Annex L

Report of the Sub-Committee on Small Cetaceans

Members: Read (Chair), Al Kiyumi, Amaha Öztürk, Baker, Behel, Berggren, Birkun, Birtles, Bjørge, Borsani, Bräger, Brownell, Childerhouse, Cipriano, Deimer, Diake, Forde, Fortuna, Fossi, Funahashi, Gidding, Groch, Hammond, Haug, Iñiguez, Jeglinski, Kasuya, Kell, Kim, Kock, Komakhidze, Krahn, Krivokhizhin, Lauriano, Lawrence, Lee, Lima, Ludwig, Manzanilla, Marsili, Martin, Mikhalev, Minton, Moldoveanu, Moore, Natoli, Northridge, Olafsdottir, Öztürk, Palazzo, Palka, Pantoja, Park, Parsons, Paulus, Perrin, Perry, Rambally, Reeves, Reijnders, Reilly, Ridoux, Ritter, Rogan, Rojas-Bracho, Rose, Sadler, Senn, Simmonds, Sohn, Stachowitsch, Stanev, Suydam, Thiele, Tiedemann, Tsidulko, Urban, Urquiola, Vikingsson, Wade, Walters, Williams, Wilson.

1. ELECTION OF CHAIR

Read was elected Chair.

2. ADOPTION OF AGENDA

The adopted Agenda is given in Appendix 1.

3. APPOINTMENT OF RAPPORTEURS

Rogan and Wilson acted as rapporteurs.

4. REVIEW OF AVAILABLE DOCUMENTS

Documents relevant to the work of the sub-committee were: SC/55/SM1-28, SC/55/BC1 and a report entitled 'Cetaceans in the Mediterranean and Black Seas: state of knowledge and conservation strategies' prepared for the ACCOBAMS meeting of parties (Notarbartolo di Sciara, 2002)

5. REVIEW OF STATUS OF SMALL CETACEANS IN THE BLACK SEA

Three cetacean species occur in the Black Sea: the harbour porpoise (*Phocoena phocoena*), short-beaked common dolphin (*Delphinus delphis*) and common bottlenose dolphin (*Tursiops truncatus*). On several occasions in the past, the Scientific Committee has expressed concern regarding the status of small cetaceans of the Black Sea (e.g. IWC, 1983; 1992). This concern has arisen as a result of large directed takes in the past (Zemsky and Yablokov, 1974; Smith, 1982; Yel *et al.*, 1996; Zemsky, 1996), bycatches in gillnet fisheries (Pavlov *et al.*, 1996; Radu *et al.*, 2003; Tonay and Oztürk, 2003), declines in prey populations (Vinogradov, 1996; Prodanov *et al.*, 1997) and extensive habitat degradation (Mee, 1992; Mee and Topping, 1999). The Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the contiguous Atlantic area (ACCOBAMS) entered into force on 1 June 2001, providing the impetus for a new review of the status of cetaceans in the Black Sea.

The Black Sea is bordered by Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine. It is connected to the Mediterranean by the Turkish Straits System (TSS), which is comprised of the Istanbul (Bosporus) Strait, the Marmara Sea and the Canakkale (Dardanelles) Strait. To the North, the Black Sea is connected to the Azov Sea by the Kerch Strait (see Fig. 1). The Black Sea is an extremely productive system, although its waters are anoxic below 100-250m, and it is greatly influenced by freshwater input from the Danube and other rivers. The Azov Sea is a very shallow (maximum 14m deep), turbid, low-salinity environment. In severe winters ice covers most of the Azov Sea, but in summer the water temperature may increase to 25-30°C. Of the three species of cetacean recorded in the Black Sea, only harbour porpoises and sometimes bottlenose dolphins have been recorded in the Azov Sea (Tsalkin, 1940; Birkun *et al.*, 1997). The TSS region is an area of complex hydrography and is the only biological corridor for movement of marine organisms between the Black and Mediterranean Seas (SC/55/SM2).

5.1 Systematics

Sub-species names have been assigned to all three cetaceans in the Black Sea, based primarily on morphological evidence (e.g. Tomilin, 1957; Hershkovitz, 1966). The sub-species names are *Phocoena phocoena relicta* (Abel, 1905), *Tursiops truncatus ponticus* (Barabasch-Nikiforov, 1940) and *Delphinus delphis ponticus* (Barabasch-Nikiforov, 1938) The assignment of sub-specific status to Black Sea bottlenose dolphins, has been controversial (SC/55/SM16). The concept of sub-species in general and the definition of what constitutes a sub-species are the subjects of debate, with no agreed criteria. The sub-committee agreed that the level of population discreteness exhibited by all three species in the Black Sea was sufficient to meet criteria used to define sub-species, although it was recognised that the IWC does not use this level of taxonomic classification. Furthermore, it was noted that the degree of separation among population units, not the names applied to such units, was of most relevance to conservation.

5.2 Distribution and seasonal movements

There is very limited recent information on distribution of small cetaceans in the Black Sea region, although there are many published observations of this subject in the literature (e.g. Kleinenberg, 1956). In general, harbour porpoises and bottlenose dolphins are particularly found in coastal waters, including the Azov Sea, while the distribution of common dolphins is more pelagic.

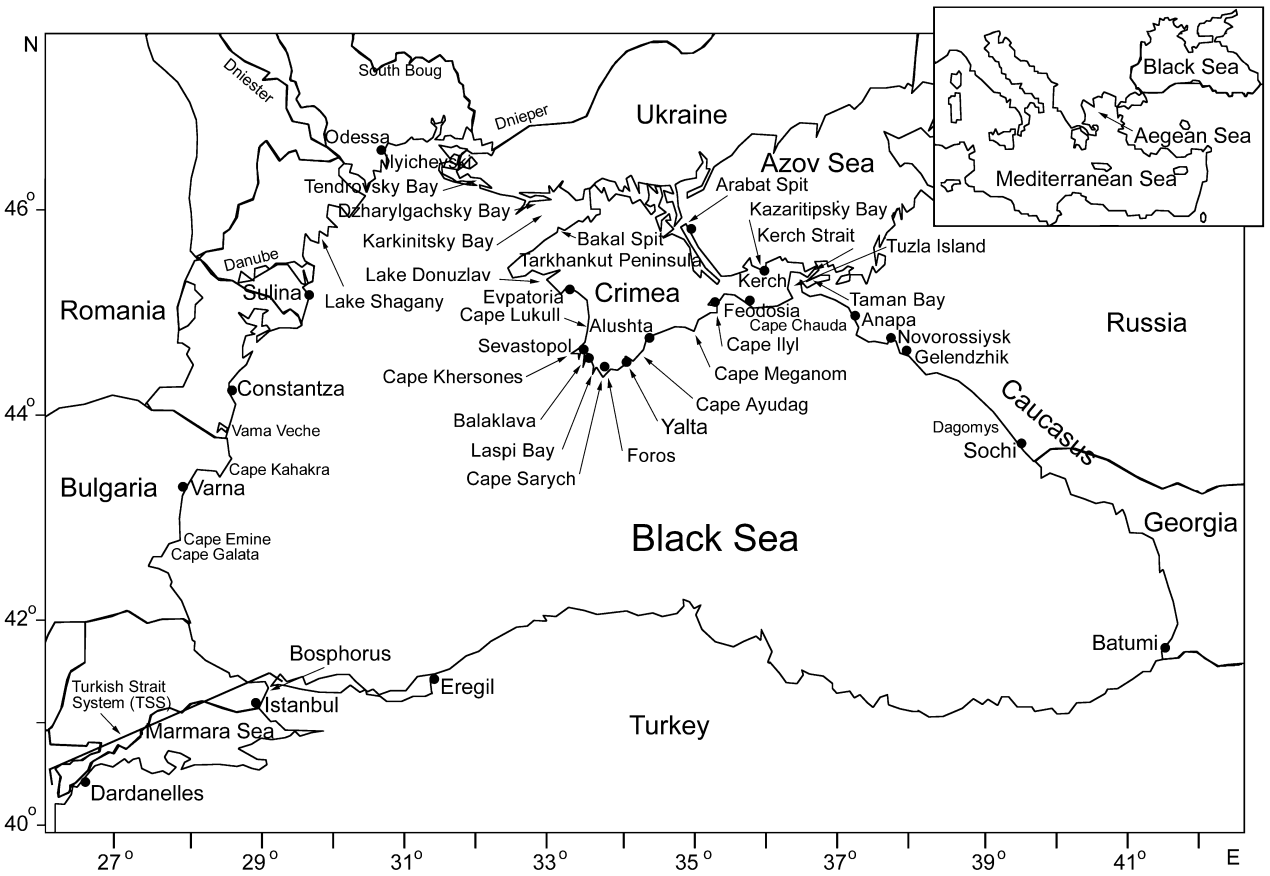

Fig. 1. Map of the Black Sea region extracted from Birkun (2004).

All three species are found in the TSS (SC/55/SM2). As discussed below, concern has been expressed regarding the effects of heavy vessel traffic in the TSS, which has displaced resident cetaceans and may have curtailed movements of individuals between the Black and Mediterranean Seas (SC/55/SM2).

In the Black Sea proper, bottlenose dolphins are distributed throughout coastal waters, although Mikhalev noted that sightings were also recorded in the open sea. A few resident or seasonally resident groups of bottlenose dolphins have been identified in Ukrainian waters (SC/55/SM17). The sub-committee noted that the use of photo-identification methods would greatly improve understanding of bottlenose dolphins in this region and **recommended** that a coordinated photo-identification programme be conducted throughout the Black Sea and TSS to provide information regarding their ranging patterns, seasonal movements and population structure. Such research could also establish the degree of movement of bottlenose dolphins into and out of the Mediterranean Sea.

Harbour porpoises move through the Kerch Strait in spring and are distributed in the southern and western parts of the Azov Sea during summer, before departing in late autumn or early winter (SC/55/SM17). The Azov Sea is, therefore, an important breeding and nursing area for this species (SC/55/SM15). Unusual mass mortality events associated with ice entrapment in the Azov Sea have been recorded four times in the last century (SC/55/SM16). Harbour porpoises are also present along the coasts of all Black Sea countries (SC/55/SM2; SC/55/SM17; SC/55/SM23; SC/55/SM27). A recent programme has established sightings and strandings schemes in Romanian waters. Shore-based surveys conducted between April and September 2002, recorded harbour porpoises between Sulina and Vama-Veche in coastal waters. Harbour porpoises were also sighted further offshore in vessel surveys, mostly in the northern part of the survey area. In Bulgaria, harbour porpoises have been observed in the area close to Cape Emine, east of Cape Galata and near Cape Kaliakra, especially from April to August (SC/55/SM27). Recent observations of a small number of harbour porpoises in the Aegean Sea indicate that there is some dispersal of this species out of the Black Sea (Frantzis *et al.*, 2001; Rosel *et al.*, 2003).

There is very little recent information regarding the distribution of common dolphins in the Black Sea. The species is not present in the Azov Sea (SC/55/SM15) but are sighted in offshore waters of the Black Sea, with occasional sightings along the coasts of all six Black Sea countries. Seasonal movements of common dolphins into coastal waters may be associated with those of sprat, anchovy and other pelagic fish species (SC/55/SM2; SC/55/SM17; SC/55/SM23; SC/55/SM27). Common and bottlenose dolphins have been reported from the TSS but groups of dolphins that were considered resident in the Istanbul Straits no longer exist (SC/55/SM2).

5.3 Population structure

It is well established that the Black Sea population of harbour porpoises is discrete and the sub-committee did not review any new information on this subject. The Black Sea population is well differentiated on the basis of both genetic (Rosel *et al.*, 1995; 1999) and morphological (Kleinenberg, 1956) evidence. The Black Sea population of harbour porpoises is effectively isolated from those in the Atlantic, so it is highly unlikely that this species would recolonise this

area if extirpated. As noted above, a few harbour porpoises have been recorded from the Aegean Sea; their genetic signatures and small size-at-age suggest that these individuals originated from the Black Sea (Rosel *et al.*, 2003).

