

**Agenda Item 4.3.4: ASCOBANS Contribution to CFP Reform**

**Cetacean bycatch in pelagic trawl fisheries in the Celtic Sea, Biscay,  
Channel area - a case for emergency action**

**Submitted by: WDCS**



**ASCOBANS**

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## **Cetacean bycatch in pelagic trawl fisheries in the Celtic Sea, Biscay, Channel area - a case for emergency action**

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### **Introduction**

The bycatch of small cetaceans in pelagic (midwater) trawls in the Celtic Sea, Biscay, Channel area of the north east Atlantic has been identified by the fishery and environment subgroup (SGFEN) of the European Commission's Scientific, Technical and Economic Committee for Fisheries (STECF) as a problem that "*needs to be addressed urgently*"<sup>1</sup>.

This paper examines this specific fisheries interaction because it is a recurring and predictable problem that has been known about for more than a decade but has been subject to little investigation and no remedial action. It outlines what is known about the problem and contends that it constitutes a serious conservation threat to small cetaceans both within the ASCOBANS area and in adjacent waters. Evidence from the records of stranded dead cetaceans on UK and French coasts and from studies of bycatch in pelagic trawl fisheries suggest that bycatch rates of common dolphins and potentially also other species are likely to exceed levels that could be considered sustainable or acceptable.

The case is made for emergency measures to be invoked to require effective observer monitoring of bycatch in the pelagic sector in this area that will enable appropriate mitigation measures to be introduced as a matter of urgency. The case is also made for the rapid adoption of a strategic and legally based management framework within the Common Fisheries Policy to address the wider problem of cetacean bycatch.

### **Evidence from stranded cetaceans**

In January of 2003 a total of 116 dead cetaceans (58% of them common dolphins) were recorded stranded in the south west of England (Cornwall, Devon and Dorset). A further 36 cetaceans stranded in December 2002. In the previous year a similar winter peak of small cetacean strandings occurred in the south west with 195 cetaceans recorded in the first four months of 2002 (71% of all cetacean strandings in the south west in 2002, and 29% of the annual total for the whole of the UK). A consistent pattern, if less extreme, is

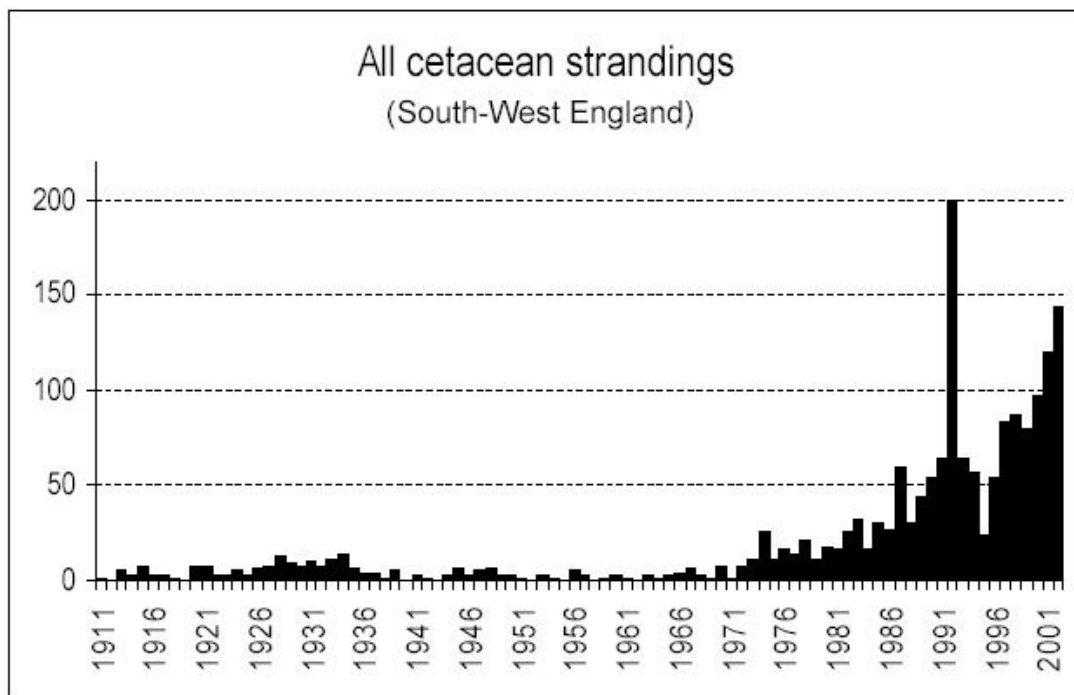
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<sup>1</sup> Incidental catches of small cetaceans. Report of the second meeting of the Subgroup on Fishery and Environment (SGFEN) of the Scientific, Technical and Economic Committee for Fisheries (STECF). Brussels, June 2002.

