

Annex F

Report of the Sub-Committee on Conservation Management Plans (CMP)

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1. INTRODUCTORY ITEMS

1.1 Opening remarks

Weller welcomed the participants to the sub-committee on Conservation Management Plans (CMP).

1.2 Election of Chair

Weller was elected as Chair and Brownell as co-Chair.

1.3 Appointment of Rapporteurs

Mallette was appointed as rapporteur.

1.4 Adoption of agenda

The adopted agenda is given as Appendix 1.

1.5 Documents available

The documents available to the sub-committee were identified as: SC/69A/CMP/01-25; SC/69A/REP/01, SC/69A/REP/05.

2. STOCKS WITH EXISTING CMPs: NEW INFORMATION AND PROGRESS WITH PREVIOUS RECOMMENDATIONS

Attention: SC, CG, CC, IGO

The Committee highlighted the value of CMPs that had been endorsed by more than one intergovernmental body (e.g., IWC, ACCOBAMS, CMS) and noted the general support that this concept has from the Commission. Given some logistical difficulties associated with, for example, the different timings and frequencies of meetings of the different bodies, the Committee:

(1) recommended that the Conservation Committee liaise with these bodies to provide advice on an efficient mechanism for the development and endorsement of such joint CMPs.

2.1 SE Pacific southern right whales

SC/69A/CMP/22 provides an update of CMP related activities carried out between April 2022 and May 2023 on the Chile-Peru southern right whale population (SRW). Passive acoustic monitoring (PAM), to facilitate the identification of potential breeding areas, was implemented in 2018 and continued in 2022-23 with one year of monitoring off Antofagasta, northern Chile. A representative from Instituto del Mar del Peru, participated in the 2022-23 PAM field expedition and was trained on the deployment and maintenance of the acoustic equipment. Analysis of the 2022-23 PAM data are of high priority as is monitoring off Peru and Golfo de Penas, Chile. A summary of the following activities was also provided: (a) the 9-12 August 2022 expert workshop focused on a 6-year review of the CMP (Galletti, 2022a[CC/68/REP/SRW/01]); (b) the 3-4 October 2022 workshop on experience exchange in Lima, Peru (Galletti, 2022b[CC/68/REP/RWCMP/01]); and (c) the 4th CMP coordination meeting held in Lima, Peru 5 October 2022 (Galletti, 2022b).

The sub-committee commended the scientific work and cooperation being undertaken for the PAM project and congratulated the researchers for the results, which will assist in designing future sighting surveys and providing baseline information on the potential location of breeding grounds.

The report of the virtual expert workshop on the 6-year review of the eastern South Pacific southern right whale CMP conducted in August 2022 is presented in Galletti (2022a). This workshop reviewed historical and recent data on Chile-Peru southern right whales and updated the short-term, medium-term and long-term research, monitoring and mitigation actions set out in the CMP. The workshop highlighted data that provide important new information about range expansion in SRWs in waters off Peru, a possible breeding area off northern Chile and the possible importance of southern Chile (Los Lagos and Aysen region) for breeding, calving and feeding. Workshop participants expressed concern about the threat posed by salmon farming as well as entanglements and vessel strike in both northern and southern Chile. The authors noted that the PAM project is coming to an end. To complete monitoring off Peru an acoustic deck unit is needed and if another institution could lend or contribute an acoustic unit for one year, this project could continue.

A paper by the IWC Secretariat (IWC, 2022a) details the outcomes of the 4th CMP Steering Committee coordination meeting and the workshop on experience exchange on whale watching regulation and research permits, held in Lima, Peru, in October 2022. This workshop allowed for the exchange of experiences between Chile and Peru governmental institutions on regulatory aspects, national mechanisms and the possibility of establishing consistent procedures throughout the range of southern right whales. Several recommendations were raised, including the need to consider more generalised regulations for whale watching and research permits regarding observing cetaceans, with more specific measures for certain species, like southern right whales, requiring they be observed only from land-based platforms. Additionally, it was suggested that a working document on sampling protocols and information supporting the need to take biopsies of mother-calf pairs, envisioned to come from the IWC Scientific Committee, would be helpful in facilitating the issuance of research permits. The overarching outcome of this CMP coordination meeting was an agreed Implementation Strategy for activities to be carried out in 2023-24.

The sub-committee commended the progress made during the intersessional workshops and on endorsing the Implementation Strategy. The sub-committee encouraged collaboration to address permit authorities concerns around animal welfare so that biopsy samples could be obtained to contribute data to the IWC SC CMP objectives.

SC/68A/CMP/23 is the updated version of the 2016 CMP for eastern South Pacific southern right whales (SRWs) and will serve as the basis for the 2023-28 work period. This updating was informed by the outcomes of workshops summarised in IWC (2022b). A common point of discussion at these workshops was that most of the previously identified threats to SRWs in the eastern South Pacific have increased in risk since the CMP was adopted in 2016, particularly ship strikes, underwater noise and various impacts from salmon farms. As a result, new research actions, in addition to existing actions, have been added to the CMP.

The need for ongoing research to understand the overlap of southern right whales and human activities in wintering grounds, on an annual real-time basis for risk assessment and management, was noted. It was highlighted that baseline data on southern right whale presence, distribution and abundance is needed considering risks in coastal areas from marine based industries, salmon farming and renewable energy activities.

It was noted that a project, funded in 2020 by Lenfest Oceans (SC/69A/HIM/12Rev1), established a team of scientists from Chile and abroad to consult with the Chilean government fisheries agencies to manage and analyse existing data, and generate methods for gathering new data on fishing vessels, gear type and the overlap with marine mammals to assess marine mammal bycatch risk. Fifteen fisheries and 14 marine mammal species are included in the risk assessment including southern right whales in southern Chile and the crab-pot fishery.

Biopsy samples of mom/calf pairs were identified as priority samples to collect during the Expert Workshop (IWC, 2022b). The presenter noted that permitting authorities in Peru and Chile are not issuing research permits to biopsy individuals within mom/calf pairs. The respective governments require a statement of rationale when considering whether to approve permit applications. Advice was requested from the SC on developing a statement of rationale for both populations of SRWs (Chile-Peru and Southwest Atlantic RWs) in South America.

The sub-committee endorsed the workshop recommendations and expressed concern about the potential impact salmon farming may pose to the whales and their marine ecosystem. Additionally, the sub-committee drew attention to the need for a deck-unit to complete the passive acoustic monitoring study in Peru.

Observations of the largest aggregation of SE Pacific southern right whales found off Isla de Chiloe during austral summer is provided in SC/69A/CMP/19Rev2. On 28 January, 2 February and 6 February 2023 large groups of southern right whales were encountered, totalling 28 sightings of 44 animals. Defecations were observed on all three days as well as possible feeding behaviour. One mother-calf pair was sighted. The calf was grey-morph with estimated body-length

of less than 8m that corresponded to calves that are 3 to 4 months old. A faecal sample from the calf was collected. This calf had marks on the peduncle and behind the genital slit. It is possible that these marks are the result of propeller marks from a small boat or superficial cuts from a rope or net from fishing gear. These marks raise concern about the conservation threats that affect this Critically Endangered population. The sightings of southern right whales off Isla de Chiloe reported here for January-February 2023 are certainly the largest aggregations recorded since the end of commercial whaling, assuming that these individuals are from the Chile-Peru population. Possible explanations for the unusually large number of whales observed in Chile during the 2023 summer season include: (a) these whales, or some of them, belong to the western South Atlantic population, (b) unusual oceanographic conditions in 2023, (c) a general shift in summer distribution due to climate change and/or (d) the population is increasing. Along with other recent information, these new sightings further support the possibility of both mating and feeding occurring in the same area. The area where these observations were made overlaps with the historical distribution of catches by whaling operations and, currently, with extensive areas of salmon farming. These sightings reveal the need to undertake more visual surveys, including photo-ID, UAV and biopsy efforts, to cover larger areas off Isla de Chiloe. In reviewing images of the mother/calf pair in SC/69A/CMP/19Rev2, researchers working with SRWs in South Africa indicated it was noteworthy that the mother was in good body condition. It was suggested that collecting samples for isotope analyses could provide useful insight on diet.

SC/69A/CMP/25 reported on the northernmost records of southern right whales (SRW) of the Chile-Peru population on the Southeast Pacific coast. On 11 September 2022, a mother-calf pair was recorded off the coast east of Salango Island in the marine area of Machalilla National Park, Ecuador. On 8 August 2022, a mother-calf pair was observed off El Niño, Peru. A third mother-calf pair was observed from 15 to 18 August in the Antofagasta Region of northern Chile. The last sighting of this pair off northern Chile was on 31 August 2022 when they were observed in Pisagua Iquique Region in northern Chile; these individuals travelled 570 km in 13 days, an estimated 43.8 km per day. Aerial photo data were collected by drone to identify distinctive head callosities in the Peru and Chile sightings. These observations confirm that Antofagasta is a nursery area that is important for the conservation of this species.

In discussion it was noted that the La Niña observed off Chile in 2022 coincided with the unusual sightings of SRWs off Chile (SC/69A/CMP/19Rev2) and Ecuador (SC/69A/CMP/25). The question arose about the plans for using photo-ID to match whales documented off Chile. The authors indicated they would likely share images with other groups including Argentina to match these whales.

The sightings of the large aggregations of whales off Isla de Chiloe and mother-calf pairs in the northernmost distribution of the range (Peru and Ecuador) highlight the importance of these areas for this small population. Considering the small population size and nearshore sightings off Chile, satellite imagery was recommended as a means to obtain additional information on the number of whales in that area in 2023.

Attention: SC, CC, CG

*The sub-committee **reiterated** the importance of the CMP for the conservation of the critically endangered SE Pacific right whale population, **welcomed** the progress made, **congratulated** the Governments of Chile and Peru for undertaking the 6-year review process and **endorsed** the adoption of an updated CMP and the workshop recommendations.*

*The sub-committee **noted** the importance of the 2023 sightings reported off Isla de Chiloe and the northernmost sightings reported for this population and **encouraged** further monitoring and research in both areas. The sub-committee **expressed concern** about the potential impact salmon farming may pose to the whales and their marine ecosystem. Additionally, the sub-committee drew **attention to** the need for a deck-unit to complete the passive acoustic monitoring study in Peru.*

To support the Actions outlined in the CMP and continued progress on those actions, the sub-committee:

- (1) **recommended** that a statement of rationale be prepared for SC69B to facilitate the issuance of permits to collect biopsy samples from female-calf pairs.*
- (2) **recommended** further monitoring to document whales off Isla de Chiloe and other parts of the range in light of the recent sightings of individuals from this small population.*
- (3) **recommended** that further monitoring be undertaken to search for animals off Isla de Chiloe using Very High Resolution (VHR) optical satellite imagery to estimate minimum number of whales. That is, VHR images be used to: (1) check the minimum number of animals on the days/area these whales were encountered in 2023 and (2) search for whales off Isla de Chiloe in the future.*

2.2 SW Atlantic southern right whales

Paper SC/69A/REP/05 is the Report of the Workshop on the Conservation Management Plan for the Southern Right Whale Southwest Atlantic Population convened June 2022, in Curitiba, Brazil. The aim of the workshop was to review information on Southern right whales in the SW Atlantic and, in turn, revise and update the actions listed in the CMP. The following information describes updated information and research results discussed at the workshop.

An extensive body of information was presented and discussed at the workshop that will be used to update the CMP. Areas of particular relevance included: (a) work to explore oceanographic parameters affecting SRW feeding areas, migration and diet; (b) the use of satellite telemetry to track SRWs, revealing the movements and residency patterns of solitary individuals and mothers with calves; (c) isotope analyses in Brazil indicating that whales feed on middle latitudes in warmer waters and that solitary adults occupy higher trophic positions than females with calves; (d) the use of georeferenced databases to identify potential human impacts on SRW populations; (e) development of public and private databases on fishing activity monitoring programs, marine traffic systems and stranding monitoring programs are being extracted and included in the database; (f) increases in human activities, such as wind energy projects, overlapping SRW habitat; (g) health monitoring programs; and (h) efforts to increase public awareness.

The sub-committee welcomed the update on progress, noting that the workshop report highlighted that all recommendations from SC68D had been addressed, and reiterated the importance of continuing monitoring programmes.

It was noted that this is an opportune time to initiate tagging studies as there are major plans for wind farm development and there will be a concurrent increase in marine traffic; therefore, results from telemetry and movement data can be used to inform management. While funding to support these efforts has not been secured, tagging efforts were highlighted as a priority, especially before proposed marine development gets underway.

In response to the topic of emerging and cumulative threats, it was noted by the sub-committee that CMP actions need to be adaptive in light of shifting baselines due to climate change as well as emerging offshore industries (e.g., wind energy).

The sub-committee acknowledged the value of GIS databases of threats as proposed in the Workshop Report (SC/69A/REP/05). Such databases could enable analyses, in areas of, for example high density vessel traffic, to determine if there are changes in shipping patterns over time which may affect management strategies. It was noted that one option to implement this effort would be to partner with or request high quality vessel data from Global Fishing Watch.

