CONVENTION ON MIGRATORY SPECIES

CONCERTED ACTION FOR THE WHALE SHARK *(Rhincodon typus)*

Adopted by the Conference of the Parties at its 12th Meeting (Manila, October 2017)

Proponent	Government of the Philippines
Target species, lower taxon or population, or group of taxa with needs in common	Class: Chondrichthyes Subclass: Elasmobranchii Order: Orectolobiformes Family: Rhincodontidae Genus: Rhincodon Species: *Rhincodon typus* Currently listed in CMS Appendix II; Proposed for CMS Appendix I.
Geographical range	The whale shark has a circumtropical distribution through all tropical and warm temperate seas, apart from the Mediterranean (Rowat and Brooks 2012). Their core distribution is between approximately 30°N and 35°S, with occasional seasonal penetration to the north and south (Colman 1997, Rowat and Brooks 2012, Sequeira et al. 2014a). The northernmost records are from 44°N in the Bay of Fundy, Canada (Turnbull and Randell 2006) and the Sea of Okhotsk off Japan (Tomita et al. 2014), with the southernmost from 37°S in Victoria, Australia (Wolfson 1986) and New Zealand (Duffy 2002). Whale shark distribution is likely to be temperature limited, as they are rarely sighted in surface temperatures of less than 21°C (Colman 1997, Duffy 2002, Afonso et al. 2014, Tomita et al. 2014). Areas where 500 or more individuals have been documented through either counts or model estimates include the Arabian Gulf and Gulf of Oman (Robinson et al. 2016), Ningaloo Reef in Western Australia (Meekan et al. 2006, Norman et al. In revision), Quintana Roo in México (de la Parra Venegas et al. 2011, Ramírez-Macías et al. 2012b), Inhambane province in Mozambique (Norman et al. In revision), the Philippines (Schleimer et al. 2015), around Mahé in the Seychelles (Rowat et al. 2009, 2011; Brooks et al. 2010), and Darwin Island in the Galapagos (Acuña-Marrero et al. 2014), although the latter population estimate refers to a steady flow of migrating sharks over a period of months rather than a bona fide aggregation. Most aggregation sites are seasonal, with whale sharks migrating on a predictable basis to exploit ephemeral prey sources.

	Evidence from fisheries catches indicates that the Gujarat coast of India (Akhilesh et al. 2012), Taiwan (Hsu et al. 2012) and southern China (Li et al. 2012) also had large numbers of whale sharks in the vicinity, at least prior to the initiation of targeted fisheries in those countries, with estimated catches from China of up to 1,000 individuals per year (Li et al. 2012).
	In the Indian Ocean, data from the tuna purse-seine fleet has identified the Mozambique Channel as having a high density of whale shark-associated sets (Sequeira et al. 2012). In the Atlantic and Pacific Oceans, whale shark sightings were correlated with effort (Harley et al. 2013, Sequeira et al. 2014b). Modelled habitat suitability was highest in the eastern Atlantic in the area off Gabon and surrounding countries (Sequeira et al. 2014b), while the Bismark and Solomon Seas have relatively frequent whale shark sightings within the Western and Central Pacific (Harley et al. 2013).
Activities and expected outcomes	The Philippines proposes the hosting of workshops with neighbouring countries to further research and conservation of the species, with expected outcomes being:
	1. Improved understanding of whale shark ecology, connectivity and threats.
	2. Unified basic tourism guidelines to limit negative impacts from tourism interactions with the species;
	3. Proposal to organizations and governments requesting a minimum number of onboard observers on commercial shipping lines & fishing vessels to improve reporting and thereby the understanding of threats to whale sharks (e.g. net entanglements, vessel collisions etc.);
	4. Increased awareness about the CMS Sharks MOU amongst Range States from the South East Asian region and increased membership to the Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU) by highlighting the benefits whale shark conservation brings to countries and communities, particularly ecological services.
	5. Ensure all Parties implement national legislation for the protection and effective management of whale sharks.
	6. Address climate change, ocean acidification, and plastic pollution of the seas as well as other global issues through whale shark conservation initiatives.
	Undertaking tagging and genetic studies on whale shark populations helps understand connectivity of populations and groups. This serves the purpose of obtaining more information on population structures and hotspots that can be protected.
	Whale shark tourism is managed through legislation in Australia, Belize, Ecuador (Galapagos Islands but not mainland), Mexico and St Helena Island (UK). In the Philippines, local ordinances exist regulating tourism activities, such as Donsol, Sorsogon and Pintuyan, Southern Leyte. Voluntary codes of conduct exist in many other tourism locations. The emergence of unsustainable tourism practices, such as interference with an individual, crowding, or provisioning, is an impact that needs to be regulated either through prohibitions or limiting/minimizing these activities. These threats should be monitored and guidelines developed to reduce the impact of tours,

