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RECREATIONAL IN-WATER INTERACTION WITH AQUATIC MAMMALS

*(Prepared by the Aquatic Mammals Working Group of the Scientific Council
and the Secretariat)*

Summary:

As requested by the First Meeting of the Sessional Committee of the Scientific Council, the Aquatic Mammals Working Group has developed a briefing document and related draft resolution and decision on the impacts of tourist or recreational activities involving in-water human interaction with aquatic mammals.

Implementation of this resolution and decision will contribute towards the implementation of targets 5, 7 and 10 of the Strategic Plan for Migratory Species 2015 – 2023.

RECREATIONAL IN-WATER INTERACTION WITH AQUATIC MAMMALS

1. At its First Meeting, the Sessional Committee of the Scientific Council requested the Aquatic Mammals Working Group to provide a briefing paper on the impacts of recreational in-water interaction with aquatic mammals, often called “swim-with” activities, to the Second Meeting of the Sessional Committee of the Scientific Council and to make recommendations to the Twelfth Meeting of the Conference of the Parties on how CMS could address this growing concern.
2. Accordingly, under the leadership of the Appointed Councillor for Aquatic Mammals, the report contained in Annex 1 to this document was developed (the full report with all references and tables attached is available as UNEP/CMS/COP12/Inf.13). The report was developed as a collaborative effort by members of the Aquatic Mammals Working Group and external contributors and reviewers from both within and outside the CMS Family. A draft was presented for input by the Aquatic Mammals Working Group on the CMS Scientific Council Workspace. The draft Resolution contained in Annex 2, and the draft Decision in Annex 3, are based on the recommendations made in the report.

Relationship to UNEP/CMS/COP12/Doc.24.4.5

3. A closely related document, focusing on boat-based marine wildlife watching, is being presented by the Secretariat as UNEP/CMS/COP12/Doc.24.4.5. It proposes guidelines relating to sirenians, pinnipeds, elasmobranchs, seabirds and marine turtles, which in their current form do not cover in-water activities.
4. However, often boat-based wildlife watching activities are undertaken concurrently with in-water activities, such as swimming or diving with the animals. Comprehensive guidance to Parties should therefore ideally cover all aspects. Also, species other than aquatic mammals, such as sharks, are also the target of swim- or dive-with activities. There may be merit in broadening the scope and ensuring all species groups listed on CMS and all relevant activities are fully covered by the guidelines to be developed.
5. Depending on the guidance from the Scientific Council and Conference of the Parties, the work streams related to in-water tourist interactions such as swimming or diving with animals and boat-based wildlife watching may usefully be combined in the coming intersessional period.

Recommended actions

6. The Conference of the Parties is recommended to:
 - a) note the report contained in Annex 1 of this document;
 - b) adopt the draft Resolution contained in Annex 2;
 - c) adopt the Decisions contained in Annex 3.

ANNEX 1

**REPORT ON
RECREATIONAL IN-WATER INTERACTION WITH AQUATIC MAMMALS¹**

1. Recreational in-water interaction with aquatic mammals, often called “aquatic mammal swim-with” (AMSW) are tourism or recreational activities involving in-water human interaction with aquatic mammals. These occur in wild settings only. In-water interactions carried out in captive and semi-captive facilities (e.g. dolphinarium interaction programmes, dolphin-assisted therapy) or any other commercial activities (e.g. collection of ‘aquatic bushmeat’; CMS-AMWG 2016) are beyond the scope of this document.
2. In-water interactions with aquatic mammals (here after called ‘Aquatic Mammal Swim-with’ or AMSW) are a fast-growing phenomenon in many locations around the world and are likely to bring widespread disturbance to aquatic mammals in many different situations and habitats, with potentially serious conservation consequences. Many of the species affected by these interactions are species listed on CMS Appendices I and II (see Annex 2).
3. The term AMSW encompasses a broad range of practices that can be classified by the attributes of the marine mammal species or animals targeted and the nature of the in-water interaction. Typically, AMSW programmes are based on animals, or groups of animals, that are easily accessible (for example in coastal habitats), predictable in their habits and distribution (e.g. resident, or seasonal), non-elusive in behaviour, non-aggressive, and found in areas normally safe for swimmers. Most AMSW activities are focused on cetaceans, generally considered the most iconic marine mammal species (Curtin and Garrod 2008). Sirenians and pinnipeds are also popular in this regard, whereas AMSW involving sea otters and Polar Bears is likely to be unintentional. Activities are often labelled and commercially advertised as “swim-with”, followed by a descriptor of the species (e.g. “swim-with dolphins”, “swim-with whales”, “swim-with manatees”) or the species common name (“swim-with Dwarf Minke Whales”).
4. AMSW involves interactions with a specific individual, a group of individuals within a population, or a whole population. The interaction is influenced by the location of the in-water interaction and the availability of the animals to be approached; and are affected by individual, behavioural, and ecological features. Resting and milling groups, for instance, may be more easily approachable.
5. Some subsets of a species, population or group may be more frequently approached for AMSW activities than others (e.g. females in calving grounds may be targeted more often than male conspecifics) because of differences in the time and frequency of their occurrence in habitats that are favourable for AMSW. Individual animals also differ in their level of tolerance and seeking in-water interaction. Cetaceans involved in AMSW, for instance, are often classified as unhabituated, habituated, solitary sociable (or lone sociable), or food provisioned (Samuels et al. 2003).
6. In-water interactions take place both in shallow (coastal bays, inlets, or lagoons) and in deep open waters. In shore-based AMSW, swimmers enter the water from land, while platform-based AMSW involves the use of powered (e.g. rigid-hulled inflatable boats, or RIBs) or non-powered platforms (e.g. kayaks) to carry swimmers to the site of interaction. The in-water interaction usually requires the use of snorkelling equipment or scuba diving gear. During the interactions, swimmers may be allowed to swim freely, or their movements might be assisted or restricted in various ways, including motorised underwater scooter or boom nets towed by vessels (Constantine 2001, Scarpaci et al. 2005).
7. AMSW activities can be either targeted or opportunistic (Parsons et al. 2006). Targeted activities specifically seek out known marine mammal habitats or areas of sufficient

¹ The full report with all references and tables attached is available as UNEP/CMS/COP12/Inf.13

abundance for commercial or recreational purposes, while opportunistic AMSW involves chance encounters as part of a marine tour or other in-water activity.

8. AMSW is regulated in different ways around the world. In some jurisdictions, AMSW is prohibited (e.g. in the Canary Islands, Argentina and South Africa). In the United States, it is allowed only with appropriate authorization. In other regions, it is legal, under a dedicated permitting scheme and the adoption of a code of conduct (e.g. in New Zealand, the Azores and Egypt). Management mechanisms can range from “command and control” schemes in which by-laws are enforced by responsible governmental authorities, voluntary adoption of semi-formal guidelines or codes of conduct, and informal information on responsible behaviour. In many regions, there is little consistency in approaches, and often management is *ad hoc* or missing altogether.
9. The popularity of swim-with dolphins and whales has resulted in a greater amount of social and ecological research, monitoring and assessment of AMSW on cetaceans compared to other taxa. While acknowledging that AMSW is not exclusive to cetacean species, this document is mainly based on the extensive cetacean literature and, when possible and relevant, generalizes its principles, processes and findings to all taxa.