The sub-committee reviewed new information on the population structure of bottlenose and common dolphins in the Black Sea, Mediterranean Sea and eastern North Atlantic (SC/55/SM11). For common dolphins, only a limited amount of material (seven samples) was available from the Black Sea. Despite the limited nature of this material, analysis of nine microsatellite DNA loci showed significant differences between Black Sea, Mediterranean and Atlantic samples. In addition, evidence for sub-structure within the Mediterranean basin was detected. Common dolphins from the Black Sea are also morphologically distinct from their Mediterranean counterparts (Tomilin, 1957), so it is likely that gene flow between these two regions is rare or non-existent. Based on these few samples, the sub-committee provisionally concluded that common dolphins in the Black Sea are distinct from those in the Mediterranean Sea and should be treated as a discrete unit for conservation purposes until further analyses are completed.

The sub-committee then considered the issue of bottlenose dolphin population structure in some detail (SC/55/SM11). A reduction of genetic variability at all microsatellite loci was observed in the Black Sea population when compared with populations in the Mediterranean Sea. In addition, F_{st} values (an indicator of genetic divergence between populations) were high, indicating a strong degree of divergence. Natoli provided further evidence of significant genetic differentiation between bottlenose dolphin populations in the Black and Mediterranean Seas from unpublished results of mtDNA analysis. Three related haplotypes were unique to the Black Sea population, indicating that there has been time for population divergence and not just a reduction in genetic diversity relative to the Mediterranean population. Natoli, Cipriano and Baker noted that this evidence, together with the high F_{st} values, strongly suggests isolation of the Black Sea population.

On the basis of these results, the sub-committee concluded that there is very limited or no gene flow between bottlenose dolphins in the Black and Mediterranean Seas. Given the amount of genetic divergence detected (SC/55/SM11), and the existence of morphometric differences (reviewed in Birkun, 2004), the Black Sea population has likely followed a separate evolutionary pathway since its foundation. It is unlikely that the Black Sea population of bottlenose dolphins would be replaced on an ecological time scale, if it was extirpated. Therefore, the sub-committee **concluded** that bottlenose dolphins in the Black Sea be treated as a separate and discrete unit for conservation purposes.

The sub-committee **recommended** that additional research be conducted on the population discreteness of common bottlenose dolphins and short-beaked common dolphins from the Black Sea, using additional samples from this and adjacent regions. Such research should pay particular attention to the potential for dispersal into and out of the Mediterranean Sea through the Turkish Straits System. Researchers working with stranded and bycaught cetaceans in all range states of the Black Sea are encouraged to make samples available for analyses of population structure. Additional material may be obtained from museum specimens and biopsy sampling. Furthermore, the sub-committee **recommended** that research should be conducted on population structure of all three species within the Black Sea, Azov Sea and Turkish Straits System. Such research should use methodologies most appropriate for each species, including molecular analysis of mitochondrial and nuclear markers

5.4 Abundance

There have been very few recent surveys to estimate abundance of cetaceans in the Black Sea and adjacent waters. Past estimates of abundance (Zemsky and Yablokov, 1974; Çelikkale *et al.*, 1989) were criticised by the IWC Scientific Committee on methodological and analytical grounds (Buckland *et al.*, 1992; IWC, 1992).

There have been two recent surveys of cetaceans in the TSS using line transect methods. The abundance of bottlenose dolphins was estimated from vessel surveys using line-transect methodology as 485 (203-1,197; 95% CI) during October 1997 and 468 (184-1,186; 95% CI) in August 1998 (Dede, 1999). Abundance of common dolphins in the same region was estimated as 773 (292-2,059; 95% CI) during 1997 and 994 (390-2,531; 95% CI) in 1998 (Dede, 1999).

The sub-committee reviewed two line transect aerial surveys conducted in the Azov Sea and adjacent waters by Birkun and colleagues in some detail (SC/55/SM15). These surveys were undertaken in July 2001 in the Azov Sea and the Kerch Strait and in August 2002 in the Kerch Strait, Azov Sea and inshore waters of the Black Sea between Cape Chauda, Ukraine and Dagomys, Russia. Both surveys used amphibious, superlight aircraft. Estimates of abundance were calculated for harbour porpoises and bottlenose dolphins; no common dolphins were observed. The first survey yielded an uncorrected estimate of 2,922 ± 1,200 (SD) harbour porpoises in the Azov Sea and 76 ± 36 (SD) bottlenose dolphins in the Kerch Strait. Analysis of results from the second survey resulted in uncorrected estimates of 88 ± 47 (SD) bottlenose dolphins in the Kerch Strait and 823 ± 395(SD) for the adjacent Black Sea shelf area and 936 ± 361 (SD) harbour porpoises in the southern Azov Sea.

The sub-committee welcomed this work and commended the authors on a well-designed survey. Palka noted that both the survey and analytical methods were generally sound, but that the surveys could be improved if speed and altitude were kept constant (although the light nature of the aircraft used during these surveys prevented this), efforts made to verify group sizes from the air, and the assumption of $g(0) = 1$ was tested. The sub-committee drew attention to the presence of 16 floating harbour porpoise carcasses and possibly one bottlenose dolphin observed during the two surveys (presumably the result of gillnet bycatches) and suggested that these observations could be used to estimate a minimum, uncorrected estimate of bycatch mortality in the region. Similarly, it might be possible to qualify the distribution of fishing effort from observations of vessels data made during aerial surveys. The sub-committee **recommended** that systematic abundance surveys, such as those described in SC/55/SM15, should be conducted for all three species throughout their range in the Black Sea, Sea of Azov and Turkish Straits System. These surveys should use methodologies (such as line transect surveys and photo-identification mark-recapture) most appropriate for each species.

5.5 Life history

No new information was presented to the sub-committee on life history parameters of Black Sea cetaceans, although there are several published reports on this subject (e.g.

Tsalkin, 1940; Kleinenberg, 1956; Tomilin, 1957). All three species in the Black Sea are known to be smaller than their Mediterranean or Atlantic counterparts. The sub-committee **recommended** that further work be conducted on the life history of these species throughout the Black Sea and TSS using samples from stranded or bycaught specimens.

5.6 Ecology

Information on the diet of cetaceans in the Black Sea is available from stomach content analysis of individuals of all three species taken as fisheries bycatch and during the former dolphin fishery (Birkun, 2002d). Anchovy and sprat are important prey items for both common dolphins and harbour porpoises, whereas whiting is an important prey species for harbour porpoises and bottlenose dolphins. One introduced species, the far-east mullet (*Mugil so-iuy*) has become a prey item of bottlenose dolphins in Ukraine and Russia. In the Azov Sea, gobies (Gobiidae) form an important part of the diet of harbour porpoises (Birkun, 2002d). Whiting (*Merlangius merlangus euxinus L.*), sprat (*Sprattus sprattus*) and an unidentified sole (*Solea* sp.) species have been recorded from the stomachs of harbour porpoises in the Turkish Black Sea (Tonay and Oz, 1999).

5.7 Habitat

The Black Sea is one of the most highly modified marine ecosystems in the world and the habitats of cetaceans in this basin have been degraded by a myriad of human activities. The sub-committee briefly reviewed some of these anthropogenic changes, but a full discussion of their impact was not possible due to the limited time available.

The intensity of shipping traffic has increased dramatically in recent decades throughout the Black Sea, as a result of increases in both the number and size of vessels (SC/55/SM2; Birkun, 2002c). Traffic in the TSS area is particularly heavy, with as many as 50,000 large vessel transits yearly and two thousand smaller vessel movements daily through very restricted areas. Movements of cetaceans through the TSS are restricted by its topography. The Istanbul Strait, for example, is long (30km) and narrow, ranging in width from 0.74-1.5km. Öztürk noted that although cetaceans continue to occur in the Turkish Strait System, it is widely believed that the density of cetaceans in this area has decreased. As noted above, the TSS is an area through which genetic exchange can occur between Black Sea and Mediterranean populations of common and bottlenose dolphins, so degradation of this habitat may further isolate the Black Sea populations of both species. Furthermore, such heavy shipping traffic may increase the risk of both chronic and acute pollution. An oil spill in 1994 resulted in the death of several cetaceans: 8 harbour porpoises and 2 bottlenose dolphins (Ozturk and Ozturk, 1996).

The Kerch Strait is another area of high cetacean density where the impact of vessel traffic may be particularly acute (Birkun, 2002c). In addition, several areas of the northwestern Black Sea and Azov Sea are subject to oil and gas development and further expansion of these industrial activities is likely. To date, there have been no studies of the impacts of vessel noise or disturbance on any Black Sea cetaceans. Such studies would be of considerable value. In particular, the sub-committee **recommended** an assessment of the potential for disturbance caused by maritime traffic in the Turkish Strait System and the Kerch Strait.

Some contaminants have been found to be in particularly high concentrations in the tissues of Black Sea cetaceans. This is perhaps not surprising, as the Black Sea receives pollutants directly from bordering states, in addition to the discharge of several major European rivers. In particular, harbour porpoises in the Black Sea are heavily polluted by persistent organochlorine compounds (Tanabe *et al.*, 1997). These authors concluded that DDT was still being used as late as 1993 in the Black Sea watershed. Levels of PCB contamination in harbour porpoises were comparable or lower than those in other areas, but concentrations of HCHs were surprisingly high, marking the Black Sea as a world hotspot for this contaminant. Birkun reviewed results from several other studies of contaminants, including trace metals and radionuclides (Birkun, 2002b). He also drew attention to the widespread lack of sewage treatment around the Black Sea coastline. Intestinal microbes contained in this sewage are considered a hazard to human bathers and may also infect coastal cetaceans, particularly harbour porpoises and bottlenose dolphins (Birkun, 2002b; 2004). The deaths of harbour porpoises in several unusual mass mortality events were associated with severe microbial infections in their lungs and other tissues.

The isolated nature of the Black Sea makes it particularly vulnerable to the impacts of invasive species. These effects have been particularly evident in the invasion of the ctenophore *Mnemiopsis leidyi*, which is believed to have been carried from the western Atlantic in ballast water. After its arrival in the 1980s, it spread rapidly and reached a maximum biomass of one billion tons (Vinogradov *et al.*, 1989). As a result of this explosive growth, there has been a cascade of changes to the Black Sea marine food web, including unknown ecological effects on cetaceans. *Mnemiopsis leidyi* consumes fish eggs and larvae and has greatly reduced the standing stocks of several important commercial fish species. The introduction of alien species, together with uncontrolled fishing practises, has reduced the abundance of most benthic and pelagic commercial fish species. It is unknown how this depletion affects the ecology or demography of cetaceans in the Black Sea, but these changes in prey populations may have increased the perception of competition between cetaceans and fisheries among fishermen.

5.8 Directed takes

Uncontrolled directed takes were the primary threat to cetaceans in the Black Sea until a total ban on this harvest was imposed in 1983 (SC/55/SM16). Birkun noted, therefore, that this year (2003) is the 20th anniversary of the ban on commercial dolphin and porpoise fisheries in the Black Sea. All three species were harvested for oil, meat and other products from the 1830s throughout most of the 20th century. As many as four to five million individuals may have been removed during this time (Zemsky and Yablokov, 1974; Smith, 1982; Yel *et al.*, 1996; Birkun, 2002a). The ban appears to have been broadly successful with no evidence of continued directed takes. Bräger noted that all states that have acceded to ACCOBAMS have agreed to a prohibition on all directed takes.

The sub-committee discussed whether it might be possible to use records of these directed catches to reconstruct past population sizes and in so doing gain insight into the current status of the three species. The sub-committee **recommended** that the possibility of conducting a retrospective analysis of directed catches and bycatches should be explored. The methods for such analysis are well developed and have been used with other small cetaceans

(Wade, 1993). This approach will require estimation of species ratios, product conversion factors and methods to account for hunting loss, so that aggregate data on total cetaceans landed by weight can be converted to removals by species, area and year.