	with more stringent regulation than voluntary codes of conduct. In addition, these tourism activities should be part of a wide campaign to raise awareness about whale sharks, including tourists, tourism operators and local people.
	The issues of net entanglements, vessel collisions, plastic pollution and other threats should be identified through monitoring and literature reviews, such that increased attention to the protection will lead to better guidelines, protocols, and critical areas identified and protected. Many CMS Parties have ongoing issues with vessel strikes on whale sharks (Pierce and Norman 2016), yet some do not currently have any protection in place.
	Improved surveillance and reporting on catch, bycatch, entanglement and collisions on commercial shipping lines and vessels through a minimum number of onboard observers will significantly improve our understanding of these threats and which is an important precondition for the development of better mitigation strategies of by-catch and injuries.
	As neighbouring countries (namely Malaysia Indonesia, China) of the Philippines are non-signatory to CMS and with whom some degree of connectivity has been established, a regional workshop with other Range States might increase the awareness of and the interest in CMS and the Sharks MOU across the region.
Associated benefits	The species would benefit from improved management and conservation efforts across its boundaries. As a side effect, Range State, that are not Parties to CMS yet would get actively involved in implementation. An effect of the latter could be increased interest of those countries to accede to CMS and to sign the CMS Sharks MOU. By Increasing the coverage of CMS it could bring about more homogenous protection for migratory species and a greater impact for the work of CMS.
	Ecotourism, like tourism in general is one of the fastest growing economic sectors in the world. Whale shark tourism, undertaken in a sustainable way, would significantly support local communities in remote areas and would create alternative livelihoods.
	Increasing the number of onboard observers could provide information and on not only whale sharks but other migratory species that may be the subject of bycatch or vessel strikes, such as many cetacean species. Additionally, onboard observers could monitor fisheries and fishing practices, to ensure sustainable management that would benefit the whole marine ecosystem.
Timeframe	See Annex
Relationship to other CMS actions	It is anticipated that the action point to provide unified basic tourism guidelines could cooperate and complement the COP Resolution on Sustainable Tourism also proposed by the Philippines at COP 12. Furthermore, discussions and actions could make use of the shark's MOU, of which the whale shark is a member, as a forum of discussion.
Conservation priority	A 2016 reassessment of the species' global conservation status for the IUCN Red List of Threatened Species classified the species as globally Endangered due to an overall population reduction of greater than or equal to 50%. In the Indo-Pacific, a population reduction of 63% is inferred over the last three generations (75 years), and in the Atlantic a population reduction of more than