Paper SC/69A/CMP/01 reports on aerial surveys conducted to estimate the relative abundance and trend in growth of the southern right whale population from Península Valdés (PV). The surveys were carried out using high-wing, single-engine aircraft. The rate of increase decreased from near 8.2% in 2007 to 0.32 (95% IC= -1.45%-2.08%) for the total number of whales and from 7.5% in 2007 to 2.55% (95%CI=0.47%-4.63%) for number of calves, respectively for 2022. These findings indicate that the SRW population is no longer increasing in the nursing area around PV. Although the number of whales in the surveyed area can vary, reaching a peak in 2018, the rate of increase has decreased in the last decade, having reached a confidence interval that includes 0 as a possible value since 2016. This trend continues when incorporating the 2022 surveys. Density has also been increasing as whales have been expanding their distribution into deeper waters during the last decade. However, density has not increased homogeneously in the area. In addition, mortality rates of calves had been increasing since the early 1970s. All these facts together are consistent with a density-dependence response. Some reports make clear that a fraction of the population is moving to other peripheral areas, as shown by the changes in the distribution and density in PV and the number of breeding groups and solitary individuals sighted in Golfo San Matías.

An update of the population growth trend and changes in the age and sex classes of right whales in Golfo San Matías (GSM), Patagonia, Argentina is presented in SC/69A/CMP/02. Estimates were derived from a data set collected through both aerial censuses and on-board whale-watching surveys. Aerial counts showed high variability between years, and consequently no significant change in abundance was recorded over the years. The growth rate estimated in each model was always negative with values that ranged between -2.18% and -0.71% and confidence intervals that ranged between -8.80% and 7.23%. The increase in the number of mother-calf pairs recorded in the area is associated with the immigration from other wintering grounds and support the proposed expansion of the Península Valdés (PV) population towards other areas due to a density-dependent process. Additional discussion related to CMP/01 and CMP/02 can be found in SH Agenda Item 5.5.

The sub-committee agreed that the aerial survey data offered valuable information on population trends over time and encouraged the continuation of existing aerial coastal surveys and recommends expanding the survey area to include deeper waters to assess whether whales are using new habitats, and that a monitoring programme and aerial surveys

be developed for Uruguay. It was noted, however, that more funds are necessary to continue the aerial survey effort in future years.

In discussion it was noted that the speed of increase of mother-calf pairs is lower compared to the last 10 years. The number of calves counted each year varies widely from 20-30 to several hundred. One reason for this could be that whales are going into deeper waters where the aerial survey plane cannot go, and therefore the survey crew is not detecting these whales. Another factor is that the calf mortality rate has increased since the 1970s. A hypothesis for the high calf mortality in some years is that there is a connection to poor feeding conditions in the southern foraging areas during previous years affecting calf body condition and thus calf survival.

SC/69A/CMP/11 presented an update of the mortality events experienced by the Southwest Atlantic southern right whale population off Península Valdés, Argentina, between 2018 and 2022 (no data for 2020 due to COVID-19 restrictions). Southern right whale population dynamics have been studied continuously since 1971 by annual aerial photo-ID surveys at Península Valdés. Until the 2000s, deaths appeared to increase at a similar rate to the increase in number of whales using the calving ground, but an unexpected large number of whales died in the recent years. Since 2003, the Southern Right Whale Health Monitoring Program has recorded 928 southern right whales that died in Península Valdés. The number of deaths has shown strong variations among years with a dramatic increase in adult and juvenile, as well as a higher proportion of female mortality in recent years. In 2022, the death of some stranded whales was attributed to the Paralytic Shellfish Poison toxins. This Mass Mortality Event (MME) overlapped in time and space with a Harmful Algal Bloom and unprecedented values of these toxins in shellfish and plankton where all whales were found dead. Details of these unprecedented adult mortality events were discussed in SH (SC/69A/CMP/09Rev1). This increased number of dead adults in recent years, most of them reproductive females, raises concern for southern right whale conservation.

Given the long-term dataset available for the Península Valdés area, the sex ratio of whales observed is known to be 50:50. The question arose as to why more females were dying than males, given the equal sex ratio. Similar to the hypotheses for high calf mortality, it is thought that there is a link between poor feeding conditions in southern waters and reduced body condition, leaving whales more vulnerable. Alternatively, it is possible that fewer males are using the area than in the past. It was also suggested that El Niño conditions could result in higher mortalities; warmer water reduces krill availability for consumption, in turn reducing blubber quality and quantity, as well as, energy available for migrating, and producing lipid rich milk to support healthy calves. Off Península Valdés, mark-recapture data shows that after strong El Niño events there is a decrease in female survival and that for reproductive females that were gestating for one year, then lactating for the next, these whales were more vulnerable if less food was available.

In discussion it was noted that the harmful algal blooms (*Pseudo-nitzschia australis* and *Alexandrium catenella/tamarense*) described in this event produced potent neurotoxins. The dino-flagellate *Alexandrium* has a resting cyst stage which resides in the sediments of the sea floor. When appropriate conditions such as nutrients or temperature are present, these cysts germinate and move into the water column to produce blooms. This life cycle raises concern of the risk of continued blooms in this important calving area and the potential spread of the algae to other surrounding areas through ocean currents. The high number of female mortalities and potentially some calf mortalities during periods of high concentrations of *Alexandrium* blooms, as was the case off of Peninsula Valdés, suggests that mothers are feeding in this area as ingestion is the primary mechanism of exposure. It was noted that this event, demonstrating acute mortality of adult females related to a HAB biotoxigenesis, is unusual especially in a calving area. Concern was raised that HABs related to climate change are expected to be more frequent and intense into the future. As a result, one could expect a faster deceleration of population recovery over time. For a more detailed discussion of SC/CMP/09Rev1, see E Agenda Item 1.3 and SH Agenda Item 5.5).

Considering mass mortality events such as those described above, the sub-committee noted that long-term datasets exist for several populations of right whales in the Southern Hemisphere (Argentina, Brazil, Australia and S. Africa) and encouraged comparative research studies that would be of high scientific value. Developing collaborative ocean basin-wide studies of right whales in the Southern Hemisphere were discussed in more detail in E Agenda Item 1.3 and SH Agenda Item 5.6, and this sub-committee also encouraged collaboration across Southern Hemisphere research sites.

On this discussion point and considering the value of stranding data to contribute to the understanding of the biology and ecology of cetaceans, the importance of standardised stranding data collection (see Stranding Initiative in E Agenda Item 1.3), processing, sampling protocols and databasing in support of comparative studies was emphasised. The collection of samples (e.g., baleen and blubber) especially for whales with sightings histories and adult females with calving histories was encouraged. These samples coupled with long-term data would permit endocrine profiles to be generated and overlaid with known individual histories providing greater insight into foraging ecology, life history and health.

Attention: SC, CC, CG

The committee **reiterated** the importance of the Southwest Atlantic southern right whales, **welcomed** the progress made since its implementation and **congratulated** the Governments of Argentina, Brazil, Chile and Uruguay for their commitment to conservation efforts. To support the Actions outlined in the CMP and continued progress on those actions, the committee:

- (1) **Recommended** continued collaboration among range states to generate new information using a broad suite of research methods (e.g. genetics, isotopes, hormones, health assessment, photo-ID, UAVs, aerial and vessel based surveys);
- (2) **Recommended** that the Commissioners from relevant range states provide their support of the internal permit process for continued telemetry work and biopsy sampling of female-calf pairs;
- (3) **Strongly recommended** that satellite tagging be a priority during the next few years in Brazil (especially considering future development of wind energy areas), and should continue to be a priority for the breeding grounds in Argentina;
- (4) **Recommended** that the CMP co-ordinator make a formal request to the range states for industry private data (e.g. seismic, fisheries, wind energy) relevant to actions of the CMP;
- (5) **Recommended** that updated protocols, permits, rapid response capabilities and standardised approaches to necropsies be developed and implemented across the range states;
- (6) **Recommended** that disentanglement training be carried out jointly with the four range countries.

2.3 North Pacific gray whales

SC/69A/E/08 reported on the 2019-2023 Unusual Mortality Event (UME) of eastern North Pacific (ENP) gray whales. This report was also presented to the E sub-committee where the primary discussion occurred [E Agenda Item 1.3.]. A general summary of this paper was provided to the sub-committee. In brief, From 17 December 2018 through 05 April 2023, a total of 638 Eastern North Pacific gray whales stranded along the Pacific coast of North America across three countries (Canada, Mexico and United States). Two hundred and sixteen whales were reported in 2019 (including two whales from December 2018), 172 in 2020, 115 in 2021, 105 in 2022 and 30 as of 05 April 2023. Early indications from the ENP gray whale wintering areas of Mexico (SC/69A/CMP/16, SC/69A/CMP/17, SC/69A/CMP/21) suggest that the UME may possibly be approaching an end.

The U.S. Southwest Fisheries Science Center (SWFSC) regularly conducts shore-based surveys of eastern North Pacific (ENP) gray whales to estimate abundance (1967-2022) and calf production (1994-2022). Eguchi *et al.* (2022a, b) provide recent information from these surveys. In 2016 abundance was estimated at 26,960 (95% Credible Interval: 24,420-29,830) whales, indicating that the population had roughly doubled since 1967. Since 2016, however, the population declined to 20,580 (95% Credible Interval:18,700-22,870) in 2020 and further declined to 16,650 (95% Credible Interval:15,170-18,335) in 2022. Total calf production in 2022 was estimated at 216.7 (SE = 33.4, 95% CI = 159-290), representing the lowest calf production estimates on record.

In discussion, the sub-committee was informed that the calf production survey is conducted annually while the abundance survey is typically conducted two consecutive years each 5-year period. The abundance survey has recently been conducted more frequently (i.e., 2020, 2022 and 2023) and is anticipated to continue on an annual basis until the population-level consequences of the 2019-2023 UME are better understood.

The sub-committee highlights the importance of data collected by NOAA/SWFSC on abundance and calf production off central California and recognises the important contribution these data make to the ASW and ASI sub-committees.

Papers SC/69A/CMP/16, SC/69A/CMP/17 and SC/69A/CMP/21 on gray whale research in the wintering areas off Mexico were presented to the Environmental Concerns sub-committee where the primary discussion occurred (E Agenda Item 1.3). While these papers were not discussed in detail by the sub-committee, a high-level overview was provided. This summary stated that in Mexico: (a) body condition of whales appears to be improving (SC/69A/CMP/16), (b) the number of strandings is decreasing (SC/69A/CMP/17) and (c) abundance of whales, including mother-calf pairs, is increasing over what was observed in the past several years during the UME (SC/69A/CMP/21).

The sub-committee commends the research in the wintering areas in Baja California, Mexico, urged its continuation and welcomes information about the apparent decrease in the numbers of strandings and improvements in body condition and calf counts observed in Mexico in 2023.

Information on research and conservation of gray whales off Japan for the period from May 2022 to April 2023 was presented in SC/68A/CMP/06. No sightings, strandings or anthropogenic mortality due to entanglement or other causes were reported from the coast of Japan during the reporting period.

The sub-committee welcomes the continued provision of information from Japan and encourages researchers there to continue to collect as much information on sightings and strandings as possible, including attempting to obtain biopsies or tissues and photographs whenever feasible.

The Russian Gray Whale Project (RGWP) has provided a long time-series (1994-2022) of photo-ID and genetic data used in the assessments by the Scientific Committee and others. In 2022, research on gray whales off northeastern Sakhalin Island and off the southeastern coast of Kamchatka (Olga Bay) was conducted by the RGWP (SC/69A/CMP/03).

Off Sakhalin, research was conducted from 27 July to 8 September during which time 13 boat surveys were completed. A total of 31 whale groups were encountered and the lowest number of whales (N=7) ever observed in the time series was identified, including one mother-calf pair. The photo catalogue of whales summering off Sakhalin between 1994-2022 includes 336 individuals.

In Olga Bay (Kamchatka), research was conducted from 6 June to 7 September 2022. The number of gray whales using this study area was 97, including seven mother-calf pairs. Of the 97 whales recorded, 43 individuals had known sighting histories off Sakhalin in earlier years. These inter-area resightings confirm the regular use of both off the Sakhalin and Kamchatka areas by some whales. Interestingly, in 2022 the number of mother-calf pairs was higher in Kamchatka than in Sakhalin, reflecting a notable change from the more typical pattern of far more mother-calf pairs being recorded off Sakhalin as documented in earlier years.

Overall, the results of the 2022 Russian Gray Whale Programme indicate a dramatic decrease in the number of gray whales feeding in the nearshore waters off northeastern Sakhalin, a finding that the sub-committee expressed concern about and calls for deeper investigation regarding the reasons for this trend of declining numbers. Considering the apparent decline in the number of whales using the nearshore portion of the Sakhalin feeding area, the sub-committee discussed possible explanations such as declining benthic prey density or survey coverage. The plausibility of these factors was discussed but without any conclusion reached.

