co-chair this team within the IUCN Species Survival Commission's (SSC) Cetacean Specialist Group (SC/68C/SM/03). ICPC was formed in response to the desperate situation of increasing numbers of endangered riverine and coastal dolphin and porpoise species and populations. Here, we update the IWC SC on ongoing projects: 1) Atlantic humpback dolphins (*Sousa teuszii*)—a multi-faceted regional Conservation Action Plan; 2) Indus (*Platanista minor*) and Ganges river dolphins (*Platanista gangetica*)—Capacity Building for safe and effective translocation of entrapped dolphins ; 3) Franciscana dolphins (*Pontoporia blainvillei*) – Health Assessment Project and Neonate and Juvenile/Adult- Rehabilitation Protocols; 4) Lahille's bottlenose dolphins (*Tursiops truncaturs gephyreus*) – Epigenetic Ageing Analysis; 5) Capture Myopathy – Systematic analysis of Critical Data Gaps; and 5) Yangtze Finless Porpoise (*Neophocoena asiaorientalis asiaorientalis*) – Steps towards a One Plan Approach.

INTRODUCTION

SC68CSM03 was presented to SC68C to familiarize the Committee with the goals and objectives of the Integrated Conservation Planning for Cetaceans (ICPC) team. Here we briefly review ICPC activities with a focus on progress made since May 2021. ICPC is a sub-group within the IUCN SSC (International Union for Conservation of Nature's Species Survival Commission) Cetacean Specialist Group (CSG). Members of the sub-group are biologists, veterinarians, and individuals with other relevant expertise. Integrated conservation planning that involves various stakeholders is being actively promoted by IUCN, which recently adopted Motion 079 which "URGES the [IUCN] Secretariat and professional societies to promote integration of *in situ* and *ex situ* conservation interventions by applying the One Plan approach[1], to ensure effective use of all available conservation tools," and ALSO CALLS ON all Members [of IUCN] to ensure that 11th hour, last

[1] Description of the One Plan approach to conservation can be found **here**

ditch *ex situ* conservation efforts are prevented by proactive and timely application of planning methods, such as the One Plan Approach, and informed by the Guidelines on the Use of *Ex situ* Management for Species Conservation[2].

The ICPC team was formed in response to the desperate situation of increasing numbers of endangered riverine and coastal dolphin and porpoise species and populations in the world today (https://iucn-csg.org/integrated-conservation-planning-for-cetaceans-icpc/). The report of the **Ex Situ Options for Cetacean Conservation (ESOCC)** workshop[3] held at Nuremberg in 2018 recommended *inter alia* that "marine mammal conservationists around the world work together and act with urgency to consider critically needed conservation measures both in wild environments within the species' geographic range (*in situ*) and in protected or modified environments within or outside that range (*ex situ*)" (Taylor et al. 2020).

Integrated conservation planning and ICPC priority projects

Six priority projects were identified during the 2018 ESOCC workshop and subsequent franciscana and Yangtzee finless porpoise workshop in 2019. These six priority projects are being advanced by collaborations with teams in relevant range countries. Individual projects are listed below (see Appendix 1 for project leads and points of contact):

- Yangtze finless porpoises (*Neophocaena asiaeorientalis asiaeorientalis*) – Initial workshop (November 2019) and continued planning for a population viability analysis
- Atlantic humpback dolphins (*Sousa teuszii*) – an international consortium is advancing short and medium term priorities identified in 2020 (CCAHD 2021).
- Ganges and Indus river dolphins (*Platanista* spp.) – Rescue/translocation assistance and local capacity building
- Franciscanas (*Pontoporia blainvillei*) – Initial workshop (October 2019) and continued planning for franciscana
  1. Health assessment added to catch/release/satellite tag study
  2. Enhancement of stranding response and neonate rehabilitation protocols
- Lahille's bottlenose dolphins (*Tursiops truncatus gephyreus*) – Initial planning occurred at the franciscana workshop (2019)
  1. Development of health assessment methods for stranded and incidentally captured dolphins
  2. Enhanced methods of aging individual animals for population assessment
- Analysis of capture myopathy in small cetaceans – Developing a better understanding of capture myopathy, which is an essential veterinary consideration for hands-on conservation work with small cetaceans.

