

To: Interested Parties

Date: 6 January 2009

Reference: NUA 16/234

PUBLIC WRITTEN CONSULTATION

Review of Agency's Advice on Fish Consumption

Dear Sir/Madam

Executive Summary

1. The Agency is reviewing its dietary advice to consumers on fish consumption to take into account nutrition, food safety and wider sustainability issues. This letter seeks your comments about our proposed approach to include these wider aspects in future advice on fish consumption.
2. The key areas highlighted in this consultation are:
 - The evidence regarding the health benefits and safety of eating fish is established and has not been re-examined.
 - The discussion of environmental concerns regarding the Agency's dietary advice on fish consumption.
 - The proposal that the Agency should develop an 'information hub' within its dietary advice. This would offer links to other sources of information and advice to enable choices that take into account other aspects of sustainability. The emphasis would be on facilitating access to information rather than interpreting or duplicating it on the Agency's website.
3. It is not the Agency's role to regulate the UK fishing industry or advise on its practices (other than in terms of the EU Food Hygiene Regulations), or offer a new definition of sustainability in relation to fish stocks.

Other Government departments, international bodies and stakeholders are already active in this area. The Agency wants to support and draw on their work, and not duplicate it.

4. **Responses are required by 31 March 2009. When responding, please state whether you are responding as a private individual or on behalf of an organisation/company (with a brief summary of the people it represents).**

If you have received this consultation as a paper copy and would prefer to receive consultations on this subject by e-mail in future, please include a request to that effect in your e-mailed response, otherwise you will still receive paper copies of consultations on this subject.

If you no longer wish to receive information on this subject please contact the person named above.



All comments and views should be sent to:

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Detail of consultation

Purpose

5. The Agency's current advice to consumers is to eat at least two portions of fish a week, one of which should be oily fish. (A list of common types of white and oily fish is available on the Agency's 'eatwell' website at: <http://www.eatwell.gov.uk/healthydiet/nutritionessentials/fishandshellfish/>). The advice also covers maximum intakes of oily fish. A 'portion' is defined as 140g, the average fish portion size consumed by adults recorded in the National Diet and Nutrition Survey of adults, 2000/01.¹ In light of the Agency's commitment to sustainable development and in response to comments from stakeholders (including recommendations from the Royal Commission on Environmental Pollution² and the Sustainable Consumption Roundtable³) the Agency is reviewing this advice to include sustainability in its policy making. The aim is to produce integrated dietary advice that takes into account environmental, economic and social (including nutrition and food safety) aspects of sustainability.
6. The purpose of this consultation is to seek your views on an approach to including these aspects in the Agency's current advice. This review has not reopened the scientific evidence on nutrition and safety as these have already been thoroughly examined by the Scientific Advisory Committee on Nutrition (SACN) and the Committee on Toxicity (COT). Their conclusions are published in the joint report 'Advice of Fish Consumption: Benefits and Risks' (2004), and are summarised in the enclosed draft Impact Assessment. This advice applies only to the consumption of fish and does not include shellfish.
7. The joint report by the Scientific Advisory Committee on Nutrition and Committee on Toxicity from which the current FSA advice on fish consumption was developed did not consider shellfish. We would appreciate views on whether sufficient data exists to support a meaningful review of shellfish consumption on nutrition, safety and environmental grounds, should we wish to develop formal advice in the future. If undertaken, any such review would be a longer term project and outside the scope of this consultation. This is **not** a call for submission of evidence, but rather for comments on its availability.
8. No single, universally agreed definition of 'sustainability' exists in relation to fish and fishing, and no detailed definition is attempted here. We are nevertheless keen to take a wide view of environmental, economic and social aspects in

¹ Henderson et al, The National Diet and Nutrition Survey: adults aged 19-64 years, Vols 1-5, TSO 2002-04. See <http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/>

² Twenty-fifth report of the Royal Commission on Environmental Pollution "Turning the Tide" 2004

³ "I will if you will – Towards sustainable consumption" May 2006

relation to the Agency's existing advice on consumption, using the statement of approach on sustainable development in policy making agreed by the Agency's Board in September 2008 as the framework for this (see <http://www.food.gov.uk/multimedia/pdfs/sustainapproach.pdf>).

9. Comments on consumer perceptions and understanding of 'sustainability' issues, the issues in this consultation that are most important to consumers and the type of information and guidance (other than certification and labelling) that would be most useful to consumers would be welcomed.

