Consultation on the evidence base for a proposed new English Scallop Order

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EVIDENCE BASE FOR THE NEW ENGLISH SCALLOP ORDER IMPACT ASSESSMENT

INTRODUCTION

1. This relates to the Impact Assessment for the proposed English Scallop Order 2012. This Order will replace the existing English Scallop Order 2004 and introduce measures which:

    - Provide protection for the smaller scale fleet,
    - Better safeguards scallop stocks by reducing catching capacity in certain areas,
    - Improve the enforceability of existing fishery management measures,
    - Puts English waters[1] on a similar footing to devolved waters, reducing the impact of displacement of scalloping activity between areas

2. The proposed measures are purely technical in nature.

Problem under consideration

3. Commercial scallop dredging has taken place in the waters surrounding England for over 30 years and has developed into one of the country's most valuable fisheries. Scallops have become an important national resource, creating wealth and employment in some of the nation's poorest areas. The importance of scallops to the fishing industry has increased, and is likely to increase further, as European quotas and access to species affected by quotas, has reduced. Increased pressure on quota species, has already led to fishermen in certain areas increasing effort on non-quota alternatives such as scallops, bass, crabs and lobsters.

4. In comparison to other commercial species, relatively little is currently known about the state of scallop stocks. There are signs of decline in some parts of the UK, but scientific interpretations of landings data suggest the majority of stocks in English waters is currently relatively healthy. This is especially true in the English Channel, an important scalloping area, where landings per unit effort has increased significantly in recent years.

5. The makeup of the vessels prosecuting the English scallop fishery varies significantly. At one extreme there are the large (up to 37metres in length) full time scallop dredgers, capable of pulling up to 42 scallop dredges in any weather

[1] British fishery limits other than the Scottish zone, the Northern Irish zone, the Welsh zone and the territorial sea adjacent to the Isle of Man, Jersey and Guernsey (referred to as 'English waters' for the purposes of this document).

and fishing continuously for days at a time. These vessels are often described as 'nomadic' due to the wide geographical areas they will fish - traditionally anywhere around the UK coast they believe there are significant quantities of scallops. These vessels tend to fish intensely in an area until harvesting scallops becomes unprofitable. They will then move on to new areas but will return a number of years later when the scallop stocks have returned to a level where dredging for them has once again become viable. Due to this fishing pattern a large scallop dredger may operate in 4 or 5, or even more, areas and rotate around them over a period of several years. These nomadic vessels are exclusively English or Scottish. There are also large vessels prosecuting the fishery who will beam trawl for part of the year but switch to scalloping on an occasional seasonal basis, particularly if access to sole is limited. Recently there have been signs that this seasonality is breaking down and many of these vessels now target scallops all year round.

6. At the other end of the spectrum are the smaller, inshore vessels, including some who will only fish for scallops on a part time basis, and others who rely on scallops for the majority of their income. These vessels are restricted, primarily by their size, in the areas and weather that they can fish meaning that they are likely to dredge for scallops only in their local area. The catching capacity of these vessels is significantly lower than the large vessels due to the lower number of dredges they can tow.

7. Maintaining a viable small scale scallop fleet requires a sustainable crop of scallops for harvesting over a full season. In most instances this will be unachievable without some measure of protection from large vessels capable of fishing long trips, intensively in conditions which keep smaller vessels in harbour. The large vessels can quickly deplete local grounds leaving local vessels with no fishable stock for the remainder of the season. This has been addressed successfully in the English 0-6 nautical mile (nm) zone where Inshore Fisheries and Conservation Authorities (IFCAs) have introduced byelaws (Annex 1) restricting the activities of larger vessels or prohibiting their access to the fishery completely. Outside of 6nm, IFCAS have no powers to introduce byelaws and there are currently no English national measures in place to restrict how and by whom these scallop grounds may be harvested.

8. In England, this effect on the small scale fleet has intensified over the past decade as a number of different scallop orders have been introduced elsewhere in the UK, each affecting a different region and introducing slightly different measures. This has had the effect of displacing effort; particularly larger sized scallopers who have been effectively prohibited or restricted in many areas of the UK. When the Scottish Order[2] was introduced in 2003 it banned the use of more than 14 dredges per side anywhere in her waters, displacing the larger vessels, which use greater numbers of dredges, elsewhere. This was followed by Northern Irish and Welsh measures and, most recently, by the Isle of Man. We

[2] The Prohibition of Fishing for Scallops (Scotland) Order 2003

are now in the position where the largest scallopers are allowed to fish to full capacity only in the waters around England, where the fewest restrictions apply.

9. This displacement has had consequences. As well as the likely environmental impact of intensifying scallop dredging onto reduced areas, it can also have a detrimental economic effect on the inshore fleet and coastal communities. As the larger nomadic scallopers have had the area in which they can work reduced, they have had to spend more time in the areas which are still open to them, including areas which were previously predominately fished by the small scale fleet. This has heightened gear conflict issues between the local scallop fleets and the larger nomadic vessels.

10. There is also the issue of gear conflict between large nomadic scallopers and local non-scalloping fishermen. The potentially destructive nature of dredging has lead to bitter disputes with local fishermen, particularly static gear fishermen in areas where scallopers are not a frequent presence. Local fishermen perceive scallopers as causing disruption before moving on to a new area. This disruption may take the form of loss of static gear (e.g. pots or nets) or damage to local fishing and nursery grounds and can be increased due to the larger vessel's lack of manoeuvrability and knowledge of local fisheries.