	30% is inferred. Major contemporary threats to whale sharks include fisheries catches, bycatch in nets, and vessel strikes.
	International trade in whale sharks is still occurring, potentially illegally (Pierce and Norman 2016). Despite the species' listing on Appendix II of CITES, no research or management findings have been produced that support sustainable take at any level.
Relevance	The whale shark is currently listed on Appendix II of CMS and proposed for inclusion in Appendix I. The whale shark is also listed in Annex I of the CMS Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU). Collective action is essential for the conservation due to its highly migratory nature, with whale sharks on Annex I (Highly migratory species) on the United Nations Convention on the Law of the Sea (UNCLOS).
	There are multiple CMS Parties that are also whale shark Range States which do not have any protection currently in place for the species. Several of these countries are notable whale shark hotspots, including Madagascar (Jonahson and Harding 2007), Mozambique (Rohner et al. 2015), Tanzania (Rohner et al. 2015), Pakistan, Peru (Hearn et al. 2016), Gabon (Capietto et al. 2014), and Portugal (Afonso et al. 2014).
Absence of better remedies	Whale sharks are currently listed under Appendix II of CITIES, however this only covers the international trade of whale sharks and does not consider factors such as vessel strikes, tourism disturbance and bycatch – all key threats to whale sharks.
	Limited protection in the high seas is also limited for whale sharks. Whale sharks undergo cross ocean migrations and thus spend significant time in the high seas, where there are limited protection measures. Previously, tuna purse-seine fisheries often use whale sharks as indicators of tuna presence, even setting nets around the sharks (Capietto et al. 2014). Regional Fisheries Management Organisations (RFMOs) have banned the intentional setting of purse-seine nets around whale shark in the Eastern Pacific, Western Central Pacific (WCP) and Indian Oceans, though not yet in the Atlantic Ocean (Capietto et al. 2014, Fowler 2016a). However, a large proportion of entangled whale sharks (73% in WCP; SPC-OFP 2012) are not sighted prior to nets being deployed.
	The Sharks MOU, which also lists the whale shark in Annex 1, shall be invited to cooperate in the implementation of the proposed actions and to provide technical guidance as appropriate.
Readiness and feasibility	The whale shark is a charismatic species and one that can be a focus of conservation efforts. Their potential for attracting tourists has already been recognized and is raising the profile of the species. There are funding opportunities for conservation projects capitalizing on these charismatic species and how they can provide a focal point for conservation. Furthermore, the recent listing of whale sharks as an endangered species identifies whale sharks as a priority for conservation funding. Whale shark conservation has proven successful at generating funding from major funding sources, including Pew Foundation, Whitley Fund for Nature, Rufford Small Grants for Nature Conservation and PADI Foundation.

	Leadership can be provided by the Philippines, and potential Kenya. There is a wide base of support and impetus for whale shark conservation action with a multitude of Parties co-proposing whale sharks to be included on Appendix I of CMS, in addition to its current listing on Appendix II.
Likelihood of success	The feasibility of the actions is supported by good government ownership from the Philippines and a base of support from various other Range States. Individual nation states have found success with localized conservation efforts, especially with the introduction of tourism based activities. Management measures have already proven effective in protecting whale sharks from fishing pressure and secured protected habitats. For instance, Donsol in Sorsogon, Philippines has been declared a shark sanctuary and has a flourishing whale shark interaction tourism industry based upon the whale sharks. Tourism has proven it can be a positive driver towards environmental protection while also bringing economic benefits to local communities. This model is highly replicable in other Range States. Risk factors include poor leadership, lack of technical support from scientists, or unsuccessful fundraising. Within the ecological study of whale sharks there are currently uncertainties including the distribution of mature whale sharks and reproductive biology. However, applying the precautionary principle, this makes the case for effective conservation efforts all the more pertinent; while the resolve to study these uncertainties (e.g. by increasing onboard observers) could inform future conservation efforts. Many NGOs are already cooperating to provide increased conservation and research opportunities, such as the partnership between Georgia Aquarium and Conservation International. Additionally, organizations and individuals from across the globe input their photos into the Wildbook for Whale Sharks online. The International Whale Shark Conference also meets to discuss matters of whale shark conservation and research every three years.
Magnitude of likely impact	It is anticipated that these Concerted Actions can improve the management of whale shark practices, with a greater degree of protection for whale sharks across their geographic range by ensuring all CMS Parties are engaged in this protection. Simultaneously, it can press for a greater consideration of whale shark conservation in the high seas by working together with RMFOs. Tourism is a fast-growing industry and whale sharks are becoming increasingly recognizable. It is expected that the demand for whale shark tourism will rise around the globe, both acting as a threat and an opportunity. If utilized positively it can assist in the management of the species and raise awareness. If CMS can provide effective guidelines then it can ensure this practice is sustainable and equitable for all, with a model replicable to other applicable species.
Cost-effectiveness	One of the key components of the concerted actions is to encourage cooperation between ranges states, the sharing of information and effective strategies. CMS could provide the forum for this without incurring especially high costs. If conservation successes can be replicated and best practices (such as tourism guidelines) established, this collaboration will prove vastly more cost-effective than for countries to forge their own path individually.