The Evolution of Aquatic Mammal Swim-with and its Drivers

10. Human fascination with aquatic mammals can be traced back to historical times (Orams 1997), but rapidly and pervasively increased in the last few decades, with the emergence of marine mammal-oriented recreational activities.
11. Swimming with aquatic mammals is a lifelong ambition for many (British Broadcasting Corporation 2003) and the planned highlight of many holidays (Bulbeck 2005). AMSW satisfies the strong attraction people feel for aquatic mammals by providing an experience that has been associated with improved physical and spiritual wellbeing in the human participants (DeMares and Krycka 1998, Webb and Drummond 2001, Bentrupperbäumer 2005, Cloke and Perkins 2005, Curtin 2006).
12. The promoted benefits are not limited to the individual participant but can extend to the broader engaged communities and, in return, potentially to the affected aquatic mammal populations themselves. It has been emphasized that AMSW, as a form of non-consumptive wildlife-oriented activity, can a) generate beneficial socio-economic effects for local communities (O'Connor et al. 2009, Cisneros-Montemayor et al. 2010); b) enhance public awareness of species conservation (Orams et al. 2014); c) create incentive for stewardship and ownership of the living resources (Heenehan et al. 2015); d) promote scientific research and conservation opportunities; and e) offer a viable alternative to increasingly contentious extractive uses, e.g. whaling (Corkeron 2004). Where these outcomes are linked in a positive feedback loop, AMSW may ultimately work towards better conservation of wild species and their habitats, and be a valuable, profitable and desirable activity.
13. However, the shift from viewing of aquatic mammals at a distance to close, interactive encounters has generated major concerns (Spradlin et al. 2001a). Studies show that AMSW activities can affect the behavioural ecology of the targeted aquatic mammals (International Whaling Commission 2001b), and can have negative effects on populations. Hence, they should be more adequately conceptualized as sub-lethal but still consumptive in nature (Neves 2010, Higham et al. 2015). Nowadays, it is widely acknowledged that the potential for detrimental consequences of marine mammal-oriented tourism is substantial (Orams 2004), yet clear conclusive scientific evidence is lacking (Corkeron 2004) and sustainable management has not been achieved (Higham et al. 2009). For years, “the management of commercial swim-with-dolphin programmes... has proceeded without clear scientific guidance. As is the case with most aquatic mammal/human interactions, the demand and growth of this industry has significantly outstripped the ability of scientists to

develop and implement sufficiently sensitive tools that might provide some sound basis for management decisions” (Gales 1999, reported in Samuels et al. 2003). Indeed, there is uncertainty surrounding the scientific understanding of AMSW activities, and this may hamper attempts to manage the activity socially and ecologically.

Challenges in the monitoring, impact assessment and regulation of AMSW

14. A number of challenges in the monitoring, impact assessment and regulation of AMSW need to be addressed when assessing the effect of swim-with operations on aquatic mammal populations.
15. While the full scale of the AMSW phenomenon remains unknown, swimming-with cetaceans as part of a commercial tour has seen a dramatic increase in recent years (Hoyt 2000). Likewise, swim-with activities involving pinnipeds (Cowling et al. 2014) and sirenians (Marsh et al. 2002) have grown in popularity. The difficulties involved in chronicling all sites and situations (Samuels et al. 2003), and the fact that assessments are usually conducted on tours with some commercial basis (Garrod and Fennell 2004), strongly suggests that we are likely to be underestimating occurrence and intensity of AMSW. Furthermore, there is a bias in information towards areas with existing research efforts, regular enforcement or patrolling, international tourism, and a strong presence of media interest. At times and locations where these conditions are not met, AMSW activities may still occur, but remain undetected and not quantified.
16. At locations where research has attempted to describe the responses of wild animals to AMSW and watching activities in general, scholars have emphasized the difficulties of identifying impacts and drawing causal links between human pressures and impacts on targeted aquatic mammals. Natural (life history, migratory habits, individual features, phenomena of toleration, habituation and sensitization, etc.), methodological (e.g. study design, statistical approach), and anthropogenic factors (e.g. use of boats, other human activities) have been proposed as potential confounding effects. In most instances, the lack of control conditions and baseline data before the establishment of AMSW makes it challenging to describe behaviours that indicate disturbance and identify impacts associated with AMSW (Bejder and Samuels 2003, New et al. 2015). Even when control and baseline data are available, studies require long timeframes, posing additional challenges to researchers. Some scientists have, therefore, questioned the viability and value of deterministic approaches aiming to identify causal links between pressures and short-term behaviour responses, and recommended a decisive reconceptualization of impact study assessment thinking (Corkeron 2004, Higham et al. 2016, New et al. 2015), a shift in the burden of proof, and the wider adoption of a precautionary principle (Bejder et al. 2006) for the sustainable management of human-marine mammal interactions.
17. Current mismanagement of AMSW, however, cannot be ascribed solely to difficulties surrounding the assessment of impacts. As an emerging activity, AMSW's legal status depends on its association in existing national and international legal frameworks. As a consequence, regulatory issues arise in many countries where activities do not fit with existing complex marine regulations (Garrod and Fennell 2004) and instead fall in the grey area of “harassment” (Gjerdalen and Williams 2000). Further confusion arises from contradictory legislation and enforcement, for instance in countries where it is legal to swim with dolphins in captivity, but not in the wild; or where AMSW involving cetacean is banned, whereas it is tolerated with sirenians (Gales et al. 2003). Finally, difficulties in ensuring enforcement of mandatory regulations lead to non-compliance by both commercial and recreational participants (Kessler and Harcourt 2013), and voluntary guidelines have proven poorly effective (Allen et al. 2007).