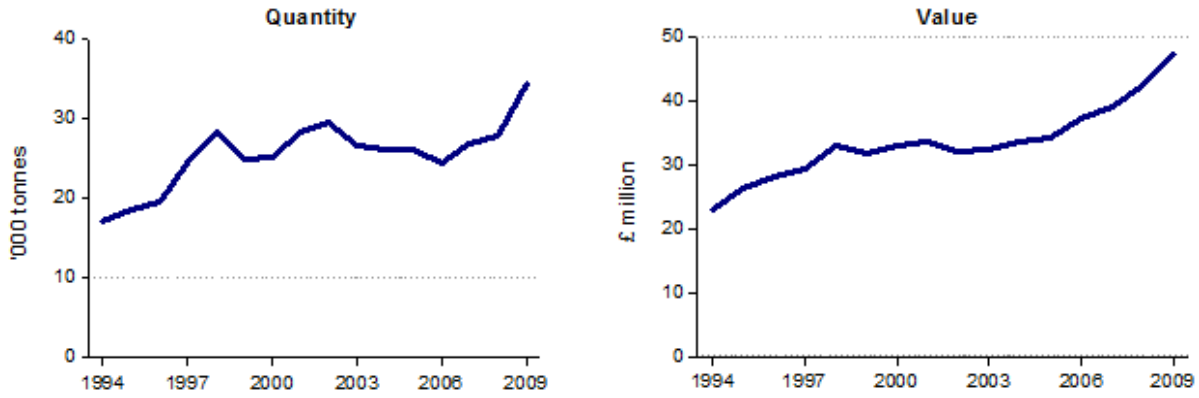
11. Whilst there is a clear case for ensuring the existence of the small scale fleet, it is important to do so in a manner which does not threaten the continued viability of the larger vessels. The size of these vessels means they are capable of fishing in areas and conditions which would be inaccessible to the smaller fleet. A sustainable fishery, on both a local and national level, with access to healthy stocks all year round, for both the smaller inshore vessels and larger 'nomadic' vessels, is the desired outcome. If this is achieved it will moderate the 'boom and bust' economics which has historically affected scallop grounds, both around the UK and globally, and will allow this valuable national resource to provide wealth for years to come.

RATIONALE FOR INTERVENTION

12. Government involvement in fisheries management is often required due to the open access nature of fisheries. Without some form of management, open access can result in overfishing on both a local and national level. Fishermen acting on an individual basis can often fail to take account of the effect of their activity on the ability of others to catch fish. The resultant 'race to fish' therefore can have a detrimental effect on stocks, other vessels and the long term viability of certain sectors of the fishing industry.

13. A viable fishing industry makes a valuable contribution to regional economies; the UK catching sector currently employs nearly 13,000 people, processing over 17,000 and aquaculture more than 3,000. King scallops (*Pecten maximus)* are a species which provide a large portion of this economic activity, consistently being the third most valuable species to the UK fleet. The value of first sales of King

scallops has grown year on year and reached £47 million in 2009 (Graph 1). With this rise in value there has been a corresponding rise in the quantity of scallops landed. Over 95% of these scallops are caught with dredges with hand diving making up the remainder.



Graph 1: Landings and value of scallops into the UK and abroad by UK vessels: 1994-2009 (MMO data)

14. Along with providing employment (around 65% of the full time employment within the industry) and supporting local economies, the small scale fishing industry provides a range of social and environmental benefits. Fishermen are seen locally as being emblems of, and major contributors, to the distinctiveness of the local community, although the social benefits of the small scale fleet vary across the country depending on the inherent infrastructure.[3]

15. Small scale fishing contributes particularly to tourism, adding character and activity to the harbour side and acting as an 'icon' of the traditions of the area. The loss of small scale fishing vessels can also threaten the viability of small 'upstream' businesses, such as providers of gear, boats, fuel and ice. The loss of these businesses in turn affects the viability locally of the small scale fleet.

16. Small scale scallopers are an important component of the local fishing industry in many parts of England, particularly along the south coast. Such vessels are unable to travel long distances to find scallop grounds to fish, due to their size and the fact that they are seriously restricted by weather. It is therefore important that there are local, inshore grounds in order for these vessels to remain viable and continue contributing to the local economy. Without some form of management to lessen the inshore impact of the large scale 'nomadic' scallopers some fishermen may be forced to leave the fishing industry, with knock-on effects on the viability of the supporting infrastructure for those that remain.

17. Scalloping can also have a serious impact on other, non-scalloping, small scale operators. The main example of this is inshore static gear fishermen targeting

[3] *The Social Impacts of England's Inshore Fishing Industry'* – Countryside and Community Research Institute & Centre for Rural Economy, Newcastle University (publication pending)

crabs, lobsters or whelks. Large scale scallopers operating in an area unused to the activity for even a short period of time can cause serious upset, heightened by the perception that these are vessels from elsewhere ‘invading’ local grounds. Smaller vessels are less likely to cause such intense conflict as they are more manoeuvrable so can avoid static gear, due to their size, and if local are more likely to be aware of static gear locations, and may even have arrangements in place with other fishermen to avoid gear being damaged.

18. The scallop industry is developing a series of ambitious voluntary projects to address some of the issues in the sector. Most prominent of these are the industry ‘best practice guide’ and a long term goal of obtaining Marine Stewardship Council certification for the English Channel scallop fishery. The ‘best practice guide’ work focuses on working closely with conservation projects and ensuring full engagement from the sector. These are commendable aims which will require major changes in the industry, but will not address the problems of displacement and conflict in the sector.

19. Voluntary arrangements, which have worked successfully on a local level, are unlikely to be a realistic option on a national scale. This is particularly true in this fishery, where the vessels catching the majority of scallops are ‘nomadic’. Government intervention is required to fill the gaps where a voluntary approach is not possible.

AN ANGLO-SCOTTISH APPROACH

20. It is worth recognising that one of the main issues in the sector, that of displacement of effort, has partly been caused by previous Government intervention in the form of different approaches by UK Fisheries Administrations. This issue is only likely to be resolved by taking action to ‘level the playing field’ and taking a more coordinated approach to management.

