

## Oral evidence

Taken before the Environment, Food and Rural Affairs Committee,  
Sub-Committee on Cetacean By-Catch, on Monday 3 November 2003

Members present:

Mr Colin Breed  
Mr David Drew  
Mr Mark Lazarowicz  
Mr Austin Mitchell  
Diana Organ  
Alan Simpson  
Mr Bill Wiggin

In the absence of the Chairman, Mr Mitchell was called to the Chair

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### **Memoranda submitted by Association of Sea Fisheries Committees of England and Wales and Cornwall Sea Fisheries Committee**

#### **Examination of Witnesses**

Witnesses: MR PETER WINTERBOTTOM, Chief Executive, and MR DAVID MUIRHEAD, Vice-Chairman and Chairman of the Cornwall Sea Fisheries Committee, Association of Sea Fisheries Committees of England and Wales, examined.

**Q1 Mr Mitchell:** Welcome, gentlemen. This is the very first session of our inquiry into the by-catches and we are grateful to you for coming. Mr Winterbottom, you are the Chief Executive of the Association of Sea Fisheries Committees of England and Wales, and Mr Muirhead you are the Chairman of the Cornwall Sea Fisheries Committee, and we have just been seeing some videos of dolphins in the West Country, so we are prepared to a degree. Thank you very much for coming along to help us. We want you to brief us generally on what is happening and give us the background. What fisheries are associated actually with cetacean by-catches?

**Mr Muirhead:** In my opinion, the main problem is the bass pair trawling, which is carried on primarily by French boats but a few British trawlers as well. There is also allegedly a problem with gill nets. I would not say that was a major problem, there may be a very incidental by-catch. The other type of fishery is what is called a tangle net. The gill net fisheries is a fairly small-mesh fishery, in old money, up to about five and a half inches mesh across. I am not very good on millimetres, I am afraid. The other type of bottom net fishery is a tangle net fishery, which is a bigger mesh, which is used for monk fish, ray and turbot, and I am aware of occasional by-catch problems with the tangle nets but not on a large scale. Going back to the gill net, I must make the point that a gill net is a fairly small mesh. To tangle cetacean, in my opinion, you need a fairly big mesh net. If I could draw an analogy, something we all know about, which is a tennis net, if you or I hit a tennis net we could not possibly get tangled up in it, but if it were, say, a cat, it might get its head through and get tangled up in it. By analogy, a dolphin, in my opinion, really can get tangled up only in a net that it can get its head into, because with a small mesh gill net it will hit the net and bounce off again.

**Q2 Mr Mitchell:** Where is this damage occurring, is it within the six miles or between six and 12? Where is the problem? Are gill nets used within the six-mile limit?

**Mr Muirhead:** The gill nets are set from the shore right out almost to the 200-mile limit, out right across the Continental Shelf. The hake net boats do work a long, long way out, almost within Irish waters, so that is a vast area. The bass pair trawl fishery is off the South West. I would have thought the main area that is fished is between Start Point and The Lizard, and Land's End, probably, and probably from our six-mile limit, because the French boats are not allowed inside our six-mile limits, and, because of Cornish Sea Fisheries by-laws, the British pair trawlers would not be allowed to work within our six-mile limit. So I would have thought it would be between the six-mile limit and the French coast. There have been reports of large numbers of dead cetaceans being washed up on the French coast from time to time, and it is thought that these come from the bass pair trawl teams working off the French coast.

**Q3 Mr Mitchell:** Where does your writ run, as Sea Fisheries Committees?

**Mr Muirhead:** Our jurisdiction at the present time goes out to the six-mile limit from the shore.

**Q4 Mr Mitchell:** So not between the six and the 12?

**Mr Muirhead:** No. We have no jurisdiction at present between the six and the 12, that is controlled by Defra.

**Q5 Mr Mitchell:** You say in your evidence, the statement, that the by-catch problem has "no direct management implications for the [Sea Fisheries] Committees in the South West of England." Therefore, are you saying that this by-catch occurs only outside your area of jurisdiction?

**Mr Muirhead:** Yes. The bass pair trawl problem is only outside the six-mile limit. A very limited problem may occur within the six-mile limit where people are working tangle nets, but it will be very limited.

**Mr Winterbottom:** If I may say so, Chairman, that has not been demonstrated. What has been demonstrated is that the bass pair trawl fishery is suspect and the hake fishery in the Celtic Sea, a long way off Cornwall, almost on the Irish side of the Celtic Sea. In that sense, those fisheries are outside the Committees' jurisdiction.

**Q6 Mr Mitchell:** It is pursued mainly by foreign, French vessels?

**Mr Winterbottom:** The bass fishery is predominantly a French fishery. I think last season there were four Scottish vessels, two pairs.

**Mr Mitchell:** Thank you.

**Q7 Alan Simpson:** You are opposed to the European Commission's proposals, because you say that they are disproportionate to the costs and the scale of the problem. Do you not think that there is increased scope for cheating if you have a distinction between the six-mile limit and beyond?

**Mr Winterbottom:** As far as one knows, there is either no problem or virtually no problem in the nought to six-mile area. That is why we said this approach of pingers in all small mesh nets is disproportionate. It would be a much better approach if the Commission's other route, of observers in those inshore waters, ran first, to identify whether or not there is a problem. If there is a problem then, yes, it must be addressed.

