



# PATING, SAANKA' PARARATING?



2020 Conservation Roadmap for  
Sharks and Rays in the Philippines





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## PREFACE

At the apex of the Coral Triangle, the Philippines is part of the global center of marine biodiversity. With over 200 species of sharks and rays in the Philippines, our country plays a crucial role in conserving these ecologically important marine species.

However, their uses in the Philippines are varied and conflicting. They are a fishery resource, utilized by coastal communities and traders in an industry that is still largely unmonitored and unmanaged. The presence of some sharks, such as the thresher sharks and whale sharks, also draws thousands of tourists locally and internationally, supporting local livelihoods.

In November 2016, nearly 100 advocates, scientists, government officials, and representatives from the academe, diving community, local community, fishing industry, and private sector gathered in Dumaguete City for the 2nd Shark Summit. The 2nd Shark Summit identified the urgent need for a roadmap to comprehensively tackle complex issues and to serve as a guide to align everyone's efforts toward a common vision of conserving sharks and rays.

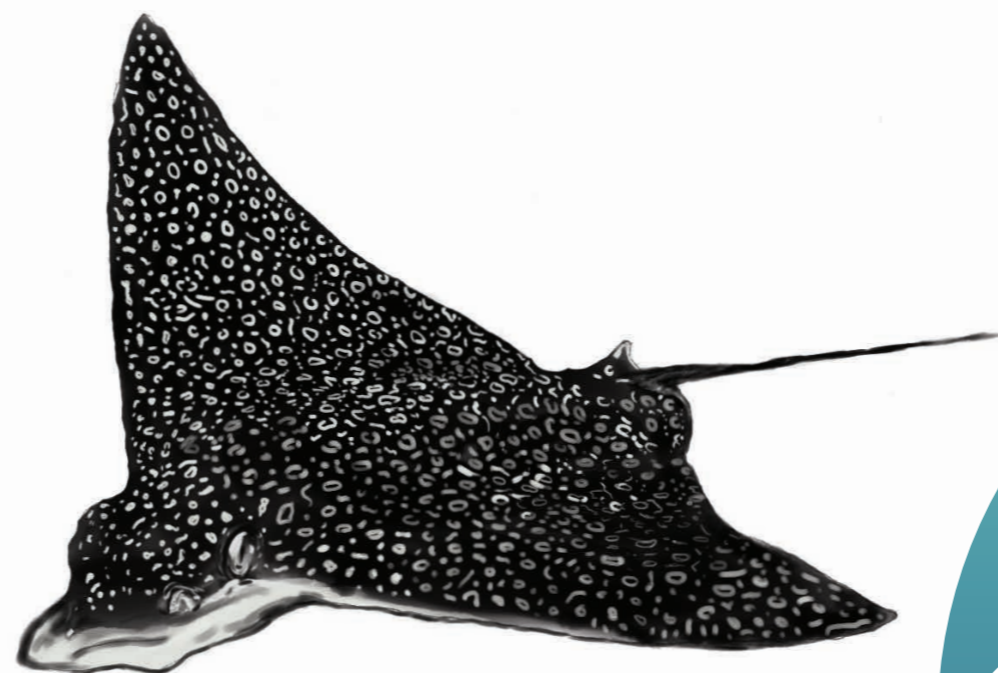
As a result, from 21 to 22 February 2017, an interdisciplinary, multi-stakeholder group of over 40 people gathered in Quezon City to develop the roadmap. The participants discussed the opportunities and challenges to lay out a plan to conserve sharks and rays in the country. Bringing a diverse group together strategically ensures that the roadmap will be supported by commitments and enforceable legislation.

The output is the 2020 Conservation Roadmap for Sharks and Rays in the Philippines. This roadmap is expected to propel shark and ray conservation forward in the Philippines, in hope of finding the balance between human needs and the integrity of the Philippine marine ecosystem.

“ A Philippines where all sharks are conserved for the benefit of all Filipinos.”

# SHARKS

all cartilaginous fishes including  
sharks (true sharks)  
rays (batoid fishes or flat sharks)  
chimaeras (ghost or silver sharks)

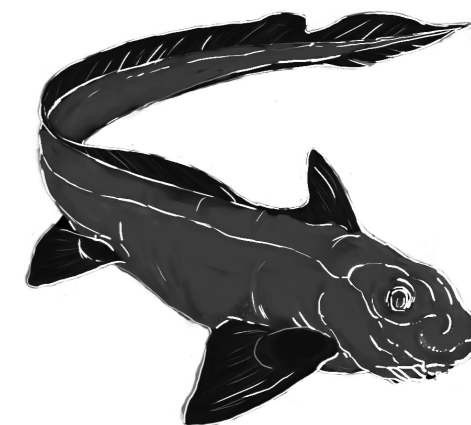


## VISION

*Pating, tumatagingting*

# CONSERVED

where all shark populations  
are in a healthy state,  
whilst mitigating threats and  
allowing for the science-  
based sustainable utilization  
of some populations.