The sub-committee was reminded that in tandem with the work of the RGWP, a similar but separate photo-ID programme funded and directed by industry was initiated off Sakhalin in 2002. The status of this industry-funded research effort is presently unknown as a result of limited information exchange following the onset of the Russian invasion of Ukraine. Given this lack of information, the sub-committee recommends that the IWC secretariat contact the Russian Federation to determine the status of industry funded research on WNP gray whales. The Scientific Committee has highlighted for more than a decade the importance of combining the RGWP and industry-supported photo-ID (and genetic) data holdings. While it has been expected for many years that a common (joint) photo-ID catalogue and database would eventually become available, to be managed under the auspices of the IWC, this objective has never been accomplished. Clearly, failing to combine the two catalogues is counter to the concept of using all available science (and data) to support assessment science and conservation. That being said, the 1994-2021 catalogue maintained by the RGWP (Dr Alexander Burdin, PI) is archived with the Secretariat and is openly available.

The sub-committee commended the Russian Gray Whale Project for making available its 25+ year photo-ID catalogue, providing access for Scientific Committee members and conservation science practitioners in general.

In light of the Russian invasion of Ukraine, the sub-committee expressed concern about the ability of researchers to continue collecting data on gray whales off Russia. The currently accepted abundance estimate for western gray whales, for example, is based on a population model fitted to photo-ID data collected annually off Sakhalin. With a nearly 5-year gap in this assessment, an update is clearly needed but has been temporarily, and hopefully not permanently, impossible due to the geopolitical conflict in Russia.

Last year the sub-committee was updated on the IUCN Western Gray Whale Advisory Panel (WGWAP) - defunct as of March 2022. At the time the WGWAP completed its work, it was envisaged that the dedicated web site hosted and managed by IUCN Headquarters, which had made a large body of documentation on western gray whales openly and easily available, would remain available. That body of work included, inter alia, all reports and recommendations of the panels (WGWAP and its precursors) and their task forces (e.g., on noise and seismic surveys, photo-ID, oil spills, environmental monitoring) from 2004 to 2022 as well as various other relevant materials. The SC had come to rely upon the IUCN panels to track closely the status of western gray whales, communicate and liaise with Russian government agencies, one of the major oil and gas companies operating on the Sakhalin Shelf, and both Russian and international NGOs with strong interest in gray whale conservation.

The commitment by IUCN to consolidate and ensure ongoing availability of the aforementioned body of work generated by independent western gray whale panels over the years from 2004 to 2022 has not been met, even partially.

Therefore, the sub-committee recommends that the IWC Secretariat liaise with the Deputy Director General at IUCN Headquarters and ask for clarification as to whether the material in question still exists, and if it does, whether IUCN still has plans to make at least those portions listed above available. Further, the sub-committee encourages both the IUCN Cetacean Specialist Group and the IWC to remove reference to the no longer functioning IUCN WGAP web site from their respective web sites.

With regard to the gray whale CMP, it has been anticipated for some time that a long-delayed workshop to update the western gray whale CMP and a stakeholder workshop for range country representatives, NGOs and businesses would occur in time for consideration at the October 2022 IWC68 Commission meeting. Those expectations proved unrealistic and neither workshop took place. In light of the geopolitical consequences of the Russian invasion of Ukraine, conservation actions and collaborative international scientific studies in Russia, including those related to marine mammals, appear to have been seriously compromised and perhaps permanently damaged. Therefore, the prospect of having a Range State inclusive stakeholder workshop and even of obtaining an agreed update to the CMP with input from all Range States is in doubt. Similarly, the existing 'Memorandum of Cooperation' concerning conservation measures for western gray whales and signed by the IWC Commissioners of five of the eight or nine range states (Japan, Republic of Korea, Russian Federation, USA and Mexico), is seemingly no longer viable given the geopolitical situation in Russia.

Attention: CG-R, SC, G, I, CC

*The Committee **reiterated** the importance of long-term monitoring of gray whales and strongly recommended that Range States support this work and **welcomed** the new information provided by Mexico, U.S., Russian Federation and Japan. With regard to updating the CMP, the necessary stakeholder workshop to undertake this has been delayed indefinitely as a result of limited range state engagement due, in part, to the Russian invasion of Ukraine. Therefore, until it is possible to convene a meeting of the necessary range states, the Committee:*

- (1) **recommended** that every effort be undertaken to enable continuation of the Russian Gray Whale Project in order to maintain the several-decades-long time-series upon which assessment of the population relies and to monitor the concerning decline in whale numbers using the nearshore feeding area off Sakhalin;*
- (2) **recommended** that NOAA/SWFSC continue their surveys of ENP gray whale abundance and calf production on a regular basis, recognising the associated data is critical to the ASW and ASI sub-committees;*
- (3) **recommended** that other research programmes focused on WNP gray whales (e.g. the industry funded programme initiated in 2002 off Sakhalin) follow the example set by the Russia Gray Whale Project and make their photo-ID catalogues and related data available via the IWC;*
- (4) **recommended** that the IWC Secretariat liaise with the Deputy Director General, Programme at IUCN Headquarters and ask for clarification as to whether IUCN still plans to make the materials of the WGAP available on their website and report back to the committee in the intersessional period; and*
- (5) **recommended** that the IWC Secretariat contact the Russian Federation to ask for clarification on the status and scope of industry funded research on WNP gray whales following the Russian invasion of Ukraine and report back to the committee in the intersessional period.*

2.4 Franciscana

CMP and the Small Cetaceans (SM) sub-committee held a joint session to review franciscana papers relevant to both CMP and SM. CMP reviewed (SC/69A/CMP/REP/01) the Report of the Workshop to Finalize the Review of the Franciscana (4-5 June 2022, Curitiba, Brazil). SM reviewed several papers which presented new information on franciscana biology and ecology, while HIM reviewed those related to bycatch, mitigation measures and threats. The papers reviewed by SM are summarised in the SM sub-committee report under SM agenda item 5.1 (SC Agenda Item 16.4.1) and HIM are summarised in the HIM sub-committee report under (SC Agenda Item 12.5)

Thirty-eight participants from five countries, representing government agencies from Argentina, Brazil and Uruguay, academia and non- governmental organisations attended the workshop (SC/69A/CMP/REP/01). During the workshop, the results of the discussions of the intersessional correspondence group (ICG) on Franciscana Stock Structure were presented and among the most outstanding results was the proposal that 11 management units should be recognised.

The results of the intersessional correspondence group on the review of Franciscana Abundance Estimates were also presented and updated. Among the main results, the need for an aerial survey off Uruguay was highlighted, as well as the abundance estimates for 2019 and 2021 aerial surveys of FMA IV should be revised using corrections factors for perception and group size biases. Additional aerial surveys in all FMAs were recommended to continue to assess

population status and trends in the longer term. Each of these efforts are reported on in more detail under SM agenda Item 5.1 (SC Agenda Item 16.4.1).

One of the issues at the workshop was the potential effect of wind farms in Brazil and Uruguay. In this regard, and after discussing the information presented at the workshop, it was recommended to the governments of Brazil and Uruguay to adopt the urgent measure to mitigate the impact on franciscana in 2023.

The importance of protected areas (PAs) for franciscana was also presented and it was recommended to establish new PAs in mouths of Rio Doce (Brazil), Baía de Babitonga (Brazil), Albardão (Brazil) and Estuario Río Negro (Argentina) and strengthen those existing ones that include the species.

On Education and Public Awareness, various campaigns and activities were presented in the different countries. One of them was the one developed by the IWC, called '*Our neighbour the franciscana*' which is available on the IWC website in English, Portuguese and Spanish. Another suggestion was expanding the Brazilian national franciscana day (1 October) to an international franciscana day.

During the workshop the '*Franciscana Dolphin Book*', edited by Paulo Simões-Lopes and Marta Cremer and published by Elsevier and Academic Press was presented and several chapters were presented in the SM sub-committee report under SM agenda item 5.1 (SC Agenda Item 16.4.1).

Finally, the actions of the CMP that are expected to be adopted during SC69A were updated (see Table 1).

The sub-committee acknowledged the importance of the work summarised in SC/69A/REP/01 which directly address the CMP actions for franciscana. The committee commended the scientific work conducted to address the actions included in the CMP which contributes to the in-depth review and future assessments.

In discussion, the recommendations from SC68D were reviewed and the sub-committee agreed that each of the four items endorsed by the sub-committee have been accomplished. Specifically aligning with the SC68D recommendations, the review of the franciscana continued during the inter-sessional period, updates were provided for the Workshop to Finalize the Review of the Franciscana (SC/69A/REP/01) and progress made under the information dissemination campaign 'Our Neighbour the Franciscanas' was presented at SC69A and is also available on the IWC website in English, Portuguese and Spanish. Further, aerial surveys off Uruguay were conducted in March 2023 and the results have been presented to ASI (SC/69A/ASI/19/Rev2). The sub-committee agreed that the completion of the aerial surveys off Uruguay represent a valuable milestone to estimate abundance across the franciscana range and that these estimates are necessary to assess the status of franciscana populations with the Scientific Committee. It was noted that the abundance estimates for franciscana have been reviewed by ASI and there are new updates that will be provided during SC69A.

Considerable new scientific information was presented from the workshop report (SC/69A/REP/01) including new information on for example stock structure, calf mortality, birth size, observed shifts in diet. Additionally, as part of the Curitiba Workshop (SC/69A/REP/01), recommendations were developed to advance the in-depth review and nine action items were identified as priorities. It was also mentioned that three countries (Brazil, Argentina and Uruguay) are discussing the possibility to present a concerted action to CMS.

The sub-committee welcomed these recommendations and subsequently endorsed the nine action items relevant to updating the CMP. While it was noted that the sub-committee endorsed the actions, other aspects of the review (for example threats, abundance and stock structure) needed to be reviewed by ASI, SD-DNA, SM, E and HIM. The authors noted that the in-depth review should be completed during SC69A. Given the intent to complete the review during SC69A next steps after the sub-committee endorsed the nine actions were considered. The authors and SC chair clarified that the SC would then need to endorse the report, the report is then presented to the Conservation Committee to be endorsed, and if endorse presented to the three countries as an update to move forward with implementing the actions.

The sub-committee commended the group on their scientific efforts to inform and complete the in-depth review of the franciscana. The sub-committee encouraged an update on progress next year.

[Table 1 on next page]

Table 1
Actions identified for the CMP for the period 2022-26.

Actions	Region
RES-1. Continue to Investigate Population Structure	
RES-1.1. Refine population structure and boundaries.	FMA IIb FMA III, mainly in the La Plata River estuary FMA IV
RES-1.2. Refine population structure and stock boundaries.	All FMAs except FMAs Ia and Ib
RES-2. Cooperation	
RES 2.1. Generate memoranda of understanding among universities and research institutes of Argentina, Brazil and Uruguay within the framework of applicable agreements to establish common research programs.	All FMAs
MON-1. Monitor Abundance, Trends and Bycatch	
MON 1.1. To continue monitoring fishing villages where bycatch of franciscanas is likely, including fisheries characteristics (e.g., type of nets, season of operation, fishing areas), including fishing effort.	All FMAs
MON 1.2. Estimate bycatch in all fisheries using observer programs whenever feasible.	All FMAs
MON 1.3. Beach monitoring to quantify franciscana carcasses to estimate bycatch.	All FMAs
MON 1.4. Strengthen virtual monitoring (VM) of the industrial fishing fleet and develop technology and implement VM for the artisanal fleet to continue understanding fishing areas and effort.	All FMAs
MON 1.5. Facilitate access of the VM data to research and management organisations.	All FMAs
MON 1.6. Estimate abundance and trends	FMA Ia and Ib FMA IIa, IIb and FMA II Babitonga. FMA III FMA Iva, IVb, IVc, IVd and IVe.
MON 1.7. Evaluate use of alternate methods to estimate abundance and/or trends.	All FMAs
MON 1.8. Define the maximum allowable fishery related mortality (e.g., PBR, MALFIRM).	All FMAs
MON 1.9. Model population viability analysis (PVA).	All FMAs
MON-2. Other threats	
MON 2.1. Beach monitoring searching for stranded franciscanas to estimate biological parameters.	All FMAs
MON 2.2. Continue assessment of health and pollutant load.	All FMAs
MIT-1. Mitigate Bycatch	
MIT 1.1. Develop strategies to evaluate and/or implement bycatch reduction methods and organise meetings with stakeholders to evaluate the most practical ways to implement/adjust monitoring and mitigation actions.	FMA Ia and Ib FMA IIa, IIb and FMA II Babitonga. FMA III FMA Iva, IVb, IVc, IVd, IVe.
MIT 1.2. Increase enforcement of measures to reduce bycatch of franciscana in priority areas and no-take zones.	All FMAs
MIT-2. Develop or Implement Protected Areas	
MIT 2.1. Strengthen the need of creation of conservation areas in mouth of Rio Doce, Baia Babitonga, Albardão and Estuario Río Negro.	FMA Ia, FMA II Babitonga, FMA III and FMA IVe.
MIT 2.2. Create and implement the Management Plan for all existing MPAs across the distribution of franciscana, including actions to enhance franciscana conservation.	All FMAs
MIT 2.3. Explore and encourage the creation of new protection areas across the franciscana distribution.	All FMAs
MIT 2.4. Evaluate socio-economic impact on fishers by implementing mitigating measures to reduce bycatch.	All FMAs
MIT-3. Implementation of mitigation measures.	
MIT 3.1. Evaluate and monitor the replacement of gillnets by alternative current fishing gears by those of lower impact.	All FMAs
MIT 3.2. Evaluate socio-economic impact of the implementation of mitigation measures.	All FMAs
PAC-1. Develop a Strategy to Increase Public Awareness of the Franciscana	
PAC 1.1. Continue development of public awareness campaign about the franciscana and their conservation problems.	All FMAs
PAC-2. Include the Franciscana in Bilateral and Multilateral Discussions	
PAC 2.1. Generate discussions within the framework of CMS and the Joint Technical Commission for the Maritime Front between Argentina and Uruguay.	All FMAs

Attention: SC

The sub-committee **welcomed** recommendations from the workshop report and subsequently **endorsed** the nine action items relevant to updating the CMP. In recognising Babitonga Bay as a distinct FMA, the sub-committee **recommended** the adoption of the nomenclature 'FMA II Babitonga' in all future SC reports and assessments.