**Q8 Alan Simpson:** The World Wildlife Fund pointed out to us that to draw this distinction risks inviting boats to nip in and out of the six-mile limit. In that case, if there were scope

for being able to evade the role that pingers would play, would there be any merit in imposing restrictions on the length of gill nets to be used within the zone?

**Mr Winterbottom:** The length of gill net, I believe, in the Commission proposal, is a reference to the Baltic Sea drift-net fishery only. Huge numbers of fishermen - net fishermen, pot fishermen, shellfish pot fishermen - have what they regard as their own ground, that is the ground they fish. There is not necessarily an opportunity for offshore men to come in-shore because their brethren would say there was no space for them.

**Q9 Alan Simpson:** Would it make sense then to talk about restrictions targeted at particular types of fishing, rather than the distance that the fishing takes place from the coast? If we are trying to take an effective mechanism that deals with by-catches, if you are saying, "Well, it's a particular type of fishing," should we target the types of fishing?

**Mr Muirhead:** We should be targeting the bass pair trawling, immediately. Unfortunately, the EU proposals suggest that the observer scheme should start in the winter of 2004-05. There is ample evidence that the bass pair trawlers are causing the major problem. They are catching hundreds of cetaceans during the winter season. The Defra trials, last winter, using a separator grid, seemed to be fairly successful. As I have put in my written submission, all boats targeting the bass fishery should be using the separator grid immediately, observers should be put on those boats and they should work out then whether or not the separator grid is working. If we let this fishery go on for another two winters, there will be hundreds, perhaps thousands, more deaths of cetaceans, and at the end of the day the observers will tell us only what we know already. It is as simple as that.

**Q10 Alan Simpson:** Do you consider that bottom-set gill nets present any particular danger to harbour porpoise?

**Mr Muirhead:** The gill nets, I think, do not. As I said in my written submission, one of our local skippers works gill nets through the winter, and he did work them through last winter, and on one occasion the dolphins, or porpoises, or both, were playing around the nets as he was shooting them away. He was very concerned, and when he came to pull the nets he did not catch one. There is a report in last week's *Fishing News*, from a Devon skipper who has worked hundreds of miles of gill nets over the years, and in his written report he says that he has not caught one.

**Q11 Mr Mitchell:** The trouble is, of course, if we want to accelerate action we have to do so on the basis of evidence. When you are saying, "We don't need observers, we already know," is that folklore or is that an observable fact?

**Mr Muirhead:** There is evidence. Dr Tregenza will have the facts and figures. I can dig it out of my information. There is evidence that these trawlers do catch cetaceans. The BBC produced a programme called 'Countryfile', which demonstrated this. Unfortunately, I did not see it, but I gather that was pretty conclusive evidence, and earlier trials by both our Ministry and the Irish Ministry into pair trawling have proved conclusively that it is a problem. The Wildlife Trust's briefing to MEPs gives quite a lot of useful information about the actual figures concerned, and, if you can get hold of that, that will be well worth reading, if you have not got it already.

**Q12 Diana Organ:** I understand your desire to make sure that when you are fishing you are not taking on cetaceans, and you have said already that you do not think it is a major problem from gill nets. I just wonder, because you are concerned about the cost of putting pingers on every net, but you have come up with an alternative. The Association suggested having a net that is strong enough to keep fish in it while being weak enough to allow the

porpoise or dolphin to break free. Do such nets exist currently and, if they do not, how long do you think it is going to be before they will be available for fishermen to use?

**Mr Winterbottom:** I think I am right in saying that either Defra have just commissioned or they are minded to commission research work on this point. Once facts as to breaking strain and gauge of nylon, and so forth, are determined, I would have thought there would be no difficulty at all in manufacturing to those tolerances very quickly.

**Q13 Diana Organ:** The other thing about that is, of course, you would not have the expense of the pinger, but the new nets would be taken on as the fishermen replaced their old ones. How long would that take? Obviously, nets have a certain life and they are not all going to rush out and buy the newly-developed Defra net, with its new breaking strength, just because it is a good idea, they are going to take their time on a cost basis of when their old ones run out. How long do you think it is going to be before we get a fishery in the South West that will have nets friendly for dolphins and porpoises?

**Mr Muirhead:** It depends on how long the nets are worked. If I can take just one fishery in the winter in the South West, it is a cod fishery, I would have thought that the current nets have a life expectancy of probably two years. Actually, it is not quite as devastating as it sounds, because you have a head-rope, which is quite a thick rope with floats on it, and a bottom-rope, which is a leaded rope, and you do not replace the whole net, you cut the middle, or the net, off from the ropes and replace it with new net. The actual sheet netting is produced in the Far East and it is relatively inexpensive. It could be done within a couple of years.

**Q14 Diana Organ:** Within a couple of years, it could be that all the fisheries in the South West would have this kind of friendly netting?

**Mr Muirhead:** Yes.

**Mr Mitchell:** If we started now.

**Q15 Diana Organ:** If we started now, because Defra has not even developed it yet?

**Mr Muirhead:** That is right. With respect, it would not need to be developed because already you can buy a wide variety of different strengths of net. Some fishermen do like to work a thinner twine, or monofilament twine, because it catches fish better anyhow, because the lighter the net the more efficient it is at catching fish. You have got to strike a balance between having a net that is strong enough to withstand the rigours of fishing and being caught on the bottom and having a net that will catch fish successfully.