Global extent of AMSW and relevance to CMS

18. To evaluate the scope of AMSW activities globally, a list of locations where aquatic mammal species are targeted has been collated. To provide a preliminary inventory of AMSW situations, instrumental to the aim of this document, we supplemented scientific literature with information extracted from websites, newspapers, local tour operators and researchers, and through a public call on the MARMAM Discussion List. As anticipated, the rapid expansion of the phenomenon and the difficulties in extracting recent, accurate and reliable information from literature and online sources were main challenges in chronicling all sites and occurrences (Samuels et al. 2003). The rapid growth of the phenomenon assured that the list we provide is bound to become obsolete at any point in time.
19. The inventory provided in Annex 2 includes, by macro-region, all species known to be involved to the authors' knowledge in AMSW; information on the species listing in the CMS Appendices is provided.
20. There are now at least 28 species of cetaceans (22 of which are listed in the CMS Appendices), 9 species of pinnipeds (2 listed in the CMS Appendices) and 2 species of sirenians (both CMS-listed) targeted by AMSW activities in at least 115 documented locations in the world (Figure 1 and, Annex 2). Although the number of species involved in AMSW activities is still comparable to that reported in previous assessments (Samuels et al. 2003; Rose et al. 2005), AMSW locations have almost doubled in the last 10-15 years and the number of commercial operators has increased substantially (e.g. Tyne et al. 2017). Additionally, each location may be visited by several operators at one time, depending on the local regulations, enforcement level, operator's compliance and season. We listed 260 commercial operators in this preliminary inventory, aware that many more exist and new ones arise on a frequent basis.
21. This following map gives a visual representation of the locations AMSW activities are known to occur. The location names are reported in Annex 2. Detail for each region is provided in the following paragraphs.

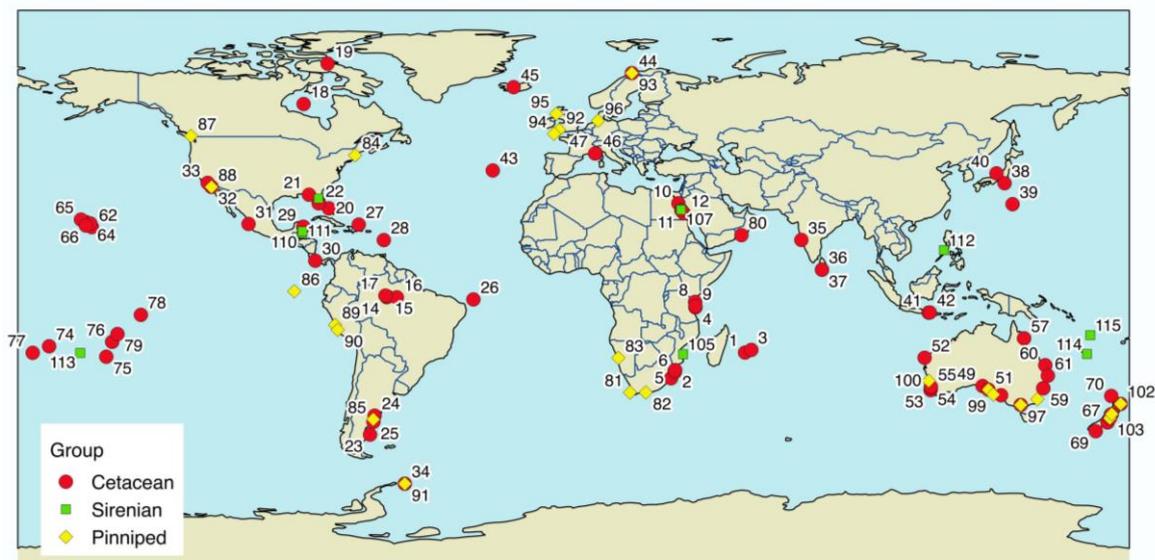


Figure 1. Locations AMSW activities are known to occur. Location names are reported in Annex 2: Table 1 of UNEP/CMS/COP12/Inf.13.

Africa

22. Several African countries in the southern hemisphere are involved in the AMSW phenomenon. Swim with Indo-Pacific Bottlenose Dolphins (*Tursiops aduncus*) trips take place in Mozambique (e.g. Ponta Do Ouro), in Zanzibar, in the United Republic of Tanzania (e.g. Kizimkazi), in Mauritius, and in Kenya (e.g. Wasini Island within the Kisite-Mpunguti

Marine National Park, where the Kenya Wildlife Service banned any SW dolphin activity and enforced a strict code of conduct). A national ban prohibits swimming with dolphins in South Africa, nonetheless some operators persist in national waters (e.g. in KwaZulu-Natal and Sodwana) and other operations, located in South Africa but fairly close to the border with Mozambique, explicitly promote on their websites swim-with dolphins tours that take the participants across the border into Mozambican waters, where no AMSW ban is in place. Although the impact of AMSW activities on the Indo-Pacific bottlenose dolphins in this region is largely unmonitored, behavioural changes in nursing females during in-water encounters off the south coast of Zanzibar were interpreted as indicators of disturbance (Stensland and Berggren 2007).

23. In southern Africa, other delphinid species targeted for AMSW activities include Common Bottlenose Dolphins (*Tursiops truncatus*) in Réunion Island, Spinner Dolphins (*Stenella longirostris*) in Mauritius and Réunion Island, and Indian Ocean Humpback Dolphins (*Sousa plumbea*) in Ponta do Ouro, Mozambique and Zanzibar. During the austral winter season, it is also possible to snorkel with Humpback Whales (*Megaptera novaeangliae*) in the Réunion Island, where a code of conduct that regulates all in-water encounters with cetaceans is in force.
24. To the authors' knowledge, the Atlantic African coast appears to only have AMSW activities targeting pinnipeds and specifically the Cape Fur Seal (*Arctocephalus pusillus*). Walvis Bay in Namibia, and Plettenberg Bay (within the Robberg Nature Reserve and Marine Protected Area) and Cape Town in South Africa are the best-known locations. In South Africa, AMSW targeting pinnipeds is a legal activity, as the swim-with ban applies to cetaceans only.
25. Among sirenians, the Dugong (*Dugong dugon*) may be opportunistically encountered in the waters of the Bazaruto Archipelago Marine National Park (Mozambique), a protected area specifically declared to safeguard dugongs (and marine turtles) and their habitats.
26. Along the Red Sea coasts, divers and snorkelers engage in in-water interaction with Spinner Dolphins, Indian Ocean Humpback Dolphins, Common and Indo-Pacific Bottlenose Dolphins and False Killer Whales (*Pseudorca crassidens*). The Egyptian waters of the Red Sea are well-known for hosting a significant, ever-increasing number of year-around AMSW operations. The highly predictable occurrence of Spinner and Indo-Pacific Bottlenose Dolphins in the Egyptian coastal areas has favoured the rapid development of AMSW industries focussing on these two species (O'Connor et al. 2009, Angela Ziltener, pers. comm.). Currently, whale-watching and swim-with Indo-Pacific Bottlenose Dolphin guidelines are used in the northern area (i.e. Hurghada and El-Gouna, reefs of Fanus, Shaab El Erg, Abu Nugar, Umm Gamar, Shadwan, Gubal Islands), spearheaded by the Dolphin Watch Alliance (an NGO) in cooperation with, and endorsed by, the Red Sea Governor and the Egyptian Environmental Affairs Agency - Nature Conservation Sector. However, the level of compliance displayed by the 50+ operators involved in the industry is still very limited (Angela Ziltener, pers. comm.), and many operations are still intensely intrusive, although an increase in awareness and responsible conduct is visible amongst a few of the operators (Sina Kreicker, pers. comm.). In the region of Marsa Alam, 30+ operators offer popular swim-with spinner dolphin trips and tours to Samadai and Satayah reefs. Tourism activities disrupt the natural behaviour of spinner dolphins (Fumagalli 2016), and effects can be aggravated by the lack of clear regulations and guidelines to mitigate and limit the invasiveness and pervasiveness of swim-with operations. The specially managed area of Samadai Reef represents the only exception having a time-area closure system to protect the core resting area of the dolphins since 2004 (Notarbartolo di Sciara et al. 2009). In-water encounters also occur with dugongs foraging on the seagrass habitat (e.g. in Marsa Mubarak, Egypt). In recent years, dugongs have been regularly harassed by swimmers and divers (Agnese Mancini, pers. comm.).