Attention: SC, R

To augment understanding of franciscana ecology throughout its known range, the sub-committee **recommended** that:

- (a) franciscana diet be evaluated to better assess diet tropicalisation and habitat; and
- (b) acoustic studies of franciscana in all FMAs be continued and expanded.

Attention: SC, CG-Brazil

Given the known and perceived threat to the survival of franciscana throughout its known range, the sub-committee recommended that current research on this topic be continued and expanded.

The sub-committee **recommended** that bycatch of franciscana should be reviewed for all FMAs.

The sub-committee also **recommended** that the Brazilian Government develop and implement franciscana bycatch monitoring.

Given the effectiveness of acoustic deterrent devices (ADD or 'pingers') in reducing bycatch of franciscana, the Workshop Participants **recommended** that 'pingers' continue to be tested in all FMAs, in addition to the continuation of the testing of using plastic bottles attached to fishing nets as a further method to reduce franciscana bycatch.

Due to now confirmed importance of the Albardão region to franciscana, it was **recommended** that the area be designated a fishing exclusion zone.

The sub-committee **recommended** that fishing exclusion zone within the FMAs be evaluated and the results presented at SC69A and SC69B.

Attention: SC

Given that biological tissue banks can be used to derive and map the effect of human pressures on franciscana, it was agreed that such repository institutions should be better supported, as should studies related to contamination and toxicology.

The sub-committee **recommended** that more data on biological parameters should be collected to:

- (a) advance marine and conservation planning;
- (b) improve technologies for understanding distribution and impact overlap areas;
- (c) implement Individual Based Models (IBM) and Population Consequences of Disturbance (Pcod) analyses;
- (d) enhance genomic analyses;
- (e) to develop and test metabolic markers; and
- F) conduct stranding and integrative impacts analyses.

Attention SC; R; CG-Brazil, Uruguay, Argentina

Recognising that port activities (especially boat traffic) and wind farms' implementation/operation in coastal areas significantly overlap with franciscana critical habitat, the sub-committee agreed that these activities are potential threats to the franciscana. Considering that this species is listed for the assessment of cumulative impacts, the sub-committee **recommended** that the governments, particularly of Brazil and Uruguay, to adopt the urgent creation and strengthening of strategic conservation actions related to environmental licensing and mitigation measures of these activities, such as the avoidance of wind farm implementation in franciscana overlap and priority areas.

The sub-committee also requested the Secretariat a letter summarising these concerns to be compiled and send to the governments in 2023.

Attention: SC, CG-Argentina, Brazil

The sub-committee **recommended** that protected areas be established in mouths of Rio Doce (Brazil), Baía de Babitonga (Brazil), Albardão (Brazil) and Estuario Río Negro (Argentina).

The sub-committee **recommended** creating and implementing the Management Plan for all existing MPAs across the distribution of franciscana, including actions to enhance franciscana conservation.

Attention: CG- Argentina, Brazil and Uruguay

The sub-committee **recommended** continuing with the development of targeted public awareness campaigns and environmental education programmes.

2.5 South American river dolphins

Report SC/69A/CMP/24 presents progress on the CMP of river dolphins in South America from April 2022 to April 2023. The goal of this CMP is to promote the conservation of river dolphin species (*Inia geoffrensis*, *Inia boliviensis*, *Inia araguaiaensis* and *Sotalia fluviatilis*) in the Amazon, Orinoco and Tocantins/Araguaia basins through a regional concerted strategy. Advancements highlighted in the report include: (a) analysis of taxonomic identity using RAD sequences; (b) nine expeditions in several countries to assess abundance, analysis of bycatch and mercury contamination; (c) pilot tests with pingers to reduce bycatch; (d) satellite tagging of 11 dolphins; (e) restoration of flooded forest habitat; (f) consolidation of fishing agreements; (g) strengthening of protected areas (Ramsar sites and OECMs); and (h) raising public awareness. Of the 32 actions proposed in the CMP, progress has been made on 26.

A summary of discussions from a workshop held in Bogota, Colombia, in March 2023 are provided. Participants included the governments of Brazil, Colombia, Peru and Ecuador. Together, these government representatives worked to analyse the existing policies and the regulatory framework to counteract deforestation, conflicts with fisheries, mercury contamination, climate change (water stress) and loss of river connectivity due to dams. Emphasis was placed on opportunities to work in border areas and take advantage of existing initiatives such as the Minamata Convention, The Amazon Cooperation Treaty Organization (ACTO), CITES and the Convention on Biological Diversity.

Governments identified the South American River Dolphin CMP as an opportunity to implement existing policies and to make efforts in specific areas in each country. Finally, it is recommended that progress be made, as possible, in obtaining resources for the CMP and to implement joint monitoring actions.

Evidence of the hunting and consumption of river dolphins (*Inia geoffrensis*) in the Orinoquia and the hunting and commercialisation of dolphin parts in Ecuador was presented to the sub-committee. The first case apparently arose as a consequence of the COVID-19 pandemic and the use of dolphin blubber to cure respiratory ailments. The use of body parts of Amazon River dolphins has been reported for traditional and medicinal purposes and as bait in the Amazon, Tocantins and Orinoco basins (Best and da Silva, 1993; Cravalho, 1999; Aliaga Rossel, 2003; Alves and Rosa, 2008; Gravena *et al.*, 2008; da Silva *et al.*, 2017; da Silva *et al.*, 2018; Siciliano *et al.*, 2018). However, these were occasional reports and were not permanent as is currently occurring. During the period between 2021 and 2023, directed captures of the Orinoco dolphin (*Inia geoffrensis*) have been reported in different areas of Venezuela and Colombia. Also, the consumption of dolphin meat was confirmed in Bolivar State. Several recommendations are made to tackle these new threats for river dolphins.

In 2015, after noting a reduction in the populations of both species of Amazonas river dolphins (*Inia geoffrensis* and *Sotalia fluviatilis*), a moratorium was established in Brazil on the fishing and commercialisation of Piracatinga (*Calophysus macropterus*), a species caught using the Amazonas river dolphins as bait. The first moratorium was decreed for five years (2015-19), and since 2020 the ban has been renewed annually until July 2023. To find out if the piracatinga continued to be fished and commercialised, IBAMA (Brazilian environmental authority) began an operation in 2018 to verify compliance with the moratorium by fishermen. However, the operation was halted since then and resumed in 2023 in conjunction with Sea Shepherd Brazil. Thus, in a single inspection carried out in the Solimões river (March 2023), in the Manacapuru region (Amazonas, Brazil), more than 1.5 tons of piracatinga were seized, in addition to confirmed changes in illegal fishing strategies. The investigations conducted point to the need to maintain the moratorium in Brazil for at least the generation time of the Amazon river dolphin species (14-20 years), increase control actions in the region and commitment of the government and institutions in Brazil to carry-out abundance estimates.

The sub-committee **commended** the progress made toward fundraising, capacity building and science. The sub-committee **reiterated** the importance of the CMP for South American river dolphins and **welcomed** the progress made since its implementation.

The extensive network of multi-lateral collaborations and partnerships exemplified by this CMP was commended and the question arose as to how they have been able to meld all of the international organisations into the CMP process. The presenter indicated that conservation of the Amazon is the unifying theme and that the proponents of the CMP have highlighted that the CMP is an opportunity for the government to conserve a flagship species within the Amazon.

In discussion it was also noted that Brazil has data from several surveys that can contribute to population abundance and can be included in the CMP. Additional mercury studies on fish are also planned representing further opportunities for collaboration. The topic of one health and how this CMP can work under that view. It was noted that this CMP started with health assessments and monitoring in both commercial fish and dolphins. Illegal gold mining has major impacts on the ecosystem, animals and humans in the Amazon and impacts are being observed in fish and dolphin tissue. This has impacts for humans as reviewed in the studies presented, humans are consuming both, and these studies fit well within the umbrella of One Health.

Further discussion focused on the recommendation from CMP to extend the moratorium, specifically the need to urge for a longer time frame than an annual renewal as the renewal process is difficult and momentum will be lost if it continues on a one-year cycle. Lastly, the importance of the commitment of the range states to advance the scientific aspects and outreach/engagement actions outlined in the CMP was noted. The sub-committee strongly encouraged the proponents of the CMP to provide updates annually, including on the threats presented during SC69A (e.g. hunting, bycatch).

Attention: SC, CC, CG

*Considering that a 5-year moratorium on piracatinga fishing and commercialisation has been in place since 2015 and that the piracatinga fishing continues with modified fishing gear (SC/68D/SM/15) at a large scale, it is **strongly recommended** that the moratorium be maintained for another five years until a re-evaluation is possible to determine the impacts of the threat to the species. The Committee outlined the following list of **recommendations** for actions the Orinoquia (Venezuela/Colombia) and Amazon basin in Ecuador as follows:*

- (1) **recommended** coordinated control and surveillance of compliance with the moratorium in border areas between Venezuela and Colombia;*
- (2) **recommended** developing awareness and environmental education workshops to discourage the hunting and use of dolphins;*
- (3) **recommended** a socioeconomic analysis of the human populations that are making use of dolphin meat to understand the reasons why;*
- (4) **recommended** inclusion of piracatinga fishing as a new threat be included in the CMP;*
- (5) recommended that abundance estimates and population trend data be collected to determine the impacts to dolphins due to illegal hunting in the Orinoquia.*

Attention: SC, CC, CG

*River dolphins are considered among the most threatened species of cetaceans on the planet due to the degradation and transformation of habitats. In recent years there has been a drastic increase in the magnitude of threats such as deforestation, loss of river connectivity due to dams, mercury contamination, overfishing, and bycatch. The Committee outlined the following list of **recommendations** for actions in the Amazon River basin in Ecuador:*

- (1) **recommended** a communication and awareness campaign be developed in the border area between Ecuador and Peru (Napo River), focusing on the importance of conserving river dolphins, the legal implications of hunting and trafficking of these endangered species, and targeting local communities and border control authorities (migration police, navy and army);*
- (2) **recommended** a meeting between environmental authorities (central offices of the Ministries of Environment and officials of protected areas) of Ecuador and Peru, to raise awareness and coordinate joint efforts to mitigate threats related to hunting and trafficking of river dolphins in the border area;*
- (3) **recommended** continued dolphin population monitoring in the Yasuní, Napo, Aguarico and Lagartococha rivers to determine population trends;*
- (4) **recommended** that community agreements be formed for responsible fishing in the border zone.*

3. PROGRESS WITH IDENTIFIED PRIORITIES

3.1 Humpback whales in the northern Indian Ocean including the Arabian Sea

SC/69A/CMP/04Rev1 presented a progress report from the Arabian Sea whale network (ASWN). The ASWN was formed in 2015. The Arabian Sea humpback whale (ASHW) acts as a flagship species for the network, but members collaborate on multiple aspects of cetacean research and conservation. SC/69A/CMP/04Rev1 includes updates on regional-level collaborative activities undertaken between May 2022 and April 2023, as well as updates on project-by project or national level activities undertaken by partners in the region. Regional level activities have been extremely limited due to the lack of funding for coordination. However, there has been significant progress at some national levels and ASWN members are in regular communication, providing continued technical support to each other. Once again, the project updates from partners demonstrate a clear trend toward increased capacity and dedicated capacity building activities for local scientists. Many countries are actively expanding their local and national sighting and stranding reporting networks through the use of social media and dedicated outreach materials, and an increasing number of coastal surveys are being conducted in Arabian/Persian Gulf countries. Despite this increased observation and reporting effort, no humpback whale sightings were reported from the Gulf in the past year, providing insight into what does and does not provide regular habitat for ASHW. It is hoped that increased awareness and capacity building in ASHW range countries will help to progress the long-hoped for joint IWC-CMS regional Conservation Management Plan. In particular, it is hoped that a workshop held in Oman in November 2022 helped government and industry stakeholders there to better understand the conservation needs of ASHW and the potential benefits of both a national conservation action plan and a regional Conservation Management Plan.