apparent from the strandings data from 2001 when 107 cetaceans were recorded in January to April in the south west (61% common dolphins)<sup>2</sup>.

Although the majority of winter strandings in the south west have tended to be common dolphins, the records show that in some years, such as 1996 and 1997, higher frequencies of harbour porpoise strandings coincided with the peaks of dolphins<sup>3</sup>. This high incidence of porpoises is also seen in the figures for 2002 when porpoises made up 27% of the total January – April stranding record in the region<sup>2</sup>. Other cetacean species, particularly pilot whales, also strand alongside the common dolphins and harbour porpoises (and in some cases dolphin species identification is impossible due to the state of the carcasses) indicating that they have died from the same cause.

Recorded strandings of cetaceans in Cornwall and Devon have risen increasingly steeply since 1970<sup>4</sup>.



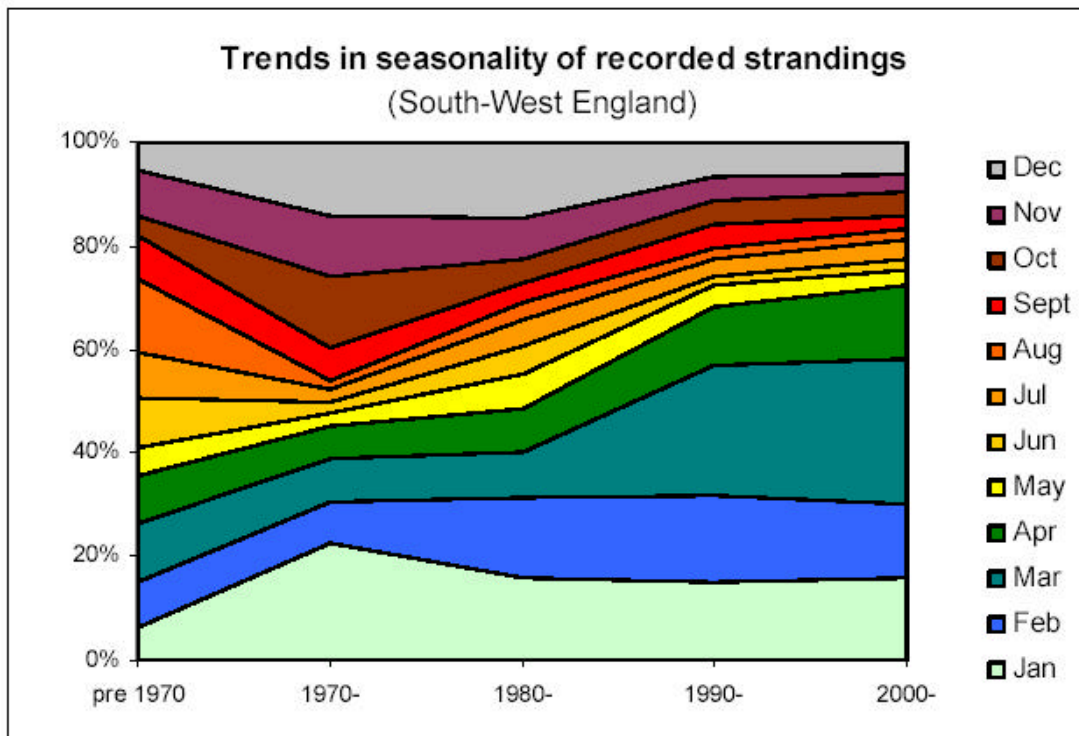
<sup>2</sup>ERCCIS - THE ENVIRONMENTAL RECORDS CENTRE FOR CORNWALL AND THE ISLES OF SCILLY

<sup>2</sup> Data source: The National Cetacean Strandings Programme at the Natural History Museum, London. Research funded by DEFRA.