Directed lethal takes no longer occur, but removals of bottlenose dolphins have continued. These removals have been primarily for use in dolphinaria, scientific institutions and military facilities in Black Sea states and elsewhere. There have been a number of recent initiatives to reduce or eliminate these captures. For example, the Ukrainian Ministry of the Environment recently banned such removals for a three-year period. In 2002, CITES set a zero quota for primarily commercial export of Black Sea bottlenose dolphins (SC/55/SM12). In addition, in 2003 the Russian Federation denied a request for a permit to capture and remove bottlenose dolphins. In view of the many other threats faced by this species in the Black Sea, the sub-committee welcomed these conservation measures and **recommended** that any removals of live cetaceans be preceded by a rigorous assessment of the impacts of such removals. Such an assessment should consider the size of the source population and its ability to sustain such removals.

5.9 Incidental takes

The sub-committee then reviewed the incidental captures of Black Sea cetaceans in fishing activities. All three species are known to be taken as bycatch, but incidental takes of harbour porpoises are of greatest concern. Bottlenose dolphins and harbour porpoises are caught in a variety of fisheries but bottom-set gillnets set for turbot pose the greatest threat. These bycatches appear to occur in all Black Sea shelf waters, including all six states (SC/55/SM2; SC/55/SM16; SC/55/SM23, SC/55/SM27; Birkun, 2002d; Radu *et al.*, 2003). In all areas harbour porpoises are the most frequently entangled and preliminary indications suggest that bycatch rates of this species are high. For example, in six trips carrying observers in Turkish waters, 13 harbour porpoises were taken as bycatch (SC/55/SM2). Similar efforts to estimate bycatch rates are underway elsewhere. For example, in Romania an initiative has recently been started to interview local fishermen to document and assess bycatch.

The bycatch of common dolphins occurs primarily in pelagic trawling operations, but little is known of its extent or magnitude (SC/55/SM16). The sub-committee encouraged efforts to assess the nature and magnitude of these bycatches.

It was also clear from the sub-committee's discussions that illegal, unreported or unregulated (IUU) fisheries are widespread in the Black Sea and that a very significant bycatch occurs in these fisheries which are especially difficult to monitor. For example, Radu *et al.* (2003) reported on efforts to recover gillnets that had been unlawfully set in Romanian waters in April 2002. Approximately 100 specimens were incidentally caught; at least 20 harbour porpoises were retrieved during confiscation of these nets. Furthermore, between March and September 2002, 56 cetaceans were found stranded on beaches; most (90-95%) were suspected bycatches (SC/55/SM23). The sub-committee **recommended** that the magnitude of bycatches should be determined for all three species of cetaceans in Black Sea fisheries. This assessment should be conducted as a matter of some urgency for bycatches of harbour porpoises in bottom-set gillnet fisheries for turbot and sturgeon. Whenever possible, independent observer monitoring programmes should be used to estimate bycatch rates. In addition, efforts should be made using indirect means to estimate fishing effort and cetacean bycatches in IUU fisheries.

The sub-committee was encouraged to learn that both the General Fisheries Commission of the Mediterranean (GFCM) and the Black Sea Environmental Programme consider bycatch to be an important issue (see, for example, Ozturk and Karakulak, 2003) and that the draft Black Sea Fisheries Convention of Sustainable Fisheries also treats bycatch as a serious concern. The sub-committee urges these bodies to take action in determining the magnitude of bycatch for all three species of cetaceans in Black Sea fisheries. As noted above, this assessment should be undertaken as a matter of urgency for bycatches of harbour porpoises in turbot bottom-set gillnet fisheries. The sub-committee also urges these bodies to investigate potential mitigation measures to reduce bycatch and offers its assistance with both the assessment and mitigation of these bycatches.

To date, no attempts have been made to mitigate cetacean bycatch in the Black Sea. In the past, the sub-committee has concluded that it is not necessary to conduct further experiments to demonstrate the efficacy of acoustic alarms to reduce the bycatches of harbour porpoises in bottom-set gillnet fisheries (IWC, 2000). However, members of the sub-committee questioned whether acoustic alarms could be used successfully in the Black Sea because of the small-scale nature of gillnet fisheries and the existence of widespread IUU fisheries. Furthermore, at the present time there is no effective management system in place to address cetacean bycatches; such a system is necessary to ensure the proper use of such devices. The sub-committee **recommended** therefore, that any efforts to implement acoustic alarms to reduce bycatch rates of cetaceans in Black Sea fisheries should be preceded by a comprehensive evaluation of the potential efficacy of these devices with respect to each fishery's scale, methods, economic value and management regime.

5.10 Other

SC/55/SM17 reviewed mass mortality events observed among harbour porpoises and common dolphins of the Black Sea. It has not been possible to determine the ultimate cause of all such events, but an epizootic of common dolphins in 1994 was determined to have been caused by a morbillivirus. Studies of serum from harbour porpoises in subsequent years suggest that this virus is persistent in the Black Sea. It is likely that the many changes in the habitat of Black Sea cetaceans, including high levels of persistent organochlorine contaminants, the presence of human pathogens from sewage outfalls, and a considerable reduction in prey populations, interact in a complex manner with such diseases.

Birkun also described reports of lone neonate harbour porpoises recorded in the northern Black Sea in May 2003. These animals are very young and unlikely to survive alone. The sub-committee discussed these unusual observations and concluded that bycatch of lactating females could be responsible. To date there have been no observations of violent interactions between bottlenose dolphins and harbour porpoises, similar to those observed in other areas. Researchers conducting post-mortem examination of stranded dolphins and porpoises are aware of the pathological evidence associated with such interactions, but have not observed any instances of such trauma.

The sub-committee briefly reviewed efforts to record data and gather samples from cetacean strandings and bycatches in the riparian states of the Black Sea. Samples collected from bycaught and stranded specimens have proven to be of great value in providing information regarding the life history, ecology and health status of other populations of small cetaceans. Currently, however, the extent and intensity of such efforts vary substantially across the region. In only a few areas, such as Crimea, European Turkish coast and Romania are there well established strandings programmes, and in most others such programmes are absent or only in the very early stages of development (SC/55/SM2; SC/55/SM23; SC/55/SM27). In all areas the coverage of stranding programmes is incomplete. The sub-committee reiterated the considerable value of such programmes and encouraged researchers to assist in their development through regional and international collaboration.

5.11 Consideration of status

The sub-committee was unable to fully evaluate the status of cetaceans in the Black Sea due to a lack of information. In general, however, the sub-committee concluded that the three species likely experienced a dramatic decline in abundance in the 20th century as a result of large directed catches. In addition, current fisheries bycatches and extensive habitat degradation pose significant threats to the continued existence of these species.

Globally, bottlenose dolphins are listed as *Data Deficient* by the World Conservation Union (IUCN) and are listed in Appendix 2 of the Convention on Trade in Endangered Species (CITES). In response to a proposal from Georgia to transfer Black Sea bottlenose dolphins to Appendix 1 of CITES, a zero export quota was established for Black Sea bottlenose dolphins at the 2002 Conference of Parties (SC/55/SM12), which remained with other bottlenose dolphins in Appendix 2. This agreement effectively prohibits international trade of Black Sea bottlenose dolphins for 'primarily commercial purposes'. Simmonds outlined the reasons for the CITES trade ban (noting the original case made for the listing under CITES Appendix 1, using CITES Res. Conf, 9.2.4) but there remains a risk of trade continuing under other guises.

As noted above, the sub-committee concluded that the Black Sea population of bottlenose dolphins should be considered as a separate and discrete unit for conservation purposes. Critical information on abundance, population structure, rate of increase and mortality levels are lacking for this population. The known threats to bottlenose dolphins in the Black Sea are bycatch in fisheries, habitat degradation and directed catches of live specimens. The sub-committee expressed concern over the potential effects of these threats to small and possibly isolated population units that may occur throughout the Black Sea and adjacent waters. Given the degradation of their habitat and the existence of current bycatches and past directed catches, the sub-committee expressed concern regarding the status of bottlenose dolphins in the Black Sea.

It is widely recognised that harbour porpoises in the Black Sea region constitute a separate population (Rosel *et al.*, 1995; 1999). The IUCN lists the Black Sea harbour porpoise population as vulnerable, although critical information on absolute abundance, and population trends is lacking. The primary current threats to harbour porpoises in the Black Sea are bycatch in fisheries and habitat degradation including the potential effects of contaminants. In addition, very large, directed catches of this species occurred throughout the Black Sea during the past century. The sub-committee expressed particular concern over the large but unquantified bycatches of harbour porpoises in gillnet fisheries and concluded that the conservation status of this population would be greatly improved if existing fisheries regulations restricting fishing effort and the use of certain gear types were enforced. Large and potentially unsustainable bycatches of harbour porpoises occur in such fisheries, particularly bottom-set gillnet fisheries, throughout the Black Sea shelf area.

The global status assigned to common dolphins by the IUCN is 'least concern', although there is a current proposal to list the population in the Mediterranean Sea as endangered (Reeves, pers. comm.). Of all the Black Sea cetaceans, least is known about common dolphins. Limited genetic evidence suggests that common dolphins in the Black Sea may constitute a discrete population. This population has experienced at least one morbillivirus epizootic and animals are taken in unknown numbers in trawl fisheries. The sub-committee recognised the existence of these threats, but was unable to evaluate the status of this population because information on population structure, rate of increase and mortality levels is lacking.

The sub-committee noted that cooperation between range states, such as that established under ACCOBAMS, will be essential to the conservation of cetaceans in the Black Sea. Members of the sub-committee also agreed that collaboration between the IWC Scientific Committee and ACCOBAMS should be encouraged, as agreed in the memorandum of collaboration between IWC, CMS and its relevant regional agreements. Equally important will be adequate support from interested researchers and groups from both inside and outside the region, together with funding from appropriate authorities and non-governmental organisations. ACCOBAMS Parties have agreed, as one of their priorities in the 2002-2006 period, that a conservation plan for Black Sea cetaceans should be prepared. Ukraine and Turkey have already established their National Plans of Action in order to protect cetaceans and Romania is currently preparing a similar plan in consultation with the ACCOBAMS Secretariat.

The development of conservation plans for Black Sea cetaceans could be informed by similar processes that have been ongoing elsewhere (notably in northern Europe) including those under the auspices of ASCOBANS (for example the Recovery Plan for Harbour Porpoise in the Baltic Sea and the SCANS surveys) and those within the framework of the IUCN Species Survival Commission (Reeves *et al.*, 2003).

The sub-committee expressed its appreciation to the invited experts from the region who attended the meeting, presented their work and contributed to the discussion and, in particular, to Birkun for the extensive background documentation prepared for the meeting and for the assistance given to the Convenor in arranging range-state participation.

6. PROGRESS ON PREVIOUS RECOMMENDATIONS

The sub-committee noted IWC Resolution 2001-13 (IWC, 2002b), which directs it to continue to review progress on recommendations and resolutions relating to critically endangered stocks of small cetaceans on a regular basis. This year, the sub-committee reviewed progress on several of these stocks.

6.1 Baiji

The baiji (*Lipotes vexillifer*) is the most endangered cetacean. Its range is restricted to the Yangtze River and its population size is probably only a few tens of animals (IWC, 2001). Given its critically endangered status, the Commission has requested that the Government of China report progress on the conservation of this species to the Scientific Committee on an annual basis. This year the sub-committee was pleased to receive information by way of the 2002 Commission meeting in Shimonoseki. The sub-committee welcomed the news that the Government of China has introduced a seasonal fishing moratorium in the middle and lower reaches of the Yangtze River, and is planning further such measures in the upper reaches of the river. The sub-committee was also encouraged by China's announcement that it would establish a national plan with respect to the environmental degradation of the river.