Americas

27. Across the macro-region of the Americas, which includes North, Central, South America and the Caribbean, AMSW is documented in at least 32 sites, where ten different species of cetaceans, five pinniped species and one sirenian species are targeted.
28. During the boreal summer, thousands of Beluga Whales (*Delphinapterus leucas*) congregate in the Arctic Canadian estuarine waters of Hudson Bay, an ideal place to moult, feed, give birth, and nurse young belugas, away from predatory dangers. This predictable migration pattern renders Belugas perfect candidates for swim-with tours, and at least five operators target them on a regular basis during the summer season. Narwhals (*Monodon monoceros*) are also targeted in Canadian waters (e.g. Bylot Island) although, to the authors' knowledge, only one operator offers opportunistic in-water encounters. The whale-watching guidelines recommended by the Department of Fisheries and Oceans and the Canadian Marine Mammal Regulations (MMR) prohibits the disturbance of marine mammals by any person². These regulations, however, do not expressly and effectively regulate in-water interactions. A proposed amendment in 2012 would have required boats to stay at least 50 metres away from Belugas in Hudson Bay and 100 metres away from cetaceans in other Canadian waters, among other propositions. The proposal was opposed by tour operators and, as per January 2017, has not been incorporated in the Regulations. Swim-with activities are however instead prohibited in the Saguenay-St. Lawrence Marine Park.
29. Although infrequent, AMSW also occurs in U.S. waters, despite the Marine Mammal Protection Act (MMPA), which prohibits feeding or harassing all marine mammal species.
30. At least two operators offer swim-with Blue Whales (*Balaenoptera musculus*) in California (Mission Bay, San Diego). Commercial and recreational swim-with Common Bottlenose Dolphins are documented in Florida (e.g. Panama City, Sarasota), and opportunistic in California (Fandel et al. 2015). Studies in Sarasota found that wild dolphin survival and, ultimately, population dynamics can be negatively affected by food provisioning (Christiansen et al. 2016). Although provisioning of wild dolphins does not necessarily coincide with swim-with, it often does.
31. Common Bottlenose Dolphins are targeted in Mexico (e.g. Puerto Vallarta, Sian Ka'an Biosphere Reserve), in Bimini (Bahamas) and Drake Bay (Costa Rica). In the Drake Bay swim-with activities also focus on False Killer Whales, Pantropical Spotted Dolphin (*Stenella attenuata*), spinner dolphins and humpback whales, despite the fact that Costa Rican law prohibits swimming or diving in the presence of cetaceans (Executive Order No. 32495/2005). In the Caribbean, swim-with Humpback Whales operations occur in Silver Bank (Dominican Republic), and swim-with Sperm Whales (*Physeter macrocephalus*) is reported in Dominica, where a code of conduct that discourages entering the water with marine mammals has been drafted. Atlantic Spotted Dolphins (*Stenella frontalis*) are targeted in Bimini (Bahamas), where commercial and recreational boaters swim with and touch, the dolphins³. Bahamian regulations enforced by the Department of Fisheries prohibit harassment and molesting of dolphins and highly discourage touching, riding or feeding. In-water interactions with food provisioned Amazon River Dolphins (*Inia geoffrensis*) occur in at least four locations in Brazil (e.g. Novo Airão, Acajatuba River, Tarumã-Mirim, Ariaú), despite several federal laws and decrees prohibiting intentional harassment and swim-with activities (Edict 117 of December 26, 1996. Articles 1 and 3, respectively) (De Sá Alves et al. 2012; Carlson 2012). In the National Marine Park of Fernando de Noronha Archipelago (Brazil), the Federal Decree No. 96693 (1998) has introduced a ban on swimming with Spinner Dolphins to prevent potential detrimental effects on dolphins resting in the bays. Nonetheless some opportunistic swim-with activities persist. In Peninsula Valdes, Chabut Province (Patagonia, Argentina), swim-with activities

² See <http://laws-lois.justice.gc.ca/eng/regulations/sor-93-56/>, Section 7

³ See <https://www.youtube.com/watch?v=RjrfqvCF2Q>

were prohibited in 1984 (provincial law No. 2381) and reiterated in 2008 (provincial law No. 5714; Chalcofsky et al. 2017). However, Rio Negro province legalized such activities in 2006, and southern right whales (*Eubalaena australis*) became the main target in San Matias Gulf (Cammareri and Vermeulen 2008). A study conducted in this area showed that the whale behaviour was altered by human approaches (Vermeulen et al. 2012), and an experiment performed at the Peninsula Valdes demonstrated that Southern Right Whales were significantly more likely to cease resting, socializing, or engaging in surface active behaviours and begin travelling when interacting with the boat and swimmers (Lundquist et al. 2013). In-water encounters in Patagonia may also opportunistically occur with Commerson's Dolphins (*Cephalorhynchus commersonii*) and Dusky Dolphins (*Lagenorhynchus obscurus*).