**Q16 Mr Mitchell:** Presumably, the escape-friendly nets would not last as long?

**Mr Muirhead:** They would not, no.

**Q17 Diana Organ:** There is a cost on that, the cost of replacing them?

**Mr Muirhead:** Yes.

**Q18 Mr Breed:** We were discussing a little while ago the necessity of having observers on boats, and so on. Defra is indicating at the moment that it will be done on a voluntary basis that observers may go onto the boats. What practical difficulties do you think they may encounter in putting observers onboard boats?

**Mr Muirhead:** I am sorry to be nationalistic but I think the British fishermen probably will not have a problem with that, in fact they have gone along with that already, but I fear there may be some resistance from the French trawlermen. If I can diversify slightly, the EEC pro-

posal suggests that there are observers on five per cent of the boats, and that will be mandatory, that the Member State puts observers on five per cent of the boats. I think that is rather a low figure and I would have thought, particularly in the height of the bass trawling season, the figure should be more like 50 per cent than five per cent.

**Q19 Mr Breed:** As a mandatory legal requirement?

*Mr Muirhead:* Within the Defra proposal, it is a mandatory requirement, that the Member State puts observers on five per cent of the vessels.

**Q20 Mr Breed:** Presumably, that has got to be agreed by the European Commission and the Parliament?

*Mr Muirhead:* Yes, that is right.

**Q21 Mr Breed:** You do not know where they are, in that process, at the moment?

*Mr Muirhead:* I do not, I am afraid.

*Mr Winterbottom:* I think negotiations started only at the beginning of September, at official level.

**Q22 Mr Breed:** What role do you think the Sea Fisheries Committees themselves could play in enforcing Defra's proposals?

*Mr Winterbottom:* The resulting UK regulations, to implement what I assume will end up as an EC Regulation, habitually give Sea Fisheries Committee officers powers to enforce, so, as is usual, Sea Fisheries Committees would play their part in enforcing this legislation. Of course, also, the Committees have patrol boats, and one of the suggestions in the Commission's proposal is that, in the cases where fishing boats are too small to take an observer, and, if I may say, that is very often the case on inshore boats, which are still surprisingly small, it is a possibility that those Sea Fisheries Committees' patrol boats could be used as a platform for an observer.

**Q23 Mr Breed:** There is no practical difficulty in having somebody on board, in that sense?

*Mr Winterbottom:* A three-man boat may not get a fourth on. Some of the boats working are surprisingly small.

**Q24 Mr Breed:** At the present time, if an enforcement officer goes on a boat, does he wait until the nets are hauled in before he checks what is going on, or does he insist that they are hauled straightaway, or what?

*Mr Winterbottom:* He requires the skipper to haul. That is the practice for trawl fisheries. For a net fishery, the boat will be here, the nets may be there, and there and there, so he would have to wait whilst the vessel steamed round the fleet of nets and hauled them.

**Q25 Mr Breed:** On a pair trawling one, do they put observers on both of the boats?

*Mr Winterbottom:* I am not sure. I would have thought, just on one of the pair.

*Mr Muirhead:* Usually, it is one of the boats will take the net, the net will go on one boat, and, I suppose, in an ideal world, they would be on the boat which took in the net.

**Q26 Mr Breed:** What about the sheer numbers of personnel? Would this require a significant increase in the number of enforcement officers and observers, and everything else, and, if that were the case, where would these people come from?

**Mr Muirhead:** I understand, when they were examining the tuna drift-net fishery, in the South West Approaches, they were using their own personnel at the time. I do know that the EU has employed fishermen, not current members of Defra or other Member States' Ministries, to take part in observation trips on other vessels, particularly vessels working further afield, on the other side of the Atlantic, from time to time. I think they would employ either their own officials or fishermen, or redundant fishermen or retired fishermen, to do it.

**Q27 Mr Breed:** It would not be a particular problem, in the training, and everything else?

**Mr Muirhead:** It should not be, no.

**Q28 Mr Breed:** Can you expand on the suggestion that Defra's proposals would result in enforcement authorities being open to claims from fishermen for loss or damage resulting from enforcement officers carrying out vessel inspections? Would that be a problem, in what they are being required to do, and what then happens to the nets, perhaps the loss of income because they are being made to haul straightaway, and all that sort of thing?

**Mr Muirhead:** I think, an observer on a gill net boat would be on the boat for the whole length of the trip, and I would not have thought that the fishermen would have to do anything out of the ordinary. However, if it got to the stage, and I think this would be virtually impossible, where the Sea Fisheries' patrol boats were hauling gear to check whether it had pingers on it, I think, firstly, that would be impossible because the boats are not equipped to do it, and, secondly, it could be open to challenge because it could damage the nets. I think it is unlikely. People observing, in the ordinary course of the fishing boats' operation, should not be a problem.

**Q29 Mr Breed:** You were saying that you felt there might be a difficulty with some of the French boats accepting observers, and so on. By implication, therefore, are you saying there would not be a particular objection to observers, either voluntarily, enforced, or whatever, on British boats?

**Mr Muirhead:** I am very sure that there would not be a problem with observers on the gill net boats. I do not think there would be a problem on the pair trawl boats. I have to say that one of the reasons, I think, that we have not got any proper management of this problem to date is because certain of the French politicians and fishermen refuse to accept that there is a problem.

**Q30 Mr Mitchell:** Even though they are being washed up on their shores. What are the enforcement resources of the Sea Fisheries Committees? If you have a problem, like French vessels wandering into the six-mile limit, what do you do, can you call up a gun-boat and bring in the Fisheries Protection vessels? I get the impression, on the East Coast, they send out a man in a rowing-boat. What are your enforcement powers and role?