1998

Donsol declared their waters a whale shark sanctuary



RA 8550: Fisheries Code bans fishing of rare, threatened & endangered species



FAO 193: Whale shark & manta ray protected



Whale shark tourism established in Donsol, Sorsogon

2001

RA 9147: Wildlife Resources Conservation & Protection Act



FAO 208: Protects rare, threatened & endangered species



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## INTRODUCTION

*Pating na aming turing*

Sharks are amongst the oldest surviving marine vertebrates yet they are considered one of the most threatened taxa globally. The term 'sharks' is used in the 2020 Conservation Roadmap for Sharks and Rays in the Philippines to refer to the conventional image of a shark (true sharks), as well as its relatives: skates, rays (batoid fishes or flat sharks) and chimaeras (ghost or silver sharks). Collectively, these are cartilaginous fishes belonging to the class Chondrichthyes represented by over 1,000 species that share similar taxonomic characteristics: they are long-lived, age slowly, mature late, and produce very few offspring at a time.

Despite the lack of understanding on the sharks' various roles in ecosystems, it is clear that they are key players in structuring food webs, whether they are at the top of the food chain or at lower trophic levels. Sharks are typically depicted as apex predators that have significant top-down effects on food webs. They help keep prey populations healthy by feeding on weak, sick, or old fishes, and prevent overgrazing of critical

marine habitats. Therefore, the removal of sharks from an ecosystem has the potential to create significant changes to predator-prey interactions, affecting the whole system. Aside from ecological benefits, sharks and rays have also been proven to boost local economies sustainable tourism activities and through fisheries in many developing countries.

### Global spotlight

Frequently portrayed by popular media as ferocious predators of the sea, sharks are often feared and persecuted, while its lesser-known relatives are hardly given any attention at all. The poor understanding of chondrichthyans has contributed to a general lackluster support for their conservation. Interest in sharks only recently gained public attention due to various sources exposing the cruelty and wastefulness of the shark fin trade, and through increased documentation of human-shark conflicts (or "shark attacks") in shallow waters. Appreciation has also increased through shark interaction tourism and awareness raising initiatives.

### Philippines in focus

In the Philippines, it is approximated that 200 species of sharks occur in its waters, of which 23% may be new records or undescribed species.<sup>1</sup> However, very little is known of sharks in the Philippines, with only a few species studied in the past two decades. Shark attacks are seldom reported or documented in the Philippines, yet sharks are also generally feared by Filipinos. In some provinces, sharks and rays are considered valuable in traditional culinary and folkloric culture: the meat is often served as a coconut-infused dish called kinunot, and the whip-like tails of certain rays are believed to ward off supernatural forces.

Targeted fishery for whale shark meat provided a steady source of income for communities and traders exporting this product before its taking, catching, and trade was banned in 1998. Fisheries for mobulids and other rays are primarily for local/domestic meat consumption. Although trade for mobulid gill plates exist, it is recent and only comprises a minor part of the fisheries. There is also a market for ingredients derived from sharks, such as liver oil and cartilage, found in health supplements, and personal care products. Leather from shark and ray skin have also found use in the production of bags, belts, wallets, sandals and furniture accessories.

Aside from the whale shark, only a few shark species are nationally protected, mostly because they are listed in the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices. As stipulated in the Philippine Fisheries Code, Republic Act (RA) 8550, as amended by Section 102 of R.A. 10654, all species in the CITES appendices are protected in the country unless a Non-Deteriment Finding (NDF) to its population is provided.

Only the following species are protected in the Philippines as of 2017:

#### Batooids

- Reef manta ray, *Mobula alfredi*
- Giant manta ray, *Mobula birostris*
- Longfin devil ray, *Mobula eregoodootenkee*
- Spinetail mobula, *Mobula japanica*
- Shortfin devil ray, *Mobula kuhlii*
- Sicklefin devil ray, *Mobula tarapacana*
- Smoothtail mobula, *Mobula thurstoni*
- Knifetooth sawfish, *Anoxypristis cuspidata*
- Large-tooth sawfish, *Pristis pristis*
- Green sawfish, *Pristis zijsron*

#### True sharks

- Pelagic thresher shark, *Alopias pelagicus*
- Big-eye thresher shark, *Alopias superciliosus*
- Common thresher shark, *Alopias vulpinus*
- Scalloped hammerhead shark, *Sphyrna lewini*
- Smooth hammerhead shark, *Sphyrna zygaena*
- Great hammer head shark, *Sphyrna mokarran*
- Silky shark, *Carcharhinus falciformis*
- Great white shark, *Carcharodon carcharias*
- Oceanic whitetip shark, *Carcharhinus longimanus*
- Basking shark, *Cetorhinus maximus*

Concern for sharks in the Philippines rapidly progressed after the first National Round Table Discussion for the Conservation and Management of Sharks or the 1st Shark Summit was held in Cebu in August 2014. There have been several attempts by advocates and legislators to declare national laws and local ordinances prohibiting the fishery and trade of all shark species. Moreover, the Department of Agriculture — Bureau of Fisheries and Aquatic Resources (DA-BFAR) is currently updating its National Plan of Action for the Conservation and Management of Sharks (NPOA-Sharks). Meanwhile, various multi-sectoral policy workshops in the last two years<sup>2,3,4</sup> show growing support for a comprehensive policy that would allow for the sustainable utilization and management of shark fisheries.