21. Due to the cross border fishing patterns of the larger scallop vessels there is a strong case to pursue a UK approach to scallop management. Whilst Wales and Northern Ireland have indicated that due to the unique nature of scalloping in their waters and the location of the fisheries themselves, they see no reason to change the stringent inshore measures already in place in their waters at this time, the situation in Scotland is different. Marine Scotland and Defra have recently committed to working together on scallop management now and in future – a move that will see the majority of the UK scallop fleet (c. 95%) being managed by the same technical measures, with consistency between the English and Scottish scallop orders. There may be scope to work with Wales and Northern Ireland in the future however to agree measures in the offshore area (outside 12nm limit).

22. Assuming that final agreement on this Anglo-Scottish approach is reached, Marine Scotland will be following their own separate regulatory process to amend

their scallop order so this Impact Assessment deals with measures applicable in English waters only.

BASELINE INFORMATION AND BACKGROUND

Existing Regulation

23. The scallop fishery is relatively unrestricted, especially at European level. Whilst European technical restrictions do exist in the form of minimum landing sizes (MLS) and the Western Waters effort regime[4], the majority of legislation is domestic.

24. To fish for scallops commercially a UK vessel must be in possession of a fishing licence appropriate to its size, engine power and the type of fishing that is being carried out. Additionally, there are entitlements attached to licences for specific rights to fish in specific areas or using particular gears. An over 10 metre vessel requires one of these entitlements to fish for scallops by mechanical dredge, known as a "scallop entitlement". There is no equivalent entitlement for vessels with an overall length of 10 metres or under which means that any of these vessels may target scallops.

25. In England, the English Scallop Order 2004 currently applies. This Order introduced technical measures to regulate the fishery including:

- Technical specifications on the types of dredges which may be used
- A dredge per side limit of 8 within the 0-6nm region
- A ban on attachments to dredges
- Carriage restrictions on undersized scallops in ICES area VIId

26. Other UK fisheries administrations currently all have different management arrangements in place, as shown in table 1 and 2.

[4] Council Regulation 1954/2003

	England	Scotland	Wales	Northern Ireland	Isle of Man
Engine power limit within 12nm	nil	nil	221kW	Nil	221kW
Closed Season	Irish Sea Closures	Irish Sea Closures	May to October	Irish Sea Closures	June to October
Curfew	nil	nil	Nil	0600 to 2000, no weekend	0600 to 2000 only
Closed Areas	Lyme Bay	nil	Yes	Nil	Yes
Restrictions on no. of dredges per side (see table 2)	Yes	Yes	Yes	Yes	Yes

Table 1: National Scallop dredging restrictions by Fisheries Administrations

	England	Scotland	Wales	Northern Ireland
0-1nm	8 per side	8 per side	Scalloping banned	6 per side
1-3nm	8 per side	8 per side	3 per side	6 per side
3-6nm	8 per side	8 per side	4 per side	6 per side
6-12nm	**nil**	**10 per side**	**7 per side**	**6 per side**
12nm+	**nil**	**14 per side**	**Nil**	**Nil**

Table 2: Restrictions on number of scallop dredges permitted by Fisheries Administration

27. The Western Waters effort regime establishes the framework for an effort regime applicable to vessels over 15 metres in length in Western Waters (all waters around the UK except the North Sea). There are effort limits for three fisheries, demersal, scallops and crabs, broken down by ICES sea area (areas V, VI and VII). The limits, expressed in kilowatt (kW) days per fishery per Member State, are set out in Commission Regulation 1415/2004.

28. UK effort uptake is not currently actively managed by fisheries administrations, that is to say that there are no limits set at vessel, producer organisation (PO) or any other level. At present the Marine Management Organisation (MMO) simply monitors overall uptake and reports back to the Commission as appropriate.

29. MLSs have been introduced at a European level to ensure that scallops reach maturity before being caught. There are two MLSs affecting UK waters, set at 100mm and 110mm. The higher MLS applies in the Eastern English Channel (ICES division VIId) and the Irish Sea (ICES division VIIa north of 52°30'N). The lower MLS applies in all other areas.

Demographics

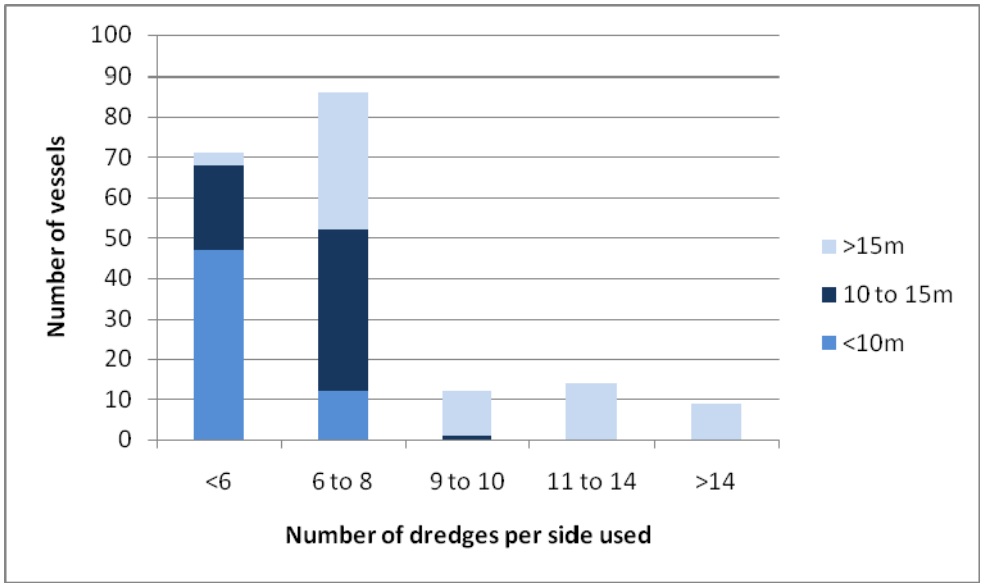
30. There are 318 UK vessels (see table 3) which are fishing for scallops in the UK (caught more than 1 tonne of scallops in UK waters in 2009). Of these we estimate that from all fisheries administrations there are approximately 239 which spend a proportion of their time in English waters.