<sup>3</sup> Muir, A.I., Chimonides, P.D.J. and Spurrier, C.J.H. 2000. Trends in Cetacean Strandings on the British Coastline 1994-1999. Final report by the Natural History Museum to DEFRA No. ECM 516/00. 34 pp.

<sup>4</sup> Data source: ERCCIS – The environmental records centre for Cornwall and the Isles of Scilly

While some of this increase may be attributed to improved reporting, the very marked shift from a roughly even seasonal distribution pre-1970 to a strong predominance of winter stranding, especially in common dolphins, demonstrates another cause<sup>4</sup>. Significantly, the 1970s mark the emergence of pelagic trawl fisheries in the area, particularly for bass and mackerel, and these fisheries are active mainly in the winter months.



\*ERCCIS - THE ENVIRONMENTAL RECORDS CENTRE FOR CORNWALL AND THE ISLES OF SCILLY

The first notable peak in common dolphin strandings in the UK was recorded in 1992 when 118 dolphin carcasses came ashore in Cornwall and Devon in the first 3 months<sup>5</sup>. Post mortem examinations revealed that most of the animals had died as a result of incidental capture in fisheries. The pattern of injuries on the animals and the fish present in the dolphins' stomachs led to the conclusion that they had died in pelagic fisheries for mackerel or pilchard which operate between October and March.

Early post-mortem results from the 2003 strandings reveal that in 12 of the 17 animals examined, death was due to bycatch<sup>6</sup>. Similarly, results from previous years show that a

<sup>5</sup> Kuiken T, Simpson VR, Allchin CR, Bennett PM, Codd GA, Harris EA, Howes GJ, Kennedy S, Kirkwood JK, Law RJ, Merrett NR & Phillips S (1994) Mass mortality of common dolphins (*Delphinus delphis*) in south west England due to incidental capture in fishing gear. *Vet. Rec.* 134(4): 81-89

<sup>6</sup> personal communication from Rob Deaville, Institute of Zoology, London.

high proportion of the common dolphins stranding in England and Wales have died as a result of fisheries bycatch (71% of all established causes of death for stranded common dolphins from 1990 to 1999<sup>7</sup>). Bycaught animals typically show characteristic internal and external injuries, including bruising, muscular tearing, broken beaks, torn and severed fins and flukes and cuts and abrasions on the skin<sup>5</sup>. Some of the bodies are deliberately mutilated with puncture wounds or opened body cavities which are assumed to be an attempt to make the bodies sink<sup>8</sup>. There is no way of knowing how many animals have sunk at sea rather than stranding. However, fishermen from the south west are reporting trawling up numbers of dolphin carcasses in various states of decomposition in bottom trawls<sup>9</sup>.

Even more pronounced winter peaks of dolphin strandings have been recorded in France. In 2002 more than 300 cetaceans stranded along the Atlantic coast of France, south of Brittany, in a period of 10 days (from about 20<sup>th</sup> to 30<sup>th</sup> January). By far, the dominant species was the common dolphin with a few striped dolphins and very few harbour porpoises. The majority of these animals showed clear marks of by-catch (broken beaks, missing fins or flukes, body cut open etc)<sup>10</sup>.

Similar irregular winter peaks of dolphin strandings have been recorded in France in many recent years<sup>11</sup>. At the end of February 1989 more than 600 dead dolphins stranded in just two days in Landes and Vendée, some freshly dead while others had been decomposing for many weeks. In 1997 a prolonged westerly storm brought 629 dead cetaceans (mostly common dolphins) ashore on southern Brittany and Biscay coasts over a three week period in February and March. Of the animals examined, 74% showed obvious signs of incidental capture in fisheries.