2003



Whale & basking sharks,  
1<sup>ST</sup> sharks to be listed in CITES

2004



PCSD Resolution 04-226: list of threatened terrestrial &  
marine wildlife updated in Palawan



Bluespotted sting ray at Estancia, Iloilo  
© Martin Torres

Thresher shark in Monard Shoal  
© Noel Guevarra

## RATIONALE

*Pating, saan ka nanggaling?*

Due to their unique life history traits, sharks and their relatives are particularly vulnerable to threats from targeted fisheries, overfishing, bycatch, pollution, unregulated tourism, and climate change. These threats place almost a quarter of the world's total chondrichthyan species at risk of extinction.<sup>5</sup>

### Directed Fishery

Sharks are directly impacted by fishing, and while the seemingly quick solution would be to ban shark fisheries and substitute it with alternative livelihoods, these would not resolve all the problems. On a global scale, shark fisheries are largely unmonitored and/or unregulated<sup>6</sup> because they occur in areas that are difficult to monitor, e.g. open oceans<sup>7</sup> and deep seas<sup>8</sup> or are part of coastal artisanal fisheries with less stringent regulatory mechanisms.<sup>9</sup> In developing countries, they are fished directly and incidentally and retained or utilized for subsistence,<sup>10</sup> or as a main source of income, providing additional safeguards for food security<sup>11</sup> amongst some of the world's poorest and marginalized people.

In the Philippines, whale sharks and mobulid rays were historically hunted in the Bohol Sea for their meat, fins and gill plates.<sup>12,13</sup> In recent years, targeted fisheries for smaller shark species, like thresher sharks and dogfish sharks, have also been reported in Cagayan, Leyte and Sorsogon.<sup>14</sup>

### Bycatch

What appears to be a bigger threat may be incidental catches of sharks in other fisheries. Many species are landed as bycatch in small-scale and artisanal fisheries,<sup>15</sup> and are often unreported. Some sectors argue that bycatch is a contentious issue because fishermen can always claim that sharks were caught incidentally. Moreover, the term 'bycatch' is further convoluted as incidental catches in the Philippines are not discarded but instead, kept and utilized as subsistence or for trade. For instance, fishermen in Guimaras Strait interviewed in 2012-2013 claimed that stingrays landed and sold in local markets were bycatch of gillnet fisheries for small reef fishes and lobsters.<sup>16,17</sup> These problems are

further compounded considering that the National Stock Assessment Program (NSAP) only monitors the landing of the top ten commercially important fish species wherein sharks are not a part of. The NSAP is also unable to monitor artisanal landing sites.

### Unregulated tourism

Another increasing concern for sharks in the Philippines is unregulated tourism. In the case of Oslob, Cebu, whale sharks are being provisioned with a shrimp (locally called uyap), which has been suggested to result in behavioral changes.<sup>18</sup> The influx of tourists and boats also put the whale sharks at risk for injuries from direct contact, resulting of being injured especially from direct contact to the animal resulting from low compliance to recommended tourism guidelines. The importation of shrimps used to feed the whale sharks has also reportedly increased their demand and market prices in the neighboring area, Bago City.<sup>19</sup>

### Habitat degradation

Due to unrestrained land development and rampant overfishing, important marine habitat along Philippine coasts, such as coral reefs, mangrove forests and seagrass beds have rapidly deteriorated over the years.

This widespread destruction inevitably leads to the decline of species populations reliant on these ecosystems, and has left fishery resources at the brink of collapse.<sup>20</sup>

Nine out of the Philippines' 13 fishing grounds are currently described as overfished and declining<sup>21</sup> and this has impacts throughout the ecosystem, as prey loss affects many pelagic sharks.

Only 120,000 out of 450,000 hectares remain of the mangrove forests in the Philippines. Likewise, barely a small percentage of the country's coral reefs are in excellent condition.<sup>22</sup> The destruction of habitats critical in sustaining sharks in various stages of their life cycle leaves many species vulnerable.

The degradation of important habitat due to poor governance and lack of coherent monitoring programs highlights the urgent need for ecosystem-based management plans and solutions that look not just at the specific species and populations in question, but how that species and its population fits in a larger system of management.

2008



Batangas City issued Ordinance 9 protecting threatened marine species & their critical habitats, including thresher sharks

2009



Philippine NPOA-Sharks published



Tiger shark in Antique © Ofelia Bernarido

Whitetip reef shark in Bauan, Batangas © Danny Ocampo

## GUIDING PRINCIPLES

to the 2020 Conservation Roadmap for Sharks and Rays in the Philippines

### Weak law enforcement

The Philippines has the best environmental laws that have been replicated across the globe. However, the management of fishery and marine resources is distributed among too many government agencies. The overlapping of these functions and mandates, coupled with low resources and institutional capacity have led to the weak enforcement of these laws. For example, the Local Government Units (LGU) are limited to territorial boundaries of municipal or city waters while the DA-BFAR takes charge of commercial (e.g., outside of municipal waters) while the Department of Environment and Natural Resources (DENR) also has authorities over protected areas.