	Defra	Marine Scotland	Wales	Northern Ireland	Isle of Man	Total
Under 10m	59	38	11	9	0	117
10 to 15m	40	33	4	7	2	86
Over 15m	37	61	3	7	7	115
Total	136	132	18	23	9	**318**

Table 3: UK vessels having caught more than 1 tonne of scallops in 2009 by fisheries administration and size (MMO data)

31. In 2009, 78% of the 34,411 tonnes of scallops landed into the UK were from vessels over 15 metres in length. This reflects how the catching capacity of scallop vessels greatly increases with size. Larger vessels are more likely to use higher numbers of dredges which increases the rate at which scallops are caught. They are also able to stay out at sea for longer periods of time and in all weathers, greatly increasing their catching capacity in relation to a smaller scallop vessel.

32. The vast majority of scallops are caught and landed by the larger vessels, which account for, in terms of numbers of vessels alone, only 36% of the UK scallop fleet. As graph 2 demonstrates, the vast majority of vessels who dredge for scallops are fishing with 8 or fewer dredges per side.



Graph 2: Numbers of vessels using different quantities of scallop dredges (MMO data, data set may be incomplete)

Landings, effort and estimated stock levels

33. English scallop grounds are split between ICES Areas IV (the North Sea) and Area VII (all of the English Channel, the west coast and Irish Sea) where the vast majority of scallops are caught (see Annex 2). Between 2008 and 2010, scallop dredge effort in Area VII has increased significantly to levels not previously recorded. This increase in effort predominantly comes from the largest, most powerful vessels who are fishing more in this area due to an apparent increase in scallop abundance in the Eastern Channel, presumably following heavy recruitment. This area is noted for occasional very strong recruitments leading to greatly increased fishing activity, the period in question however has been exceptional.

34. Knowledge of stock levels is limited due to a lack of robust scientific assessments, although work is currently underway to address this. The main information on which stock level estimates are based is landings and effort data.

35. Logbook data, provided by vessels over 10 metres in length, gives information on the ICES area in which fishing take place but does not contain any detail on the distance fishing takes place from the shore. Vessels over 15 metres in length are required to have fully operational Vessel Monitoring System (VMS) on board. By combining the geographical data from VMS with the catch data from logbooks, we are able to estimate the proportion of fishing activity, and hence catch taken, from within 12nm only for vessels over 15 metres in length.

POLICY OBJECTIVES

1. Protect the scallop stock from overfishing, particularly in the inshore area
2. Reduce gear conflict issues that occur between different sized scallopers due to the nomadic nature of parts of the scallop fleet, and conflict between non-scalloping vessels and scallopers.
3. Ensure the sustainability and viability of the small scale scallop fleet in line with the UK Government localism agenda and commitment to sustainable coastal communities.
4. Improve compliance of the two different MLSs in the English Channel.
5. Provide clarity on the attachments to dredges which may be used.

POLICY OPTIONS

Two policy options have been considered:

36. ***Option 1) Do nothing*** - continue with the existing situation in which scalloping activity remains largely unregulated in English waters outside the 6nm limit, resulting in effort of larger-scale UK scallop vessels being focussed more intensely on English waters due to more restrictive measures in devolved waters.

37. In a worst case scenario this could result in fishing exploitation continuing (and possibly increasing) to the extent where the scallop stocks in English waters fall to levels where they will not be commercially viable and possibly collapse altogether. This would then require more drastic and immediate action by Government.

38. A more likely scenario is one where, if the current situation continues, scallop stocks plunge to commercially unviable levels on a local or regional basis due to intense harvesting by larger nomadic scallopers. If this occurs in the inshore area, this is likely to result in parts of the small scale scalloping fleet being forced out of business.

39. ***Option 2)*** our preferred option is to replace the existing English Scallop Order 2004 with a package of measures designed to manage the intensity of scallop dredging within 12nm of the shore and to ensure compliance with other fisheries management measures such as MLS. This will help ensure there are scallops for the small scale fleet to fish and also help safeguard the scallop stock and the economic benefits the fishery yields. It is our opinion that this can be achieved in a manner which will have minimal impact on the larger vessels prosecuting the same fishery.

The measures that would be introduced are:

a) A limit of 8 dredges per side within the 6 to 12nm zone

40. Over the last 20 years larger vessels, capable of fishing increasingly more dredges, have entered the fishery. This has the obvious effect of intensifying and

increasing scalloping effort, with the number of dredges used being limited only by the size of the vessel. As a result of this, dredge per side limits have been introduced as an effective effort limiting tool throughout the UK.

41. The current English Order introduced a dredge per side limit of 8 within the English 0-6nm zone. Extending this limit out to 12nm will reduce the catching capacity of individual vessels in this area and discourage larger vessels, capable of fishing more dredges, from fishing in the inshore area. This will allow sustainable stocks for the small scale fleet whose fishing activities are more restricted by distance of fishery from home port and weather.

b) improving compliance of the two different MLSs in the English Channel by applying the larger MLS to all scallops caught on a fishing trip which has covered both areas

42. One of the primary reasons for setting a MLS is to permit sufficient numbers of individuals to survive to maturity to safeguard the production of future generations. The size at which scallops reach maturity is dependent on growth rates and therefore the MLS needs to be set to reflect typical growth rates. Individuals with higher growth rates need to be allowed to grow to a greater size in order to reach maturity. Historically, growth rates have been significantly higher in the Eastern English Channel (ICES division VIId) and the Irish Sea (ICES division VIIa north of 52°30'N) compared with other areas, which is why the MLS was set at 110mm in VIId and the Irish Sea and 100mm elsewhere. We do not currently see a need to harmonise the two different MLSs in the English Channel at this time based on scientific advice.