**Mr Muirhead:** I have to say that the 12 Sea Fisheries Committees around the coasts have all got very good vessels now. We have got an extremely good vessel in Cornwall, which is about 25 metres long. It is well capable of going out to the 12-mile limit, although at the current time we have jurisdiction out to only six. It patrols the edge of the six-mile limit frequently, often at night, to check that there are no offences being committed. It would not be a problem to patrol beyond that if it became necessary.

**Q31 Mr Lazarowicz:** You have told us that the vessels responsible are mainly from France, with this year, I think, four from Scotland. What kind of monitoring do you carry out to enable you to reach this conclusion?

**Mr Muirhead:** There have been observers on these vessels. There is evidence of the problem. It will take me time to go through the paperwork I have got, but I think you will find, in the *cetacean bycatch response*, there are figures saying how many cetaceans were caught by pair trawl vessels. Our fishermen, in fact, in Mr Breed's area, off Looe, the mackerel fleet, when they have been out fishing, they have gone out in the morning and steamed into areas where the bass pair trawlers have been working the night before and found dead fish floating on the surface of the sea. The bottom trawlers have caught bodies of dead cetaceans in the areas in which they have been working, and in the winter months large numbers of bodies, I think it was 267, were washed ashore around the South West, up till the end of April. I know, in Cornwall, in May, after the fishery had ended, there were only seven, so it is pretty conclusive that this is the problem. As I said, if you study the *UK response*, produced by Defra, that gives figures as to the amount of cetaceans that have been caught over various trial periods.

**Q32 Mr Lazarowicz:** The boats involved in this fishery, is the pattern of the last year, which you were telling us about in terms mostly of French and four from Scotland, a pattern which has existed over a few years, or how much variation has there been from year to year?

**Mr Muirhead:** I am afraid, I cannot tell you that exactly, but I am aware that it is a problem which has been developing over the last ten years, and as fishing boats become more efficient at catching their fish they become more efficient at catching other things as well.

**Q33 Mr Mitchell:** Gentlemen, thank you very much indeed. We are very grateful. That is interesting evidence, and it was good to hear it from the people on the spot and most intimately involved. Did I detect a preference, when you said your vessel could operate between the six and 12, would it be logical to extend the writ of the Sea Fisheries Committees from six to 12?

**Mr Muirhead:** This is something for which we have been pressing for some time, and we feel that the Sea Fisheries Committees could well police that area, which is our territory, and, in fact, Mr Winterbottom might enlarge on that perhaps.

**Mr Winterbottom:** As I am sure you know, Chairman, Defra are conducting a review of enforcement at present. We have said previously, as an Association, that we could deliver an enforcement service out to 12 miles, and I am sure my Association will repeat that bid this time round.

**Mr Mitchell:** Thank you very much. I am absolutely impartial, as the Chairman, but, of course, you are dead right, in that. If there is anything else that occurs to you afterwards that you would like us to consider, or add to your evidence, please do not hesitate to drop us a line, but we are grateful for the reinforcement of the evidence that you gave us. Now God speed you back to the West Country. Thank you.

### **Memorandum submitted by Dr Nicholas Tregenza**

#### **Examination of Witness**

Witnesses: DR NICHOLAS TREGENZA, Independent Expert, examined.

**Q34 Mr Mitchell:** Dr Tregenza, welcome back. To launch in straightaway, in your view, is Defra's *strategy* going to be effective in reducing the by-catch, if it does not include inshore gill nets in any requirement to use pingers?

**Dr Tregenza:** I think it would be seriously weakened if it did not include inshore gill nets, for a number of reasons. One is, I think, the by-catch of porpoises in those nets is quite signifi-

cant. It has not been measured specifically by observers in the UK. The reason that is not done is because it is really hard to organise, you have to put a lot of people on a lot of trips which do not haul a great deal of net, so you do not build up a picture very quickly. It has not been done here but it has been done in other countries, and the finding basically is that inshore nets catch porpoises just as effectively as do offshore nets, so it will be weakened in that respect. Even worse would be the problem that one of your Committee referred to, that you would have great difficulty in devising a pinger regulation that you could actually enforce, if you have got this area inside six miles where you do not have to have them. Really, it means you can only test for compliance at sea, because anywhere else the fishermen can say, "Well, yes, I knew my pingers weren't quite right at the moment and I was only going to work inside six miles, I have only been working inside six miles," and you have no way of disputing it. So no conviction would ever be secure and it would be an enormous loophole in the regulation. Checking them at sea is a really difficult task, and the whole monitoring task with pingers is a serious one, on which I am sure you will need to focus. Basically, you will have a few failures, so if you put your officer on a boat and they haul net and he tests the pingers and one out of five is not working, what do you do? One out of five, probably the pingers will still be working okay as a means of reducing porpoise by-catch, so nobody will accept a regulation which requires every pinger to work. So you will have to have the chap sitting there, watching an enormous number of pingers come in, to show that this boat is not using its pingers properly. I think this 'no pingers inside six miles' will make it much more difficult to monitor compliance. The other inshore/offshore thing was about bottlenose dolphins.

**Q35 Mr Mitchell:** Let us continue with the pingers. What is the problem with pingers, are they delicate things which get crushed in the machinery and bashed about, or what?

*Dr Tregenza:* They were. They are getting very much better, and the Seafish Authority is just doing a study on how well they stand the bashing, basically. It looks as though there are one or two designs probably which will be durable and practical, so we are hopeful that they will carry on working for a long time after they are put in place.