A Concerted Action for ASHWs under the Convention of Migratory Species (CMS) has been in place since 2017 (CMS CoMS. 2017) with the ultimate objective of developing a joint IWC/CMS CMP for ASHWs. Oman and India are the only two IWC member countries in the ASHW range. On the other hand, all of the other range states within the ASHW range except Oman, Kuwait and Qatar are CMS members. A joint IWC/CMS CMP is the most effective way to involve as many range countries as possible in a regional conservation effort that includes full government stakeholder ownership and endorsement.

Annex 1 of SC/69A/CMP/04Rev1 includes an update of progress against each of the recommended actions in the CMS Concerted Action. These updates provide the basis for a progress report that will be submitted to the CMS Conference of Parties in October 2023, along with a request to extend the Concerted Action for another three years. An extension of this time-bound Concerted Action is necessary to ensure that full government stakeholder consultation and involvement is achieved, a process which will hopefully be advanced by a workshop held in Oman in November 2022 (see discussion of Anon, 2022 below).

The sub-committee **welcomed** the update and **commended** the ASWN members, involved government officials and stakeholders on the immense amount of work conducted, collaborations fostered and scientific information produced over the last two decades. Coordination with CMS on the Concerted Action (reported in SC/69A/CMP/04/Rev1) continues to make forward progress and is an important step towards formalising a CMP for ASHWs.

In discussion it was noted that the ASWN coordinator position has not been funded since March 2019 and is managed on a volunteer basis, creating challenges for many aspects of the ASWN, especially for regional level coordination. The involved parties noted the importance of dedicated coordination for all aspects of the CMP. Funding for a formal coordinator position (ideally someone from an ASHW range country) would be funded with the inception of a formal CMP.

In the meantime, fundraising to ensure that the current (volunteer) coordinator can continue her role and perhaps engage in a handover to a range-country replacement would greatly help to ensure that current momentum to develop the CMP is continued. It was noted that funds are available through the voluntary funds of the Conservation Committee (CC) but that the Terms of Reference state that a compensated coordinator position must be in support of a formal CMP.

The sub-committee **encouraged** both, the work of the ASWN, and continued progress toward developing and implementing a regional CMP. Further, the sub-committee agreed that it would benefit from efforts to secure funding and build capacity within ASHW range countries to support a formal coordinator role.

Anon (2022) reported on a multi-stakeholder workshop 'Complementing Development with Conservation: A workshop for the Management Planning for Arabian Sea humpback whales (ASHW) in Oman', which was held in Oman on 28-29 November 2022. This workshop was jointly organised and hosted by the Oman Environment Authority (EA) and the Environment Society of Oman (ESO). Workshop participants included representatives from a wide range of Oman's government agencies responsible for the environment, biodiversity, coastal development, marine policing and enforcement, tourism, energy and transport, among others. The workshop objectives were to involve relevant

government and industry stakeholders and to discuss how the research conducted over the past 20 years can be applied to the development of a National Conservation Action Plan for ASHWs and what steps would be required for Oman to participate in a joint IWC/CMS regional conservation management plan for ASHWs. The first day of the workshop included presentations focusing on the current status and threats to ASHW, the benefits of regional conservation management plans and ways in which oil and gas, fisheries, tourism and shipping can contribute to, and benefit from proactive whale conservation measures. The second day of the workshop, which also involved representatives of the CMS, the IWC and the World Shipping Council (WSC) focused on collaborative exercises to define the specific mitigation measures, resources and responsible stakeholders that could form part of a national conservation action plan for ASHW as well as the steps required for Oman to contribute to a regional CMP.

The Oman Environment Authority and the ESO are collaborating to act on the workshop's first recommendation, which was to form a cross-stakeholder working group to draft and implement a national conservation plan, using the workshop report as a road map. The ESO and other stakeholders are also collaborating with Oman's Ministry of Transport, the World Shipping Council and the IWC to act on another workshop recommendation to investigate the options for routing measures that would reduce the risk of ship strikes to ASHW off the coast of Oman. More detail on the ship-strike risk assessment for ASHW off the coast of Oman is available in SC/69A/HIM/07.

It was noted that to achieve the commitments set forth during the workshop, a formal process of regular meetings between the stakeholders and those driving the CMP process will be required. The proposed timeline to develop a national action plan and for Oman to engage in the regional CMP process may take longer than the optimistic timeline set forth in the workshop report. Further, the importance of reducing barriers, such as funding for staff from Environment Society of Oman, to help ensure they have the capacity to continue to collaborate with the Environment Authority and bring the appropriate government stakeholders together was emphasised in the context of maintaining momentum toward the development of a formal CMP.

The sub-committee **welcomed** information on the workshop and **commended** the engagement, commitment and extensive collaborations among the stakeholders, and wide range of Oman's government agencies (especially the Environment Society of Oman and Environment Authority) to find a way to develop a national ASHW conservation action plan and engage in a regional CMP for ASHWs. Following on this, the sub-committee **encouraged** the continued engagement among stakeholders in Oman. The sub-committee **strongly encouraged** a regular update on progress towards a formal CMP at subsequent SC meetings.

SC/69A/CMP/05 presented updates from an observer programme initiated in 2012 to monitor tuna gillnet operations in the coastal and offshore waters of Pakistan. In addition to collecting information about tuna and tuna-like species, observers were trained to report observations of whales encountered during fishing operations. Although this programme was completed in 2019, it is important to highlight that a number of the trained observers continue to provide information on a voluntary basis enabling them to document sightings of whales in the coastal and offshore waters of Pakistan (northern Arabian Sea), in an area with otherwise limited data on cetaceans. During 2022 and 2023 (through March 2023) 15 crew-based observers reported a total of four sightings of Arabian Sea humpback whales, two sightings of blue whales (*Balaenoptera musculus*), one sighting of sperm whales (*Physeter macrocephalus*), three strandings of Bryde's whales (*Balaenoptera brydeii*) and nine sightings of unidentified species of whales. During 2021, a total of 34 reports of sightings or stranding were reported, whereas in 2022, only 15 such reports were available. It was unclear whether interactions with fishing gear could have played a role in strandings. The reduction in the number of reports of sightings is attributed mainly to decreased voluntary reporting by the observers since funding for the programme expired.

The sub-committee welcomed the update on cetacean sightings in waters off of Pakistan and acknowledged the importance of these activities. The sub-committee drew attention to Bryde's whale strandings reported in Pakistan (SC/69A/CMP/05) and United Arab Emirates UAE; SC/69A/CMP/04/Rev1). Given the limited information on Bryde's whales in the region and the scientific value of stranding data, investigating stranding events in data poor regions was highlighted as a priority to contribute to the understanding of not only ASHWs but other cetaceans in the region. Considering that these observations likely cover only a limited part of the potential range of this species, the sub-committee recommend regional collaboration among all ASHW range countries to continue to collect information, including genetics and acoustic data; collate the available information on this species; and to conduct more dedicated research to better address the status of this species.

The sub-committee highlighted the need of data holders to collaborate on the collation of stranding data within the region, particularly for large whale strandings, including ASHW across the ASHW range, and suggested a(n) (ASHW range country) Ph.D. student(s) be identified to conduct such analyses.

Additionally, given the exemplary work and valuable information that has come from the crew-based observer program, the sub-committee agreed on the value of continuing the crew-based observer program as a high priority project to

support continued effort to document cetaceans. CMP suggested that the WWF Pakistan crew-based observer model be used in other range states particularly in areas where dedicated cetacean surveys have not (yet) been possible, with the aim to better understand ASHW (as well as other cetacean) occurrence and distribution. Sri Lanka and Islamic Republic of Iran have started crew-based observer programs in the last year, on a limited scale. Information about cetaceans has been collected, however, no sightings of any baleen whale were reported during this period. It was noted that the crew-based observer program is currently unfunded and while the project continues on a volunteer basis, the sustained voluntary reporting by trained observers is unsustainable.

SC/69A/CMP/07 reported on four vessel-based surveys were conducted in two areas off the coast of Oman between November 2019 and November 2022. ASWH encounter rates varied significantly from no encounters over two weeks of surveys in March 2021, to 40 encounters during two weeks of survey effort in November 2021. Over the course of all four surveys 57 ASHW sightings were documented, comprising 38 unique individuals, all of which were photo-IDed, and 30 of which were filmed by UAV to assess body condition. Re-sightings rates were high, with 29 of the 38 identified whales representing whales that were already present in the Oman humpback whale photo-ID catalogue, including nine individuals that were first identified in 2001 or 2002. The body condition of sampled ASHWs ranged from -0.08 to +0.51%, with a mean of 0.12 (SD=0.126). There was a significant difference in body condition between sexes, with females on average having a 16.1 percentage units higher body condition than males. Bryde's whale encounter rates were inversely proportional to humpback whale encounter rates and appeared to be correlated with warmer sea surface temperatures in the study area. Body condition was also opportunistically assessed for 12 Bryde's whales, including five mother-calf pairs. Bryde's whale body condition ranged from -0.13 to +0.17%, with a mean of 0.00 (SD=0.092). These findings reinforce the need for continued monitoring of both species of whales' relative abundance, distribution and health in relation to changing oceanographic conditions in the Arabian Sea that are likely to impact their preferred prey and foraging strategies.

The sub-committee welcomed the updates on survey findings off Oman. The records of Bryde's whales are valuable, as little is known about this species in the area. It was noted that acoustic data from southern Oman (reported in SC/69A/CMP/12Rev1) also reflected an inverse relationship between density of putative Bryde's whale and humpback whale vocalisations. There were several recommendations to continue this work and, when possible, combine observational and acoustic datasets within the Arabian Sea to advance our understanding of whale habitat use and movement in the region.

In response to questions about possible environmental correlates with a potential increase in Bryde's whale observations and strandings, it was noted that ecological niche modelling in the region has identified changes in ocean conditions related to weakening of the winter monsoon, resulting in a cascade of effects throughout the food web.

The sub-committee reiterated concerns raised in prior meetings about strandings of large whales in the Arabian Sea, particularly ASHW. The committee recommended that attempts be made to pool and analyse whale strandings data from states bordering the Arabian Sea.

Paper SC/69A/CMP/12Rev1 reports on acoustic monitoring for baleen whales off the southern coast of Oman, funded in part by the IWC SC in 2020. Autonomous acoustic recorders were deployed in deep continental slope waters off Ras al Hasik, Dhofar, southern Oman, where humpback whales, blue whales and Bryde's whales have been documented on boat surveys. Previous acoustic monitoring in 2011-12 from the shelf described the temporal distribution of humpback whale song. The current studies' recording effort was during the period March to October 2020, and November 2021 to May 2022. Arabian Sea humpback whale song was documented during the boreal winter breeding season, however at dramatically reduced frequency of occurrence as compared to the previous acoustic monitoring in 2011-12. Songs were detected on a few days in April 2020, and only sporadically from Dec 2021 to early March 2022. This is in stark contrast to the consistent prominent presence of song from late Nov 2011 to mid-April 2012 and into May. These data imply a potential distribution shift of the Arabian Sea humpback whale population. An alternative explanation could be increased mortality of males. It is noted that there was a reduced encounter rate in 2021 (SC/69A/CMP/07) from visual survey data, suggesting the same trend from 2020 through 2022. SC/69A/CMP/12Rev1 was also reported in SH focusing on blue and Bryde's whales. For additional details see SH Agenda Item 3.1

The sub-committee thanked the author for the presentation and welcomed the update on acoustic monitoring off of Oman. In discussion, it was noted that changes in occurrence and distribution are becoming common as oceanographic conditions fluctuate with climate change and that such shifts will likely be a more frequent topic which may impact assessments.

Paper SC/69A/CMP/10Rev1 reports on the use of humpback whale song recorded off the coast of Oman between 2011 and 2020, and the coast of India in 2011 and 2017, to assess the degree of song change over a ten-year period, whether there was indication of novel song introduction that would imply connectivity with SH populations, and the connectivity of whales on either side of the Arabian Sea. During the first eight years of the study period (2011-18), Oman song

maintained an atypically slow change compared to other populations of humpback whales, with more substantial change observed at the end of the study in 2020. There were no large-scale introductions of new phrase-types, or replacement of phrases across the ten years, that would be indicative of cultural diffusion events as has been described between SH populations. Thus, these results reinforce the current understanding that the ASHW population is isolated from other populations. Comparison of the Oman songs with a small sample of songs recorded off western India indicated that all phrases in the India sample (two in 2011, and six in 2017) were also present in the Oman songs, indicating a close connection between whales found in both the western and eastern Arabian Sea. Variation in the shared phrases provided a preliminary suggestion that song changes may have been transmitted from India to Oman across seasons (as opposed to within a breeding season), raising the potential for the existence of population substructure within the Arabian Sea. These results reinforce the understanding that the Arabian Sea humpback whale population is isolated as indicated by population genetic studies and the lack of photographic matches to date, and unique on multiple levels of its behaviour and life history patterns.