43. The prohibition on the carriage of undersized scallops detailed in the current order has largely been effective in improving the enforcement of the different MLSs. A problem remains when vessels begin their fishing trip in an area where the higher MLS applies and then continue fishing in an area where the smaller MLS applies. This is of particular concern when vessels fish both VIId and VIIe in the same trip, and from an enforcement point of view, it is impossible to determine where the undersize scallops came from.

44. By restricting vessels which fish in both English Channel areas in the same trip to retaining only scallops which meet the higher MLS we will improve compliance with this important stock management measure. This will in turn have a positive impact on the state of the stock.

c) Providing some clarity on legal definition of "attachments" to a dredge to allow those used solely for safety purposes

45. The current order bans the use of "any attachments to the rear, top or inside of the dredge". This is because attachments can be used to limit the size of the belly rings (part of the chain bag which holds the caught scallops), reducing the selectivity, and increasing the likelihood of catching undersize scallops or fish. Attachments have also been used to apply more weight to a dredge, causing

increased pressure on the seabed and increasing the by catch of high value flat fish, some of which are subject to recovery plans.

46. We are proposing to exempt ‘attachments’ used to increase the safety and speed of handling/tipping the dredge. This will, in the best case scenario, improve the safety of scallop dredging and potentially save lives. It will at least, make the legislation clearer and more user friendly.

COSTS AND BENEFITS OF EACH OPTION

Option 1) Do nothing

47. On a local or regional level, if the scallop fishery is allowed to continue under a ‘do nothing’ scenario then there is a risk scallop stocks will become overfished and the stock density plunge to the extent where commercial fishing becomes unviable in some areas.

48. If this is allowed to happen then the small scale fleet, who are restricted by where they can fish due to weather, may be forced out of business. This will in turn have an impact on the upstream infrastructure which relies on a number of smaller vessels existing to provide sufficient trade to remain viable. Rural communities, often some of the poorest in the UK, will have an important source of income denied to them. This is likely to have a significant socio-economic cost.

49. The larger vessels would continue to be allowed to dredge for scallops with no restrictions outside of 6nm. They would be likely to continue to fish for scallops in areas until it becomes unprofitable to do so and then move on before returning a number of years later. There may be a slightly greater short term economic return from allowing them to continue to fish like this in all areas but we believe that a similar return can be realised from the larger vessels being encouraged to fish exclusively outside 12nm.

50. There would be remaining ongoing costs for enforcement of current Scallop Order and local byelaws both onshore and at sea by the MMO and IFCAs.

Option 2) Introduction of a new English Scallop Order

Costs- summary

Costs to the industry

51. The main potential costs incurred by the fishing industry will be the potential loss of earnings from the reduced effort they can exert inside 12nm as a result of dredge number restrictions. There is also a potential cost to the parts of the industry who fish in both ICES areas VIId and VIIe in a single trip as they will no longer be able to land scallops smaller than the higher MLS (110mm).

52. Vessels which previously fished in the 6-12nm zone would have to choose between increasing their activity outside 12nm or reduce the number of dredges they use inside 12nm. The amount of time vessels spend in the 6-12nm area varies greatly and clearly those which spend a greater proportion of their time in this area would face a greater potential impact on their activities. To counteract this impact they would need to increase the amount they catch outside 12nm. We have seen no evidence to suggest this is not feasible and the limited data we have suggests the scallops are abundant in this area. These vessels may however face greater fuel costs due to having to fish further offshore.

53. Vessels which have fished with more than 8 dredges per side in the 6-12nm zone, and who are unwilling to move their activity further offshore would face having to fish with fewer dredges. Fishing with fewer dredges may mean that more effort is required to catch the same number of scallops, presuming that the density of scallops remains the same.

54. A more detailed account of the costs associated with each individual measure follows.

Government / enforcement costs

a) A limit of 8 dredges per side within the 6 to 12nm zone

55. The MMO currently use aerial and surface surveillance to carry out routine checks, including the number of dredges used per side within the 6nm limit. Estimates by MMO enforcement experts indicate that there will be no increase in costs associated with extending this coverage to 12nm.

b) improving compliance of the two different MLSs in the English Channel by applying the larger MLS to all scallops caught on fishing trip which has covered both areas

56. MMO currently carry out routine sample measurements of all scallops caught, irrespective of area, and advise that there will be no further cost associated with the introduction of this measure.

c) Providing some clarity on legal definition of "attachments" to a dredge to allow those used solely for safety purposes

57. MMO currently carry out routine inspections of all attachments to scallop gear during inspections carried out at sea and onshore. They advise that clarification of the definitions of attachments may lead to a saving as less time is spent explaining or interpreting the legislation. In any event, this measure will not lead to any extra work or further cost.