These enforcement challenges contribute to the degradation of key marine resources and overfishing resulting in high poverty incidence among fisherfolk. According to data from the Philippine Statistics Authority in 2014, "the poverty incidence among fisherfolk reached 39.2% in 2012, the highest among the basic sectors of society, followed by farmers at 38.3%, and children at 35.2%."<sup>23</sup>

### Other threats

Pollution and climate change impacts are lesser-known threats to sharks. However, increasing documentation and reports in recent years of sharks stranded or entangled in fishing gears may suggest that encroachment into their natural habitats has occurred. Necropsy reports from two stranded whale sharks in 2009 and 2011 revealed plastic ingestion.<sup>24</sup> Climate change impacts on sharks have not been fully established yet, but these are likely to affect physiological response, predation, migration, and reproductive cues.

Considering these unrelenting threats to sharks, there is an urgent need for Filipinos to develop and engage in collaborative efforts to conserve Philippine sharks through their sustainable use and management using the best available information.

The 2020 Conservation Roadmap for Sharks and Rays in the Philippines is consistent with national priorities expressed in the Philippines Biodiversity Strategic Action Plan (PBSAP). By building the capacity and networks of stakeholders, the roadmap will raise awareness on and strengthen compliance to the Philippine Fisheries Code RA 8550, as amended by RA 10654; Local Government Code; and the Wildlife Act.

It will likewise support the Philippines' commitments to the following international conventions: CITES; CMS; and CBD, particularly in meeting the following Aichi biodiversity targets by 2020, specifically: Strategic Goal (SG) A, Targets 1 and 2: On awareness raising and integrating biodiversity into national and local development and poverty reduction strategies; SG C, Target 12: On preventing extinction of threatened species; SG E, Target 18: On use of traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity.

The 2020 Conservation Roadmap for Sharks and Rays in the Philippines also contributes to the United Nations Sustainable Development Goals (SDG), specifically: SDG 11 on sustainable cities and communities; SDG 12 on responsible consumption; SDG 13 on the protection of the planet; SDG 14 on life below water; SDG 15 on life on land; and SDG 17 on partnerships for the goals.

The 2020 Conservation Roadmap for Sharks and Rays in the Philippines will also be guided by the following principles:

**Precautionary Approach.** The precautionary approach is a set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risks to the resources, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.<sup>25</sup>

2010

AO 282: intensified protection of whale sharks in the Philippines



FAO 233: Aquatic wildlife conservation



Proposed SB 2616: bans catching, sale, purchase, possession, transportation, importation, & exportation of all sharks & rays



P 100 bill features the whale shark

2011



Proposed HB 5412: banning the catching, sale, purchase, possession & trade of all sharks & rays, as well as their derivatives & by-products.



Manta ray at Ticao, Masbate © Mike Barrow

© Save Sharks Network Philippines

## 20/20 for 2020

**Community-based Coastal Resources Management (CBCRM).** CBCRM is a “response to the limitations of the top-down approach of managing coastal resources in the Philippines. It is a process of involving local community members and other stakeholders in the management of the coastal resources.”<sup>26</sup>

**Ecosystem-based Management.** The United Nations Food and Agriculture Organization (UN FAO) suggests that an “ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”<sup>27</sup>

**Social Justice.** According to the Philippine Constitution, “[t]he promotion of social justice shall include the commitment to create economic opportunities based on freedom of initiative and self-reliance.” Furthermore, the State shall “protect the rights of subsistence fishermen, especially of local communities, to the preferential use of the communal marine and fishing resources, both inland and offshore.”<sup>28</sup>

2020 is projected as the year when Filipinos are empowered to conserve shark populations, mitigate threats, and apply scientific bases for sustainable utilization of some populations. It is the same year that the Aichi biodiversity targets, set by the Convention on Biological Diversity (CBD), are to be achieved.

The term “20/20” is also used to describe perfect vision. This document articulates a clear vision for the conservation of sharks and rays in the Philippines, supported by realistic, participatory, and inclusive activities identified by stakeholders.

The 2020 Conservation Roadmap for Sharks and Rays in the Philippines aims to complement the NPOA-Sharks, serving as a guide for government and non-government sectors, i.e. academe and civil society organizations, toward fully conserving sharks in the Philippines.

“ Ignorance about sharks contributed to a general lackluster support for their conservation ”

# 2020 CONSERVATION ROADMAP FOR SHARKS AND RAYS IN THE PHILIPPINES



Shark conservation in the Philippines can be propelled forward by focusing concerted efforts in the following areas: Research, Communication, Community Engagement, and Governance, the four pillars of the 2020 Conservation Roadmap for Sharks and Rays in the Philippines.