The sub-committee welcomed the presentation and thanked the author for the update. It was noted in discussion that if substructure exists within the Arabian Sea, that this presents the potential for heterogeneity of capture probability and associated impact on abundance estimation, particularly using ID samples from only Oman.

In the eastern Arabian Sea, information on humpback whales off the Indian coast has largely been limited to stranding records, local ecological knowledge, and opportunistic visual sighting data. These data, along with information from a long-term study off Oman, suggest that humpback whales migrate across the Arabian Sea into Indian territorial waters from October to March. D'Souza *et al.* (In press) provides results of a passive acoustic monitoring (PAM) study that was initiated along the west coast of India in 2019. A recording effort for ASHW off Netrani Island, India for 77 days between November 2019 and February 2020 was briefly summarised. Humpback whale song was detected during four consecutive days between 18 – 22 December 2019, and not recorded at any other time. The authors hypothesised the song was from a single individual that remained within the area for this four-day period.

The sub-committee commended the Indian research team on implementing an acoustic monitoring project. Although the sample size was small it complements the more extensive acoustic monitoring effort off Oman and could be a valuable contribution to broader regional monitoring. The time period of acoustic deployment also fills a temporal gap from acoustic monitoring off Oman (during 2020). The sub-committee encouraged future collaboration on acoustic monitoring and contribution of the existing song samples to examine regional trends in humpback whale song, presence and movement.

SC/69A/HIM/07 was presented in HIM (HIM Agenda Item 13.1) and also briefly discussed in CMP as an update on a project partially funded by the IWC Scientific Committee at SC68D. The study combines the results of ecological niche modelling for ASHW with AIS data on shipping traffic to generate a ship strike risk assessment which includes proposals for mitigation of risk through the movement of shipping lanes.

In discussion, it was noted that the ASHW ship strike risk assessment also indicated other areas in the Arabian Sea that merited further consideration of mitigation options. These include areas where Soviet whalers took whales in the 1960s, as well as areas of the Gulf of Aden and Bab el Mendeb Strait where shipping traffic is known to be high. These risk areas include identified IMMAs and cIMMAs in the region.

The sub-committee commended the efforts to assess ship strike risk and begin the evaluation of mitigation measures for ASHWs in Oman and the wider Arabian Sea region, and recommended consultation to immediately start with government and industry stakeholders to evaluate the feasibility for implementing mitigation measures. Further refinements are encouraged to enhance occurrence data used in the risk assessment and also consider a multispecies approach to risk assessment.

Attention was drawn to the multi-taxa bycatch risk assessment and mitigation work being conducted in Oman. Humpback whale and loggerhead turtle telemetry data is currently being used with fishing vessel distribution data to produce risk assessments. The fishing vessel distribution mapping is being developed from CMP-SC funded field observations and satellite imagery. Trials to implement crew-based bycatch monitoring and subsurface setting of gillnets is being conducted in cooperation with WWF Pakistan and in recognition of CMP recommendations from SC68B.

An update was provided on a sample of the type specimen for *Megaptera indica* from the Paris Museum of Natural History. In 2016 the IWC SC recommended that the type specimen be sampled, and provided funding for genetic analysis to be conducted in conjunction with existing ASHW samples from Oman in order to clarify the taxonomic status of ASHW. A bone sample was obtained in November 2019. However issues related to COVID-19 and courier and import processes prevented its shipment from France to New York until April 2023. The sample is now at the American Museum of Natural History. The sub-committee welcomed this news and encouraged the proponents of the original proposal, submitted to CMP for genetic analyses in 2016, to provide an update to the SC in 2024.

An update was also provided on the ICG established in 2016 and tasked with using photo-ID and genetic data from Oman to generate new abundance and trend estimates for ASHWS off of Oman. Through a collaborative approach coordinated by Collins, three modelers used different approaches to generate estimates, with an agreed consensus on which was most robust. The updated estimate was prepared for review during the ASG workshop prior to SC69A. However, the requirement for wider stakeholder review and consensus has delayed this review. It is hoped that the estimate can be reviewed by ASI intersessionally and presented at SC69B.

The sub-committee applauded the stakeholder engagement workshop held in Oman to advance ASHW conservation and the potential benefits of a CMP. Noting that: (a) in 2008 the population of ASHW was estimated at 82 individuals, and that since then SC has repeatedly expressed concern about the urgent need for conservation management interventions; (b) detection of ASHW song during the breeding season declined from 59% of monitored hours in 2011-12 to 2% in the 2021/2022 season, and that sightings of ASHW in formerly core habitat have become sporadic, coinciding with sea surface temperature anomalies which are at or above an upper threshold for ASHW; (c) a weakening of the northwest Indian Ocean monsoon is causing deoxygenation and denitrification of surface waters, which is negatively influencing ecosystem productivity including sardines, an important ASHW prey; (d) a 35% regional increase in the volume of vessel traffic between 2008 and 2018 has increased the risk of ship strike within ASHW core habitat; and (e) two thirds of animals observed in the western Arabian Sea have scarring associated with fisheries interactions.

Attention: SC, CG, G, I, R, S

*The committee **commended** efforts fostered by authorities to study the ASHW population and **expressed deep concern** for the population based on its current status and the degrading condition of its habitat, **strongly reiterated** that the Arabian Sea humpback whales are priority candidates for a CMP, **welcomed** efforts to encourage range states to develop a joint CMS-IWC CMP. The sub-committee **strongly recommended** the following actions as a matter of absolute urgency throughout the ASHW range:*

- (1) produce a synthesis of ASHW distribution, identification of important habitats and potential threats throughout its range, and that these are used to develop marine spatial management plans across the region to mitigate impacts in high-risk areas with a focus on both commercial and artisanal fisheries interactions, and impacts from commercial shipping and ship strike risk assessments using multi-species and dynamic species distribution modelling approaches;*
- (2) support the continuation of the crew-based observer programme in Pakistan (SC/69A/CMP/05), and where possible, replicate this approach throughout the region especially in areas where systematic cetacean surveys are not feasible;*
- (3) continue the use of UAVs to assess body condition in conjunction with other metrics to assess seasonal and annual variation and to evaluate health, scarring, and foraging success and that photographic data collected in Oman from 2019-2022 is used to conduct an updated visual health assessment using the same methodology as used by Minton et al. (2022);*
- (4) conduct continuous and simultaneous passive acoustic monitoring in ASHW identified habitat in both the western Arabian Sea (different parts of Oman's waters, Socotra and the Gulf of Aden) and eastern Arabian Sea (Pakistan, India, Sri Lanka and the Maldives) to: (a) describe and assess changes in spatiotemporal distribution throughout the Arabian Sea; and (b) use song structure variation as an indicator of movements of individuals, potential sub-structure within the population, and monitor for future mixing with other populations;*
- (5) conduct further satellite telemetry studies specifically aimed at filling important data gaps in the temporal distribution and sex composition of existing data, including assessing movement behaviour of individuals during the periods February and June to October, and increasing the sample size of females;*
- (6) collate and analyze stranding data throughout the suspected ASHW range to better understand trends in whale distribution and mortality.*
- (7) complete genetic analyses of the *Megaptera indica* type specimen in comparison with genetic samples from Oman in order to clarify the taxonomic status of ASHW; and*
- (8) regularly update abundance and trend estimates with the most recently available photographic mark-recapture data;*

3.2 Central American humpback whales

SC/69A/CMP/08 presented the Report of the Third Workshop for the Conservation Management Plan for the Central American Humpback Whales which was held at La Paz, BCS, Mexico, on 28-29 October 2022. The workshop focused on scientific aspects of Central American humpback whales with an emphasis on updates to abundance estimates,

distribution, movements, migration and genetics. Participants of the workshop represented eight countries and discussed research priorities for furthering the conservation and understanding of Central American humpback whales. Research priorities identified by the participants include investigating how these changes may impact wintering area abundance and the need to determine a boundary, if one exists, between Central American and Mexico population units.

The last coordinated effort to study the movement and genetic structure of Central American humpback whales was during the project SPLASH-1 (2004-06). Since then, there has been an increase in humpback whale abundance and habitat use along the west coast of the U.S. From this large-scale effort, to understand humpback whale distribution and stock structure Pacific-wide, it was recognised that there was a need for trend data from Central America as well as a better understanding of movement patterns of Central American and Mexico population units.

The authors reported updated information on the abundance of humpback whales wintering in Central America and Southern Mexico, with an estimated 1,496 individuals (CV=0.171) for the 2019 - 21 seasons and a growth rate of 1.6% per year (SD=2.0%). Efforts are underway to update these estimates with sightings data from the 2022 winter season (including the second year of SPLASH 2 effort) thus far revealing similar results. The whales' movement and genetic data supported the conclusion that the Central American/southern Mexico wintering population is a single demographically independent population. Based on currently available data, the winter range of this population unit extends at least as far north as the Guerrero/Michoacán border and may include Michoacán, Colima, and Jalisco, at least in some years.

Investigating the influence of environmental and oceanographic changes on migration destinations and timing was identified as a goal in the report. A study conducted along the northern migratory route in central California, U.S. showed humpback whales were arriving, on average, 100 days earlier, than recorded in the past (Ingman *et al.* 2021). This study's modelling results showed that the arrival timing depended on sea surface temperature. Therefore, the question arose as to whether there have been any observations of changes in arrival or departure for the CAHW population. The authors noted changes in the number of whales, particularly in late October/November in the southern study area. However, it is still being determined whether there are more whales, or whether there is a change in timing of movement to another area or migration. The authors and collaborators are interested in investigating these questions as part of the CMP.

The authors noted that the next step for the 'priority CMP' is to integrate and present the complete initiative to CMP, however the revised CMP has not been completed yet. One reason being that the range states are made up of member and non-member nations of the IWC. Some are more familiar with the process than others, and therefore the process has taken longer, and more time is needed to revise the CMP. The importance of keeping both member and non-member nations engaged in the process was also recognised as important to the overall success of a future CMP. Progress is being made and stakeholders are working together to revise the CMP. Updates will be provided at the next SC.

The sub-committee noted that the SC and CC need to endorse the revised CMP at the next SC meeting in order for the Commission to endorse the CMP at its 2024 meeting. The sub-committee welcomed the report and updates from the Third Workshop for the Conservation Management Plan for the Central American Humpback Whales and commended the progress made.

Attention: SC, CC, CG

*At SC68B and SC68D, the Committee **reiterated** the recommendation that the Central American humpback whale population be treated as a **'priority population'** for the CMP development process. Therefore, the Committee:*

- (1) **recommended** the continuation and increased collaboration of the Range States; and*
- (2) **recommended** that the CMP be presented at the next meeting.*

3.3 Mediterranean CMPs

The sub-committee was informed that in accordance with ACCOBAMS Resolution 6.21, the ACCOBAMS Scientific Committee has devoted significant effort during the past triennium (2020-22) to develop draft CMPs for Mediterranean fin whales, Risso's dolphins, common dolphins and bottlenose dolphins.

Attention: SC, CC, CG

*The ACCOBAMS Scientific Committee recognises that whilst ideally there would be CMPs for all species and coherent units of the ACCOBAMS regions, priorities must be set. The ACCOBAMS Committee draws attention to recent IUCN Red List assessments in this context. Based upon this, it was **recommended** that the Parties consider the following as species/populations that would benefit from CMPs for the coming triennium (2023-25) and recommends that the relevant range states consider proposing them through ACCOBAMS for the CMP process.*

3.3 Mediterranean sperm whales

Mediterranean sperm whales are listed as 'Endangered' in the IUCN Red List. The Scientific Committee of the International Whaling Commission has recommended in 2020, 2021 and 2022 that this species be treated as a 'priority population' for the purpose of the CMP development process. In addition to ship strikes, anthropogenic noise and bycatch, Mediterranean sperm whales are particularly vulnerable to marine litter. Range States include Albania, Algeria, Cyprus, Egypt, France, Greece, Italy, Libya, Malta, Monaco, Morocco, Spain, Tunisia and Türkiye.

Attention: CG, CC, IGO

*The Committee **welcomes** the news that ACCOBAMS is considering the possibility of a CMP for sperm whales in the near future **and** agrees that consideration should be given to this being a joint ACCOBAMS/IWC CMP. The Committee **reiterates** the recommendation from SC68C (SC2149) that the Mediterranean sperm whale be treated as a 'priority population' for the purpose of the CMP development process and **recommends** that this initiative be undertaken as soon as practical.*

3.4 Mediterranean fin whales

A draft version of the CMP for Mediterranean fin whales, prepared by ACCOBAMS, was presented to the sub-committee. The overall goal of the Mediterranean Fin Whale CMP is to manage human activities that affect fin whales in the Mediterranean Sea in order to maintain a favourable conservation status throughout their historical range, based on the best available scientific knowledge. The CMP includes eight sections, of which the first three provide background information including biology and status of the Mediterranean fin whale population.