Detailed costs for industry on measure by measure basis

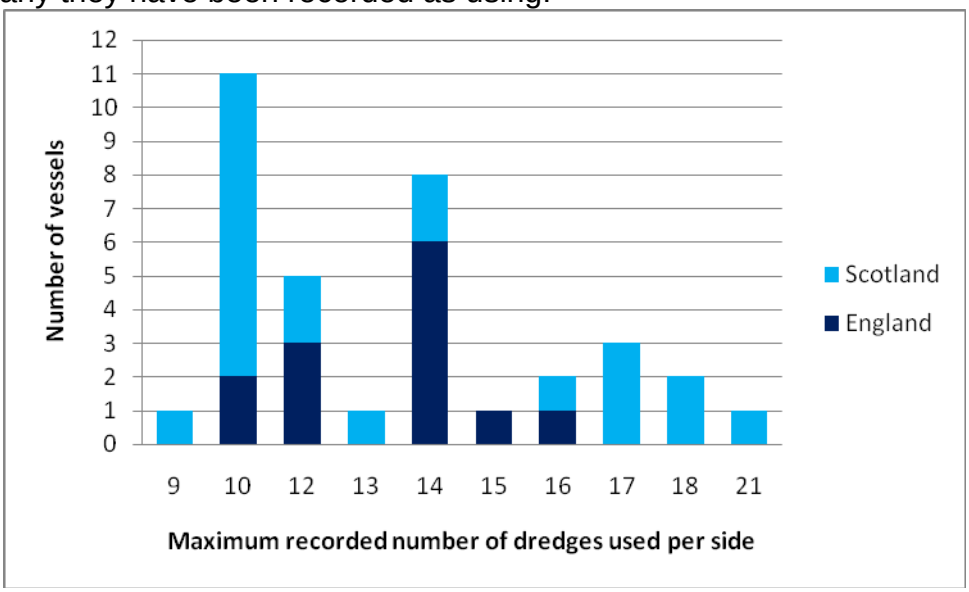
a) A limit of 8 dredges per side within the 6 to 12nm zone

58. The main cost associated with this measure would be the potential for reduced catches if a vessel catches a significant proportion of its scallops in the 6-12nm zone. There are five main categories a vessel could fall into:

    I. A vessel cannot fish further offshore or reduce number of dredges they use in 6-12nm (highest impact)
    II. A vessel changes it's fishing pattern to fish exclusively outside 12nm with same number of dredges it currently uses
    III. A vessel reduces the number of dredges used when fishing within 12nm to 8 per side
    IV. A combination of II and III
    V. A vessel currently fishes with 8 or fewer dredges per side and is unaffected by this management measure (lowest impact)

59. The information we hold on the number of dredges used by vessels indicates that there is only 1 vessel using more than 8 dredges per side in English waters which is less than 15 metres in overall length. This means that we can use VMS data, in combination with logbook data, to estimate the proportion of the scallop catch of vessels likely to be affected by this measure, and consider the likely income a vessel obtains from different distances from the shore.

60. Graph 3 shows the numbers of vessels using more than 8 dredges per side and how many they have been recorded as using.



Graph 3: Vessels operating in English waters with more than 8 dredges per side also showing fisheries administrations (maximum recorded dredge use, data on some vessels may be missing)(MMO data)

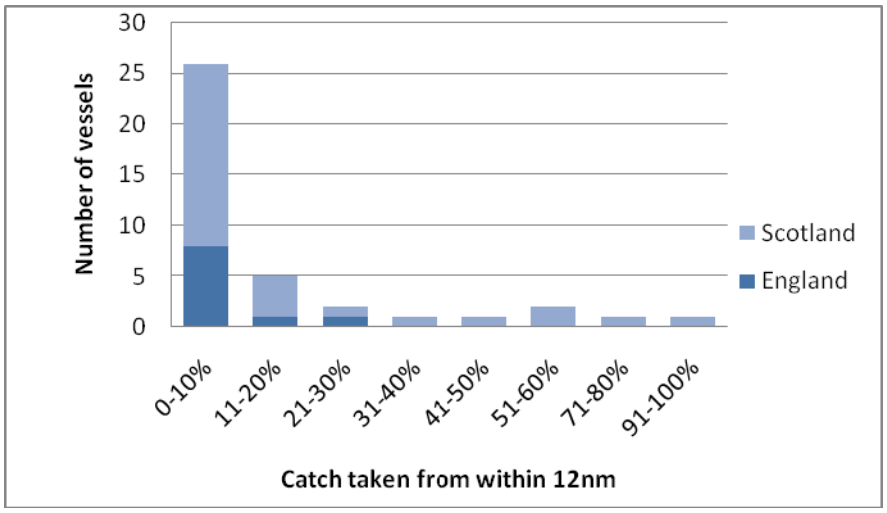
61. As table 4 demonstrates, on a fleet wide level, the proportion of scallops caught in different fishery zones by 15 metre+ vessels using more than 8 dredges per side does vary from year to year. The exact level of this proportion will be affected by factors such as what new grounds are discovered and their distance

from the shore. Over the past 5 years these vessels have caught an average of 16% of their scallops within 12nm, with the two lowest figures being the most recent and 2010's figure being as low as 5%.

Location	2006	2007	2008	2009	2010
Beyond 12nm limit	76%	82%	75%	84%	94%
Within 6-12nm limit	***21%***	***16%***	***22%***	***14%***	***5%***
Within 3-6nm limit	2%	1%	2%	1%	0%
Within 0-3nm limit	2%	2%	2%	1%	1%
Total	100%	100%	100%	100%	100%

Table 4: Over 15m vessel using more than 8 dredges p/s scallop catches in English waters by fishery limit (MMO data)

62. Table 4 demonstrates the behaviour of the industry as a whole, but individual vessels could of course spend a greater amount of their time catching scallops within 6-12nm. However Graph 4 demonstrates that a clear majority of the larger vessels, actually take a very small proportion of their catch from within 12nm.



Graph 4: Proportion of total catch taken within 12nm in English waters of vessels of 15 metre or more in overall length. Colours demonstrate current Fisheries Administrations of vessels (MMO data)

63. The greatest possible impact on vessels of this measure in scenario (I) should be directly proportional to the proportion of their catch which is from within 12nm. Therefore these figures represent the highest possible impact on the scalloping activity of these vessels based on the assumption that a vessel does not change fishing pattern at all. So averaged out over the whole affected fleet (over 15 metre fleet using over 8 dredges p/s), based on the previous 5 years activity, the maximum impact could be as low as 5%, as high as 22% and with an average of around 16%. An upper bound to the impact of these proposals on the large scale fleet in revenue terms is therefore £1.15million[5] (average over 5 years). In gross

[5] Based on average prices (MMO data)

value added (GVA) terms, an upper bound to the impact is estimated at £0.6million[6].These figures are however likely to overstate impacts, as the assumption that vessels will not change their fishing patterns at all is unlikely to be correct.