2014

Philippine Airlines stops transporting shark products



Cebu PO 2014-15: protecting all sharks, rays & chimaeras in Cebu



JAO on marine wildlife interaction guidelines drafted

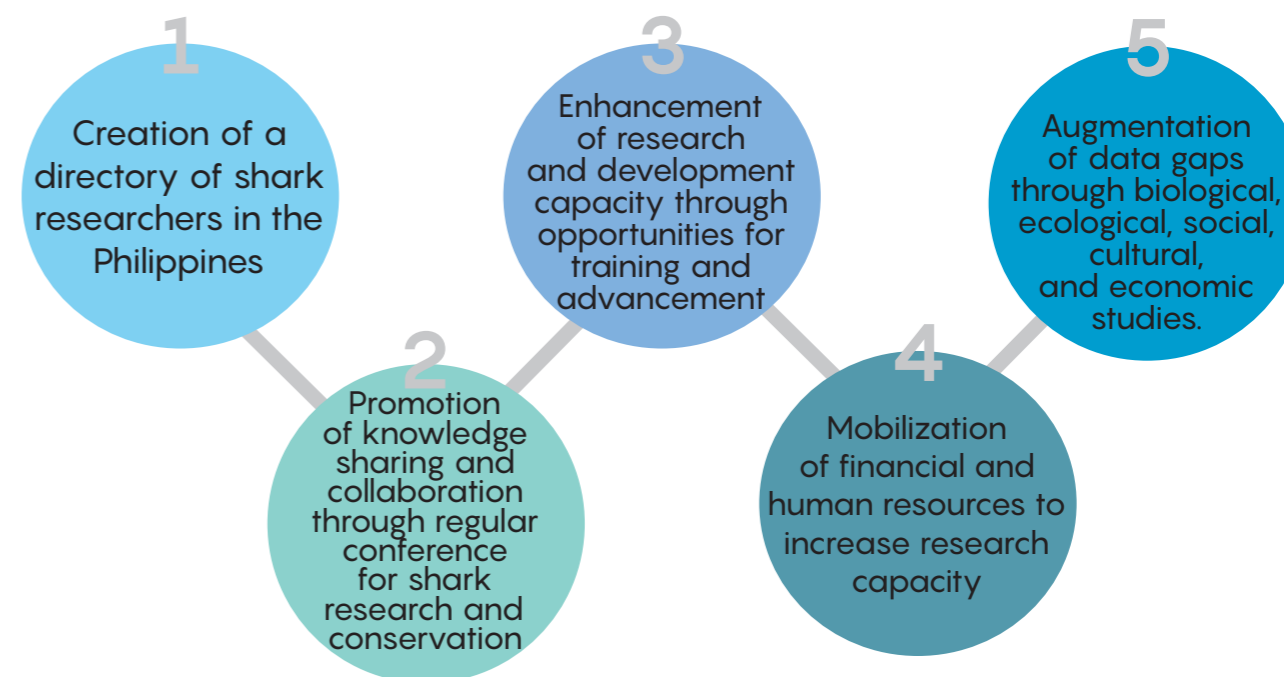


1<sup>st</sup> Philippine Shark Summit held in Cebu

## THE NEED TO KNOW MORE TO DO MORE Research

Inadequate information about the biology, ecology, and critical habitats of sharks, as well as fisheries and social science research (on people and fisheries) hinders conservation efforts. Augmented research capacity is necessary to improve knowledge and facilitate science-based measures, whilst upholding social equitability. Research forms one of the fundamental bases for a holistic understanding of sharks and conservation issues.

**By 2020, scientific and knowledge-based policies are developed, adopted, and implemented.** These can be achieved through the:



By 2030, scientific research and local knowledge are standards for pursuing and/or updating shark conservation policies.



2014

Publication of Philippine Aquatic Wildlife Rescue & Response Manual: Sharks & Rays



Publication of *Pating Ka Ba?* An Identification Guide to Sharks, Batoids and Chimaeras of the Philippines



Lapu-Lapu, Cebu Ordinance No. 13-1283: prohibiting the fishing, catching & using sharks & other endangered species

2015

RA 10654 Sec. 102 automatically protects CITES listed species



Panglao MO 2: total ban on fishing certain species of sharks & rays in Panglao



Daanbantayan EO 16: Monad Shoal & Gato Island as the 1<sup>st</sup> Shark & Ray sanctuary