32. In North America the swim-with pinnipeds activities centre on Grey Seals (*Halichoerus grypus*) on the east coast (e.g. New Hampshire), Harbour Seals (*Phoca vitulina*) in California (San Diego) and in British Columbia (Vancouver Island) on the west coast, despite regulations in the U.S. (MMPA) and Canada (MMR) to prohibit the harassment and disturbance of marine mammals. Trans-boundary guidelines endorsed by the U.S. and Canada, known as "Be Whale Wise Regulations"⁴, apply in the waters of Washington state and southern British Columbia and prohibit swimming with marine mammals.
33. The Commission for the Supervision of Whale Watching forbids swimming with cetaceans in Ecuador. In the Galapagos National Park, it is possible to snorkel with the Galapagos Sea Lions (*Zalophus wollebaeki*). The Park rules require tourists to maintain a distance of at least two metres from wildlife to avoid disturbance but do not specifically address in-water encounters.
34. The South American Sea Lion (*Otaria byronia*) is targeted by swim-with tours in Peru (e.g. Isla Palomina, Callao; Islas Bellestas, Paracas) and in Argentina (Punta Loma Natural Reserve). Within Punta Loma Natural Reserve current regulations control the amount of time visitors spend in the water with the sea lions, generally lasting less than one hour.
35. In Florida, the public can engage in swim-with Florida Manatees (*Trichechus manatus latirostris*) in the Crystal River National Wildlife Refuge (Crystal River), created specifically to protect this species. The Florida manatee is protected by the U.S. MMPA and by the Florida Manatee Sanctuary Act, hence strict guidelines are in force within the Refuge. Compliance with these guidelines is of paramount importance as the literature suggests that in-water encounters trigger behavioural responses, such as an increased use of protected (no-entry) sanctuaries when the numbers of swimmers increased, and a decreased resting and nursing time (e.g. King and Heinen 2004).
36. The endangered Antillean Manatee (*Trichechus manatus manatus*) is sought after for swim-with activities in Belize (e.g. Caye Caulker Island) and Mexico (Xcalak, Quintana Roo). In Belize, the Antillean Manatee population appears to be declining, despite the legal protection granted under the Wildlife Protection Act and enforced by the Forest Department Wildlife Program (Quintana-Rizzo, E. & Reynolds, J. 2008). Also, AMSW activities used to be frequent also in Swallow Caye, and manatees stopped visiting the area. Local tour operators persuaded a local NGO to lead an effort to prohibit snorkelling with manatees in favour of boat observations. This site and almost 9,000 acres of adjacent seagrass and mangrove habitat were legislated as Swallow Caye Wildlife Sanctuary in 2002 (Quintana-Rizzo, E. & Reynolds, J. 2008).

Asia

37. The swim-with industry in the Indian Ocean appears to be disproportionately directed to one species and one country, the Blue Whale in Sri Lanka, particularly off Mirissa to the south. At least five operations target this species, despite Sri Lanka's regulations, in force since

⁴ See <http://www.bewhalewise.org>

2012, that forbid the public to swim with whales (Sea Mammals Observation, Regulation and Control Regulations, No. 1 of 2012), with the exception of divers in possession of a permit from the Department of Wildlife Conservation. This industry is generating serious concerns over the wellbeing and safety of both cetaceans (already listed as Endangered by the IUCN, Reilly et al. 2008) and human swimmers. The habitat off the south-west tip of the island, where the in-water encounters occur, coincides with one of the world's busiest shipping lanes; some operations allow children in the water "as long as they can swim", whereas usually a minimum of 12 years of age is required. In Sri Lankan waters, tour operators promote to a lesser extent swim-with activities with other species, including Sperm Whales, Bryde's Whales (*Balaenoptera edeni*), Short-finned Pilot Whales (*Globicephala macrorhynchus*), Orcas (*Orcinus orca*), False Killer Whales, as well as 'super-pods' of Spinner Dolphins and Striped Dolphins (*Stenella coeruleoalba*).

38. In the Arabian Sea, swim-with Indian Ocean Humpback Dolphins occur opportunistically in Goa (India) and new swim-with cetaceans trips are initiating in Taqah (Oman). Similarly, in South-east Asia, opportunistic in-water encounters may occur with the Dwarf Spinner Dolphins (*Stenella longirostris roseiventris*) in Bali (e.g. Lovina, Tejakula in Buleleng) (Putu Mustika, pers. comm.).
39. In Japanese waters, SW tours with Indo-Pacific Bottlenose Dolphins are offered on a regular basis in Mikura Island, where about 160 dolphins are exposed to more than 8,000 swimmers during summer months (Kogi et al. 2004), in the Ogasawara Islands, where at least ten operators promote such tours, and in Nanao Bay, Notojima. The Ogasawara Whale Watching Association adopted whale-watching voluntary guidelines that, to date, do not address in-water encounters.
40. In the Philippines, regulations prohibit swim-with cetaceans (Department of Agriculture and Department of Tourism joint administrative order no. 1: Guidelines to Govern the Conduct of People Interaction with Cetaceans) even though it is possible to snorkel and dive with dugongs in some locations (e.g. Busuanga) (Angeliko Tiongson, pers. comm.).

Europe

41. In the Mediterranean Sea and the Black Sea, AMSW commercial tours are uncommon, and in-water encounters are mostly opportunistic. The guidelines for commercial cetacean-watching activities in the ACCOBAMS⁵ area state that "Because of the risks to cetaceans and humans there should be a presumption against commercial programmes that include entering the water with the animals. Only under exceptional circumstances should such "swim-with" programmes be licensed" (ACCOBAMS 2004). Nevertheless, AMSW programmes occur in the French waters of the Pelagos Sanctuary and focus on various species, including Long-finned Pilot Whales (*Globicephala melas*), Risso's Dolphins (*Grampus griseus*), Striped Dolphins, Sperm Whales and Fin Whales (*Balaenoptera physalus*).
42. It has been illegal in the Canary Islands to swim with wild dolphins since 1996.
43. In the Azores, swim-with activities are prohibited with whales but are allowed with five species of dolphins: Common (*Delphinus delphis*), Atlantic Spotted, Common Bottlenose, Risso's and Striped Dolphins (Legislativa Regional dos Açores 1999. Decreto Legislativo Regional no. 9/99/A. 22-03-1999 - Whale Watching Regulations of the Azores). A model of "best practice" was developed in conjunction with the British company Dolphin Connection and adopted by the tour operators. At least six operators run AMSW tours in the area and during the high season (June-August) up to ten boats may target the same species, possibly even the same group (Barradell and Ritter 2007). Despite the regulations in force,

⁵ Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area

opportunistic swim-with activities involving Orcas, False Killer Whales, Long-finned Pilot Whales and Sperm Whales have been documented.

44. Commercial AMSW operations are offered in Northern Europe. In Norway, at least ten operators offer AMSW activities mostly directed at Orcas and Humpback Whales, occasionally Fin Whales. Small numbers of swimmers enter the water at one time. Guidelines exist, for example, those produced by Visit Trømso off northern Norway, that strongly discourage such activities (Mario Aquarone, pers. comm.). Studies on the impact of AMSW activities on cetaceans are scant in this area (Pagel et al. 2016). Humpback Whales are targeted by swim-with tours also in Iceland.
45. Snorkelling with Grey Seals occurs in England (e.g. Scilly Isles, Lundy Island) in Norway, in Germany (e.g. Heligoland), and in Scotland, where it is also possible to interact with harbour seals.