SHORT DESCRIPTIONS AND PROGRESS ON ICPC PROJECTS:

Atlantic humpback dolphins (*Sousa teuszii*) – Conservation Action Plan Project

With fewer than 3000 individuals estimated to remain throughout the species entire range along the Atlantic coast of Africa, international conservation organizations, including the International Union for the Conservation of Nature (IUCN), the Convention on Migratory Species (CMS) and the International Whaling Commission (IWC) have expressed grave concerns about the species' future. Restricted to shallow-water habitats that overlap with human activities, including fishing and coastal development, Atlantic humpback dolphins are thought to be in decline throughout their range. In 2020 scientists involved with the ICPC, as well as the IWC and CMS formed the Consortium for the Conservation of the Atlantic Humpback Dolphin (CCAHD). This consortium now involves over 70 members, including an increasing number of scientists and conservation

[2] The Guidelines document can be found here

[3] The full report of the ESOCC workshop can be found **here**

organisations from 15 of the 19 AHD range states, who collaborate to undertake fund-raising and implementation of research and conservation projects. Semi-annual field surveys to document relative abundance and establish photo-identification catalogues, are underway in the Saloum Delta, Senegal, and will commence in the Tristao Islands, Guinea in April 2021. A project to begin implementing standardized interview surveys in seven range countries has also been funded and is commencing in the first half of 2022. For more information see https://www.sousateuszii.org/, and the CCAHD's 2021 Annual Report.

Indus (*Platanista minor*) and Ganges River dolphins (*Platanista gangetica*) – Capacity Building Project

The entrapment of Indus and Ganges dolphins in irrigation canals is a regular conservation challenge in Pakistan and India, requiring annual translocation of dolphins from the canals back to the mainstream river. While rescue operations for canal-entrapped dolphins occur, they lack scientific data collection, formal veterinary assessments, and trained personnel, resulting in individual animal loss and lack of data acquisition. Current resource gaps limit the scope of the ongoing rescue efforts, as well as the ability to fill critical species-specific data gaps needed to help conserve these poorly known species. The National Marine Mammal Foundation and St. Andrews University have formed collaborations with the organizations currently overseeing local rescue operations, WWF Pakistan, Sindh Wildlife Department, and Turtle Survival Alliance India. The aim of these new alliances is to build urgently needed infrastructure through the training of local first responders and the organization of data collection in order to improve long-term conservation efforts. A Society of Marine Mammalogy Conservation Fund award was recently granted to help fund this work in Pakistan. Additional funding is being sought in support of these developing projects.

Franciscana dolphins (*Pontoporia blainvillei*) – Health Assessment Project

Plans are in place for a project off the coast of Argentina in March 2022, to catch, tag, and release up to six franciscanas to learn about movement patterns relative to coastal fisheries. The project, sponsored by Disney Conservation Funds and conducted by the Chicago Zoological Society's Sarasota Dolphin Research Program and AquaMarina, will attempt to attach satellite-linked tags. During the process of handling for tagging, efforts will be made to carefully incorporate health assessment protocols by experienced veterinarians from AquaMarina, the National Marine Mammal Foundation, and Disney, and document responses.

Franciscana dolphins (*Pontoporia blainvillei*) – Neonate & Juvenile/Adult Rehabilitation Protocols

The franciscana dolphin is distributed along shallow coastal waters and estuaries in Brazil, Uruguay, and Argentina, increasing their vulnerability to anthropogenic activities, mainly gillnet entanglement. Due to high bycatch rates, the species is considered the most endangered dolphin in the South Atlantic Ocean. Live stranded franciscana dolphins require rapid response, especially neonates that typically die within hours of stranding. To date, rehabilitation success of orphaned neonates is minimal and there is a critical need for enhancement of current conventions. To answer this urgent call, Yaqu Pacha (YP), the National Marine Mammal Foundation (NMMF), and Nuremberg Zoo (NZ) formed an alliance (Alliance for Franciscana Dolphin Conservation Research, Rescue and Rehabilitation – AFC3R) with local and international experts to improve existing rehabilitation protocols for franciscana dolphins. A neonate protocol has been completed and is being translated into multiple languages. Improvement of juvenile and adult franciscana procedures and the development of mobile animal care units are also underway. This collaborative project aims to: (1) increase individual animal survival and subsequent release, (2) aid in the acquisition of critical species-specific data, (3) expand the body

of knowledge on species biology and medicine, and (4) inform future conservation actions. The project is currently supported with funds from YP, the NMMF Board of Directors Grants Program, and NZ. Additional funding is being sought for international training and capacity building.