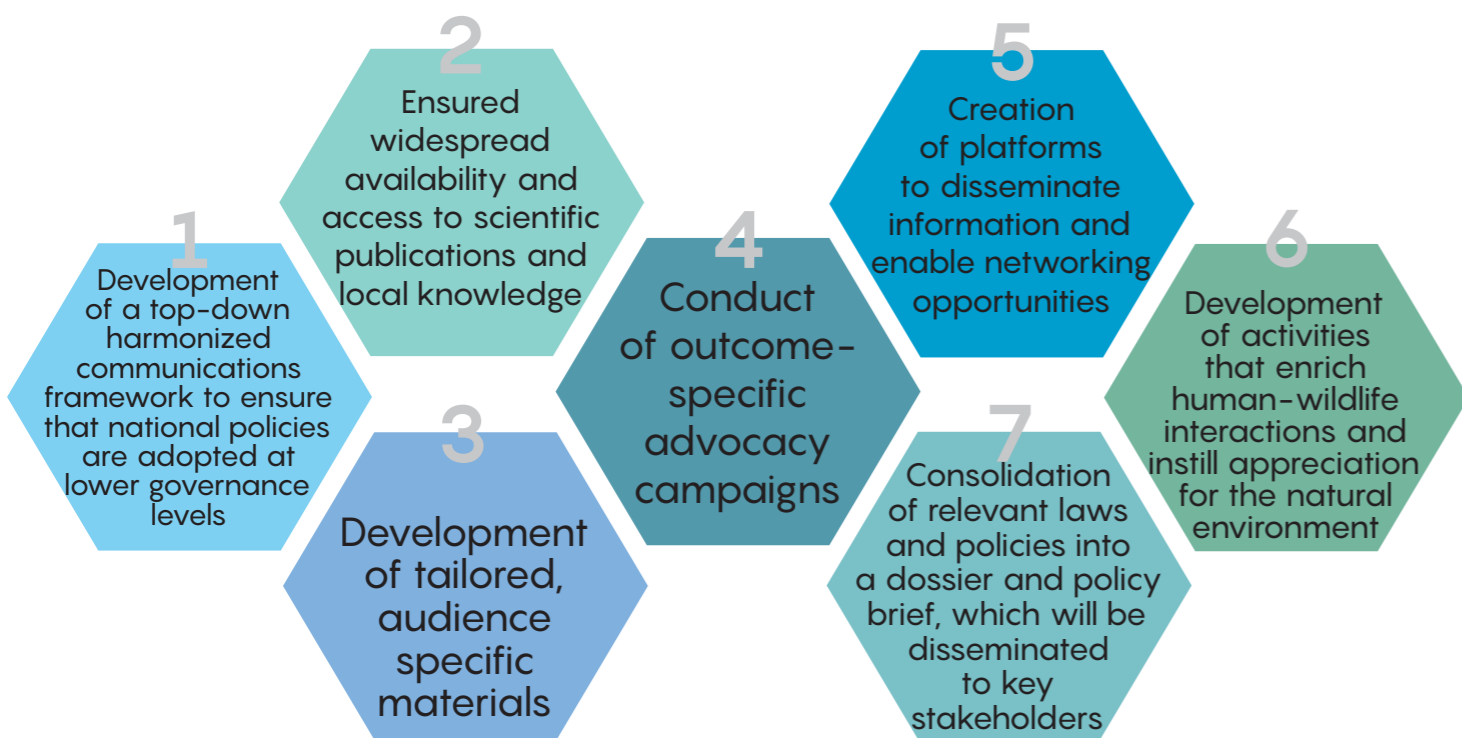
PCSD Resolution 15-521: list of threatened terrestrial & marine wildlife updated in Palawan

## REACHING OUT

Communication

Awareness on sharks remains low. While there have been initiatives for local and national campaigns, reach has been limited to a small percentage of social media users who were likely already interested in marine life; coastal communities where environmental projects have been ongoing; and government units and agencies directly affected by shark fisheries. The potential effect of communication campaigns has yet to be fully realized.

By 2020, all stakeholders, especially all those who benefit directly, can make informed decisions vis-à-vis sustainable use of sharks and mitigation of threats. Stakeholder awareness on shark conservation is improved through the:



By 2030, shark conservation is mainstreamed at all stakeholder levels such that this becomes integral to their agenda, e.g. awareness and conservation values are incorporated into education systems and biodiversity conservation integrated in development agenda.