Oceania

46. Spinner Dolphins are probably the most frequently encountered cetacean species in the waters of the Pacific Islands Region. Swim-with spinner dolphin activities occur in coastal waters of the Hawaiian Islands⁶, in French Polynesia (e.g. Rangiroa) and Niue. In these locations, the dolphin-based tourism industry has been steadily growing over the past 30 years (Tyne et al. 2017). On Hawaii Island, for example, there are at least 28 tour operators that advertise in-water encounters with the small (Tyne et al. 2014; Tyne et al. 2016) and genetically isolated (Andrews et al, 2010) population of spinner dolphins, that is exposed to human activities 82.7 per cent of the time during the daytime (Tyne 2015) along the Kona Coast alone. About 20 more operators are active along the Waianae coast (O'ahu), in Maui and Kaua'i (Baird 2016). As resting spinner dolphins are less resilient to human disturbance than other cetaceans (Tyne et al. 2015; Tyne et al. 2017), an increasing body of scientific literature is voicing concerns over the occurrence of commercial and recreational AMSW activities in Hawaiian waters. In August 2016, the National Oceanic and Atmospheric Administration (NOAA) Fisheries proposed a ban on AMSW activities within two nautical miles from the shore of the main Hawaiian Islands (currently under revision). Furthermore, the Hawaii Island Spinner Dolphin resting habitats have been submitted to the IUCN Marine Mammal Protected Areas Task Force as candidate Important Marine Mammal Areas (IMMA). Also, in the Hawaiian offshore waters, AMSW activities with species besides spinner dolphins are seemingly expanding, particularly Short-finned Pilot Whales, False Killer Whales from the endangered main Hawaiian Islands population, and Sperm Whales (Robin Baird, pers. comm.).
47. The list of cetaceans targeted by AMSW operations in French Polynesia (e.g. Moorea, Marquesas Island, Rangiroa, Rurutu, Tahiti) also includes Common Bottlenose Dolphins, Melon-headed Whales (*Peponocephala electra*) and Humpback Whales. The Humpback Whale is the main targeted species in Niue and Tonga. In Niue, operators are recommended to follow the Guidelines for Interaction with Cetaceans (2005 review, Carlson 2012). In Tonga, at least 18 operators organize AMSW tours, and the Government of the Kingdom of Tonga published a set of strict and comprehensive rules to minimize the human interaction impacts (Kessler and Harcourt 2010).
48. In Australia, swim-with activities are permitted and regulated by the Australian national guidelines for whale and dolphin watching 2005 (incorporated into Federal legislation under the Environment Protection and Biodiversity Conservation Act Regulations 2000). These guidelines establish that "Only people operating under authorization [provided by the relevant state, territory or Australian Government agency] should deliberately swim or dive in the vicinity of a whale or dolphin". Moreover, "[authorised] commercial swim programs

⁶ Hawaii (USA) is here included in Oceania, categorized geopolitically according to the scheme for geographic sub-regions used by the United Nations.

should be accompanied by ongoing research to monitor whale and dolphin responses to swimmers”.

49. In Australia, there are at least 14 locations and at least 22 commercial operations that have been documented. Bottlenose Dolphins (*Tursiops* sp) are targeted by swim-with tours throughout the continent, particularly in New South Wales (Port Stephens, Nelson Bay, Byron Bay) and South Australia (Baird Bay); the “Burrnan Dolphin” (proposed as *Tursiops australis*) in Port Phillip Bay (Victoria); and the Indo-Pacific Bottlenose Dolphin in Western Australia (Bunbury, Mandurah and Rockingham). Swim-with Common Dolphins occur in South Australia (Adelaide) and New South Wales (Port Stephens, Nelson Bay), whereas in Queensland it is possible to snorkel with Dwarf Minke Whales (*Balaenoptera acutorostrata*) under the Great Barrier Reef Marine Park Authority regulations (Valentine et al. 2004). These whales voluntarily approach stationary vessels and remain nearby for hours, potentially resulting in elevated risks to swimmers due to the proximity of large animals, as well as to the whales due to boat strikes and/or entanglement with mermaid ropes (Mangott et al. 2011). In Fowlers Bay (South Australia) swim-with activities focus on Southern Right Whales. Newly initiated operations offer swim-with Humpback Whales tours in Harvey Bay (Queensland) and Ningaloo Reef (Western Australia), from 2015 and 2016 respectively. To date, eight commercial operators run swim-with Humpback Whale business in Ningaloo Reef.
50. In Australia, some of the commercial operations were scientifically scrutinized and results showed that cetacean behavioural responses to AMSW included, among others, avoidance to vessels and swimmers and decreased likelihood of bottlenose dolphins engaging in feeding behaviour, for example in Port Phillip Bay and Port Stephens (e.g. Samuels et al. 2003; Scarpaci et al. 2010).
51. In New Zealand, only operators possessing a permit can carry out commercial AMSW. In-water interactions with whales are not permitted, and swimming with dolphins is allowed, provided that groups targeted do not include calves and juveniles (New Zealand Marine Mammal Protection Regulations, 1992). At least four species are regularly targeted: Hector’s Dolphins (*Cephalorhynchus hectori*) in Akaroa, Marlborough Sound and only opportunistically in Porpoise Bay; Common Dolphins and Bottlenose Dolphins in Bay of Island, Bay of Plenty and Marlborough Sound; and Dusky Dolphins in Kaikoura and Marlborough Sound. Supplementing mandatory regulations with a voluntary code could mitigate, at least partially, human disturbances to the dolphins (e.g. reduced vessel traffic around the dolphins in Kaikoura) (Duprey et al. 2008). Studies on these species indicated that boat-based swimmer approaches are associated with short-term behavioural responses (e.g. interrupted feeding and rest, change of direction or speed, increased vocalization) and increased avoidance of swim-with tour vessels and swimmers over time, and that the approaching strategy adopted by the operators had a significant effect on dolphins response to swimmers (e.g. Constantine 2001; Constantine et al. 2004; Meissner et al. 2015).
52. Swimming with pinnipeds is also popular in Australian and New Zealand waters. In Australia, swim-with activities targeting the Australian Sea Lion (*Neophoca cinerea*) occur in Baird Bay and Port Lincoln, and swim-with tours for Cape Fur Seals in Port Phillip Heads Marine National Park.
53. New Zealand Fur Seals (*Arctocephalus forsteri*) are targeted by AMSW tours at least in three locations: Kaikoura, Queen Charlotte Sound and Bay of Plenty (Cowling et al. 2014).
54. In the South Pacific, divers and snorkelers may opportunistically encounter Dugongs in the Cook Islands, Vanuatu and New Caledonia (Helene Marsh and Claire Garrigue, pers. comm.).

Antarctica

55. Obvious logistical reasons hamper the proliferation of AMSW activities in the Antarctic region where, to the authors' knowledge, only one operator targets orcas and leopard seals (*Hydrurga leptonyx*) once a year. Nevertheless, tourism is on the rise in the Antarctic region (Bender et al. 2016) and current whale-watching guidelines (IAATO Marine Wildlife Watching Guidelines - Whales & Dolphins, Seals and Seabirds - For Vessel & Zodiac) do not address specifically SW activities.