**Q36 Mr Mitchell:** Are they battery-operated?

*Dr Tregenza:* Yes.

**Q37 Mr Mitchell:** That has to be replaced each trip, does it?

*Dr Tregenza:* No. The best one would require a new battery every two years, but, changing all the batteries, if you have got eight miles of net in the back of the boat, it is a stack this thick, it takes hours to pull it all out and change the pingers. You can do it at sea, but, as you saw in the video, it is a very congested, busy work area and everything is wet with seawater, it is not the best place to be trying to change batteries.

**Q38 Mr Mitchell:** How many are attached to a particular net? You say a failure rate of one in five?

*Dr Tregenza:* There are two designs at the moment. One of them would require a pinger every 100 metres and the other would require a pinger every 200 metres, and, in both cases, if one pinger failed the ones either side would cover for it, basically.

**Q39 Mr Mitchell:** If it were either 200 metres or 100 metres?

*Dr Tregenza:* Yes. They scare the porpoises a long way off, typically 500 metres away, so single pinger failures do not result in the system starting to catch a lot of porpoises.

**Q40 Mr Mitchell:** Pingers should be universally required, this is what you are saying?



*Dr Tregenza:* Yes.

**Q41 Mr Wiggin:** Is not there a problem? If you have got an eight-mile net, pinging all the way along, you are going to interfere seriously with the habits of the porpoises. That is a long way to drive an animal away from its food?

*Dr Tregenza:* It is, but they never set at eight miles, they would set eight nets of one mile. It is true, you are excluding the porpoise from an area that is a kilometre wide with a net down the centre of it, but that is not the only fish and chip shop in town, as it were, the porpoise can go somewhere else. You are displacing them. They seem to come back fairly quickly, within about three hours. People have tried to assess the extent of this habitat exclusion, and it comes out at a few per cent. I estimate, in the Celtic Sea, it is under one per cent. Where it is worrying is if you started having pingers in estuaries or fjords or places like that, because then you would trap any animals that were in there, or block any that wanted to come in, and really you would disturb their ability to move round their habitat.

**Q42 Mr Wiggin:** Then you have got the problem with bottlenose dolphins which can be inshore or offshore, have you not?

*Dr Tregenza:* Yes. We think there are two kinds of bottlenose dolphins. One live mainly offshore, and we are not quite so worried about them as the ones that live inshore, which you saw in the video, and they live very close to the coast.

**Q43 Diana Organ:** Following on from what Mr Wiggin has been asking, it is all a matter of balance, and whatever. How much are fishermen tending to set gill nets near the coastal inlets, so that it is trapping porpoises into those estuaries? Is there a real problem with that, or is it something that might happen?

*Dr Tregenza:* It is not as bad as it might be because in a lot of those estuaries they are not allowed to set gill nets anyway, because of regulations under the Bass Act. Mr Muirhead would know more about that than I do, but most of those estuaries already are net-free.

**Q44 Diana Organ:** Given that, the question about the balance between what might be causing a displacement of porpoises, that they are not setting their nets in those inlets so we do not have to worry too much about that, and actually being able to do it, therefore should we not make pingers compulsory possibly in some inshore fisheries, and we pick and choose where they are, depending on the distribution of, say, bottlenose dolphins?

*Dr Tregenza:* The bottlenose dolphins constantly motor around the coast of Cornwall and Devon and up into Dorset. There is no clear pattern.

**Q45 Diana Organ:** You are saying that there is an obvious thing, that the pingers cause porpoises to displace, and we would be worried about it if they got trapped in inlets, and then we said that fishermen are not allowed to set their gill nets near coastal inlets. Given that is the case, cannot we say then it is compulsory in certain areas where we are worried about the bottlenose dolphin population?

*Dr Tregenza:* I am not worried about the displacement issue.

**Q46 Diana Organ:** Are you not?

*Dr Tregenza:* Not really, no, because I think it is much less serious than the by-catch issue, and it does not cover a very large percentage of the seabed, and the inlets are being dealt with already mostly by the Bass Act.

**Q47 Diana Organ:** You are looking to see that they are compulsory on all inshore UK fisheries?

*Dr Tregenza:* Yes.

**Q48 Mr Drew:** Just to pursue Diana's line of inquiry, do you not think your approach is a bit blunt, to put it mildly, in the sense that we have a specific problem with a relatively small number of the cetacean species? If I were a fisherman, could this not be seen, in a sense, as a sort of slippery slope, that you start with a six-mile limit and you walk it onwards from that? Clearly, this is the EU intending to impose their will. Is there any compromise here, or is there going to be a major falling-out?

*Dr Tregenza:* Overall, I do not think this is a slippery slope, I think it is a serious issue. The porpoise by-catch in the Celtic Sea, for instance, when we measured it, was six per cent per annum. That is more than the population is likely to be able to sustain. Common dolphins, the ones that get caught in the mid-water trawls, we cannot really assess the total take because they get caught in a lot of different fisheries, the same population of common dolphins. For bottlenose dolphins, again, we cannot really assess the level of take. For all these, we do have good evidence of really serious declines. Porpoises used to be in our harbours. Virginia Woolf used to see porpoises up the Ouse, in Sussex, four miles from the coast, they are never seen there now. They used to be fished in the Fal, they are never seen there now. People were employed to shoot them in Cornwall's estuaries in the 1930s, they have disappeared, so they are in trouble. Bottlenose dolphins disappeared from Cornwall for 20 years, or so. Common dolphins, we really could not say what has happened to the numbers there, but in the Mediterranean they have absolutely crashed. These animals are in trouble, and we do have to take a precautionary view.