The distribution and timing of dead dolphin strandings is determined by a complex range of factors including currents, weather and particularly wind conditions. High stranding rates in south west England are usually associated with south westerly gales. However, it should be emphasised that these conditions merely allow the bodies to become evident and recordable and that in other weather conditions, although the mortalities may still be occurring, the evidence may be lost at sea.

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<sup>7</sup> Bennett, P.M., Jepson P. and Deaville R. 2000. Cetaceans strandings investigation: England and Wales and Poseidon Database. Final report conducted for the Department of the Environment, Transport and the Regions by the Institute of Zoology, London.

<sup>8</sup> personal communication from Paul Jepson, Institute of Zoology, London.

<sup>9</sup> personal communication from Nick Tregenza, Cornwall Wildlife Trust.

<sup>10</sup> personal communication from Vincent Ridoux, Centre de Recherche sur les Mammifères Marins, La Rochelle.

<sup>11</sup> Tregenza NJC & Collet A. 1998. Common dolphin *Delphinus delphis* bycatch in pelagic trawl and other fisheries in the northeast Atlantic. SC/49/NA9. Rep. Int. Whal. Commn 48.

## Evidence from observers

Most of the pelagic trawl fisheries operating in the Celtic Sea, Biscay, Channel area of the north east Atlantic have been subjected to little if any observer monitoring of cetacean bycatch. This is despite evidence from the limited observer studies that have been conducted and a considerable and growing body of evidence from cetacean strandings that these fisheries present a substantial bycatch threat to small cetaceans.

In 2001 observers placed on UK pair trawlers targeting the winter sea bass fishery in ICES area VII (mainly in the Channel) recorded a catch of 53 common dolphins in 11 tows (out of a total of 120 hauls monitored). A further 8 common dolphins were taken in 2 tows of the 66 observed in 2002<sup>12</sup>. Monitoring was also undertaken in the UK mackerel, pilchard, blue whiting and anchovy fisheries in this area but no cetacean mortalities were recorded.

During 1993-1995 observer studies of bycatch in pelagic trawl fisheries recorded dolphin catches in four of the 11 fisheries studied: the Dutch horse mackerel fishery, the French hake fishery, the French tuna fishery and the French bass fishery<sup>13</sup>. The species caught were common dolphin, Atlantic white-sided dolphin and a probable bottlenose dolphin. This study made no attempt to extrapolate from the observations to a total cetacean bycatch. However, the report notes that the size of the European fleet and the amount of fishing effort mean that the total number of animals caught may be significant. It also observes that the bycatch estimate must be treated as a minimum because some fishing fleets such as the Irish west coast mackerel fishery refused to take observers on board. Also, in fisheries such as the UK mackerel and pilchard fisheries that use fish pumps to transfer the catch from the net to the boat, cetaceans would be too large to be pumped aboard and they would be flushed from the net before it was hauled and thus may go unobserved.

A Dutch observer study of the cetacean bycatch in the pelagic trawl fishery for mackerel and horse mackerel was conducted in 1992-1994. Incidental catches of cetaceans were found to be largely restricted to late-winter early-spring in the area along the continental slope south west of Ireland, with a peak in late February early March<sup>14</sup>. The main species caught in this fishery was the Atlantic white-sided dolphin (83%) but other species caught included long-finned pilot whales, common dolphins, bottlenose dolphins and white-beaked dolphins. In 1994, a total catch of 172 dolphins were recorded by 12 Dutch

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<sup>12</sup> Incidental catches of small cetaceans. Report of the second meeting of the Subgroup on Fishery and Environment (SGFEN) of the Scientific, Technical and Economic Committee for Fisheries (STECF). Brussels, June 2002.

<sup>13</sup> Morizur, Y, Berrow SD, Tregenza NJC, Couperus AS & Pouvreau S. 1999 Incidental catches of marine-mammals in pelagic trawl fisheries in the northeast Atlantic. *Fisheries Research* 41: 297-307

<sup>14</sup> Couperus A.S. 1998 Interactions between Dutch midwater trawl and Atlantic white-sided dolphins (*Lagenorhynchus acutus*) southwest of Ireland. *J.Northw. Atl. Fish. Sci.*, Vol. 22: 209-218

and two English vessels in this fishery but the limited data available prevented the researchers from estimating the overall extent of the bycatch problem.