Solitary sociable cetaceans

56. Encounters with solitary sociable cetaceans (i.e. those that mainly live in isolation from conspecifics and learn to interact with people) were not included in the inventory (see Lockyer 1990, Samuels et al. 2003, Simmonds and Stansfield 2007, Goodwin and Dodds 2008, Einfeld et al., 2010 and Simmonds 2011). Nevertheless, the occurrence of solitary sociable dolphins and whales seems to be a widespread phenomenon and, to date, at least 91 solitary sociable cetaceans have been identified (Goodwin and Dodds 2008) from 10 different species (mostly *Tursiops truncatus* and *T. aduncus*, but also *Stenella attenuata*, *Delphinapterus leucas*, *Sotalia fluviatilis*, *Grampus griseus*, *Orcinus orca*, *Monodon monoceros*, *Lagenorhynchus obscurus* and *Delphinus delphis*). Their unnatural inclination to seek human interactions often develops into a relationship that makes them more vulnerable to harm. Individual cetaceans become progressively tolerant of people's attempts to swim with them, eventually seeking sustained interactions with humans regularly. Habituated animals may become a tourist attraction and occasionally display misdirected aggressive behaviours towards humans (Wilke et al. 2005). As a result of their habituation to humans and human activities, many solitary sociable cetaceans have received life-threatening injuries, including entanglement in fishing gear, collision with boats or propellers (Samuels et al. 2003, Clarke 1999 and Einfeld et al. 2010). Human interactions also appear to disrupt the behaviour of the animals, particularly decreasing feeding and resting activities (Bloom et al. 1995, Einfeld et al. 2010). Additionally, solitary sociable dolphins have been intentionally killed by humans in at least four instances (Samuels et al. 2003). While these solitary sociable dolphins remain rare cases, there is clearly a potential link to swim-with activities, in that they encourage in-water interactions with wild dolphins and help to establish such interactions with wild animals as normal and safe for the animals and human participants, which is far from the truth.

Impact of "Swim-with" on aquatic mammal populations

57. The inventory presented in this document confirms that the AMSW phenomenon involves a large variety of species – some more likely to be targeted than others – and an equally large variety of situations and management strategies.
58. There is solid evidence that a large number of aquatic mammal species are sensitive to the disturbances caused by in-water interactions. Aquatic mammals can suffer direct physical impacts (e.g. collisions) and injuries (Samuels et al. 2003), with odontocetes exhibiting the highest degree of contact with humans generally at the greatest risk of injury, illness, and death (Frohoff 2000).
59. Food provisioning has also been found to be harmful to dolphins (Mann and Kemps 2003, Samuels et al. 2003, Samuels and Bejder 2004, Christiansen et al. 2016), although it is a challenge to disentangle the specific effects of food provisioning, in-water encounters, or other features of the food provisioning process (Samuels and Bejder 2004; Cunningham-Smith et al. 2006; Wells et al. 2013).
60. The literature detailing the responses of unhabituated aquatic mammals exposed to AMSW has largely focused on behaviour patterns and displays. Most species are sensitive to disturbance caused by close approaches, and their recorded responses included changes

in breathing patterns, inter-individual distance, level of activity, vocalisation and range of movements, among others (Kyngdon et al. 2003, King and Heinen 2004, Martinez et al. 2011, Stafford-Bell et al. 2012, Lundquist et al. 2013, Cowling et al. 2014; see also reviews by Bejder and Samuels 2003, Curtin and Garrod 2008). Responses to stressors, however, are not ubiquitous or consistent, and there is a degree of inter-specific (Senigaglia et al. 2016) and intra-specific variability (Lusseau 2003, Bejder et al. 2009). A difference in responses may be anticipated as vulnerability and exposure may differ between and within species, populations and individuals.

61. Species or individuals to be considered particularly vulnerable to AMSW are those:
 - a) targeted in locations and at times in which critical survival functions take place (e.g. resting, giving birth, nurturing young);
 - b) displaying little plasticity in their habits (Lusseau et al. 2009), i.e. whenever the vital function disrupted by the interactions cannot be compensated elsewhere or at other times (e.g. Spinner Dolphins; Johnston 2014);
 - c) already threatened and heavily impacted by other anthropogenic activities; and
 - d) living in small closed populations (New et al. 2012, IWC 2016).

62. The amount of exposure of a group or a population to the AMSW industry depends in part on the occurrence and intensity of the industry itself, including the number of people, the duration, and the frequency of interactions, among other variables. It also depends on the animals' availability for in-water interactions, which vary between species, groups, and individuals. Even the same individual at different times or life stages, may differ in their tendency to engage in, or sustain, an in-water interaction. For instance, encounters with seals are generally longer than with dolphins (Scarpaci et al. 2005), Dwarf Minke whales are likely to provide a more exhilarating experience than the more elusive blue whales, and juveniles are more interactive than adult dolphins (Constantine 2001).

63. In most instances, specific communities and animals are repeatedly sought out for prolonged and close-up encounters (Samuels et al. 2000). For these individuals, AMSW represents a chronic repeated disturbance. In the case of AMSW operations targeting cetaceans in their resting habitat, commercial tourism operations chronically and repeatedly disrupt the dolphin resting behaviour; hence they represent a serious threat to these particularly vulnerable species. It is difficult to gauge the levels of stress induced in marine mammals as the impacts of chronic exposure are cumulative, rather than catastrophic, and can manifest at delayed times and other locations (Frohoff 2004). In other non-mammalian species, chronic exposure to stress has elicited negative effects on reproductive and immune systems, with consequences on population health and viability (Frohoff 2004). All these elements need to be considered to accurately gauge levels of exposure and model possible long-term consequences on wild populations (IWC 2016). In places where careful investigations have been conducted, interactions have led to long-term consequences such as population decline (Bejder et al. 2006), displacement to less disturbed sites (King and Heinen 2004, Lusseau 2004), and energetic unbalances (e.g. Christiansen et al. 2010), confirming the biological significance of impacts on the target species (Bejder et al. 2006, Lusseau and Bejder 2007, Filby et al. 2014).

64. The assessment of long-term effects and biological significance of disturbances, however, requires a level of understanding of the biology, behaviour and ecology of the species, the availability of adequate historical data, and suitable modelling techniques (New et al. 2015) that are often unavailable to researchers. Moreover, analytical approaches may detect an effect only once it has already reached biologically significant levels, hence providing information to decision-makers when impacts are already occurring. Nowadays, there is an increased effort to advance modelling techniques to use behavioural observation collected over shorter time frames to predict potential long-term effects on populations, and use these predictions to inform management for conservation (New et al. 2012, 2014, Christiansen and Lusseau 2015).

65. In addition, although this aspect is often neglected and overlooked (Spradlin et al. 2001b), AMSW causes real concerns over the safety of human swimmers and divers. Concerns arise because marine mammals are large, powerful and wild creatures whose movement and behaviour can harm, injure or kill human participants of in-water interactions (Webb 1978, Shane et al. 1993, Wilson 1994, Orams et al. 1996, Santos 1997, Seideman 1997, Christie 1998, Samuels et al. 2003). Disease transmission is also a possibility, as whales and dolphins carry parasites and certain diseases that can be transmitted to humans and vice versa (Waltzek et al 2012). Furthermore, AMSW poses the intrinsic dangers of any in-water activity, which are further exacerbated when operations are carried out in open waters, involve large crowds, are undertaken by inexperienced participants and swimmers, and/or led by uncertified or unspecialized guides. Close approaches also increase the likelihood of vessel strike, particularly an issue for swim tour boats, that drop people in the water close to targeted cetaceans and other aquatic mammals (Lammers et al. 2013).