Background

Current Advice

10. The health benefits, and safety aspects, of fish consumption are discussed in more detail in the attached draft impact assessment. The Agency currently advises that we should eat at least two portions of fish a week, one of which should be oily. This can include fresh, frozen or canned fish. Girls and women who might have a baby in the future and women who are pregnant or breastfeeding should not exceed two portions of oily fish a week. Everyone else can eat up to four portions of oily fish a week. Oily fish include mackerel, salmon, pilchard, herring, trout, sardines and fresh tuna. Canned tuna does not count as an oily fish for the purposes of this advice as the canning process reduces the content of the omega 3 fatty acids. Other canned and smoked oily fish, such as sardine, pilchard, mackerel and herring are good sources of omega 3 fatty acids. People who regularly eat a lot of fish are advised to consider choosing from a wider variety to limit their intake of dioxins. In addition, women who are pregnant or trying for a baby should avoid consumption of certain types of fish (shark, swordfish and marlin) that contain relatively high levels of methylmercury.

Current consumption

11. Agency advice is to eat at least two portions of fish per week, including one of oily fish. A portion size equates to 140 grams. The graph below shows average consumption per person per week in grams, based on information from the Department for Environment, Food and Rural Affairs (DEFRA) 'Family Food' Survey 2007.⁴

⁴ The information provided adds both recorded household purchases and eating out purchases, available at: <https://statistics.defra.gov.uk/esg/publications/efs/datasets/default.asp>

Where categories were unclear as to whether they were white or oily fish, the following assumptions were made:

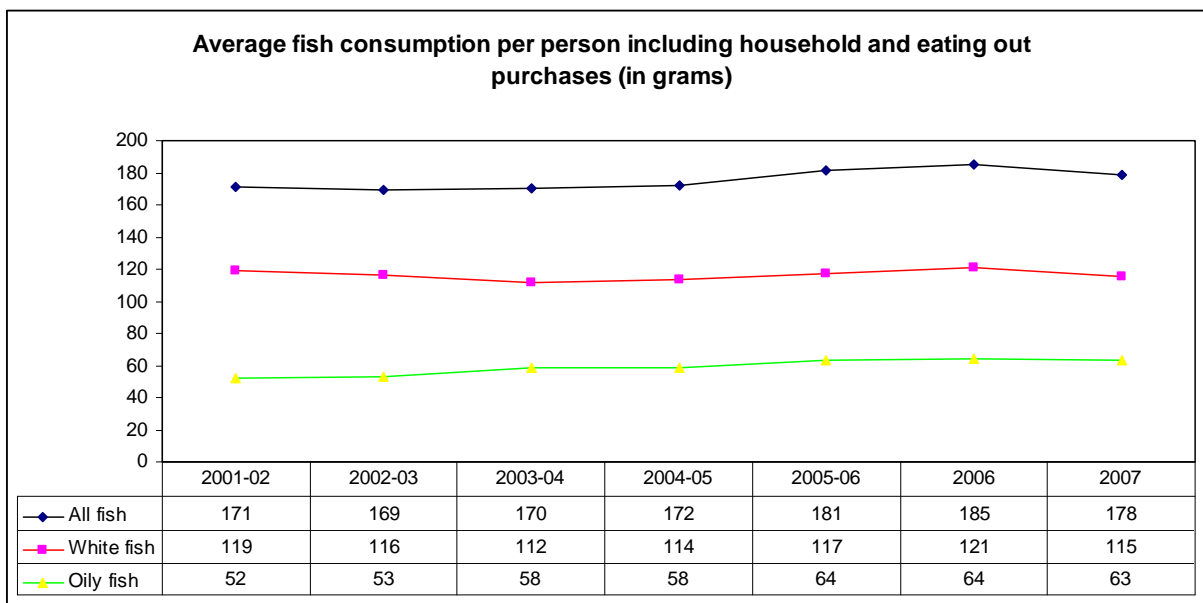
Household table: 1) Takeaway fish and takeaway fish meals are assumed to be white fish

2) Fish based ready meals and other category are assumed to be a 50/50 split between white and oily fish

3) Canned fish was split 79% white and 21% oily fish. This was based on mintel canned fish sales data, figure 39 of Fish and Seafood UK 2006.