64. One way a vessel may alter it's fishing pattern is increasing the amount of time, and hence amount of their catch, obtained from the scallop grounds beyond 12nm. We have no evidence to suggest that this is not possible. If a vessel were to do this and alter its fishing pattern accordingly, then the cost of introducing this measure could be minimal, particularly as the majority of affected vessels already spend a clear majority of their time outside 12nm. This corresponds to scenario II) above.

65. As well as, or instead of, changing fishing patterns to spending more time outside 12nm, a vessel could choose to reduce the number of scallop dredges being used to 8 per side or fewer. This would permit them to fish within 12nm but at a lower catching rate. The exact change in catching rate would depend upon the original number of dredges used - a vessel dropping from 21 dredges a side to 8 dredges per side would see a greater reduction than a vessels dropping from 9 dredges per side. This means it will be more tempting for a 9 dredges p/s vessel to drop dredges to fish within 12nm than for a vessel which usually operates with a far higher number. On this basis we expect the largest vessels, or those using the highest number of dredges, are more likely to increase dredging activity outside 12nm rather than those using a smaller number of dredges, who may choose to reduce their numbers to 8 dredges per side instead.

66. It is worth noting that the clear majority (82%) of vessels on which we have associated dredge numbers data operate with a maximum of 8 dredges per side or fewer. These vessels will not be impacted by this new restriction at all.

67. In summary, the costs for this element of the proposals have an upper (unrealistic) bound of £1.2million associated with the potential change in landings by the larger vessels if they made no change to their current behaviour and a lower bound (unquantified) associated with the potential increase in fuel costs if the large scale vessels maintain current catch levels by increasing catches outside the 12nm limit.

b) improving compliance of the two different MLSs in the English Channel by applying the larger MLS to all scallops caught on fishing trip which has covered both areas

68. The cost of this measure will be confined to those vessels who fish in both areas in a single trip. This cost will be associated with the scallops between 100 and

[6] Gross value added for the fishing fleet is generally estimated as operating profit plus crew share. The latest Seafish fleet survey (http://www.seafish.org/media/Publications/2009_Fleet_Econ_Report_Final_6May11.pdf) suggests the over 10m scallop fleet in both Area VII and NSWoS has operating profit of around 21% and crew share of around 30%

110mm caught in ICES division VIIe (where the lower MLS applies). The vessel will no longer be able to retain on board, and ultimately land, these scallops.

69. The value of these trips varies wildly from year to year, for example the value of the catch in 2010 is 10 times that of 2006. Whilst we have figures on the number of affected trips which take place we do not have information on size of individual scallops retained.

70. Table 5 shows the number of trips which have taken place over the past 5 years, the value associated with the landings from each trip and which ICES division (and hence MLS) the scallops were attributed to. Only scallops caught in VIId can be affected by this measure and only those between 100 and 110mm. This means that the highest possible annual figure for costs associated with this measure, based on a 5 year average, would be £105,600. This figure though assumes that ALL the scallops landed in Area VIIe are between the two MLSs (100-110mm), and this is simply not likely to be the case. There is insufficient data available to estimate what proportion of these scallops can now not be landed due to the introduction of this restriction.

		Number of	Number of	£000s	
		vessels	**Trips**	**7d**	**7e**
2010	10m and under	0	0	0.0	0.0
	Over 10s	14	45	632.6	226.3
	Total	**14**	**45**	**632.6**	**226.3**
2009	10m and under	1	1	0.0	0.0
	Over 10s	8	12	173.3	30.8
	Total	**9**	**13**	**173.3**	**30.8**
2008	10m and under	2	5	1.7	1.4
	Over 10s	26	69	172.4	51.7
	Total	**28**	**74**	**174.0**	**53.1**
2007	10m and under	3	6	1.8	2.2
	Over 10s	28	84	300.6	81.4
	Total	**31**	**90**	**302.5**	**83.6**
2006	10m and under	4	9	0.6	0.2
	Over 10s	24	51	62.2	65.9
	Total	**28**	**60**	**62.8**	**66.1**
2005	10m and under	1	1	0.0	0.0
	Over 10s	30	78	76.2	68.1
	Total **Average over 5 years**	**31**	**79**	**76.2** **284.28**	**68.1** **105.6**

Table 5: Scallop Fishing Trips covering both Areas VIId and VIIe in a single trip and value of catches taken from each division (MMO data)

c) rewording the legislation so that "attachments" to a dredge which are used solely for the purpose of emptying dredges safely are no longer banned

71. This will not have a cost to industry as it is in principle deregulatory, and in effect clarifies how existing legislation is often applied.

Benefits of the package of measures

72. The main benefit associated with this package of measures will be the increased viability and sustainability of the small scale scallop fleet. By limiting the number of dredges which can be used within 12nm of the shore, we are aiming to ensure

the continued existence of this part of the fleet. If the small scale fleet are able to catch the scallops that are no longer being caught by the larger vessels within the 12nm limit, revenue to this sector could increase by £1.15million.

73. The continued existence of this part of the fleet will have an associated benefit to the communities who depend on the local fleet to contribute to their economies. Businesses, which require a certain critical mass of customers to remain viable, will benefit from the continued trade of these vessels. The maintenance of fishing ports, markets and other fishing infrastructure which may not be viable without this part of the local fleet, is essential in continuing the appeal of rural coastal locations to tourists.

74. By reducing catching capacity on a zonal basis, the scallop fishery can be developed and managed to avoid over-exploitation as part of a sustainable policy. By developing the fishery as a sustainable resource and therefore future income for fishermen, we aim to achieve a longer term future for the small scale industry.