Although not implicated in the current winter mortalities, further evidence of dolphin bycatch in pelagic trawls is provided by the Irish study of a trial pelagic pair trawl fishery for albacore tuna which occurs in the summer months<sup>15</sup>. In 1999 observers monitored a total of 313 hauls over 160 days and recorded 145 cetaceans<sup>16</sup> caught by just four pairs of trawlers. A catch of 30 dolphins was recorded in a single haul.

### **Evidence of a serious threat to the conservation of small cetaceans**

Whilst acknowledging the paucity of data on most aspects of the problem of bycatch in pelagic trawl fisheries in the north east Atlantic, it is contended that there is evidence of a serious threat to the conservation of small cetaceans.

Two formal estimates of cetacean abundance have been made in the north east Atlantic, both looking at the summer populations<sup>11</sup>. The MICA survey in 1993 was conducted to assess the impact of cetacean bycatch in the French tuna driftnet fishery and estimated the abundance in the tuna fishery area to be 61,888 common dolphins (95% CI 35,461-108,010) and 73,843 striped dolphins (95% CI 36,113-150,990)<sup>17</sup>. The SCANS survey in 1994 (Small Cetacean Abundance in the North Sea) included the Celtic Shelf and produced an estimate for this area of 75,449 common dolphins (95% CI 22,900-248,900)<sup>18</sup>. Since the two survey areas overlap along the shelf edge where common dolphin sightings were denser in the SCANS survey, it has been suggested that the summer density of common dolphins in the combined MICA/SCANS area may be well below the mean of the two studies<sup>11</sup>. On the basis of these surveys a minimum estimate for common dolphins in the combined areas could be taken as 75,449 (ie. the SCANS estimate) and a maximum estimate as 137,337 (ie. the sum of the two survey estimates).

It is difficult to estimate the proportion of actual mortalities resulting from fisheries bycatch that are recorded as strandings. However, several observations may help to identify at least a broad-brush figure. In 1992 to 1994 researchers studying cetacean

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<sup>15</sup> Diversification trials with alternative tuna fishing techniques including the use of remote sensing technology. Final Report to the Commission of the European Communities Directorate General for Fisheries. EU contract No. 98/010. Bord Iascaigh Mhara. Irish Sea Fisheries Board.

<sup>16</sup> 127 common dolphins, 8 striped dolphins, 8 pilot whales, 2 Atlantic white-sided dolphins

<sup>17</sup> Goujon, M., Antoine L., Collet, A. and Fifas S. 1993. Approche de l'impact écologique de la pêche thonnière au filet maillant dérivant en Atlantique nord-est. Rapport interne de la Direction des Ressources Vivantes de l'IFREMER, réf. RI.DRV – 93.034: 47 pp.

<sup>18</sup> Hammond P.S., Benke H., Berggren P., Borchers D.L., Buckland S.T., Collet A., Heide-Jørgensen M.P., Heimlich-Boran S., Hiby A.R., Leopold M.F. and Øien N. 1995. Distribution and abundance of the harbour porpoise and other small cetaceans in the North Sea and adjacent waters. Final report to the European Commission under contract LIFE 92-2/UK/027. 242 pp.

bycatch in the bottom-set gill net fishery for hake on the Celtic Shelf, investigated stranding rates by tagging and discarding at sea bycaught porpoises. Twenty two porpoise bodies were tagged and discarded and the strandings coordinators in England, Wales, France and Ireland were subsequently consulted for records of the animals. None of the tagged animals was recorded as stranding<sup>19</sup>. Onboard observation of the hake fishery produced an estimated bycatch of 2200 porpoises per year<sup>20</sup>. However, this mortality was represented by less than 50 porpoises in total per year that stranded on all the coastlines of the Celtic Sea (a figure that would also include natural mortalities)<sup>19</sup>. In this case less than 2.3% of the estimated fishing mortality was recorded as strandings.