References	Acuña-Marrero. D., Jiménez, J., Smith, F., Doherty, P.F., Jr., Hearn, A., Green, J.R., Parades-Jarrin, J. and Salinas-de-Leon, P. 2014. Whale shark (*Rhincodon typus*) seasonal presence, residence time and habitat use at Darwin Island, Galapagos Marine Reserve. PLoS ONE 9: e102060. <u>Web link</u>.
	Afonso, P., McGinty, N. and Machete, M. 2014. Dynamics of whale shark occurrence at their fringe oceanic habitat. PloS ONE 9: e102060. <u>Web link</u>.
	Akhilesh, K.V., Shanis, C.P.R., White, W.T., Manjebrayakath, H., Bineesh, K.K., Ganga, U., Abdussamad, E.M., Gopalakrishnan, A. and Pillai, N.G.K. 2012. Landings of whale sharks *Rhincodon typus* Smith, 1828 in Indian waters since protection in 2001 through the Indian Wildlife (Protection) Act, 1972. Environmental Biology of Fishes 96: 713-722. <u>Web link</u>.
	Brooks, K., Rowat, D., Pierce, S.J., Jouannet, D. and Vely, M. 2010. Seeing spots: photo-identification as a regional tool for whale shark identification. Western Indian Ocean Journal of Marine Science 2: 185-194. <u>Web link</u>.
	Capietto, A., Escalle, L., Chavance, P., Dubroca, L., Delgado de Molina, A., Murua, H., Floch, L., Damiano, A., Rowat, D and Merigot, B. 2014. Mortality of marine megafauna induced by fisheries: Insights from the whale shark, the world's largest fish. Biological Conservation 174: 147-151. <u>Web link</u>.
	Colman, J. 1997. A review of the biology and ecology of the whale shark. Journal of Fish Biology 51: 1219-1234. <u>Web link</u>.
	De la Parra Venegas, R., Hueter, R., González Cano, J., Tyminski, J., Gregorio Remolina, J., Maslanka, M., Ormos, A., Weigt, L., Carlson, B. and Dove, A. 2011. An unprecedented aggregation of whale sharks, *Rhincodon typus*, in Mexican coastal waters of the Caribbean Sea. PloS One 6: e18994. <u>Web link</u>.
	Duffy, C.A.J. 2002. Distribution, seasonality, lengths, and feeding behaviour of whale sharks (*Rhincodon typus*) observed in New Zealand waters. New Zealand Journal of Marine and Freshwater Research 36: 565-570. <u>Web link</u>.
	Fowler, S. 2016a. Gap analysis of activities for the conservation of species listed in Annex 1 under relevant fisheries related bodies. Memorandum of Understanding on the Conservation of Migratory Sharks. <u>Web link</u>.
	Harley, S., Williams, P. and Rice, J. 2013. Spatial and temporal distribution of whale sharks in the western and central Pacific Ocean based on observer data and other data sources. Western and Central Pacific Fisheries Commission, Pohnpei. <u>Web link</u>.
	Hearn, A.R., Green, J., Román, M.H., Acuña-Marrero, D., Espinoza, E. and Klimley, A.P. 2016. Adult female whale sharks make long-distance movements past Darwin Island (Galapagos, Ecuador) in the Eastern Tropical Pacific. Marine Biology 163: 214. <u>Web link</u>.
	Hsu, H.H., Joung, S.J. and Liu, K. 2012. Fisheries, management and conservation of the whale shark *Rhincodon typus* in Taiwan. Journal of Fish Biology 80: 1595-1607. <u>Web link</u>.
	Li, W., Wang, Y. and Norman, B. 2012. A preliminary survey of whale shark *Rhincodon typus* catch and trade in China: an emerging crisis. Journal of Fish Biology 80: 1608-1618. <u>Web link</u>.
	Meekan, M.G., Bradshaw, C.J.A., Press, M., Mclean, C., Richards, A., Quasnichka, S. and Taylor, J.G. Population size and structure of whale sharks *Rhincodon typus* at Ningaloo Reef, Western Australia. Marine Ecology Progress Series 319: 275-285. <u>Web link</u>.
	Norman, B.M., Holmberg, J.A., Arzoumanian, Z., Reynolds, S., Wilson, R.P., Gleiss, A.C., Rob, D., Pierce, S.J., de la Parra, R., Galvan, B., Ramirez-