Section 4 reviews actual and potential anthropogenic threats and ranks these as being of low, moderate or high priority. Section 5 describes mitigation measures for those threats that have been accorded moderate or high priority. These include vessel strikes, noise (acute and chronic), habitat degradation including chemical pollution and micro- and nano-plastics, and climate change.

Section 6, dealing with public awareness and education, addresses the need to engage the public's interest and involvement in Mediterranean fin whale science and conservation, providing an opportunity for 'citizen science' to advance and improve efforts falling under the CMP. Outreach activities will provide range state parties and the public with easy access to up-to-date, accurate information on Mediterranean fin whales.

Section 7 outlines the actions called for and includes sub-sections on monitoring, implementation and coordination of the CMP, and on involvement of stakeholders. In order to be effective, the CMP must have a recognised, full-time co-ordinator who is responsible for *inter alia* actively involving stakeholders, especially those whose livelihoods may be affected.

Section 8 describes in detail the high priority actions identified at this stage. They fall under the following five headings: co-ordination, capacity building and public awareness, research essential for providing adequate management advice, monitoring, and mitigation measures. Descriptions of the high priority actions follow a common format, which consists of a description of action (specific objective, rationale, target, timeline), actors (responsible for co-ordination of the action, stakeholders), action evaluation and priority (importance, feasibility).

The most critical and urgent action is the implementation of the Mediterranean Fin Whale CMP co-ordinator (CORD-01). Funding must be found for this action at the earliest opportunity to appoint a co-ordinator and set up the Steering Group to ensure that the CMP moves ahead in a timely fashion. The need for stakeholder workshops to finalise the CMP is an essential part of the process, since reaching agreement amongst the primary stakeholders is key to the effectiveness of CMPs and the successful implementation of the actions. Participation should include relevant IGOs, especially the IWC who developed the CMP approach, local and national authorities, industry and NGOs.

In further discussion, ACCOBAMS Resolution 8.14 requests the CMP points of contact to finalise the different CMPs through organising dedicated stakeholder workshops, in collaboration with the ACCOBAMS Secretariat and with the Sub-Regional Coordination Units, as an essential part of the process contributing to the effectiveness and successful implementation of CMPs. It also requests the CMP points of contact to finalise the different CMPs through organising stakeholder workshops, in collaboration with the Secretariat and with the Sub-Regional Coordination Units, as an essential part of the process contributing to the effectiveness and successful implementation of CMPs.

Attention: SC, CG, CC, IGO

*The Committee **welcomed** the information that ACCOBAMS has adopted the IWC guidelines for this CMP and the progress made in developing a CMP for Mediterranean fin whales. It reiterated **recommendation (SC2151)** that these whales be treated as a 'priority population' for the purpose of the CMP development process. Therefore, the committee: **(1) recommended** that the relevant IWC members and ACCOBAMS parties finalise the CMP for fin whales in time for it to be presented at the next SC meeting and, in turn, allow it to be reviewed by the Commission in 2024;*

The draft CMP for fin whales is up to date. The next formal step to make the fin whale CMP formal is for it to be reviewed and endorsed at a Stakeholder Workshop although funding to support the meeting has not been secured. It was noted that in order to be endorsed by the Commission in 2024 the CMP must be finalised and presented at SC/69B unless a provisional approval was agreed upon.

The same process will need to occur for the other proposed CMPs. In discussion it was noted that stakeholder workshops for the other priority populations will include several species. ACCOBAMS endorses the CMP then the CMP is presented to CMP, SC and CC before presentation to the Commission.

Mediterranean Cuvier’s beaked whales. Mediterranean Cuvier’s beaked whales are listed as ‘Vulnerable’ in the IUCN Red List. Threats to such species include anthropogenic noise, habitat degradation, chemical pollution, bycatch and ingestion of marine litter. Range States include Albania, Algeria, Croatia, Cyprus, France, Greece, Israel, Italy, Monaco, Montenegro, Morocco, Spain and Türkiye.

Black Sea cetaceans. Harbour porpoises and bottlenose dolphins of the Black Sea are listed as ‘Endangered’ in the IUCN Red List. Common dolphins of the Black Sea are listed as ‘Vulnerable’. The Black Sea Commission (Sub-Regional Coordination Unit) recommended in 2021 to develop the updated Conservation Plan for Black Sea Cetaceans, as separate conservation plans for each of the three species. Threats to such species include bycatch (particularly for the harbour porpoise), habitat degradation (including prey depletion), illegal takes of bottlenose dolphins from the wild, and consequences of bio-invasions by alien species. Range States include Bulgaria, Georgia, Romania, Russian Federation, Türkiye and Ukraine.

4. PROGRESS ON PREVIOUS RECOMMENDATIONS

See Table 6 [after the reference list].

5. CLOSING REMARKS

For Intersessional Correspondence group, see Annex V. For the CMP Workplan for 2023/24 see Table 4.

Table 4
Workplan.

Item	Intersessional 2023/2024	2024 Annual Meeting (SC69B)
Southeast Pacific southern right whale	Continue Passive acoustic monitoring; photo-ID matching and VHR analyses of 2023 sightings.	Review workshop reports & progress on scientific aspects of CMP
Southwest Atlantic southern right whale	Multi-state mark recapture and population dynamics analyses of Argentina-Brazil photo-ID data to assess movement rates between regions, photo-ID matching between Uruguay with Argentina and Brazil catalogues, CMP coordinator liaise with the environmental authorities of the range countries to obtain the data required for GIS threats database.	Review intersessional workshop report and new information
Gray whale		Review progress on scientific aspects of CMP
Franciscana	Initiate the review of franciscana bycatch and implement the CMP.	Review intersessional workshop report and new information
Arabian Sea humpback whale	Complete the revised abundance and trend estimates; complete genetic analyses to provide clarity on the taxonomic status of ASHW; Biotelemetry ICG meeting; update song comparison including Oman and India sample.	Review progress on identified priorities for research and conservation
Mediterranean fin whale	Coordinate with ACCOBAMS to organise stakeholders’ workshop before SC69B and present final CMP at SC69B.	Review the final CMP for approval and endorsement
Mediterranean sperm whale	Coordinate work with ACCOBAMS to identify drafting working group and streamline the development process, including assessing research priorities and actions for initial email review by range states and others.	Review new information
Mediterranean Cuvier’s beaked whale	Coordinate work with ACCOBAMS to identify drafting working group and streamline the development process, including assessing research priorities and actions for initial email review by range states and others.	Review new information
South American river dolphins	Continue work on CMP. Workshop in Brazil to review and update CMP actions (2023).	Review new material for CMP
Central American humpback whale	Continue work on CMP.	Integrate and present the complete initiative to CMP. Review abundance estimates and population trends for the CMP

The report was adopted on 2 May 2023.

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Table 6
Progress on CMP Recommendations.

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
	SC1987	The Committee reiterates that Arabian Sea humpback whales are a priority candidate for a CMP (IWC, 2019c, p.31) and welcomes efforts to encourage range states to develop one. It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network to develop a strong scientific basis to guide the development of a CMP and recommends continuation of those studies. The Committee: (1) recommends that the work of the crew-based observer programme in Pakistan (SC/68A/CMP07) continue, and where possible, be replicated throughout the region, especially in areas where systematic cetacean surveys are not feasible; (2) encourages collaboration between the Pakistan observer programme and the IWC Bycatch Mitigation Initiative (BMI), so that lessons learned can be shared with other countries tackling bycatch in similar circumstances (and see Item 13.1).	Recommendation	2019	Arabian Sea Humpback Whale, Humpback Whale	IWC Contracting Governments, CMP Sub-committee, IWC Secretariat	Complete	16/02/21	The BMI has developed a project concept to the GEF Common Oceans ABNJ Tuna Phase 2 project. This includes activities relating to the Pakistan crew-based observer programme, and the sharing of lessons to other countries in relation to effective monitoring and mitigation solutions. Superseded by SC2026.		The BMI also held a meeting in collaboration with the IOTC on identifying current data gaps and future work areas for collaboration on cetacean bycatch. This will be shared as an INFO document at SC68C.
	SC1988	The Committee reiterates that Arabian Sea humpback whales are a priority candidate for a CMP (IWC, 2019c, p.31) and welcomes efforts to encourage range states to develop one. It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network to develop a strong scientific basis to guide the development of a CMP and recommends continuation of those studies. The Committee: (3) encourages continued collection of sightings and entanglement data by such programmes and urges that consideration be given to including measures of effort in the data collection protocols; (4) recommends use of passive acoustic monitoring to document (seasonal) whale presence with lower security risks and logistical challenges than boat-based surveys off the Sindh and Balochistan coasts (Pakistan); (5) highlights the importance of collecting genetic samples from India to establish the population identity of humpback whales in the eastern Arabian sea, whilst recognising the challenges this poses.	Recommendation	2019	Arabian Sea Humpback Whale, Humpback Whale		Ongoing	09/03/20			
	SC1989	The Committee reiterates that Arabian Sea humpback whales are a priority candidate for a CMP (IWC, 2019c, p.31) and welcomes efforts to encourage range states to develop one. It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network to develop a strong scientific basis to guide the development of a CMP and recommends continuation of those studies. The Committee welcomes the efforts to initiate range state collaboration within the region and especially the efforts of India including the proposed workshop. It suggests that the IWC Secretariat offer scientific support for the workshop. It also notes that the BMI and Large Whale Entanglement Response teams can provide advice on safe handling and mitigation techniques and perhaps the collection of genetic samples associated with bycatch.	Recommendation	2019	Arabian Sea Humpback Whale, Humpback Whale	IWC Contracting Governments, CMP Sub-committee, IWC Secretariat	Ongoing	16/02/21			Both the BMI and the GWERN coordinators have continued to engage with the ASWN including with offers of technical and scientific support. The GWERN initiative provided advice during the February 2021 dis-entanglement of an AS Humpback Whale. (Which workshop is being referred to? add to context).

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
SC2025, SC2026, SC2027, SC2028, SC2029, SC2030, SC2031	SC2024	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31) and recommends that the IWC Secretariat and SWG-CMP continue efforts with Oman and India towards development of a CMP in partnership with CMS, which already hosts a Concerted Action for the population.	Recommendation	2020	Arabian Sea Humpback Whale	CMPs Standing Working Group, CMP Subcommittee, IWC Secretariat, India, Oman	Ongoing	16/02/21	Outreach efforts continuing.		SC members based in India are reaching out to the relevant Indian Ministries to discuss current plans on CMP. The Indian Government has (in 2020) announced its 'Project Dolphin', which is a conservation plan for all cetacean species found in Indian waters.
	SC2025	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network for developing a strong scientific basis to guide the development of a CMP and recommends continuation of research presented at this meeting and the networks regional collaboration.	Recommendation	2020	Arabian Sea Humpback Whale	CMP Subcommittee	Ongoing	16/02/21	Named individual is Arabian Sea Whale Network		
	SC2026	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). Furthermore, the Committee: (1) recommends that the work of the crew-based observer programme in Pakistan (SC/68B/CMP/08) continue, if possible, mapping fishing effort as well as sightings, and that it be replicated throughout the region where possible, especially in areas where systematic cetacean surveys are not feasible;	Recommendation	2020	Arabian Sea Humpback Whale	CMP Subcommittee	Complete	16/02/21	Paper presented at SC68C (SC/68C/CMP/03). Superseded SC2141		Add Pakistan (member?); Mapping fishing activity and quantifying Small-scale fishing vessels has been identified as a priority action by the BMI/IOTC September 2020 meeting. It is included in the IWC project concept for the Common Oceans ABNJ Tuna Phase 2 project. Papers relevant to this are likely to be submitted to HIM SC68c.
	SC2027	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). Furthermore, the Committee: (2) encourages continued collaboration between the Pakistan observer programme and the IWC Bycatch Mitigation Initiative (BMI), and also encourages broader collaboration between relevant national governments, researchers and the BMI including through pilot projects on bycatch management, knowledge exchange or requests for capacity building initiatives;	Recommendation	2020	Arabian Sea Humpback Whale	Bycatch Standing Working Group, India, Oman, CMP Subcommittee, IWC Secretariat	In progress	16/02/21	Project concept developed to the GEF Common Oceans ABNJ Tuna Phase 2 project. Activities include: Pakistan crew-based observer programme, sharing of lessons on effective monitoring and mitigation solutions. Held a BMI/IOTC meeting on identifying data gaps and future work areas for collaboration on cetacean bycatch.		Pakistan This will be shared as an INFO document at SC68C.