Lahille's bottlenose dolphins (*Tursiops truncatus gephyreus*) – Epigenetic Aging Analysis Project

The Lahille's bottlenose dolphin (*Tg*) occurs only in southern Brazil, Uruguay, and Argentina. Abundance estimates suggest a maximum total population size of 600 dolphins, with an estimated 360 mature individuals. *Tg* is listed as vulnerable on the IUCN Red List and endangered on the respective National Red Lists of Brazil and Argentina. Improved knowledge of age structure, population demographics, and health status could provide further basis for classification and protections. Funds were secured through the National Marine Mammal Foundation (NMMF) Board of Directors Grant Program to perform a pilot study to determine the feasibility of developing a skin-based, epigenetic aging technique to estimate the age of *Tg*. The collaborative research team includes the NMMF, Universidade Federal do Rio Grande (FURG), and The Clock Foundation. Skin samples collected by FURG during boat-based population surveys have been analyzed by The Clock Foundation and epigenetic aging analysis is currently underway at the NMMF. The project builds on emerging epigenetic aging techniques developed for common bottlenose dolphins. If successful, this project will help fill critical data gaps regarding population demographics. Additionally, the resulting technique and data will provide a foundation on which to study biological aging of *Tg*.

Capture myopathy – Critical Data Gaps Project

NOAA's Marine Mammal Health & Stranding Response Program held a virtual capture myopathy workshop in February 2021, co-chaired by the University of California at Davis, in collaboration with the Smithsonian Institute, University of Illinois, and National Marine Mammal Foundation. The primary goal was to develop a better understanding of capture myopathy, which is an essential veterinary consideration for hands-on conservation work with small cetaceans. The workshop brought together marine mammal and terrestrial wildlife veterinarians and biologists to discuss risk factors, diagnostic techniques, treatment options, and prevention strategies for capture myopathy. A workshop report is in the final stages of review, which will be shared with the scientific community upon completion.

Yangtze Finless Porpoise – Steps towards a One Plan Approach

The Chinese government's **Action Plan for Saving the Yangtze Finless Porpoise (2016 – 2025)** (the Action Plan) states a series of goals to support increasing the size of the *ex situ* metapopulation and increasing the number of *ex situ* reserves. The *ex situ* metapopulation was established as an insurance population in the event of continuing decline of the wild population and as a potential action to prevent extinction. The current size of the *ex situ* metapopulation is estimated to be over 130 individuals collectively in all reserves. One of these, the Tian-e Zhou reserve, is believed to be approaching its carrying capacity. Another large reserve, the Hewang Miao oxbow, currently contains only ~20 individuals which is believed to be well below its carrying capacity. The symposium and workshop participants prepared a series of recommendations to support the goals of the Action Plan. The Report of the Workshop has been delayed because of work interruptions resulting from the pandemic but is expected to be completed this year.

Another focus for autumn 2022 is to address the following workshop recommendation:

Recommendation: Establish a panel of experts to determine the number, demography, and genetic diversity of the *ex situ* Yangtze finless porpoise metapopulation needed to meet the goals of the Action Plan. Population viability analysis (PVA) and genetic modeling could be used to estimate the population size needed to maintain the specified genetic diversity of 90% over 100 years. While PVAs have been used for wild and *ex situ* populations of other animals separately, it may be possible to conduct a PVA that synthesizes the risks of extinction and loss of genetic diversity by including both the *in situ* and *ex situ* populations as components of a range-wide metapopulation.

A virtual workshop will now be able to take advantage of new data from the reserves and a Spring 2022 survey of the river and lake populations.

CONCLUDING THOUGHTS

Both the IUCN and the IWC are working towards an improved understanding of the biology and extinction risks of Endangered dolphin and porpoise populations, with a focus on developing effective conservation plans. Working together will surely help to harmonize outreach efforts, improve the chances of success, and reduce unnecessary duplication. The coming decades will be critical for many small cetaceans and it will take the efforts of many dedicated people to prevent extinctions while the human population learns how to live sustainably. With limited conservation resources and time, effective actions will be promoted by efficient communication, not only between ICPC and the IWC, but also with NGOs and a wider range of stakeholders. We also note that several ICPC projects overlap with various IWC initiatives, including Conservation and Management Plans (CMPs), Small Cetacean subcommittee Task Teams, and shared communication and community engagement goals, as exemplified by the new IWC 'Extinction Initiative'. We welcome continuing dialog and communication with the working groups involved in those initiatives.

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