Macias, D., Robinson, D., Fox, S., Graham, R., Rowat, D., Potenski, M., Levine, M., Mckinney, J.A., Hoffmayer, E., Dove, A., Hueter, R., Ponzo, A., Araujo, G., Aca, E., David, D., Rees, R., Duncan, A., Rohner, C.A., Hearn, A., Acuna, D., Berumen, M.L., Vazquez, A., Green, J., Bach, S.S., Schmidt, J.V. and Morgan, D.L. In revision. Understanding constellations: 'citizen scientists' elucidate the global biology of a threatened marine mega-vertebrate. Bioscience.

Pierce, S.J. and Norman, B. 2016. *Rhincodon typus*. The IUCN Red List of Threatened Species 2016: e-T19488A2365291. Web link.

Ramírez-Macías, D., Meekan, M., de la Parra-Venegas, R., Remolina-Suárez, F., Trigo-Mendoza, M. and Vázquez-Juárez, R. 2012b. Patterns in composition, abundance and scarring of whale sharks *Rhincodon typus* near Holbox Island, Mexico. Journal of Fish Biology 80: 1401-1416. Web link.

Robinson, D.P., Jaidah, M.Y., Bach, S., Lee, K., Jabado, R.W., Rohner, R.A., March, A., Caprodossi, S., Henderson, A.C., Mair, J.M., Ormond, R. and Pierce, S.J. 2016. Population structure, abundance and movement of whale sharks in the Arabian Gulf and Gulf of Oman. PloS ONE. Web link.

Rohner, C.A., Richardson, A.J., Prebble, C.E.M., Marshall, A.D., Bennett, M.B., Weeks, S.J., Cliff, G., Wintner, S.P. and Pierce, S.J. 2015. Laser photogrammetry improves size and demographic estimates for whale sharks. PeerJ 3: e886. Web link.

Rowat, D. and Brooks, K.S. 2012. A review of the biology, fisheries and conservation of the whale shark *Rhincodon typus*. Journal of Fish Biology 80: 1019-1056. Web link.

Rowat, D., Brooks, K., March, A., McCarten, C., Jouannet, D., Riley, L., Jeffreys, G., Perri, M., Vely, M. and Pardigon, B. 2011. Long-term membership of whale sharks (*Rhincodon typus*) in coastal aggregations in Seychelles and Djibouti. Marine and Freshwater Research 62: 621-627. Web link.

Schleimer, A., Araujo, G., Penketh, L., Heath, A., McCoy, E., Labaja, J., Lucey, A. and Ponzo, A. 2015. Learning from a provisioning site: code of conduct compliance and behaviour of whale sharks in Oslob, Cebu, Philippines. PeerJ 3: e1452. Web link.

Sequeira, A.M.M., Mellin, C., Fordham, D.A., Meekan, M.G. and Bradshaw, C.J.A. 2014a. Predicting current and future global distributions of whale sharks. Global Change Biology 20: 778-789. Web link.

Sequeira, A.M.M., Mellin, C. and Floch, L. 2014b. Inter-ocean asynchrony in whale shark occurrence patterns. Journal of Experimental Marine Biology and Ecology 450: 21-29. DOI: 10.1016/j/jembe.2013.10.019. Web link.

Tomita, T., Kawai, T., Matsubara, H. and Kobayashi, M. 2014. Northernmost record of a whale shark *Rhincodon typus* from the Sea of Okhotsk. Journal of Fish Biology 84: 243-246. Web link.