The sub-committee also noted the publication of the results of baiji surveys conducted by Chinese scientists from 1997 to 1999 (Zhang *et al.*, 2003). Baiji were seen in each year of the study, confirming the continued existence of the species. This paper also reports observations of interactions between baiji and finless porpoises and cites electro-fishing and the use of explosives for construction as threats to the continued existence of the bajii. The sub-committee agreed that this new work was extremely valuable. Reeves briefly reviewed the outcome of a meeting organised by Conservation International in April 2003, intended to consider the options available for intervention to prevent the baijis's extinction.

There was agreement among sub-committee members that these new initiatives and information offered a glimmer of hope for the future of the baiji, but that prospects for its survival continue to be extremely poor. The sub-committee looks forward to receiving further news of any developments regarding its status.

6.2 Vaquita

The sub-committee has followed with great interest progress on conservation efforts on behalf of the highly endangered vaquita (*Phocoena sinus*) and this year reviewed three papers on this topic. Acoustic surveys of the distribution of the vaquita in the northern Gulf of California were carried out in 2002 and 2003 (SC/55/SM5). The results of these surveys suggest that the current distribution of this species may have contracted further during the past few years. The key remaining area of vaquita occupancy is fished intensively and bycatch mortality may be expected. This area is only partially inside the boundaries of the Upper Gulf of California and Delta of the Colorado River Biosphere Reserve.

The sub-committee reviewed progress on the conservation of vaquita in Mexico (SC/55/SM4 and SC/55/SM28). The Government of Mexico, its scientists, and several non-governmental organisations have been working very hard to implement the recommendations of the International Committee for the Recovery of Vaquita (CIRVA). It was clear that implementation of such conservation measures has been extraordinarily difficult, given the socio-economic realities of the region. These conservation measures include education and outreach programmes, significant reductions in fishing effort, changes to fisheries policy and regulations, cooperation with artisanal fisheries groups, the implementation of environmental impact assessments for trawling operations and work to develop new and less destructive fishing gears. The sub-committee welcomed the progress achieved in these diverse conservation measures over the last year and greatly commended Rojas-Bracho, Manzanilla-Naim, the Government of Mexico, and the coalition for the upper Gulf of California for their considerable efforts to improve the future prospects for the vaquita under very difficult conditions. The sub-committee reiterated its grave concern over the survival of this species. It noted that CIRVA would meet later in 2003, with the participation of several sub-committee members, and looked forward to receiving an update of progress towards conservation of this highly endangered species again next year.

6.3 Harbour porpoises in the Baltic Sea

The harbour porpoise has experienced major declines in parts of its range, perhaps most notably in the Baltic Sea. An aerial survey conducted in July 1995 estimated 599 (CV 0.57) porpoises present in the Baltic Sea (Hiby and Lovell, 1996). This survey covered the suggested current range of the Baltic porpoise, except Polish coastal waters where bycatches are known to occur and where it has been suggested that a significant part of the Baltic population might still occur. Acoustic and visual boat-based surveys were conducted in the Baltic Sea and adjacent waters in 2001 and 2002 (SC/55/SM21). The 2001 survey confirmed that porpoises still occur in Polish waters of the Baltic but only in low numbers (SC/54/SM3).

The 2002 survey was conducted during six weeks in July and August covering the known range of the Baltic harbour porpoise (i.e. the combined area of the 1995 and 2001 surveys). Three adjacent areas, the Mecklenburger Bight and the North and South Kiel Bights, were also surveyed to estimate the relative abundance of porpoises outside the Baltic Sea proper. Surveys were conducted along pre-planned zig-zag transects using an auxiliary powered sailing vessel. The boat was equipped with an automatic porpoise detection system (Gillespie and Chappell, 2002). The porpoise detector consisted of a two-element hydrophone towed 100m astern of the survey vessel at all times. In addition, two visual observers were stationed on an observation platform with an eye height of approximately 5.3m during daylight hours in Beaufort two or less. Three porpoises were detected acoustically on 2,946km of survey track in the Baltic Sea proper. No porpoises were sighted during the 253km of track line surveyed visually. The results indicate that the relative abundance of porpoises is one to two orders of magnitude lower in the Baltic proper (0.1 detections/100km) than in the Mecklenburger Bight (3.2/100km), South Kiel Bight (10.5/100km) and North Kiel Bight (16.8/100km).

There was discussion among members of the sub-committee as to whether the acoustic surveys could have missed small areas of porpoise occurrence, particularly if individual porpoises vocalise less frequently when alone or in low densities. It was agreed that this was possible, and efforts to determine if this has influenced survey results would be valuable. However, a finding that acoustic behaviour changes with animal density would not refute the primary conclusion that the density of porpoises in the Baltic, including Polish waters, was extremely low. The sub-committee noted with concern that porpoises continued to be taken as bycatch in Baltic set and drift gillnet fisheries despite their extremely low abundance.

These results demonstrate the potential for using acoustic surveys to investigate trends in relative abundance of porpoise populations over time and between regions. As noted above, similar methods are also being used to monitor the distribution and relative abundance of the vaquita in the

Gulf of California (SC/55/SM5). The acoustic survey method used in SC/55/SM21 provides information on detection rates, but has not yet been used to estimate detection probability as a function of perpendicular distance from the track line. Therefore, at present, these acoustic surveys can only be used for measuring relative, as opposed to absolute, abundance. Combined visual and acoustic data can potentially provide absolute abundance estimates, but these methods are still under development.

Berggren also reported that an aerial survey to estimate the abundance of porpoises was conducted in the Baltic Sea in July 2002 covering the same area. The results of this survey will be reported to the sub-committee next year.

Kock reported that aerial surveys of the German portion of the Baltic Sea detected groups of up to 10 harbour porpoises on Oderbank in May-June 2002, but not thereafter (July-November).

The results from SC/55/SM21 confirm that very few porpoises remain in the Baltic and further highlight the endangered status of this population and the urgent need for immediate actions to prevent future anthropogenic mortality. Last year the sub-committee made a series of recommendations concerning the draft ASCOBANS recovery plan for harbour porpoises in the Baltic Sea (known as the Jastarnia Plan) and endorsed the plan. These recommendations were subsequently incorporated into the final draft plan, which is to be considered for formal acceptance at the next Meeting of the Parties in August 2003. The observer's report from the April 2003 meeting of the Advisory Committee of ASCOBANS (IWC/55/8, Appendix J) noted that 'some steps have already been taken to implement the plan'. The sub-committee reiterated its strong endorsement of the Jastarnia Plan and hopes that it will be adopted and implemented by the Parties.

6.4 Bycatch mitigation

SC/55/SM26 presented an overview of trials of new methods used to mitigate dolphin bycatch in the UK pelagic trawl fishery for bass (*Dicentrarchus labrax*). The fishery operates primarily in the western English Channel from October to April and effort has increased significantly during the past decade. Independent observers were placed on fishing vessels; observed effort comprised 30% of total fishing effort. These observers monitored over 310 tows during 193 days at sea over the three-year period, in which 91 common dolphins were taken as bycatch. A number of methods were tested to reduce these bycatches. Acoustic alarms (pingers) were deployed both at the mouth of the trawl and further back in the net, but did not appear to reduce bycatch. Trawls equipped with Nordmore grids (similar to turtle excluder devices) experienced fewer bycatches than unmodified nets. However, care should be taken in the interpretation of these preliminary results, as dolphins did not appear to be directed out of the net by the grid as intended, but instead did not enter the rear portion of the net. Two possible factors may explain these results: the dolphins could have responded to the grid-sensor device (which emits a 186 dB re 1μPa @ 1m, 50 kHz signal) or to the visual appearance of the stainless steel grid itself.

The sub-committee expressed concern over the magnitude of bycatches of common dolphins and other small cetaceans in this and other similar trawl fisheries, based on data from the observer programme and the high number of stranded animals on the coastlines of England, France and Ireland that appear to have been taken in these fisheries. Many pelagic trawl fisheries from different countries target various fish species (e.g. herring, horse-mackerel) in this area. The sub-committee **recommended** that independent observer programmes be established to document the extent of bycatch in pelagic trawl fisheries of all nations where such programmes do not already exist in this region. The sub-committee also looked forward to receiving an update on the mitigation measures described in SC/55/SM26 at its meeting next year.

6.5 Dall's porpoise

Read reminded the sub-committee of IWC Resolution 2001-12, which directed the Scientific Committee to complete a full assessment of the status of exploited Dall's porpoise stocks as soon as sufficient information becomes available (IWC, 2002a). In its review of the subject in 2001, the sub-committee was unable to complete this assessment because the Government of Japan had declined to provide relevant data to the Scientific Committee. The Government of Japan has not changed its position on this matter (see Annex V) and scientists from the Japanese delegation did not participate in the work of the sub-committee again this year. Nevertheless, the hand harpoon fishery for Dall's porpoise continues in Japan. The sub-committee noted that catch statistics and information on quotas for small cetacean fisheries, including relevant information on Dall's porpoises, are available on the website of the Japanese Fisheries Agency *(http://www.jfa.maff.go.jp/whale/index.htm*). It was agreed that the Chair of the sub-committee should request clarification from the Chair of the Scientific Committee and IWC Secretariat regarding use of these data.

6.6 Other recommendations

6.6.1 White whales and narwhals

In previous years, the sub-committee has expressed concern about catches and quotas of white whales and narwhals (IWC, 1992; 2000). The circumpolar ranges of narwhals and white whales fall primarily within the waters of five countries: Russia, Norway, Greenland, Canada and the USA. Substantial catches of one or both of these species are made in Greenland, Canada and the USA. There was insufficient time at this year's meeting to address in depth the status of white whales and narwhals, or to review the sub-committee's past recommendations in regard to these two species. Reeves brought several items of particular concern to the attention of the sub-committee, particularly in West Greenland, Canada and Russia.

As mentioned in the observer report from the September 2002 meeting of the NAMMCO Scientific Committee (IWC/55/8, Appendix H), although progress has been made in implementing a quota system for white whales and narwhals in Greenland, the catch figures submitted to NAMMCO by Greenland 'indicate that little or no reduction in catch has taken place' despite advice from the NAMMCO SC in 2000 and 2001 that the West Greenland stock of white whales 'is substantially depleted', that recent catch levels have been 'several times the sustainable yield' and that catches 'must be substantially reduced if the stock is to recover'. The NAMMCO SC noted in 2002 that 'the apparent delay in reducing the catch to about 100 animals per year will result in further population decline and will further delay the recovery of this stock'. These recent comments from NAMMCO reinforce concerns expressed previously by this sub-committee concerning the West Greenland white whale stock. Therefore, the sub-committee reiterated its previous **recommendation** that this stock should be considered to be 'of highest conservation concern' and that 'efforts to improve its current status should be undertaken and supported'.

Reeves also noted that the east Hudson Bay white whale population continues to decrease (Kingsley, 2000) with no effective hunt management. The sub-committee reiterates its concern about this population and requests that the Government of Canada supply catch data on both white whales and narwhals to the IWC.

With regard to narwhals, the NAMMCO SC noted in 2001 that catches in some areas of Greenland had increased over the past decade and that further increases might be expected if hunters switch from white whales to narwhals in the event that restrictions are imposed on the white whale hunt. In a joint meeting of the Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga SC and the NAMMCO SC's Working Group on the Population Status of Narwhal and Beluga in the North Atlantic it was concluded that 'considering just reported catches and reasonable allowances for narwhal killed and lost, mortality due to hunting has been in excess of 1,000 narwhal annually through the 1990s and there is a high likelihood that removals due to hunting have increased recently'. The sub-committee reiterated its previous **recommendations** concerning the desirability of better information on stock identity and catch reporting of narwhals.