If the very conservative assumption is made that 10% of the cetaceans killed as fisheries bycatch are recorded as stranded animals it is possible to make a very rough estimate of the likely total mortality in the fisheries. For instance, in 2002 the 96 common dolphins that stranded in south west England can be assumed to represent a total mortality of 960 dolphins. In addition, the 300 common dolphins that stranded in France can be estimated to represent a total mortality of 3000 animals. This would produce a very rough total mortality estimate of 3960 animals. This would represent a mortality rate of somewhere between 2.9% and 5.2% of the population estimates given above.

The above calculation is inevitably an over-simplification and assumptions have been made as a result of the following short-comings in information:

- there are no abundance estimates for the winter populations,
- the existing abundance estimates are old and do not cover the whole fishery area,
- there is no data on the population structure of common dolphins in the affected area,
- there is no assessment of the relationship between mortality and stranding rates,
- there is inadequate information on bycatch rates in most of the fisheries concerned.

From the limited observer studies that have been conducted it is known that bycatch rates in pelagic trawl fisheries can vary considerably from one year to another<sup>14</sup>. It is also acknowledged that the rate of stranding of carcasses is highly dependent on variable factors, such as the weather. However, it has been agreed internationally that an annual loss of even 1% of a small cetacean population should be a cause of concern that merits investigation as a matter of priority<sup>21</sup>. A bycatch level of more than 1.7% has been deemed by ASCOBANS be unacceptable<sup>22</sup>.

The populations of common dolphins affected by fisheries in the Celtic Sea, Biscay, Channel area have already been subjected to bycatch in the pelagic tuna driftnet fishery,

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<sup>19</sup> personal communication from Nick Tregenza, Cornwall Wildlife Trust.

<sup>20</sup> Tregenza N.J.C., Berrow S.D., Hammond P.S. & Leaper R. 1997. Harbour porpoise (*Phocoena phocoena* L.) bycatch in set gill nets in the Celtic Sea. ICES Journal of Marine Sciences. 54:896-904

<sup>21</sup> IWC 1995. Report of the Scientific Committee.

<sup>22</sup> ASCOBANS 2000. Resolution on incidental take of small cetaceans. Annex 9c of Proceedings of the Third Meeting of the Parties. Bristol UK.



pelagic trawl fisheries, bottom-set gill net fisheries<sup>11</sup> and possibly others for more than a decade, at levels that may have been unsustainable. They may, therefore, already have suffered a decline since the last abundance estimates were made in the early 1990s.

It should also be noted that the bycatches of cetaceans in pelagic trawls include a number of other species including striped dolphins, long-finned pilot whales, Atlantic white-sided dolphins, bottlenose dolphins and harbour porpoises. In the case of the harbour porpoise, the population in the Celtic Sea is already known to have been subjected to bycatch rates that far exceed what could be considered sustainable (over 6% per annum)<sup>20</sup>. Any additional mortality in the population clearly represents a serious conservation threat. In the case of the other species that are far less numerous in the region than common dolphins, the significance of these mortalities for local populations is unknown but also a potential major cause for concern. The bottlenose dolphin, for instance, is only recorded in the affected area in very small isolated populations, with probably less than 25 animals resident in the waters of south west England<sup>19</sup>. Any incidental capture of this species would be highly significant.

### **The case for compulsory onboard observers in the pelagic trawl fleets**

It is clear that in order to introduce appropriate management measures to mitigate this cetacean bycatch problem, comprehensive data needs to be gathered to determine in which fisheries it occurs, under what circumstances and at what scale. This sort of information can only be reliably gathered by independent onboard observers. At present most Member States that have fleets active in the pelagic trawl fisheries in the area do not undertake observer monitoring of cetacean bycatch. Moreover, where observer programmes have been set up, vessel skippers from some fleets have refused to accept observers onboard.

All EU Member States are obliged under the Habitats Directive (Council Directive 92/43/EEC) to monitor the incidental capture and killing of cetaceans. Few if any are doing this comprehensively. They are also required to take further measures as necessary to ensure that this incidental capture does not have a significant negative impact on the species concerned. No Member States are fulfilling this requirement. Although, in light of the recent increases in pelagic trawl related strandings and the observer results from the winter bass fishery, the UK government initiated in 2002 a project to develop a separator or excluder device designed to allow dolphins to escape from pelagic trawl nets. This device is undergoing sea trials in March 2003. The results of these trials may be conclusive or may indicate the need for further protracted development work.