RISKS AND ASSUMPTIONS

75. The main assumptions are:

- The introduction of a dredge limit of 8 per side will be sufficient to successfully deter the larger vessels from fishing within 12nm. This will ensure there are scallops for the small scale fleet to catch and remain viable, and that gear conflicts will be reduced.
- Larger vessels can increase their activity outside 12nm to offset any loss in income from reduced or nil activity within 12nm.
- There are sufficient scallop stocks outside 12nm to accommodate this increase in effort.
- A joint Anglo-Scottish approach and mirrored management measures will reduce the effect of displacement on the majority of the UK scallop sector (c. 95%).
- The data we hold on the number of dredges used by scallop vessels is accurate.

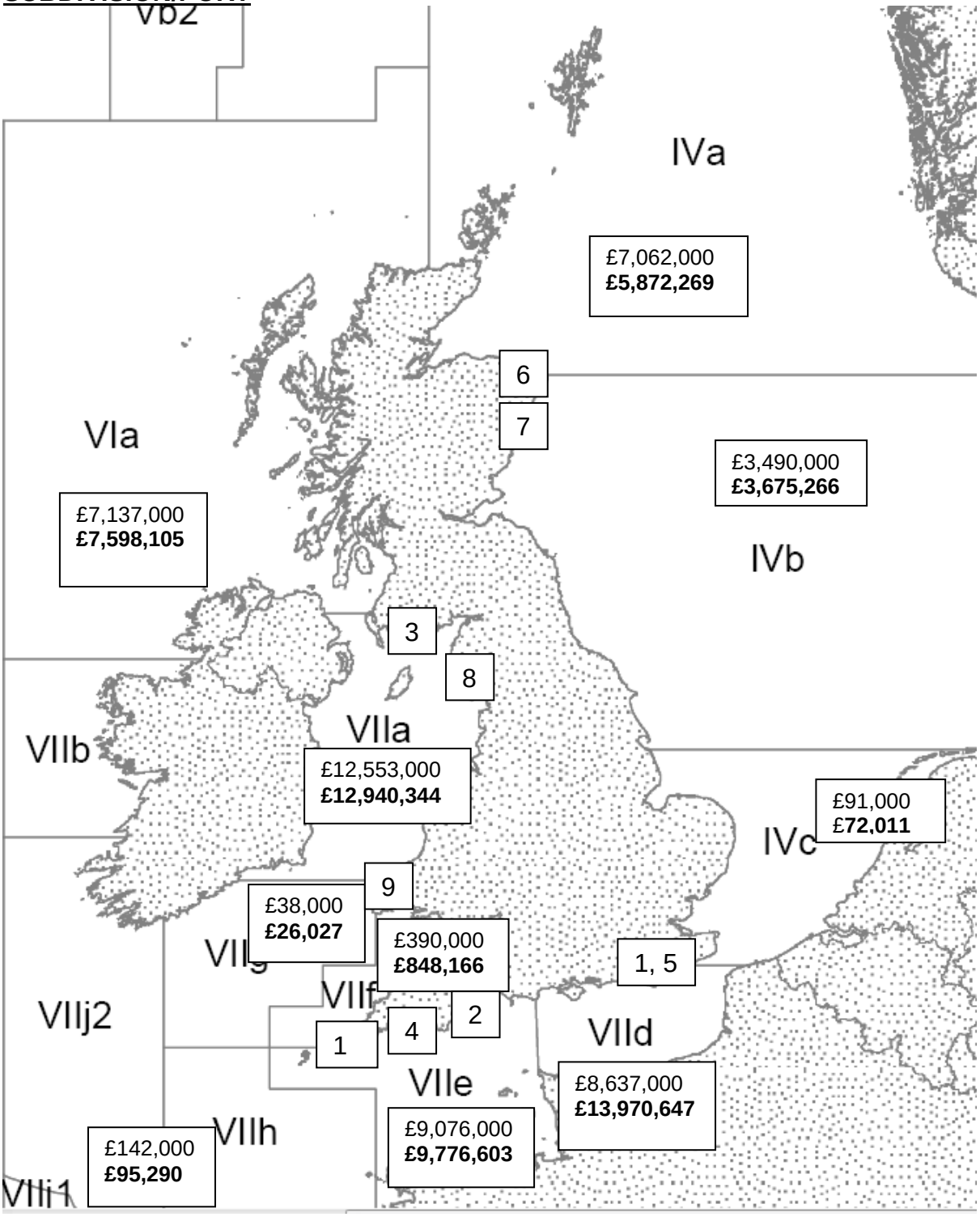
ANNEX 1-SUMMARY OF IFCA BYELAWS

Scalloping byelaws by IFCA region

	Cornwall	Devon	Sussex	Eastern	Northumberland	Southern
Number of dredges	12 (total)	12 (total)	-	10 (total)	10 (total)	12 (total)
Tow bar length restriction	-	5.18m (2 bars max)	-	-	-	5.18m (2 bars max)
Curfew	0700-1900 only	0700-1900 only	-	-	-	0700-1900 only
Closed Season	-	July-September	June to October*	July-September	-	-
MLS	-	100mm (from before European MLS)	-	-	-	-
Vessel length	16.46m	15.24m	14.00m	-	-	-
Spatial management to reduce gear conflict	-	Inshore Potting agreement	-	-	-	-

*200 per day per person allowed

ANNEX 2- 2009 and 2010 UK SCALLOP LANDINGS BY ICES SUBDIVISION/PORT



2010 figures in bold. 2009 in plain text.

Rank	Port	Landings (2009)	9	Fishguard	£1,341,094
1	Shoreham	£5,141,740	10	Newlyn	£1,174,491
2	Brixham	£4,003,743			
3	Kirkcudbright	£3,288,460			
4	Plymouth	£3,216,178			
5	Newhaven	£2,102,739			
6	Fraserburgh	£1,725,676			
7	Aberdeen	£1,554,680			
8	Whitehaven	£1,465,843			

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