No catch data for white whales are provided formally by Russia, either directly to the IWC or indirectly via another management body. Russian scientists reported during this sub-committee's last review of white whale and narwhal stocks in 1999 that 'a few occasional takes' of white whales occur, including both live-captured animals and animals killed for meat or other products (IWC, 2000). As was noted in last year's report of this sub-committee (IWC, 2003c), catch quotas of 1,000 white whales (for harvest) and 10 killer whales (for live-capture) were issued in 2002 by the Russian Central Committee for Fisheries. Such quotas for local hunters continue to be decreed by Russian authorities for zone and sub-zone, including areas of the western Bering Sea, Okhotsk Sea, Barents Sea and White Sea. The sub-committee has expressed concern in the past about the status of a number of Russian white whale stocks because of their depleted status, small population or reduced range, and also made recommendations concerning needed research. Last year, for example, the sub-committee recommended that authorised catches of small cetaceans in Russia be preceded by population assessment and evaluation of likely impacts. No new or recent information has been provided on progress in response to these and other recommendations, nor has the situation in regard to catch reporting improved despite repeated requests for catch information as supplied by the other circumpolar countries (if not directly to the IWC, then at least to some other international body). The sub-committee reiterated the importance of obtaining these basic data and encouraged rigorous assessment of white whale stocks that are subject to direct exploitation or significant disturbance from various human activities.

6.6.2 Humpback dolphins

The sub-committee was appraised of progress on its recommendation regarding the collection of samples from humpback dolphins (*Sousa* spp.) for genetic analysis throughout the range to clarify their taxonomic status and phylogenetic relationships. Minton noted that a significant number of samples have been acquired from South Africa, Oman and Southeast Asia, increasing both sample sizes and the geographical range of sample origins. These samples include specimens collected from beach-cast animals, and biopsies collected during dedicated surveys in Oman. Additional biopsy samples have been collected in Zanzibar (Berggren, pers. comm.). Some samples are still awaiting permits for export, but it is expected that sample distribution will be completed within the next few months, and Rosenbaum will begin analysis shortly thereafter. The sub-committee welcomed this development and look forward to receiving updates on the analysis.

6.6.3 Monitoring bycatches

Progress on monitoring small cetacean bycatches in Norway was reported by Bjørge. Norway has recently commenced an independent monitoring scheme on its offshore fishing vessels to assess bycatch levels. The sub-committee welcomed this initiative and looked forward to receiving updates in due course.

7. OTHER PRESENTED INFORMATION ON SMALL CETACEANS

Due to time constraints, the sub-committee was only able to review a small number of the papers presented to it this year under this agenda item.

SC/55/SM3 presented preliminary estimates of marine mammal mortality and biological sampling of cetaceans in California halibut/angel shark set gillnet and swordfish/thresher shark drift gillnet fisheries for 2002. Due to an area closure, the set net fishery was not observed in 2002, so mortality estimates are based on previous years' data. Estimated mortality in the set gillnet fishery for all strata (CVs in parentheses) were: 16 (0.77) harbour porpoise and 3 (0.71) unidentified dolphins. In the driftnet fishery, 20% of all fishing trips were observed. Estimated mortality in this fishery was 49 (0.32) short beaked common dolphin (*Delphinus delphis*), 15 (0.58) long-beaked common dolphins (*D. capensis*), 15 (0.58) northern right whale dolphin (*Lissodelphis borealis*) and 5 (1.00) Pacific white-sided dolphins (*Lagenorhynchus obliquidens*). The sub-committee thanked the authors for their continued contribution to its work.

SC/55/SM7 reported on the mortality of Commerson's dolphin (*Cephalorhynchus commersonii*) in southern Patagonia, Argentina. It was estimated that a total of 179 (95% CI = 141-212) dolphins were incidentally caught in gillnet fisheries in a relatively small area in the 1999/2000 season. Although no abundance estimate of Commerson's dolphins is available for this region, the authors concluded that this bycatch is of concern.

SC/55/SM24 outlined a proposal to estimate cetacean abundance in European Atlantic waters. In 1994, the Small Cetacean Abundance in the North Sea and adjacent waters (SCANS) survey provided the first abundance estimate for the harbour porpoises and other small cetaceans in this area. The aim was to provide information essential for the assessment and management of harbour porpoise bycatch. After almost ten years, bycatches of harbour porpoise and other small cetaceans, particularly common dolphins, in European waters are still a significant conservation issue in this region. A second SCANS-type survey is proposed for 2005/2006 to include areas covered in 1994 and to extend coverage to the west and south where information on cetacean abundance is limited or absent. The key objectives are to obtain accurate and precise abundance estimates for cetacean species, develop and test methods for monitoring, and provide a framework to aid managers to achieve conservation objectives. The sub-committee welcomed and fully endorsed this proposal.

The problem of net depredation by bottlenose dolphins in the Aegean Sea was outlined in SC/55/SM25. The nature and scale of the damage caused by dolphins in this trammel net fishery was quantified and the authors also evaluated the use of an acoustic deterrent device to decrease the frequency of these interactions. This was a small battery powered device similar to a pinger, but designed to produce broadband ultrasonic signals (30-160kHz with a source level of 155dB re 1μPa @ 1m). Damage to the gear consisted mostly of holes and 85% of these holes were attributed to dolphins. There was a highly significant difference in the number of dolphin holes among nets with active and inactive deterrent devices; nets with active devices had a 76% reduction in the number of holes attributed to dolphins. There was discussion within the sub-committee about the mechanism that resulted in decreased depredation as a result of the use of these devices and some concern expressed about their possible unregulated and unmonitored use. The sub-committee encouraged further research on the issue of depredation (which has been reported from many parts of the Mediterranean) and **recommended** that if these devices are widely used, these fisheries should be monitored to determine their efficacy.

8. TAKES OF SMALL CETACEANS

The sub-committee was not able to review its table of recent catches (Appendix 2) of small cetaceans at this year's meeting. Nevertheless, as in the past, the sub-committee noted that this table is incomplete and urged Contracting Governments to provide this information to the IWC.

Reeves brought to the attention of the sub-committee an item from last year's report of the Scientific Committee which described 10 bowhead whales killed by a large pod of killer whales near Qeqertarsuaq in Disko Bay during four days in late April 2002 (IWC, 2003b, p.240; IWC, 2003a, p.46). Subsequently, a number of these killer whales were killed by hunters. The sub-committee requests that the relevant authorities in Greenland provide more details on this and other similar incidents to next year's Committee meeting.

9. WORK PLAN

The sub-committee reviewed its schedule of priority topics. Those currently held by the sub-committee (IWC, 2003c, p. 373) are as follows:

(1) Systematics and population structure of *Tursiops*.
(2) Status of ziphiids in the Southern Ocean.
(3) Status of small cetaceans in the Caribbean Sea.
(4) Review of the status of *Pontoporia*.

After some discussion, in light of recent research efforts and the availability of new data on stock structure, abundance estimates and bycatch estimation (e.g. Secchi *et al.*, 2003; Valsecchi and Zanelatto, 2003), the sub-committee agreed to adopt a review of the franciscana as its priority topic for next year.

The possibility of carrying out a review of the population structure and systematics of killer whales was also discussed, and the sub-committee agreed to put this topic on its list of future priority topics. In addition, consideration was given to examining the issue of depredation of fisheries catches by small cetaceans in the Mediterranean region. Given the location of next year's meeting in Sorrento, the sub-committee suggested that the feasibility of a one-day workshop in advance of the meeting be investigated. Read agreed to examine the feasibility of such a workshop, after seeking the advice of the Chair of the Scientific Committee and local scientists in Italy.

10. ADOPTION OF REPORT

The report was adopted at 22:00hrs on 1 June 2003. On behalf of the sub-committee, Read thanked the rapporteurs for their diligent work and expressed his gratitude to the invited experts from the Black Sea region for their important contribution.

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Appendix 1
AGENDA

1. Election of Chair
2. Adoption of agenda
3. Appointment of rapporteurs
4. Review of available documents
5. Review of status of small cetaceans in the Black Sea
   - 5.1 Systematics
   - 5.2 Distribution and seasonal movements
   - 5.3 Population structure
   - 5.4 Abundance
   - 5.5 Life history
   - 5.6 Ecology
   - 5.7 Habitat
   - 5.8 Directed takes
   - 5.9 Incidental takes
   - 5.10 Other
   - 5.11 Consideration of status
6. Progress on previous recommendations
   - 6.1 Baiji
   - 6.2 Vaquita
   - 6.3 Harbour porpoises in the Baltic Sea
   - 6.4 Bycatch mitigation
   - 6.5 Dall's porpoise
   - 6.6 Other recommendations
     - 6.6.1 White whales and narwhals
     - 6.6.2 Humpback dolphins
     - 6.6.3 Monitoring bycatches
7. Other presented information on small cetaceans
8. Takes of small cetaceans
9. Work plan
10. Adoption of report

Appendix 2

SMALL CETACEAN CATCHES 1999-2002

All information was taken from National Progress Reports unless otherwise stated. Catches are presented by nation, rather than ocean area, except in the case of the data submitted by the IATTC for the eastern tropical Pacific (ETP). In this case, the submitted estimated catches are not broken down by country and a summed total incidental catch for the participating countries is given. Catches are tabled according to the calendar year in which they were taken. Direct and incidental removals (including live captures) are recorded but not stranded animals unless thought to be human induced. The reported catch columns include catches reported by observer programmes, from interviews with fishermen and incidental reports (e.g. stranded whales determined to have died in nets).

	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
Species	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
Argentina																				
Dusky dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Franciscana	-	-	-	-	-	-	-	49[a]	272-570[ab]	-	-	-	28[e]	160-306	1	-	-	52[h]	215[h]	1[h]
Peale's dolphin	-	-	-	-	-	-	-	1[b]	5[b]	-	-	-	-	-	-	-	-	-	-	-
Commerson's dolphin	-	-	12[f]	-	-	-	-	103[c]	100-212[cg]	-	-	-	37[d]	-	-	-	-	1[j]	-	-
Burmeister's porpoise	-	-	-	-	-	-	-	1[k]	1[k]	-	-	-	-	-	-	-	-	1[i]	-	-
Common dolphin	-	-	18[l]	60[l]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Australia																				
False killer whale	-	-	-	-	-	-	-	-	-	-	-	-	1[h]	-	-	-	-	-	-	-
Bottlenose dolphin	-	-	9	-	-	-	-	5[a]	5[a]	-	-	-	9[d]	9[d]	-	-	-	8[i]	8[i]	-
Bottlenose dolphin sp.	-	-	-	-	-	-	-	-	-	-	-	-	3	3[g]	-	-	-	-	-	-
Indo-pacific bottlenose dol.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[j]	1[j]	
Common dolphin (?sp.)	-	-	8	-	-	-	-	-	-	-	-	-	7[e]	7[e]	-	-	-	15[k]	15[k]	-
Irrawaddy dolphin	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-
Indo-pacific humpback dol.	-	-	2	-	-	-	-	1	1	-	-	-	2	2[f]	-	-	-	6[l]	6[l]	-
Spinner dolphin	-	-	1	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Short beaked common dolphin	-	-	8	-	-	-	-	9[b]	9[b]	-	-	-	-	-	-	-	-	-	-	-
Pantropical spotted dolphin	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Unidentified dolphin	-	-	12	2	-	-	-	6[c]	6[c]	-	-	-	2	2	-	-	-	-	-	-
Brazil																				
Bottlenose dolphin	-	-	-	-	-	-	-	1[c]	-	-	-	-	-	-	-	-	-	-	-	-
Franciscana	-	-	81[a]	931[a]	-	-	-	103[d]	>1496[d]	-	-	-	19[h]	-	-	-	-	60[k]	60[k]	-
Tucuxi	-	-	17[b]	141[b]	-	3	-	8[e]	-	-	-	-	4[i]	-	-	-	-	18[l]	18[l]	-
Atlantic spotted dolphin	-	-	-	-	-	-	-	2[f]	-	-	-	-	-	-	-	-	-	-	-	-
Pantropical spotted dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[m]	1[m]	-
Rough-toothed dolphins	-	-	7	150	-	-	-	-	-	-	-	-	-	-	-	-	-	1[n]	1[n]	-
Striped dolphin	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inia geoffrensis	-	-	-	-	-	-	-	-	-	78[g]	-	-	-	-	-	>50[j]	>50[j]	-	-	-
Clymene dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[m]	1[m]	-
Unidentified dolphins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Canada																				
Narwhal	-[a]	-	-	-	-	-[a]	-	-	-	-	559[b]	-	-	-	-	-[a]	-	-	-	-
White whale	-[a]	-	-	-	-	-[a]	-	-	-	-	375[c]	-	-	-	-	-[a]	-	-	-	-

Cont.