The fact remains that these pelagic trawl fisheries are prosecuted by many Member States and come under the management of the Common Fisheries Policy. Any remedial management measures therefore require EU level action under the CFP.

The EU Commission proposed in 2002 and the Council has agreed that as part of the Community Action Plan to integrate environmental protection requirements into the CFP new measures would be introduced to reduce cetacean bycatch in fisheries. An outline for possible measures was put forward by the Commission in December 2002 which includes a welcome proposal for compulsory deployment of observers in certain fisheries, including all pelagic trawl fisheries in the Celtic Sea, Biscay and Channel area. However, the final Commission proposal for the new regulation is not expected until June 2003. Thus there is unlikely to be any monitoring of the summer albacore fishery. Even if the proposal should reach the Council within the year there is a real possibility that by this route alone there could still be little or no observer monitoring of most pelagic trawl fisheries in place by the 2004 winter fishing season.

After reviewing the information available regarding bycatch in pelagic trawls in the Celtic Sea, Biscay, Channel area in 2002, the Subgroup on Fishery and Environment (SGFEN) of the European Commission's Scientific, Technical and Economic Committee for Fisheries (STECF) concluded that these problems "*need to be addressed urgently*". They further stated that "*there is as yet insufficient information upon which to base sound management advice*" and that "*observer programmes need to be fast-tracked on vessels from all member states active in the area*"<sup>1</sup>.

An alternative means of "fast tracking" observer programmes exists in the form of the new Council Regulation on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy (EC No 2371/2002) that came into force in January 2003. This introduces provisions for the Commission to take emergency measures "*if there is evidence of a serious threat to the conservation of living aquatic resources, or to the marine eco-system resulting from fishing activities and requiring immediate action*" (Article 7)<sup>23</sup>.

The data presented here is put forward as evidence that there is a serious threat to the conservation of small cetaceans resulting from incidental capture in pelagic trawl fisheries. It is therefore considered appropriate that the Commission should introduce emergency measures to require the compulsory carriage of observers on pelagic trawl fisheries in the affected area so that data can be gathered from the 2003 fishing seasons that will enable appropriate mitigation measures to be introduced at the earliest opportunity.

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<sup>23</sup> Article 7 of Council Regulation (EC) No 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy states:

1. If there is evidence of a serious threat to the conservation of living aquatic resources, or to the marine eco-system resulting from fishing activities and requiring immediate action, the Commission, at the substantiated request of a Member State or on its own initiative, may decide on emergency measures which shall last not more than six months. The Commission may take a new decision to extend the emergency measures for no more than six months.

## **The case for a management framework for cetacean bycatch**

In its 2002 report on incidental catches of small cetaceans, the subgroup on fishery and environment (SGFEN) of the STECF also concluded that “*in order for the issues discussed ... to be properly addressed, a management framework is required at a European level*”<sup>1</sup>.

It is essential that the measures introduced to address cetacean bycatch within the CFP provide an overarching, strategic and legally based management framework. It is proposed that this should, at a minimum:

- identify clear conservation objectives,
- require routine and compulsory observer monitoring in all fisheries that present a risk of cetacean bycatch,
- require the establishment of bycatch reduction plans for each identified bycatch problem with set reduction targets and timeframes, and
- provide a default management option, such as suspension of the fishery, if bycatch reduction targets are not met.

## **Conclusion**

There is evidence of a serious threat to the conservation of small cetaceans in the ASCOBANS area and adjacent waters resulting from pelagic trawl fisheries. It is proposed that emergency measures should be introduced to require the compulsory deployment of observers on board vessels from all fleets active in these fisheries to obtain the necessary information for effective mitigation measures to be taken. It is also proposed that a management structure and process must be set in place within the CFP to ensure that all cetacean bycatch problems are properly monitored and effective mitigation is introduced - if the decline and potential loss of small cetacean populations in European waters is to be prevented.

WDCS urges ASCOBANS to promote these measures in its communications with the Commission on its proposed measures concerning incidental catches of cetaceans in fisheries in Community waters.