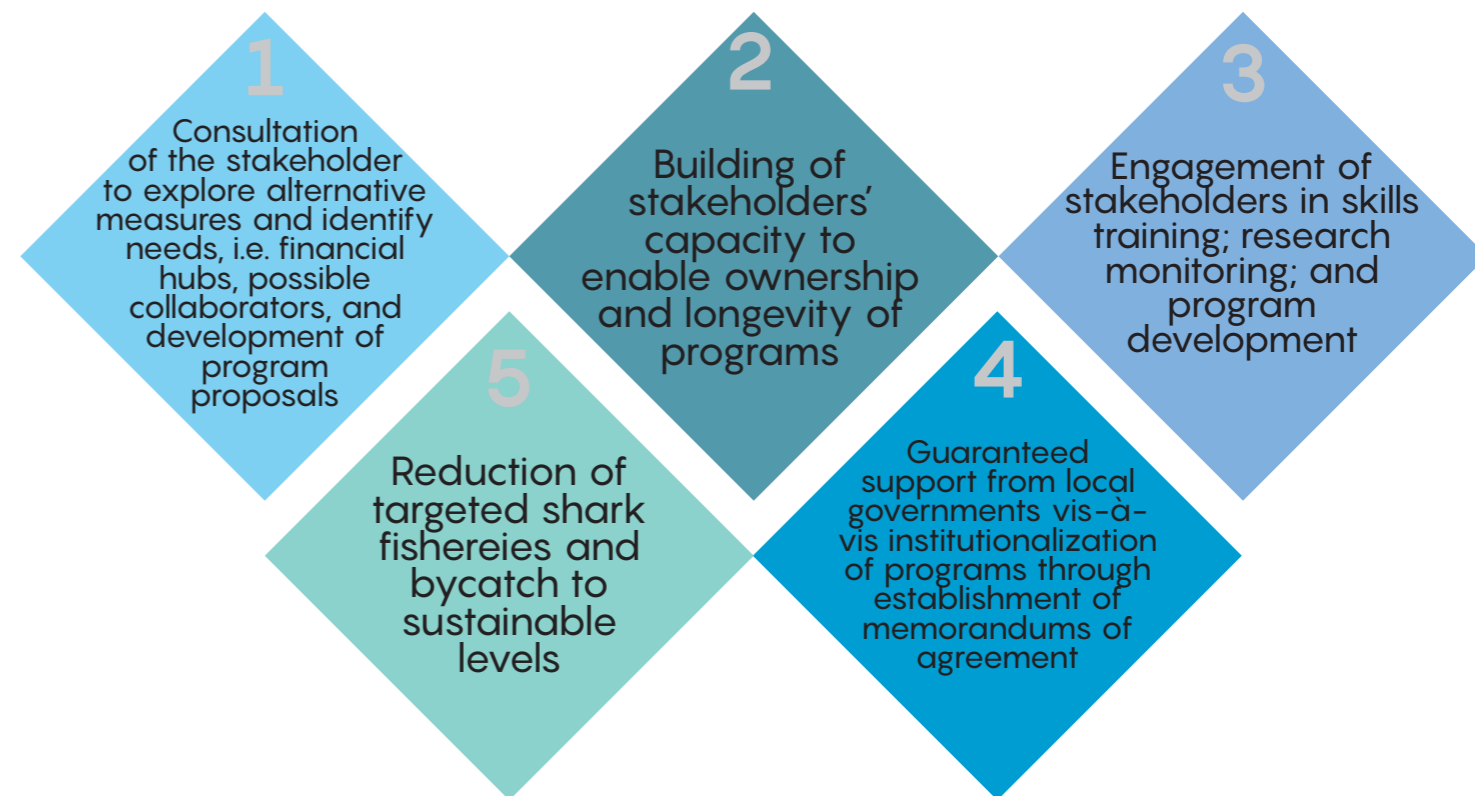
## EVERYONE HAS A ROLE

Community Engagement

The most challenging task in management is to mobilize and unite stakeholders for a common goal. Stakeholders must recognize that the identified institutions, organizations, agencies, and individuals all have an integral role in shark conservation.

Collaboration and cooperation between and among stakeholders will help ensure the successful implementation of the 2020 Conservation Roadmap for Sharks and rays in the Philippines.

By 2020, stakeholders who are dependent on shark fisheries have been identified, and mechanisms are established for their transition to sustainable fisheries or alternative livelihoods. These can be achieved through the:



By 2030, stakeholders and Local Government Units are proactive partners in ensuring that shark fisheries are at sustainable levels, and where necessary, the dependence on shark fisheries are minimized through equitable alternative economic opportunities.

Thresher sharks, mobula rays, and silky shark listed in CITES Appendix II



2nd Philippine Shark Summit held in Dumaguete



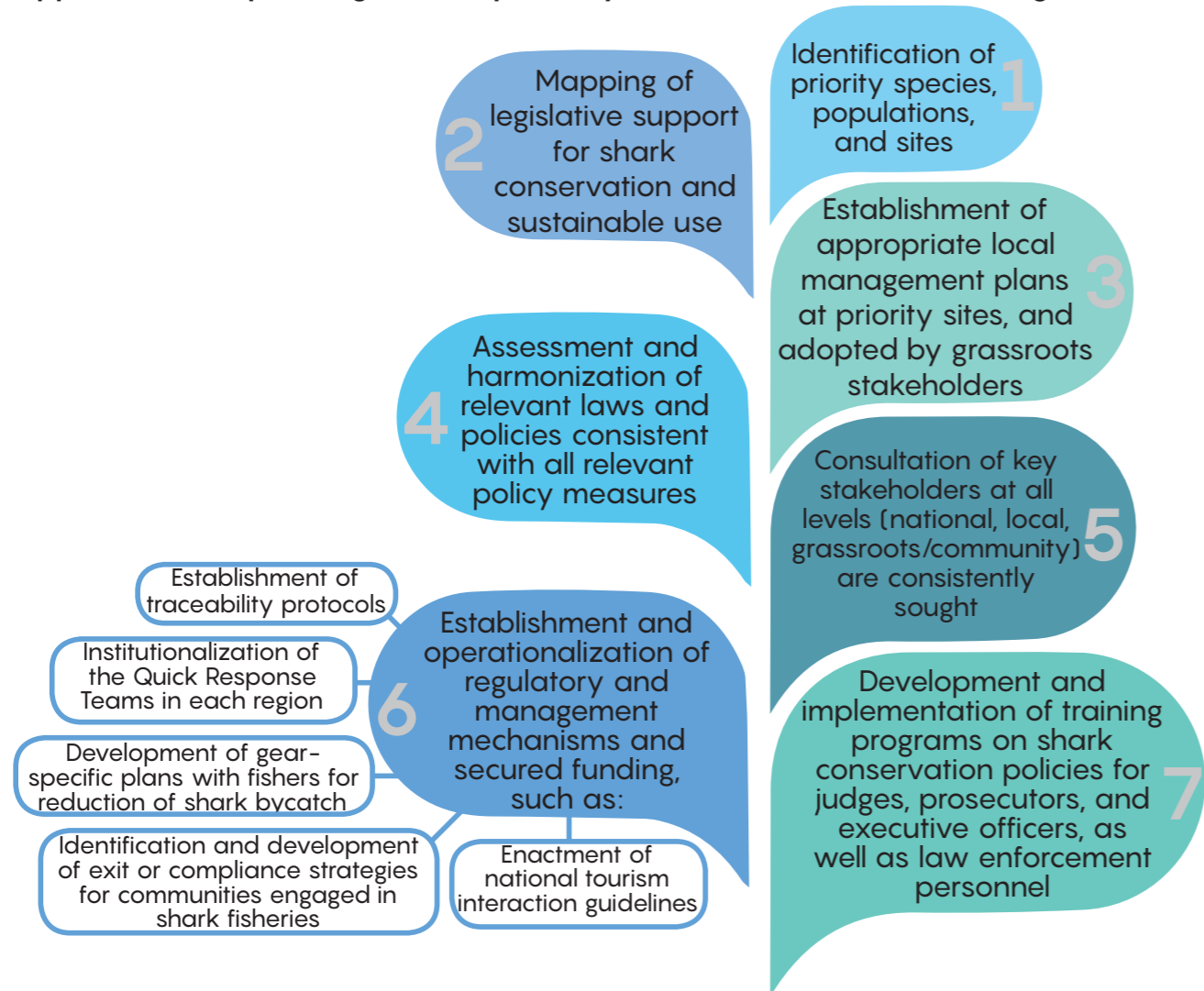
Proposed SB 905 & SB 1245: banning catching, sale, purchase, possession, transportation, importation, & exportation of all sharks & rays