**Q49 Diana Organ:** Their numbers have crashed not because of fishing, have not they crashed because of the pollution?

*Dr Tregenza:* Yes, I think you are right. We interviewed 1,000 people in Cornwall for their memories of these animals and it was clear the decline preceded gill nets, and really it seemed best to fit organochlorine pollution, which was what decimated otters, peregrine falcons, sparrow-hawks, and so on. Otters are coming back magnificently now that has been controlled. Everything that is known about the chemistry and the biology fits with it hitting these animals hard, so they are out of the frying-pan into the fire. The pollution issue is improving, but in the meantime the gill net issue has come along.

**Q50 Diana Organ:** If we could get, say, the water and sewage companies to clean up their act, so that the inshore and coastal inlet waters were cleaner than they are now, the numbers of all of these animals, which we would wish to see swimming around in our waters, would rise, and there would not be the problem that we are faced with. It is not a fishery effort that is causing their numbers to deplete?

*Dr Tregenza:* It is not what caused it to deplete initially, but it may be causing it to stay low, continue to fall, or maybe it is creeping back up. We cannot really tell you which of those three is happening at the moment.

**Q51 Diana Organ:** It just seems a bit unfair to put all the cost on the fishermen when actually there is a real responsibility from other organisations, notably water companies, to do something about decreasing the pollution?

*Dr Tregenza:* Water companies were never involved in controlling organochlorine pollution, that was restriction of pesticides and PCB chemicals used in industry.

**Mr Mitchell:** One is the enemy of the other. Here are two problems which are killing them.

**Q52 Mr Breed:** You will be aware that in recent years we have put more and more regulation, more and more cost, on our fishermen, and their ability to function as a profitable business has been reduced considerably. If we were to introduce compulsory pingers, and judging by the examples you have shown us they do not exactly seem to have been subject to nanotechnology, quite yet, what would be the impact of those additional costs on fishermen generally, if we were to say they should be used compulsorily?

**Dr Tregenza:** I know roughly what the costs are, what the actual impact will be I am not so sure about. For some small inshore fishermen, that would be the last straw. In a way, another view is that this is an abundant natural resource that is chronically overfished, so the fishing industry staggers along as a kind of peasant economy, with everybody saying, "We can only just make a living." If it were downsized substantially, fish stocks would rise, individual fishermen would be relatively wealthy, they would be able to afford these things, and most of the negative impacts of fishing would be diminished, enforcement costs would go down. There is always a confusion of fisheries policy, as to whether it is a kind of job management scheme or a fish production management scheme, and mostly the science is always focused on the fish stock when maybe it should have been focused on how do you get jobs by spending this amount of money?

**Q53 Mr Breed:** You are heading into interesting and deep waters, I think. Effectively, what you are saying is it might be desirable to lay the whole load of cost on the fishermen, reduce the number of fishing vessels, who would then be profitable because they could afford all the measures to do that. Then we would protect fish, and overall we would see fish stocks rise again perhaps, and there would be new opportunities, but getting from where we are to there might be a painful process?

**Dr Tregenza:** Yes, and I do not think you can get there just by piling costs on them, I think you have to decommission the industry and hold down its size, so that then you have a small and very profitable, happy industry.

**Q54 Mr Breed:** Just supposing that if pingers do not prove wholly effective, and perhaps some of the other measures, and we still see continuing problems, what action do you consider should be taken then to protect the cetacean population?

**Dr Tregenza:** Pingers have worked very well in porpoise populations, the porpoise by-catch in gill nets, but if they did turn out not to be working so well, my next best choice would be the breakable nets, as it were, that might be a good one. After that, I do not know really, it would be a difficult situation. The gill nets have a lot of good features actually, they are very selective on fish size.

**Q55 Mr Breed:** There is not an exhaustible number of options, if we are going to take this matter seriously?

**Dr Tregenza:** No. People talk about alternative fishing techniques, but they are not easily come by.

**Q56 Mr Mitchell:** That brings us right to the nub of the Common Fisheries Policy argument. If extra costs are imposed on our industry it is usually asked to bear it, if they are imposed on other industries it is usually subsidised by the government, and from what we heard earlier the problem is largely one of French vessels?

**Dr Tregenza:** That is the common dolphin by-catch in mid-water trawls, yes. I agree, largely that is French vessels.

**Q57 Alan Simpson:** You mentioned in some of your earlier comments the difficulties of monitoring, and I think you set out quite a clear picture of the complexities of doing that, and, say, what are we going to do if there is one in five of the pingers that are defective? Just trying to think that through, it struck me that, in practice, we would have something like the tolerances that the police use in terms of speeding, so that if we were able to set up effective monitoring, if one in five were defective you would be told to get it repaired or replaced, if two in five you would be in breach. That would be the rule of thumb. This depends upon there being a set of mechanisms that work. You are doing some work on the effectiveness of pingers as they stand. Just on your TAD pinger, how does that differ from what we have currently?