Species	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
Chile																				
Burmeister's porpoise	-	-	1[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-finned pilot whale	1[a]	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark																				
Harbour porpoise	-	-	-	4,227[a]	-	-	-	-	4,149[a]	-	-	-	-	3,887[a]	-	-	-	-	-	-
Unidentified species	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
ETP																				
Bottlenose dolphin	-	-	9	9	-	-	-	4	4	-	-	-	-	1	-	-	-	-	10	-
Pantropical spotted d.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northeastern[a]	-	-	358	358	-	-	-	303	303	-	-	-	-	593	-	-	-	-	442	-
Western-southern[a]	-	-	253	253	-	-	-	428	428	-	-	-	-	310	-	-	-	-	203	-
Coastal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spinner dolphin (? stock)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern[b]	-	-	363	363	-	-	-	272	272	-	-	-	-	471	-	-	-	-	405	-
Whitebelly[b]	-	-	192	192	-	-	-	262	262	-	-	-	-	372	-	-	-	-	186	-
Central	-	-	13	13	-	-	-	2	2	-	-	-	-	-	-	-	-	-	3	-
Striped dolphin	-	-	5	5	-	-	-	11	11	-	-	-	-	3	-	-	-	-	2	-
Common dolphin (?sp.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern	-	-	85	85	-	-	-	56	56	-	-	-	-	94	-	-	-	-	69	-
Central	-	-	34	34	-	-	-	222	222	-	-	-	-	203	-	-	-	-	155	-
Southern	-	-	1	1	-	-	-	9	9	-	-	-	-	46	-	-	-	-	4	-
Rough-toothed dolphin	-	-	-	-	-	-	-	27	27	-	-	-	-	-	-	-	-	-	5	-
Risso's dolphin	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short fined pilot whales	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	1	-
Pygmy sperm whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unspecified dolphins	-	-	32	32	-	-	-	39	39	-	-	-	-	40	-	-	-	-	29	-
Faroe Islands																				
Long-finned pilot whale	608[a]	-	-	-	-	588[a]	-	-	-	-	918[ac]	-	-	-	-	-[b]	-	-	-	-
Atlantic white-sided dolphin	0[a]	-	-	-	-	255[a]	-	-	-	-	546[ac]	-	-	-	-	-[b]	-	-	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	-	-	-	6[ac]	-	-	-	-	-[b]	-	-	-	-
Northern bottlenose whale	-	-	-	-	-	-	-	-	-	-	2[ac]	-	-	-	-	-	-	-	-	-
France																				
Long-finned pilot whale	-	-	5[a]	-	-	-	-	1[a]	-	-	-	-	2[ab]	-	-	-	-	1	-	-
Bottlenose dolphin	-	-	7[a]	-	-	-	-	3[a]	-	-	-	-	10[ac]	-	-	-	-	12[h]	-	-
Striped dolphin	-	-	14[a]	-	-	-	-	7[a]	-	-	-	-	11[ad]	-	-	-	-	20[i]	-	-
Common dolphin (?sp.)	-	-	140[a]	-	-	-	-	193[a]	-	-	-	-	118[ae]	-	-	-	-	202	-	-
Risso's dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harbour porpoise	-	-	8[a]	-	-	-	-	11[a]	-	-	-	-	12[af]	-	-	-	-	3	-	-
Spotted dolphin	-	-	-	-	-	-	-	-	-	-	-	-	1[ag]	-	-	-	-	-	-	-
Unidentified dolphin	-	-	18[a]	-	-	-	-	9[a]	-	-	-	-	-	-	-	-	-	-	-	-
Unid./other cetacean	-	-	1[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Cont.

Species	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
Germany																				
Harbour porpoise	-	-	3	-	-	-	-	5[a]	5[a]	-	-	-	8[b]	8[b]	-	-	-	8[c]	8[c]	-
Greenland																				
Narwhal	912[b]	-	-	-	-	600[bc]	-	-	-	-	449[d]	-	-	-	-	-	-	-	-	-
White whale	493[b]	-	-	-	-	610[bc]	-	-	-	-	260[d]	-	-	-	-	-	-	-	-	-
Harbour porpoise	1,830[b]	-	-	-	-	1,607[bc]	-	-	-	-	1,628[d]	-	-	-	-	-	-	-	-	-
Long-finned pilot whale	115[b]	-	-	-	-	5[bc]	-	-	-	-	43[d]	-	-	-	-	-	-	-	-	-
Ireland																				
Common dolphin	-	-	135[a]	-	-	-	-	3	-	-	-	-	1[b]	-	-	-	-	-	-	-
Harbour porpoise	-	-	4	-	-	-	-	-	-	-	-	-	1[b]	-	-	-	-	5[b]	-	-
White-sided dolphin	-	-	2[d]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Striped dolphin	-	-	9[c]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Risso's dolphin	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[b]	-	-
Pilot whale	-	-	8[d]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Italy																				
Striped dolphins	-	-	15[a]	-	-	-	-	14[b]	-	-	-	-	-	-	-	-	-	-	-	-
Bottlenose dolphins	-	-	3[a]	-	-	-	-	6[b]	-	-	-	-	-	-	-	-	-	-	-	-
Common dolphins	-	-	1[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undetermined delphinids	-	-	-	-	-	-	-	4[b]	-	-	-	-	-	-	-	-	-	-	-	-
Japan																				
Baird's beaked whale	62	-	-	-	-	62[d]	-	-	-	-	62[c]	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Killer whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
False killer whale	5	-	-	-	-	8[d]	-	-	-	-	26[c]	-	-	-	11[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Short-finned pilot whale[a]	394	-	-	-	2	304[d]	-	-	-	-	389[c]	-	-	-	2[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Pacific white-sided dolphin	-	-	-	-	11	-	-	-	-	1[d]	-	-	-	-	6[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Bottlenose dolphin	658	-	-	-	91	1,358[d]	-	-	-	68[d]	247[c]	-	-	-	12[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Pantropical spotted d.	38	-	-	-	-	39[d]	-	-	-	-	10[c]	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Striped dolphin	596	-	1	-	-	300[d]	-	-	-	-	484[c]	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Short-beaked comm. dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Risso's dolphin	489	-	-	-	-	506[d]	-	-	-	-	474[c]	-	1[c]	-	3[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Dall's porpoise	14,807	-	169	-	-	16,171[d]	-	-	-	-	16,650[c]	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Finless porpoise	-	-	1	-	-	-	-	20[d]	-	-	-	-	8[c]	-	1[c]	-[b]	-[b]	-[b]	-[b]	-[b]
Stejneger's beaked whale	-	-	-	-	-	-	-	2[d]	-	-	-	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Harbour porpoise	-	-	-	-	-	-	-	-	-	-	-	-	1[c]	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Dwarf sperm whale	-	-	-	-	-	-	-	-	-	-	-	-	1[c]	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Unidentified dolphin	-	-	-	-	-	-	-	-	-	-	-	-	1[c]	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Unidentified species	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-[b]	-[b]	-[b]	-[b]	-[b]
Republic of Korea																				
Baird's beaked whale	-	-	1[ab]	-	-	-	-	-	-	-	-	-	1[b]	-	-	-	-	1[bu]	-	-
Pacific white-sided dolphin	-	-	3[bd]	-	-	-	-	4[bd]	-	-	-	-	41[bm]	-	-	-	-	53[bv]	-	-
Common dolphin	-	-	25[bh]	-	-	-	-	29[h]	-	-	-	-	62[bn]	-	-	3[b]	-	76[bw]	-	-
Risso's dolphin	-	-	2[bc]	-	-	-	-	20[i]	-	-	-	-	25[bo]	-	-	-	-	2[bx]	-	-
Harbour porpoise	-	-	1[bd]	-	-	-	-	-	-	-	-	-	87[bp]	-	-	-	-	34[by]	-	-
Finless porpoise	-	-	14[f]	-	-	-	-	-	-	-	-	-	7[br]	-	-	-	-	14[z]	-	-

Cont.

Species	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
Republic of Korea cont.																				
Stejneger's beaked whale	-	-	2[g]	-	-	-	-	1[j]	-	-	-	-	-	-	-	-	-	2[bA]	-	-
Killer whale	-	-	-	-	-	-	-	1[bd]	-	-	-	-	-	-	-	-	-	3[bd]	-	-
False killer whale	-	-	-	-	-	-	-	1[bd]	-	-	-	-	-	-	-	-	-	-	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	12[k]	-	-	-	-	3[bs]	-	-	-	-	4[bB]	-	-
Dall's porpoise	-	-	-	-	-	-	-	-	-	-	-	-	2[bt]	-	-	-	-	1[ab]	-	-
Unidentified dolphin	-	-	-	-	-	-	-	27[l]	-	-	-	-	--	-	-	-	-	4[bC]	-	-
Mexico[a]																				
Vaquita	-	-	-	-	-	-	-	5[bd]	-	-	-	-	-	-	-	-	-	-	-	-
Gulf of California	-	-	-	-	-	-	-	-	-	-	-	-	2[d]	-	-	1	-	-	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	-	-	7[c]	-	-	-	-	-	1	-	1	-	0
Baja California Pacific	-	-	-	-	4[c]	-	-	-	-	8[c]	-	-	1	-	15	-	-	-	-	-
Gulf of Mexico	-	-	-	-	-	-	-	-	-	15[c]	-	-	-	-	-	-	-	-	-	-
Risso's dolphin	-	-	-	-	-	-	-	1[e]	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands																				
Atlantic white-sided dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harbour porpoise	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
New Zealand																				
Long-finned pilot whale	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[e]	-	-
Bottlenose dolphin	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common dolphin (?sp.)	-	-	-	-	-	-	-	1	-	-	-	-	3[b]	-	-	-	-	2[d]	-	-
Hector's dolphin	-	-	5[a]	-	-	-	-	10[a]	-	-	-	-	13[c]	-	-	-	-	6[f]	-	-
Dusky dolphin	-	-	-	-	-	-	-	2	-	1	-	-	3[d]	-	-	-	-	-	-	-
Killer whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[g]	-	-
Maui's dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2[h]	-	-
Oman																				
Indo-Pacific humpback dol.	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	1	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	6	-	-	-	-	8	-	-	-	-	1	-	-
Common dolphin	-	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-	-	-	-	-
Spinner dolphin	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Dwarf sperm whale	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
False killer whale	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Unidentified dolphin	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
Peru																				
Dusky dolphin	-	-	50[a]	-	-	-	-	12[a]	-	-	-	-	2[a]	-	-	-	-	-	-	-
Long-beaked common d.	-	-	48[a]	-	-	-	-	20[a]	-	-	-	-	7[a]	-	-	-	-	161[c]	-	-
Common dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[c]	-	-
Bottlenose dolphin	-	-	32[a]	-	-	-	-	6[a]	-	-	-	-	1[a]	-	-	-	-	-	-	-
Burmeister's porpoise	-	-	79[a]	-	-	-	-	39[a]	-	-	-	-	14[a]	-	-	-	-	125[c]	-	-
Unidentified dolphins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17[d]	-	-
Unspecified species	-	-	67[ab]	-	-	-	-	79[ab]	-	-	-	-	12[ab]	-	-	-	-	70[c]	-	-

Cont.