Turnbull, S.D. and Randell, J.E. 2006. Rare occurrence of a *Rhincodon typus* (whale shark) in the Bay of Fundy, Canada. Northeastern Naturalist 13: 57-58. Web link.

Wolfson, F.W. 1986. Occurrences of the whale shark, *Rhincodon typus*, Smith. In: T. Uyeno, R. Arai, T. Taniuchi and K. Matsuura (eds), Indo-Pacific Fish Biology. Proceedings of the Second International Conference on Indo-Pacific Fishes, pp. 208–226. Ichthyological Society of Tokyo, Tokyo, Japan.

Annex: Planned Activities, Outputs and Outcomes, Timeframe, Responsible Entities for Implementation, Funding Requirements

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
1. Research and Monitoring				
1.1: Investigate (through research, including satellite tagging and genetic studies) the connectivity of local populations and migrations.	− Global population genetic identities determined − Monitoring trends in population abundance − Critical areas used identified − Migratory routes identified − Identify Priority areas for conservation (PAC)	2020	a. Global Population Genetics (Marine Megafauna Foundation, Shark Research Institute, LAMAVE) b. Philippines Genetics (NFRDI) c. Philippines Population monitoring (BFAR-LAMAVE) d. Hotspot identification in Philippines (NFRDI-WWF-LAMAVE) e. South East Asia telemetry work (LAMAVE) f. Identification of PAC: CMS Range Parties	a. $100K b. $40K c. $50k/year e. $100k
1.2: Collect information on the scale of bycatch and fisheries interaction to assess the level of impact this has on whale sharks and any potential mitigation strategies.	− Bycatch incidence and mortality rates determined − Reduced risk of bycatch of whale sharks − Release protocols for live animals from by-catch developed and operationalized	2020	CMS Range Parties	
1.3: Investigate locations and conditions in which pollution (such as discarded fishing gear, noise, plastics etc.) may be affecting whale shark populations.	− Pollution monitoring schemes in whale shark critical habitats established	2020	Microplastic impact in Philippines (LAMAVE, MMF Indonesia)	$25K

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
1.4: Assess the impacts of climate change on whale sharks.	− Baseline information on whale shark determined (population, distribution, migration, critical habitats, life history) (attention should be focus on climate change impact on prey distribution and ocean currents) − Changes in baseline information monitored	2020	CMS Range Parties	
1.5: Protect critical whale shark habitats (e.g. feeding or mating habitats) and migratory routes.	− Established network of MPAs for whale shark habitats and migration routes	2020	CMS Range Parties	
2. Unified Tourism Guidelines				
2.1: Identify potential threats to whale sharks from tourism activities.	− Monitoring system in tourism sites established	<1 year	Philippines Ongoing (LAMAVE)	
2.2: Collate and share good practice from countries with established whale shark tourism.	− Protocols for responsible whale shark tourism interaction established	<6 months	Philippines (Department of Tourism)	
2.3: Encourage licensing and regulation of whale shark tourism interaction tour operators.	− Tourism interaction regulated	<1 year	Philippines (Department of Tourism)	
2.4: Develop unified tourism guidelines to limit impacts on whale sharks and provide a code of conduct.	− Protocols for whale shark tourism interaction established	<1 year	Philippines (Department of Tourism) Worldwide (LAMAVE-MMF-Manta Trust)	$10K