*Dr Tregenza:* These pingers scare the animals away, they are very loud in the water. The thing I am working on is much quieter, actually it sounds like a porpoise using its sonar, and porpoises respond by using their sonar back to investigate what it is. We have some evidence, from the work I have done with the Newlyn fishermen, that the animals get entangled when they are going round not using their sonar. All these cetaceans have sonar, like bats, they send out pulses and listen for the echoes, and it may be the silent porpoise that is the problem, and this little device might make the silent porpoise switch on its sonar, spot the net and behave accordingly. We have established with the Newlyn fishermen that porpoises are frequently around their nets without getting caught. Fifteen years ago, or ten years ago, we thought they just could not see the nets, blundered into them and got caught. Now we know that mostly they manage to avoid them, but just occasionally they do not. This device would make them turn on their sonar and spot the net, and its batteries will run for so long you could build them, date-stamp them and then just look at the pinger on the net and say it is out of date, no argument, you knew, everybody knew, it would be much easier as an enforcement thing. I do not want to say anybody should start waiting for this, because it is a long process, it may not work at all, it may not be the correct diagnosis of the problem.

**Q58 Alan Simpson:** Are you the only ones looking at new types of pingers?

*Dr Tregenza:* Other people are looking at more complicated pingers that save batteries by pinging only if there is a porpoise around, but, basically, there is only me and somebody in Denmark, yes.

**Q59 Alan Simpson:** At some point, questions will be thrown up about the economics of this, what you describe as the peasant industry, whether the economics of this sort of approach are sustainable for the industry at all, and we would need to understand where the costs are coming, as well as who is going to be picking up the bill for them. Have you got very far with this, given it is just you and this other person in Denmark?

*Dr Tregenza:* I do not think you should even think about these things in the future as something... They are very speculative. We know that these pingers cost about £60 each, you have one every 100 metres on your net. If you are a boat like the one you saw in the BBC footage, that is £9,600 to pinger-up his nets and it is about £500 for batteries every year, and it is the time to do the battery change every two years, which is probably about four man days of work.

**Q60 Alan Simpson:** In terms of cost-effectiveness on this, and given there is a great deal of uncertainty as to what it is that causes cetaceans to be able to swim comfortably without getting caught and other cetaceans to get caught, if we do not know the answer to that, are you confident in your own mind at this stage, in terms of what we need to do, that there is a compelling case for pingers, as opposed to different types of break netting?

*Dr Tregenza:* That idea of lower-strength net has not really been researched yet. You might find it worked for the animals but the fish catch went down or the nets had to be replaced every six months, so really it has to go through the whole cycle of build them and put them into fishery trials, which is quite a slow process. I think at the moment pingers are the only thing we can see that can reduce the by-catch.

**Q61 Mr Wiggin:** We have talked all about netting, and I buy dolphin-friendly tuna, which is hook-caught, as I understand it. We do not have any of that in the UK, do we, and are there any casualties that come from hook-caught fish, particularly tuna, of cetaceans?

*Dr Tregenza:* Very few. Line-catching methods generally are much more cetacean-friendly. It is not true the other way round. In different parts of the world, dolphins are stealing off lines, and that is becoming a major problem and then fishermen start shooting them, and so on.

**Q62 Mr Mitchell:** Did I hear you say that the cetacean switches off its own sonar?

*Dr Tregenza:* Yes.

**Q63 Mr Mitchell:** What is it doing, is it just having a nap?

*Dr Tregenza:* No, it is going around just listening to all the sounds, instead of listening to the echoes.

**Q64 Mr Mitchell:** It is receiving, not transmitting?

*Dr Tregenza:* Yes.

**Q65 Mr Mitchell:** Is this for long periods?

*Dr Tregenza:* We do not know, because the sound is in a very narrow beam. You put something in the water, if you cannot hear them you think, "This beam is probably shining just past my equipment." We have very little idea about how much time they have their own sonar off.

**Q66 Mr Mitchell:** It is not running down its own internal batteries, or wasting them?

*Dr Tregenza:* Yes, it is energy-costly for the animal to use its sonar, so it has got an incentive to go silent at times.

**Q67 Mr Lazarowicz:** In your written evidence, you emphasise that, to quote you: "The current generalisation, from a small data set, that it is only the bass fishery [that is responsible for dolphin by-catch] is unreliable." I think you are of the view that the cause of cetacean by-catch will differ from year to year, depending upon a number of circumstances. Am I correct in thinking that is your view?

*Dr Tregenza:* Yes.

**Q68 Mr Lazarowicz:** The information from the observers that Defra put on the UK vessels, from a total of 190 days at sea, covering a large range of fisheries, came up with the conclusion that it was only the bass fishery that had a problem with the cetacean by-catch. How is it that you have a different view of the cause of the problem?

*Dr Tregenza:* I do not think they have got it wrong. I think they are right in those few years, but this by-catch in the mid-water trawl fisheries varies a lot from year to year, and that is the sort of annual dolphin strandings and, this big peak in 1991-92, a lot of those had autopsies and they had mackerel in their stomachs. I think, at that time, they were feeding

mainly on mackerel. In the study that I ran with French, Dutch and Irish colleagues on mid-water trawls, we had by-catch in trawls that were catching mackerel, they were set for horse mackerel, actually they were catching mackerel. In fact, those Dutch boats, whenever they were seeing dolphins and catching mackerel they were also catching dolphins. One of the things I have learned, studying this, is one year is not the same as the next, and the pelagic trawl fishery is particularly true. I think it is essential that observers go on more than just the bass fishery, because they will find a different pattern in some years.