Species	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
South Africa																				
Indian Ocean bottlenose dol.	-	-	41[a]	-	-	-	-	-	-	-	-	-	22	-	-	-	-	35	35	-
Common dolphin (?sp.)	-	-	11[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-beaked common dolphin	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	32	32	-
Indo-Pacific humpback dol.	-	-	8[a]	-	-	-	-	-	-	-	-	-	2	-	-	-	-	9	9	-
Spinner dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified dolphins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-
Spain																				
Common dolphin (?sp.)	-	-	2	-	-	-	-	3	-	-	-	-	4	-	-	-	-	8	-	-
Cuvier's beaked whale	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
False killer whale	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harbour porpoise	-	-	1	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-
Bottlenose dolphin	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	7	-	-
Clymene dolphin	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spinner dolphin	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-finned pilot whale	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-
Short-finned pilot whale	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Pilot whale(?)	-	-	-	-	-	-	-	2[a]	-	-	-	-	-	-	-	-	-	-	-	-
Peale's dolphin	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Atlantic spotted dolphin	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
Striped dolphin	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	12	-	-
Pygmy sperm whale	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-
White sided dolphin	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-
Risso's dolphin	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Cuvier's beaked whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-
Dwarf sperm whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Blainsville's beaked whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Gervais' beaked whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Killer whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Unidentified dolphin	-	-	4	-	-	-	-	12	-	-	-	-	1	-	-	-	-	1	-	-
St. Lucia																				
Short-finned pilot whale	8[a]	35[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pygmy killer whale	2[a]	18[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
False killer whale	3[a]	12[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melon head whale	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bottlenose dolphin	2[b]	20[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atlantic spotted dolphin	12[b]	60[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-snouted spinner dolphin	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fraser's dolphin	1[b]	6[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common dolphin	1[b]	10[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Striped dolphin	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden																				
Harbour porpoise	-	-	2	-	-	-	-	3[a]	-	-	-	-	-	-	-	-	-	3[b]	-	-

Cont.

Species	1999					2000					2001					2002				
	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live	Direct		Indirect		Live
	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.	Rep.	Est. total	Rep.	Est. total	Rep.
Tanzania																				
Atlantic bottlenose dolphin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Indo-pacific bottlenose dol.	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	11	-	-
Risso's dolphin	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-
Indo-Pacific humpback dol.	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	1	-	-
Spotted dolphin	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-
Spinner dolphin	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-
Turkey																				
Harbour porpoise	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
Unidentified dolphins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-
UK																				
Common dolphin (?sp.)	-	-	4[a]	-	-	-	-	12[e]	-	-	-	-	72[g]	-	-	-	-	-	-	-
Short-beaked common dol.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37[h]		
Harbour porpoise	-	-	19[b]	-	-	-	-	34[f]	-	-	-	-	11	-	-	-	-	29[i]	-	-
Bottlenose dolphin	-	-	1[c]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Striped dolphin	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
Unidentified delphinid	-	-	1[d]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USA																				
White whale	238[b]	-	-	-	-	240[q]	-	-	-	-	463[f]	-	-	-	-	394[z]	-	-	-	-
Killer whale	-	-	2[g]	4[g]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atlantic pilot whale (*Globicephala* sp.)	-	-	3[h]	371[h]	-	-	-	3[r]	58[r]	-	-	-	-	-	-	-	-	-	-	-
Pacific pilot whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atlantic white-sided dolphin	-	-	4[i]	69[j]	-	-	-	1[s]	26[s]	-	-	-	-	-	-	-	-	-	-	-
Pacific white-sided dolphin	-	-	0	0	-	-	-	2[d]	5[d]	-	-	-	-	-	-	-	-	1[y]	5[y]	-
Atlantic bottlenose dolphin	-	-	7[j]	115[j]	-	-	-	5[t]	338[t]		-	-	-	-	-	-	-	-	-	-
Pacific bottlenose dolphin	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pacific short-beaked common dolphin	-	-	34[k]	191[k]	-	-	-	23[d]	75[d]	-	-	-	-	-	-	-	-	9[y]	49[y]	-
Pacific long-beaked common dolphin	-	-	1[l]	8[l]	-	-	-	2[d]	9[d]	-	-	-	-	-	-	-	-	4[y]	15[y]	-
Atlantic common dol. (sp.)	-	-	3[m]	195[m]	-	-	-	6[u]	273[u]	-	-	-	-	-	-	-	-	-	-	-
Pacific common dolphin (sp.)	-	-	2[k]	2[k]	-	-	-	-	3[c]	-	-	-	-	-	-	-	-	-	3[x]	-
Northern right whale dolphin	-	-	3[k]	17[k]	-	-	-	11[d]	47[d]	-	-	-	-	-	-	-	-	3[y]	15[y]	-
Atlantic Risso's dolphin	-	-	1[n]	22[n]	-	-	-	2[v]	56[v]	-	-	-	-	-	-	-	-	-	-	-
Pacific Risso's dolphin	-	-	0	0	-	-	-	2[d]	7[d]	-	-	-	-	-	-	-	-	-	-	-
Atlantic harbour porpoise	-	-	36[o]	342[o]	-	-	-	16[w]	528[w]	-	-	-	-	-	-	-	-	-	-	-
Pacific harbour porpoise	-	-	28[p]	133[p]	-	-	-	7[c]	26[c]	-	-	-	-	-	-	-	-	-	16[x]	-
Dall's porpoise	-	-	4[a]	5[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beaked whales	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified species	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-

Argentina: In the following notes the estimated catch is given, followed by observed catch in brackets: (a) Buenos Aires coast – gillnet; (b) Tierra del Fuego – gillnet; (c) Figure composed as follows:<100 (34) Tierra del Fuego – gillnet + 141-112 (69) Ria Gallegos – gillnet; (d) figure composed as follows: 31 Tierra del Fuego – gillnet + 6 Santa Cruz; (e) Buenos Aires coast – gillnet; (f) Santa Cruz coast – gillnet; (g) Ria Gallegos and La Angelina: (Santa Cruz) – gillnet; (h) Buenos Aires coast – gillnet-drifnet; (i) Buenos Aires coast; (j) Santa Cruz coast – gillnet; (k) Tierra del Fuego – gillnet; (l) South Atlantic – mid water trawls.

Australia: In the following notes the estimated catch is given, followed by observed catch in brackets: (a) figure composed as follows: 3 (0) Gold Coast, Queensland + 0 (1) Shark net, SE Australia, New South Wales+ 1 (1) gillnet, SE Australia, New South Wales; (b) figure composed as follows: 3 (0) Gold Coast, Queensland + ? (6) SE Australia, New South Wales; (c) figure composed as follows: 2 (0) Gold Coast, Queensland + 1 (1) SE Australia, New South Wales; (d) figure composed as follows: 1 (0) Sunshine Coast, Queensland + 2 (0) Gold Coast, Queensland + 1 (0) Gill net fishery, Gulf of Carpentaria, Queensland + 1 (0) Mackay, Queensland + 0 (2) probable entanglement SA coastline + 0 (1) euthanased, SA coastline + 1 (0) salmon farm net, Southern Australia; (e) figure composed as follows: 3 (0) Sunshine Coast, Queensland + 2 (0) Gold Coast, Queensland + 0 (2) SE Australia; (f) figure composed as follows: 0 (1) Sunshine Coast, Queensland + 0 (1) Cairns, Queensland; (g) Gulf of Carpentaria, Queensland; (h) SE Australia (NSW), net entanglement; (i) figure composed as follows: 2 (2) QDPI SCP net, Gold Coast, Queensland + 5 (5) QDPI SCP net, Sunshine Coast, Queensland + 1 (?) Entangled in salmonid farm net, SE TAS; (j) probable entanglement, SA coastline; (k) figure composed as follows: 1 (1)

Shark control net, Sydney, NSW + 6 (6) QDPI SCP net, Gold Coast, QLD + 4 (4) QDPI SCP net, Sunshine Coast, QLD + 2 (2) Probable entanglement SA coastline + 2 (?) SE TAS; (l) figure composed as follows: 1 (1) NT PWC + 1 (1) QDPI SCP net, Mackay, QLD + 4 (4) QDPI SCP net, Sunshine Coast, QLD.

Brazil: Note: The catches in 1999 and 2000 are pers. comm. Salvatore Siciliano. In the following notes the estimated catch is given, followed by the observed catch in brackets: (a) 178 [1986-1999] (1) from northern Rio de Janeiro + 24 [Aug. 1998 – May 2000] (10) from central São Paulo + (3) from northern Rio Grande do Sul + (3) from northern Rio de Janeiro (pers. comm. A.P. Di Beneditto and R. Ramos) + 729 (64) from Rio Grande, southern Rio Grande do Sul (SC/55/SM1); (b) 141 (4) from northern Rio de Janeiro + (4) from Northern Espírito Santo + (2) from Paraíba + (7) from Northern Rio de Janeiro State (pers. comm. A.P. Di Beneditto and R. Ramos); (c) caught in central Sao Paulo – gillnet; (d) figures composed as follows: >850 (55) caught in southern Brazil – gillnet (this is only a rough estimate based on extrapolation, for the whole fleet, data exists from only nine boats from a fleet of about 140-150 [see Secchi *et al*., 1997]) + 646 (48) from Rio Grande, southern Rio Grande do Sul (SC/55/SM1); (e) figure composed as follows: 3 direct and 3 indirect from Cananeia Estuary, SP – gillnet + 2 from Northern Rio de Janeiro – gillnet (pers. comm. A.P. Di Beneditto and R. Ramos) + 3 from NE Brazil – gillnet; (f) caught from central Sao Paulo; (g) caught from central Amazon; (h) figure composed as follows: 1 northern Rio Grande do Sul, gillnets + 18 northern, gillnets; (i) northern; (j) central and high Amazon reports of more than 50 dolphins being caught during October/November to be used as bait to catch one species of catfish for export to Colombia and Peru; (k) figure composed as follows: 39 from Rio Grande do Sul – gillnet + 12 from São Paulo – gillnet + 9 from Santa Catarina – gillnet; (l) figure composed as follows: 13 from Bahia + 5 from Ceará – trawl net (2); gillnet (3); (m) Bahia; (n) from Rio Grande do Norte – gillnet.

Canada: (a) no information; (b) figure composed as follows: 451 High Arctic + 108 Hudson; (c) figure from Nunavut – figures from Northwest Territories – Beaufort Sea not available at time of report.

Chile: Figures are taken from SC/51/SM17 and are a mixture of direct and incidental catches. (a) stranded (III), harpoon wounds + witness evidence of a directed take – parts muscle and blubber removed; (b) stranded with multiple cut marks and flukes severed.

Denmark: (a) SC/54/SM31 – bycatch is overestimated, as the effect of the use of pingers has not been taken into account.

ETP: (a) includes prorated unidentified spotted and coastal spotted; (b) includes prorated unidentified spinner.

Faroe Islands: (a) pers. comm. Daniel Pike, Scientific Secretary, NAMMCO; (b) no information; (c) these figures are assumed to be direct catches as it was not specified in the communication from Daniel Pike.

France: (a) includes those found stranded with marks indicating that they had been most probably caught in fishing gear. Data are provided by the CRMM-La Rochelle, France; (b) figure composed as follows: 1 Atlantic + 1 Mediterranean; (c) figure composed as follows: 2 English Channel + 7 Atlantic + 1 Mediterranean; (d) figure composed as follows: 7 Atlantic + 4 Mediterranean; (e) figure composed as follows: 1 English Channel + 117 Atlantic; (f) figure composed as follows: 3 English Channel + 9 Atlantic (g) Caribbean; (h) figure composed as follows: 10 Atlantic + 2 Mediterranean; (i) figure composed as follows: 13 Atlantic + 7 Mediterranean.