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	SC2028	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). The Committee: (3) recommends that the use of passive acoustic monitoring to document whale presence and to analyse song be continued in Oman, on the west coast of India, and commences off the Sindh and Balochistan coasts of Pakistan; making every effort to ensure simultaneous recordings in all three counties, so that song comparisons can be made across the Arabian Sea;	Recommendation	2020	Arabian Sea Humpback Whale	Scientific Committee, India, Oman	Ongoing	01/01/70			Pakistan
	SC2029	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). The Committee: (4) recommends the continued use of unmanned aerial systems (UAS) and other photographic methods (systematic assessment of images for evidence of disease, epizootics and anthropogenic scarring) to assess body condition and health of ASHW off the coast of Oman with the objective of adopting these metrics as proxy indicators of some of the key ecological attributes related to on-going population trend assessment and conservation planning for ASHWs;	Recommendation	2020	Arabian Sea Humpback Whale	Scientific Committee, Oman	Ongoing	01/01/70			
	SC2030	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). The Committee: (5) recommends that fishing effort and location of gear that may cause entanglements of ASHW are more accurately mapped throughout ASHW range, especially in the most dense and critical habitat, to assess co-occurrence and risk, in order to better inform mitigation measures;	Recommendation	2020	Arabian Sea Humpback Whale	Scientific Committee	Not started	16/02/21			Mapping fishing activity and quantifying Small-scale fishing vessels has been identified as a priority action by the BMI/IOTC September 2020 meeting. It is included in the IWC project concept for the Common Oceans ABNJ Tuna Phase 2 project. Papers relevant to this are likely to be submitted to HIM.
	SC2031	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP (IWC, 2019b, p.31). The Committee: (6) recommends that a comparative study be conducted between the Oman ASHW catalogue and other Southern Hemisphere (SH) Indian Ocean catalogues to assess prevalence and coverage of barnacle scarring and colonisation, to determine whether this can be used as a proxy measure for distinguishing ASHW from SH whales.	Recommendation	2020	Arabian Sea Humpback Whale	Scientific Committee, SH Sub-committee	Not started	01/01/70			
	SC2138	The Committee reiterates that the Arabian Sea humpback whales are priority candidates for a CMP and welcomes efforts to encourage range states to develop one. It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network to develop a strong scientific basis to guide the development of a CMP and recommends continuation of those studies.	Recommendation	2021	Arabian Sea Humpback Whale	IWC Contracting Governments	Ongoing	24/06/21			

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
	SC2139	The Committee commends members of the Arabian Sea Whale Network for having achieved important conservation work despite the challenges of the pandemic over the past year. The Committee encourages continued regional collaboration among ASWN members, particularly the work proposed to be undertaken by the stranding working group and the acoustics working group.	Recommendation	2021	Arabian Sea Humpback Whale	IWC Contracting Governments	Ongoing	24/06/21			
SC2141, SC2142, SC2143, SC2144, SC2145, SC2146	SC2140	Furthermore, the Committee: 1) recommends that ASWN members and relevant ASHW range states undertake and support the work proposed in the CMS Concerted Action, especially those actions needed to address knowledge gaps and assess the Key Ecological Attributes (KEAs), and to apply them to practical management measures;	Recommendation	2021	Arabian Sea Humpback Whale	IWC Contracting Governments	Complete	24/06/21	Superseded by SC22142		
	SC2141	The Committee 2) recommends that the work of the crew-based observer programme in Pakistan (SC/68C/CMP/03) continue, and where possible, be replicated throughout the region, especially in areas where systematic cetacean surveys are not feasible;	Recommendation	2021	Arabian Sea Humpback Whale	Scientific Committee	Complete	24/06/21	Superseded by SC22143		Preceded by SC2026
	SC2142	The Committee 3) recommends that 1) once the Pakistan gillnet fleet has been mapped and characterised, the map(s) be overlain with models of ASHW distribution based on WWF Pakistan crew-based observer data (e.g. SC/68C/CMP/03 and similar papers from previous years) and models derived from satellite tracking of whales off the coast of Oman (e.g., SC/67A/CMP/15) to determine potentially high-risk areas for fishery interactions; 2) where and if species-specific bycatch data from WWF-Pakistan and other Arabian Sea fishing nations allow, humpback whale bycatch rates be calculated; and 3) this approach be applied to other Arabian Sea gillnet fisheries, including those in the Gulf of Aden and off Somalia, to generate coarse bycatch estimates where data allow, especially for humpback whales.	Recommendation	2021	Arabian Sea Humpback Whale	Oman	Ongoing	24/06/21	Superseded by SC22144		
	SC2143	The Committee 4) encourages: 1) that research include continuous and simultaneous passive acoustic monitoring in identified ASHW habitat in both the western Arabian Sea (different parts of Oman's waters) and eastern Arabian Sea (Pakistan, India and Sri Lanka) to better understand the population's spatiotemporal distribution and potential connectivity across a larger area of suspected range, as well as to understand if range or distribution shifts begin to emerge as a result of climate change and other threats (noting that this technique also yields valuable data on other whale species, e.g. blue whales); 2) that research include the use of UAVs to assess body condition, and that body condition indices be used together with other metrics to assess seasonal and annual variation and to evaluate health, scarring, and foraging success (e.g. Ramp et al. 2021); and 3) that future research include methods to assess (modelled) whale distribution in relation to oceanographic variables and data on fisheries and likely prey species, to better understand the drivers of distribution for ASHW, as well as the potential threat of fisheries interactions.	Recommendation	2021	Arabian Sea Humpback Whale	Oman, India	Complete	24/06/21	Superseded SC22145		

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
	SC2144	The Committee 5) recommends that continued efforts are made to simultaneously collect humpback whale song samples from the western and eastern Arabian Sea to allow further analysis of a) how Arabian Sea humpback whales change their songs over time on both sides of the Arabian Sea; and b) yearly variation in song similarity between the subregions, and what that might imply about long-term trends in exchange of animals across the Arabian Sea	Recommendation	2021	Arabian Sea Humpback Whale	IWC Contracting Governments	Ongoing	24/06/21			
	SC2145	The Committee 6) commends the effort to catalyse dedicated cetacean surveys in the Northern Indian Ocean, particularly where they can shed further light on ASHW distribution in areas that have not been covered by past research efforts.	Draw attention	2021	Arabian Sea Humpback Whale		Ongoing	24/06/21			
	SC2146	The Committee 7) recommends that wherever possible, such surveys, whether conducted from dedicated survey vessels or on platforms of opportunity: 1) are (co-)developed and implemented by relevant NIO range state scientists and organisations; 2) sightings of humpback whales recorded during surveys are shared with the relevant ASWN members in each ASHW range state and/or with the ASWN so they can be shared with members and contribute to a shared understanding of ASHW distribution in the NIO/Arabian Sea; and 3) any surveys that are organised include protocols that will allow individual identification of humpback whales that are encountered, especially in the Northern Indian Ocean/Arabian Sea, to enable comparisons with existing photo-identification catalogues from ASHW range states.	Recommendation	2021	Arabian Sea Humpback Whale	IWC Contracting Governments	Ongoing	24/06/21			
SC22143, SC22144, SC22145, SC22146, SC22147, SC22148	SC22142	The Committee reiterates that the Arabian Sea humpback whales are priority candidates for a CMP and welcomes efforts to encourage range states to develop a joint CMS-IWC CMP, and to consider its benefits for other whale populations, such as Northern Indian Ocean blue whales, which may be similarly distinct and threatened. It commends the efforts of scientists within the region and especially the Arabian Sea Whale Network for developing a strong scientific basis to guide the development of a CMP and recommends continuation of those studies. The Committee commends members of the Arabian Sea Whale Network for having achieved important conservation work despite the challenges of the pandemic over the past year. The Committee encourages continued regional collaboration among ASWN members, particularly the work proposed being conducted by the stranding working group and the acoustics working group.; Furthermore, the Committee: (1) recommends that ASWN members and relevant ASHW range states, undertake and support the work proposed in the CMS Concerted Action, especially those actions needed to address knowledge gaps and assess the Key Ecological Attributes (KEAs), and apply them to practical management measures;	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Contracting Governments, IWC Secretariat	Ongoing	09/11/22			SC1856, SC2140 previous rec

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
	SC22143	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The Committee (2) recommends that the work of the crew-based observer programme in Pakistan (SC/68D/CMP/03) continue, and where possible, be replicated throughout the region, especially in areas where systematic cetacean surveys are not feasible;	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Secretariat	Ongoing	09/11/22			Preceded by SC2141
	SC22144	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The Committee (3) recommends that: (a) once the Pakistan gillnet fleet has been mapped and characterised, the map(s) be overlain with models of ASHW distribution based on WWF Pakistan crew-based observer data (e.g. SC/68D/CMP/03 and similar papers from previous years) and models derived from satellite tracking of whales off the coast of Oman (e.g., SC/67A/CMP/15) to determine potentially high-risk areas for fishery interactions; (b) where and if species-specific bycatch data from WWF-Pakistan and other Arabian Sea fishing nations allow, humpback whale bycatch rates be calculated; and (c) this approach be applied to other Arabian Sea gillnet fisheries, including those in the Gulf of Aden and off Somalia, to generate coarse bycatch estimates where data allow, especially for humpback whales.	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Secretariat	Ongoing	09/11/22			
	SC22145	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The committee (4) encourages: (a) that research include continuous and simultaneous passive acoustic monitoring in identified ASHW habitat in both the western Arabian Sea (different parts of Omans waters, Socotra and the Gulf of Aden) and eastern Arabian Sea (Pakistan, India, Sri Lanka and the Maldives) to improve current understanding the populations spatiotemporal distribution and potential connectivity across a larger area of suspected range, as well as to understand if range or distribution shifts begin to emerge as a result of climate change and other threats (noting that this technique also yields valuable data on other whale species, e.g. blue whales); (b) that research include the use of UAVs to assess body condition, and that body condition indices be used together with other metrics to assess seasonal and annual variation and to evaluate health, scarring, and foraging success (e.g. Ramp et al., 2021); (c) that future research include further satellite telemetry studies and methods to assess (model) whale distribution in relation to shipping traffic, oceanographic variables and data on fisheries and likely prey species, to better understand the drivers of distribution for ASHW, as well as the risk associated with anthropogenic threats; (d) that revised abundance and trend estimates are completed with the most updated available mark-recapture data; and (e) that genetic analyses to provide clarity on the taxonomic status of ASHW be completed;	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Contracting Governments, IWC Secretariat	Ongoing	09/11/22			

Children	Number	Text	Type	Year	Species	To be Actioned By	Progress	Last Reviewed	Outcome	Further Action	Recommendation Notes
	SC22146	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The committee (5) recommends that continued efforts are made to simultaneously collect humpback whale song samples from the western and eastern Arabian Sea to allow further analysis of (a) how Arabian Sea humpback whales change their songs over time on both sides of the Arabian Sea; and (b) yearly variation in song similarity between the subregions, and what that might imply about long-term trends in exchange of animals across the Arabian Sea;	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Contracting Governments, IWC Secretariat	Ongoing	09/11/22			
	SC22147	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The committee (6) encourages the opportunistic collection of sightings data, acoustic recordings, and genetic samples and/or the implementation of cetacean surveys in regions in the suspected ASHW range where little or no current data is available on distribution or abundance. These areas include (from West to East) the Horn of Africa and the Gulf of Aden, the Arabian/Persian Gulf, the Arabian Sea coast of Iran, Arabian Gulf and the Arabian Sea coasts of Pakistan and India;	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Contracting Governments, IWC Secretariat	Ongoing	09/11/22			
	SC22148	The Committee reiterates that Arabian Sea humpback whales (ASHW) are a priority candidate for a CMP. The committee (7) applauds the planned stakeholder engagement workshop being held in Oman to discuss ASHW conservation and the potential benefits of a CMP, and also encourages scientists in the region to use the results of research conducted to date to develop resources and conduct activities that enhance capacity and support for the design and implementation of national-level management measures as well as a regional CMP. These resources and activities should take into account the economic and social costs and benefits of management options in relation to intensification of fisheries, shipping and coastal development in the region.	Recommendation	2022	Arabian Sea Humpback Whale	Scientific Committee, IWC Contracting Governments, IWC Secretariat	Ongoing	17/04/23	Workshop held Nov 2022. Summary included in SC/69A/CMP/04/Rev1		

Appendix 1

Agenda

1. Opening Remarks
 - 1.2 Election of Chair
 - 1.3 Appointment of Rapporteurs
 - 1.4 Adoption of the Agenda
 - 1.5 Documents available
2. Stocks with existing CMPs: new information and progress with previous recommendations
 - 2.1 SE Pacific southern right
 - 2.2 SW Atlantic southern right whales
 - 2.3 North Pacific gray whales
 - 2.4 Franciscana
 - 2.5 South American river dolphins
3. Progress with identified priorities
 - 3.1 Humpback whales in the northern Indian Ocean including the Arabian Sea
 - 3.2 Central American humpback whales
 - 3.3 Mediterranean sperm whales
 - 3.4 Mediterranean fin whales
4. Progress on previous recommendations