**Q69 Mr Lazarowicz:** Do you think we have the evidence to suggest which particular range of fisheries might be responsible for by-catch on a more longer-term basis than on the evidence of recent years?

*Dr Tregenza:* We have got some. In the study that I referred to, the bio-eco study, there were quite a lot of mid-water trawl fisheries west of Brittany that were catching dolphins, and they have had huge strandings there, 600 or 700 animals coming in, in two or three weeks, twice since 1989, and these do seem to be mid-water trawl strandings. Really, this problem exists all the way up the west coast of Europe, it is not just the bass fishery here.

**Q70 Mr Lazarowicz:** I was going to ask on that point, because some of the other evidence we have had certainly points to historic problems in the North Sea fishery, off the Western Isles of Scotland, for example. Within the UK's waters, which particular areas do you think should be regarded as the main source of the problem at the moment?

*Dr Tregenza:* The bass fishery definitely has got to be top of the list.

**Q71 Mr Lazarowicz:** It is right to focus on the South West of England fishery, as the main source of the problem at the moment?

*Dr Tregenza:* For common dolphins, yes. For porpoises, it is both really, the Celtic and North Seas.

**Q72 Mr Lazarowicz:** You were suggesting, if I heard you correctly, earlier on, that the use of pingers will be compulsory on all UK inshore and midshore fisheries, is that correct?

*Dr Tregenza:* Yes. That is to deal with the porpoise by-catch, that is a much more widespread problem. It produces far fewer animals on the beaches and does not attract so much media attention, but it is probably rather more serious than the common dolphin by-catch in mid-water trawls.

**Q73 Mr Lazarowicz:** Which fishery would you consider to be responsible for the by-catch when it comes to the porpoise species?

*Dr Tregenza:* Really, all the fisheries that use nylon, whether it is hake nets or tangle nets, they do catch them. Mr Muirhead's idea of a net that the animal bounces off does not actually work terribly well in practice, and really they all do seem to catch them.

**Q74 Mr Lazarowicz:** From a policy point of view, do you want to concentrate on the dolphin, that we should be looking at the by-catch much more widely?

*Dr Tregenza:* Yes, but the measures required are so different. Pingers do not work on the trawl fisheries, they work only for the porpoise by-catch in nets, so I think separate measures have to be introduced to deal with those problems.

**Q75 Mr Mitchell:** Just a final word about separator grids, in the Defra strategy document; can you explain briefly how it works? Is there a kind of hole in the net that they can escape from, or is it not a powerful net?

*Dr Tregenza:* This is in the mid-water trawl fishery, so they are towing an enormous cone of net to concentrate the fish, then they have a cylindrical net in which the fish are finally captured. In the front of that cylinder they put this grid, with a flap over the top, so the dolphin can go up the grid and out through the top of the net.

**Q76 Mr Mitchell:** Right; so can the fish, of course?

*Dr Tregenza:* They can, but they do not.

**Q77 Diana Organ:** How does the dolphin know that is the flap that lets him out? I am looking at this diagram, and I could not work out why all the fish could not escape, and who had taught the dolphin that you have to go in and then you come up and you go out that way?

*Dr Tregenza:* It is searching. The flap actually is weighted down slightly, so it does stay closed and the fish cannot really push it open, but the presumption is that the dolphin does push it open. I was very sceptical that this would work.

**Q78 Mr Wiggin:** Is this not to do with the fact that the dolphin has to breathe air, and therefore the dolphin needs to go up whereas other fish do not need to escape?

*Dr Tregenza:* Yes, that is a good point. The dolphin has a bias towards going up because that is where the air is. Thank you.

**Q79 Mr Mitchell:** You are not enthusiastic about them?

*Dr Tregenza:* I think the initial results are very encouraging, but every gambler is encouraged by the first break in a run of bad luck.

**Q80 Mr Mitchell:** I thought you were arguing that the evidence so far is far from conclusive?

*Dr Tregenza:* Yes. It is far from conclusive, but it is encouraging.

**Q81 Mr Mitchell:** The fact that Defra is banging on about Scottish fishermen keeping them, having tried them out, and that far fewer dolphins are caught, this is not the end of the story, we need still more research?

*Dr Tregenza:* We do, because the fishermen do have an interest in saying, "Okay, chaps, problem solved, you've all got the grid, you can all go home." It may not be solved. It may be working because the noises associated with it scare the dolphins away from the net anyway, and, if so, they might stop being scared after a year or two.

**Q82 Mr Mitchell:** Are the noises the clanking of the grid, or what?

*Dr Tregenza:* The clanking of the grid and the sort of electronic surveillance equipment on it transmitting information back to the boat, at very loud intensities that make these pingers seem very quiet, so it is a very, very noisy system. If it is just noise that is doing it, they may habituate to it, whereas if the grid works it probably carries on working.

**Q83 Mr Mitchell:** Your concern is that they do not work, or they kill animals, or what?

*Dr Tregenza:* I think it is very promising, but it does have to be observed over a period to check that it delivers its early promise. I do not have any objection to it.

**Q84 Mr Mitchell:** Thank you very much. We are very grateful to you for coming along and sharing your expertise, which is very impressive. If anything else occurs to you that you might like to put to us, given the fact that you have now seen the pattern of questioning and

thinking on the Committee, please do not hesitate to do so, because we are just starting out on the area and any help is very useful?

*Dr Tregenza:* I appreciate your work on it. I think this was an exceptionally good document, it had integrity and depth and was much appreciated.

**Mr Mitchell:** Thank you very much.