Discussion and analysis: conservation and management actions

66. On the basis of the scientific information available, leading governmental and private institutions have already expressed a policy of presumption against AMSW, whereby they discourage or strongly advise against this practice or, where already established, allow it to continue under strict regulations (ACCOBAMS 2004, IFAW-SPREP 2009, IWC 2014, Ludewig and Williams-Grey 2016).
67. The growth of the AMSW phenomenon globally has outpaced the advancement of relevant science and the provision of timely and site-specific impact assessments to inform management. Since AMSW has proven to have conservation implications, these activities should be addressed promptly because the longer the related practices are allowed to continue, they will become more deeply established, and more complicated to mitigate their negative effects on wildlife. Furthermore, we anticipate that, following common tourism area cycle dynamics (Butler 1980, Duffus and Dearden 1990), AMSW could develop as a profitable alternative industry at locations where primary marine tourism attractions (e.g. coral reefs) become compromised and lose attractiveness.
68. Concern for the potential impact of AMSW by self-initiated cooperatives of commercial operators at both the local and international levels (e.g., Planet Whale, Whale SENSE, Dolphin SMART, World Cetacean Alliance) represent a growing phenomenon indicating that such concern is extending from the conservation community to some operators communities as well, and attention by CMS for such concern would support these efforts.
69. Efforts are urgently needed to encourage respect for wildlife and sustainability. While such policy is directly relevant to the CMS, it also extends to many other instruments within the CMS Family, including in particular those related to aquatic mammals (i.e., ACCOBAMS, ASCOBANS, Wadden Sea seals, Pacific Islands cetaceans, dugongs, Mediterranean monk seal, and aquatic mammals of West Africa), but also, by extension, those related to other species that may be the focus of swim-with activities (e.g., Sharks MoU, sea turtles).
70. The scientific understanding developed over the last decades provides valid information for a more sustainable regulation and management of the AMSW phenomenon, and it does so by emphasizing the importance of adopting a precautionary approach, clear and unambiguous science-based regulations, and strategies to enhance public awareness. Studies also indicate that research on the features, effects and management of AMSW needs to be both species-specific and location-specific (IWC 2000, Orams 2004, Higham et al. 2009), focus on the local and regional scale (Higham et al. 2009, New et al. 2015), and employ tools provided by both the natural and the social sciences (Duffus and Dearden 1990, Higham et al. 2009, Mustika et al. 2013, Heenehan et al. 2014).
71. CMS can usefully contribute to sustainable regulation and management of the AMSW phenomenon by developing general guidelines concerning AMSW regulation and

recommended codes of conduct for operators that can be adapted with more specific provisions case by case.

ANNEX 2

DRAFT RESOLUTION

RECREATIONAL IN-WATER INTERACTION WITH AQUATIC MAMMALS

Concerned that recreational in-water interaction with aquatic mammals is a fast-growing tourism and recreational activity that may cause disturbance to aquatic mammals in many different situations and habitats, with potentially serious conservation consequences,

Noting that many of the aquatic mammal species affected by in-water interactions are listed on the CMS Appendices, and that impacts on species of other taxonomic groups listed on the Appendices are also concerned,

Conscious that a large number of aquatic mammal species are sensitive to the disturbances caused by in-water interactions, and that in addition they carry a risk of direct physical impacts, that can lead to injuries and even death,

Concerned that in-water interactions with aquatic mammals put not only the animals at risk, but can also compromise the safety of human participants,

Aware that the global growth of the in-water interaction phenomenon has outpaced the advancement of relevant science and the provision of timely and site-specific impact assessments to inform management,

Concerned that in many cases effects may only be detected once they have already reached biologically significant levels, hence providing information to decision-makers when impacts are already occurring,

Recognizing that CMS can contribute to regulation and sustainable management of the in-water interaction phenomenon,

*The Conference of the Parties to the
Convention on the Conservation of Migratory Species of Wild Animals*

1. *Urges* Parties in whose areas of jurisdiction recreational in-water interactions with aquatic mammals take place, to adopt appropriate measures, such as national guidelines, codes of conduct, and if necessary, national legislation, binding regulations or other regulatory tools, to promote to address the consequences of, and carefully regulate, all such activities;
2. *Further urges* Parties to ensure that these activities do not have negative effects on the long-term survival of populations and habitats and have minimal impact on the behaviour of the exposed animals;
3. *Recommends* that, insofar as they are applicable, measures adopted by the Parties also cover opportunistic in-water encounters with aquatic mammals;
4. *Also recommends* that when vessel-based and in-water activities occur concurrently, measures adopted by the Parties ensure the safety of marine wildlife and human participants;
5. *Encourages* Parties to facilitate research allowing an assessment of the long-term effects and biological significance of disturbances, noting that this requires information on the biology, behaviour and ecology of the species, adequate historical data, and suitable modelling techniques that use behavioural observation collected over shorter time frames

to predict potential long-term effects on populations, and use these predictions to inform management decisions; and

6. *Strongly encourages* Parties to review any measures periodically to enable any impacts detected through research and monitoring of the populations to be taken into account as necessary.

ANNEX 3**DRAFT DECISIONS*****Directed to the Parties***

12.AA Parties are requested to:

- a) provide the Secretariat with copies of the relevant documents for any measures as described in paragraph 1 of Resolution 12.[XX] they have adopted regarding recreational in-water interactions with aquatic mammals or other CMS-listed species.

Directed to the Scientific Council

12.BB The Scientific Council shall:

- a) consider combining work streams related to recreational in-water interactions and boat-based wildlife watching in the coming intersessional period, ensuring all CMS-listed species that are the target of swim- or dive-with activities are covered by any guidelines to be developed;
- b) review, subject to availability of resources, existing guidelines, good practice and underpinning scientific evidence of the issues of concern, and based on this review develop guidelines on recreational in-water interactions with CMS-listed species;
- c) report to the Standing Committee at its 48th and 49th meetings on the progress in implementing this decision;
- d) present the guidelines and recommended code of conduct for operators concerning recreational in-water interaction to the Thirteenth Meeting of the Conference of the Parties for formal consideration.

Directed to the Secretariat

12.CC The Secretariat shall:

- a) transmit to the Scientific Council any documents on national measures adopted regarding recreational in-water interactions with aquatic mammals or other CMS-listed species submitted by Parties;
- b) support the Scientific Council in the development of the guidelines on recreational in-water interactions.