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
2.5: Ensure socio-economic benefits of whale shark tourism includes the local community.	– Involved local communities in the development, operations, and management of whale shark tourism	Ongoing	Philippines (WWF-Philippines; LGU Donsol)	As required on a case-by-case basis.
2.6: Develop appropriate education and awareness tools, incorporating scientific and traditional knowledge for a range of different stakeholders.	– Increased awareness and appreciation of whale shark	<6 months	Philippines (WWF-Philippines, MWWP, LAMAVE)	As required on a case-by-case basis.
2.7: Capacity-building of Government agencies and local communities to deliver educational campaigns.	– Management authorities and local communities capacitated to promote whale shark conservation and tourism	2020	Philippines – Local communities (NGOs)	As required on a case-by-case basis.
2.8: Ensure clear communication and stakeholder engagement with local communities that may be affected by conservation efforts and mitigate any negative impacts.	– Involved local communities in the development, operations, and management of whale shark tourism	2020	Check this is a CA	
3. Increase onboard observers				
3.1: Coordinate with RMFOs to encourage the sharing of information and streamlining of conservation efforts.	– RMFOs have instituted whale shark conservation measures	<6 months	Philippines (RFMOs – BFAR through WCPFC and ICCAT) Sea Shepherd Legal	
3.2: Proposal of minimum onboard observers on commercial shipping lines & fishing vessels to gain	– Assessed effect of bycatch and fisheries	<1 year	Philippines (BFAR w/funding needed)	As required on a case-by-case basis.

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
more information on vessel strikes, bycatch and fisheries interactions.	interaction on whale shark populations			
3.3: Collate information on the scale of bycatch and fisheries interaction to assess the level of impact this has on whale sharks and any potential mitigation strategies.	– Assessed effect of bycatch and fisheries interaction on whale shark population.	2020	Philippines (BFAR-NFRDI)	$40K
4. Engage non-CMS Range States				
4.1: Engage non-CMS Parties in the conversation to protect whale sharks and encourage their integration.	– non-CMS range states become signatories	<1 year	Philippines (through Coral Triangle Initiative / ASEAN/ACB/SEAFDEC) Sea Shepherd Legal	As required on a case by case basis.
4.2: Arrange a regional workshop to encourage cooperation and increase awareness.	– Cooperation among Range States instituted	<1 year	Philippines (ACB/SEAFDEC) Sea Shepherd Legal	As required on a case by case basis.
5. Legislation, Policy and Management				
5.1: Identify inconsistencies in the level of protection ensured by different Range States.	– Improved whale shark legislation in Range States	6 months	Sea Shepherd Legal CMS Range Parties	
5.2: Encourage all Range States to implement a ban on all targeted fishing of whale sharks.	– Full protection of whale sharks in all Range States	<1 year	Sea Shepherd Legal CMS Range Parties	
5.3: Encourage all Range States to develop action plans for the conservation of whale sharks.	– National whale shark conservation action plans in Range States developed and implemented	<1 year	South East Asia – Regional Plan of Action for Whale Shark (SEAFDEC/ASEAN) Sea Shepherd Legal CMS Range Parties	As required on a case by case basis.

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
5.4: Strengthen existing policies and legislation, develop new legislation where necessary, for the effective conservation of whale sharks, including measures to protect key habitats and alleviate threats	− Improved whale shark legislation in Range States	2020	Sea Shepherd Legal CMS Range Parties	
5.5: Ensure enforcement capacity for the implementation of national protection regulations.	− Laws related to whale shark protection enforced effectively	2020	Sea Shepherd Legal CMS Range Parties	
5.6: Encourage the development of regional action plans to foster cooperation between Range States with connected populations.	− Regional conservation action plans developed and implemented	2020	South East Asia (SEAFDEC) Sea Shepherd Legal	
5.7: Develop management plans for marine sanctuaries, MPAs and other ecosystem-based protection measures that include whale sharks.	− Whale shark conservation integrated in relevant MPA and other management plans −	2020	Sea Shepherd Legal CMS Range Parties	
5.8: Ensure all RMFOs ban the setting of purse seine nets around whale sharks.	− Purse seine bycatch minimized or eliminated	2018 - 2020	Sea Shepherd Legal CMS Range Parties	
6. Address External Threats				
6.1: Encourage climate change mitigation strategies and awareness.	− Participating countries active in climate change mitigation measures (e.g. Paris Agreement)	2020	CMS Range Parties	

Activity	Outputs / Outcomes	Timeframe	Responsibility	Funding/Support
6.2: Encourage enhanced waste management at small and large scales to reduce marine debris entering the oceans.	– Critical habitats benefit from waste management programs which includes solid waste and fishing net discards	2020	CMS Range Parties	