Germany: (a) figure composed as follows: 3 from Schleswig-Holstein, Baltic Sea – gillnet + 2 from Mecklenburg-Prepommerania, Baltic Sea – gillnet; (b) figure composed as follows: 5 from Schleswig-Holstein, Baltic Sea – gillnet + 3 from Mecklenburg-Prepommerania, Baltic Sea – gillnet; (c) figure composed as follows: 1 from North Sea + 4 from Schleswig-Holstein, Baltic Sea + 3 from Mecklenburg-Prepommerania, Baltic Sea – gillnet.

Greenland: (a) no information; (b) pers. comm. Daniel Pike, Scientific Secretary, NAMMCO; (c) these figures are assumed to be direct catches as it was not specified in the communication.

Ireland: (a) bycatch of 1 determined from post-mortem + 7 incidentally caught in surface gillnet; (b) bycatch determined from post-mortems; (c) 1 incidentally caught in surface gillnet + 8 pelagic fishery for albacore. Diversification trials with alternative tuna fishing techniques including the use of remote sensing technology. EU Contract 98/010 BIM; (d) diversification trials with alternative tuna fishing techniques including the use of remote sensing technology. EU Contract 98/010 BIM.

Italy: (a) Centro Studi Cetacei. 2001. Cetacei spiaggiati lungo le coste italiana. XIV. Rendiconto 1999 (Mammalia). Atti Soc. It. Nat. Museo civ. Stor. Nat. Milano, 14/2000(II):353-365; (b) Centro Studi Cetacei. 2002. Cetacei spiaggiati lungo le coste italiana. XV. Rendiconto 2000 (Mammalia). Atti Soc. It. Nat. Museo civ. Stor. Nat. Milano, 142/2001(II):251-264.

Japan: (a) northern and southern forms; (b) no information; (c) figures obtained from the Japanese website *www.jfa.maff.go.jp/whale/document/2001/progressreport.pdf* – Table 9; (d) figures obtained from the Japanese website *www.jfa.maff.go.jp/whale/document/2000progressreport.pdf* – Table 9.

Korea: (a) drift gillnet; (b) East Sea; (c) set net; (d) gillnet; (e) figures composed as follows: 20 set net, 5 gillnet; (f) figures composed as follows: 1 East Sea gillnet, 13 Yellow Sea stow nets; (g) figure composed as follows: 1 gillnet + 1 drift gillnet; (h) figure composed as follows: East Sea – 2 trap net + 8 purse seine + 7 gillnet + 12 set net; (i) figure composed as follows: East Sea – 2 gillnet + 17 set net + 1 trap net; (j) East Sea – set net. (k) Figure composed as follows: East Sea – 1 Gillnet + 1 set net + South Sea – 10 Purse seine; (l) figure composed as follows: East Sea –1 purse seine + 18 gillnet + 3 set net + 4 trap net + South Sea – 1 set net; (m) figure composed as follows: 21 gillnet + 14 set net + 3 trap net + 3 unidentified; (n) figure composed as follows: 18 purse seine + 1 long line + 8 gillnet + 32 set net + 3 trap net; (o) figure composed as follows: 4 purse seine + 5 gillnet + 4 set net + 1 long line + 2 trap net + 9 unidentified; (p) figure composed as follows: 1 long line + 57 gillnet + 29 set net; (r) figures composed as follows: 5 gillnet + 2 set net; (s) figures composed as follows: 1gillnet + 1 set net + 1 trawl; (t) figures composed as follows: 1 gillnet + 1 set net; (u) drifted; (v) figure composed as follows: 2 long line + 6 driftnet + 11 gillnet + 31 set net + 1 trap net + 2 drifted; (w) figure composed as follows: 4 long line + 3 drift gillnet + 11 gillnet + 47 set net + 2 squid zigging + 2 drifted + 4 unidentified + 3; (x) figure composed as follows: 1 gillnet + 1 unidentified; (y) figure composed as follows: 8 drift gillnet + 8 gillnet + 14 set net + 4 drifted; (z) figure composed as follows: 1 South Sea – unidentified + 3 East Sea – gillnet + 1 East Sea – set net + 2 East Sea – drifted + 7 Yellow Sea – unidentified; (A) figure composed as follows: 1 gillnet + 1 drifted; (B) figure composed as follows: 2 trawl + 2 drifted; (C) figure composed as follows: 2 drift gillnet + 1 gillnet + 1 drifted.

Mexico: (a) see the ETP table for catches taken in the Eastern Tropical Pacific. They are not included here; (b) captured in the Gulf of California; (c) permits issued by SEMARNAP. The animals are being kept in captivity at recreational facilities; (d) gillnet; (e) Pacific long-line.

New Zealand: (a) South Island # beachcast; (b) gillnet/trawl; (c) figure composed as follows: gillnet – 3 North Island, West Coast + 6 South Island, West Coast + 4 South Island, East Coast; (d) trawl; (e) bottom long line; (f) figure composed as follows: gillnet – 3 South Island, West Coast + 3 South Island, East Coast; (g) long line – Bay of Plenty; (h) gillnet – North Island, West Coast.

Oman: There is no standardized observer or survey programme and number of records are directly related to beach survey effort, which was lower in 1999 and 2002 than in 2000 and 2001. Records are taken from the Oman Cetacean Database, maintained by the Oman Whale and Dolphin Research Group. Records all result from examination of carcasses encountered during beach or small boat survey showing clear evidence of fisheries interaction (rope or net on body, clear rope or net burns/scars, flensed carcasses).

Peru: Figures are a mixture of direct and incidental catches. (a) figures are taken from SC/54/SM10. All catches taken from Table 1 have been tabled as incidental because it is not clear which were direct and which were incidental; (b) mostly meat samples; (c) taken from Salverrry port – pers. comm. Dr. K Van Waerebeek (Source: Peruvian Centre for Cetacean Research (CEPEC) and Asociacion ProDelphinus); (d) taken from San Jose between 14 January 2002 and 27 March 2002, pers. comm. Dr. K Van Waerebeek (Source: Peruvian Centre for Cetacean Research (CEPEC) and Asociacion ProDelphinus).

South Africa: (a) pers. comm. P. Best.

Spain: (a) probably pilot whale-ship strike. [The numbers for 2000 have been updated according with the information given in this year's Progress Report].

St. Lucia: All caught in the Carribbean Sea. (a) harpoon gun; (b) harpoon gun/hand harpoon.

Sweden: (a) figure composed as follows: 1 Baltic Sea – gillnet + 2 Swedish Skagerrak Sea (1 gillnet + 1 trawl); (b) figure composed as follows: 1 Baltic Sea – gillnet + 2 Skagerrak and Kattegat Seaa, and Öresund – fishing gear.

Turkey: (d) SC/55/SM23 – incidental catches by Turkish trawlers in the Romanian Exclusive Economic Zone.

UK: (a) bycatch diagnosed at necropsy (England); (b) figure composed as follows: 9 diagnosed at necropsy (England and Wales), 4 gillnet fisheries (England), 1 gillnet (E. Scotland), 3 trawl (W. Scotland), 2 diagnosed at necropsy (W. Scotland); (c) illegal salmon net (Moray Firth); (d) gillnet fishery (England); (e) figure composed as follows: 10 England & Wales – stranded/diagnosed at necropsy + 2 Celtic Sea – observed bycatch in set net fisheries; (f) figure composed as follows: 8 England & Wales – stranded/diagnosed at necropsy + 12 North Sea – observed bycatch in set net fisheries + 14 Celtic Sea – observed bycatch in set net fisheries; (g) pelagic trawling; (h) 29 UK – stranded/necropsy + 8 Channel – pair trawl fishery; (i) figure composed as follows: 24 UK – stranded/necropsy + 5 skate tangle net fishery, North Sea.

USA: The reported catch columns include catches reported by observer programs, from interviews with fishermen and incidental reports (e.g. stranded animals determined to have died in nets). There are no live captures to report. All information is taken from published USA National Marine Fisheries Service Annual Marine Mammal Stock Assessment Reports (SAR) unless otherwise indicated. Stranded animals are not included. In the following notes the estimated catch is given, followed by observed catch in brackets: (a) SC/54/ProgRep USA – figure composed as follows: 4(3) Alaska groundfish fisheries (trawl, longline and pot) + 1(1) Washington, Oregon and California at-sea processing groundfish trawl fishery; (b) pers. comm. D.P. DeMaster – does not include figures for Cook Inlet; (c) halibut/angel shark set gillnet fishery – Monterey Bay (SC/55/ProgRep USA); (d) swordfish/thresher shark drift gillnet fishery (SC/55/ProgRep USA); (e) set gillnet fishery – non-Monterey strata: Southern California, Ventura, Channel Is., and Morro Bay) (SC/53/SM9); (f) SC/54/ProgRep USA – figure includes 51 struck and lost – does not include figures for Cook Inlet; (g) SC/54/ProgRep USA – Alaska groundfish fisheries (trawl, longline and pot); (h) SC/54/ProgRep USA – figures composed as follows: 228(1) NW Atlantic – N. Atlantic bottom trawl + 49(1) NW and Mid-Atlantic – squid, mack., butt. trawl + 94(1) Mid-Atlantic – pelagic longline; (i) SC/54/ProgRep USA – NW Atlantic – NE multispecies sink gillnet; (j) SC/54/ProgRep USA – figures composed as follows: 63(3) Mid-Atlantic coastal sink gillnet + 52(4) central Florida shark gillnet; (k) SC/54/ProgRep USA – California/Oregon/Washington swordfish/thresher shark drift gillnet fishery; (l) SC/54/ProgRep USA – California swordfish/thresher shark drift gillnet fishery; (m) SC/54/ProgRep USA – figures composed as follows: 146(2) NW Atlantic, NE multispecies sink gillnet + 49(1) NW and Mid-Atlantic, squid, mack, butt., trawl; (n) SC/54/ProgRep USA – NW and Mid-Atlantic pelagic longline (serious injury); (o) SC/54/ProgRep USA – figures composed as follows: 270(14) NW Atlantic, NE multispecies sink gillnet + 53(3) Mid-Atlantic coastal sink gillnet + 19(19) NW and Mid-Atlantic, NMFS/NER records (gillnet); (p) SC/54/ProgRep USA – central California angel shark/halibut and other species large mesh (>3.5") set gillnet fishery; (q) SC/55/ProgRep USA – figure includes 28 struck and lost – does not include figures for Cook Inlet; (r) SC/55/ProgRep USA – NW Atlantic and Mid Atlantic – figure composed as follows: 34(2) So. New England *Illex* squid trawl + 24(1) pelagic longline; (s) SC/55/ProgRep USA – NW Atlantic, northeast sink gillnet; (t) SC/55/ProgRep USA – figure composed as follows: coastal stock – 202(3) Mid-Atlantic, coastal gillnet + 4(1) Florida coast, south Atlantic shark gillnet fishery + offshore stock – 132(1) NW Atlantic, northeast sink gillnet; (u) SC/55/ProgRep USA – NW and Mid-Atlantic, So. New England *Loligo* squid trawl; (v) SC/55/ProgRep USA – NW and Mid-Atlantic – figure composed as follows: 41(1) pelagic longline + 15(1) northeast sink gillnet; (w) SC/55/ProgRep USA – Gulf of Maine/Bay of Fundy and Mid-Atlantic – figure composed as follows: 507(15) northeast sink gillnet + 21(1) Mid-Atlantic coastal gillnet; (x) SC/55/SM3 – California set gillnet fishery; (y) SC/55/SM3 – California drift gillnet fishery; (z) SC/55/ProgRep USA – figure includes 30 struck and lost – does not include figures for Cook Inlet.

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U.S. Marine Mammal Stock Assessment Reports are available at the following web site: *http://www.nmfs.noaa.gov/prot_res/PR2/Stock_Assessment_Program/sars.html*