## LEADING THE WAY

Governance

Although the Philippines has a multitude of fisheries and conservation laws, not all issues on shark conservation is addressed sufficiently. Filling in these gaps and harmonizing existing policies are essential. The right legal framework and government support will ensure implementation of laws leading to the success of the conservation efforts on sharks.

By 2020, government entities are equipped with scientific bases and local knowledge to make informed policies and programs that safeguard the conservation of sharks in the Philippines whilst upholding social equitability. These can be achieved through the:



By 2030, the national government recognizes the importance of sharks as a valuable marine resource, whereby shark conservation is mainstreamed into national agenda, effective partnerships with key stakeholders are pursued, and a comprehensive policy promoting the sustainable management and use of sharks is ratified.



Proposed Cebu City EO: banning catching, sale, purchase, possession, transportation, importation, & exportation of all sharks & rays



## CONCLUDING THOUGHTS



The current efforts and interventions from various government offices, stakeholders, and organizations around sharks is a clear indicator of an urgency to mitigate threats in order to allow our seas to recover from degradation and exploitation. This is the only way to ensure that nature's contribution to humans, in ecological services, is maintained.

It is time for Filipinos to step up by turning the Philippine seas into a habitat where shark populations and marine biodiversity could thrive. Conserving sharks is not an easy task. The combination of availability of scientific data, high awareness of the importance of marine biodiversity, participation of stakeholders, and the presence of progressive laws in the country will ensure that programs and interventions for shark conservation, as laid out in the 2020 Conservation Roadmap for Shark and Rays in the Philippines, is sustainable, equitable, implementable, and achievable within a certain period of time.

Philippine NPOA-Sharks updated



CITES Appendix II listing for mobula rays enters into force on 4 April



CITES Appendix II listing for thresher sharks enters into force on 4 October



Creation of the 2020 Conservation Roadmap for Sharks & Rays

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## LIST OF ACRONYMS

AO	Administrative Ordinance
BFAR	Bureau of Fisheries and Aquatic Resources
BMB	Biodiversity Management Bureau
CBD	Convention on Biological Diversity
CBCRM	Community-based Coastal Resources Management
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species
CMS MoU Sharks	Convention on Migratory Species Memorandum of Understanding
DA	Department of Agriculture
DENR	Department of Environment and Natural Resources
EO	Executive Order
FAO	Fisheries Administrative Order
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
HB	House Bill
IPOA Sharks	International Plan of Action for the Conservation and Management of Sharks
JAO	Joint Administrative Order
LGU	Local Government Unit
MO	Municipal Ordinance
NPOA Sharks	National Plan of Action for the Conservation and Management of Sharks
NDF	Non-Deteriment Finding
NSAP	National Stock Assessment Program
PBSAP	Philippine Biodiversity Strategy and Action Plan
PCSD	Palawan Council for Sustainable Development
PO	Provincial Ordinance
RA	Philippine Republic Act
SB	Senate Bill
SDG	Sustainable Development Goal
SG	Strategic Goal
UN FAO	United Nations Food and Agriculture Organization
USAID	United States Agency for International Development
WWF	World Wide Fund for Nature Philippines



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