Eating out table: 1) Processed fish and Other are assumed to be white fish

(Weights of fish based 'meals' may include non-fish products, and so may over-estimate the actual amount of fish consumed.)



12. As the graph illustrates, white fish consumption is close to the Agency’s guidance whereas oily fish consumption falls considerably short (77g) of the guidelines. This figure may overestimate the gap between dietary advice and consumption habits because the population numbers include consumers who choose not to eat fish. Figures from the National Diet and Nutrition Survey (NDNS) suggest that approximately 2.3% of the population are vegan/vegetarians who avoid eating fish.⁵ Nevertheless, there remains a considerable gap between current consumption habits and the Agency’s advice.

Environmental Aspects

13. Concerns about declining fish stocks globally and other environmental impacts of fishing and fish farming are often voiced. In 2006 the UN Food and Agriculture Organisation (FAO) classified about half of the world’s fish stocks as fully (sustainably) exploited, with a little less than a quarter able to increase production to meet rising world demand. The remaining quarter of stocks were classified as over exploited or depleted. The Royal Commission on Environmental Pollution’s report “Turning the Tide” took an in depth look at the impact of fisheries on the marine environment and concluded that over-fishing can have a major impact on our seas. It pointed out the dangers of over-fishing and the wider damage to marine ecosystems caused by this. The environmental impacts of fishing are widespread, and include the following:

- use of fossil fuel to power fishing boats and emissions from fuel combustion
- depletion of targeted fish stocks
- depletion of non-target species (‘by-catch’)
- disturbance and displacement of benthic communities (animal and plant life found on the seabed)
- pollution from anti- fouling coatings
- construction and maintenance of fishing vessels and gear
- consumption of water and ice

⁵ National Diet and Nutrition Survey: Adults aged 19 to 64 Vol 1, 2002 available at: http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/printedreportpage_see_tables_2.8 and 2.9. The figure is derived as the number of reported vegan/vegetarians who avoided eating fish

Fish farming (Aquaculture)

14. The UN FAO notes that the growing worldwide demand for fish and fish products cannot sustainably be met from capture fisheries and recognises that aquaculture appears to have the potential to make a significant contribution to meeting the increasing demand for aquatic food, although to achieve this, the aquaculture sector will face significant challenges.
15. It is clear that fish farming may have impacts on the environment such as the release of waste material from cages, the risk of disease and the impacts of sea lice and escaped fish. However, in the UK these are managed and mitigated by a combination of legislation, notably under the Water Framework and Aquatic Animal Health Directives that strive to maintain 'good ecological status' and 'high fish health and welfare status' respectively. There are a variety of aquaculture practices in use, and some, such as deep water systems, may mitigate some of the problems seen in other systems.
16. Many consumers want high quality sustainably produced fish products and as a consequence, increasing emphasis is being placed on enhanced enforcement of regulation of the sector. The image of the industry is of concern and despite its best efforts, remains a problem for the aquaculture industry. There is some public distrust of fish farming, related to the industry at times not being perceived as a good neighbour, particularly over the issues of fish escapes and sea lice. It is, however, increasingly realised that improved governance of the sector can only come from increased participation of producers in the decision-making and regulation process and moves towards increasing self-regulation. In this context the Scottish industry's Code of Good practice is an exemplar for the promotion of better management practices in the sector.
17. On the sustainability issue, a major driver for the further development of the piscivorous finfish industry will be to reduce the reliance on fish feeds incorporating oils and proteins from capture fisheries. In this regard, research and development on alternative feeds and improved feeding and husbandry methods is already underway and should be further encouraged. Care needs to be taken, however, not to replace fish-based proteins and oils with alternatives from unsustainable terrestrial production.

UK Aquaculture production

18. In England and Wales there are 411 fish and shellfish farming businesses operating on 524 sites, employing 1,300 people (2005 figures). In Scotland there are 202 fish and shellfish farming businesses operating on 805 sites employing 2,112 employees (2004 figures).⁶
19. Below is a summary of the main species produced by aquaculture, taken from DEFRA's website, these figures are estimates and are purely illustrative as they

⁶ DEFRA Aquaculture website, available at: <http://www.defra.gov.uk/marine/farm-health/aquaculture.htm> More up to date data is available for Scotland at <http://www.frs-scotland.gov.uk/FRS.Web/Uploads/Documents/surveytext2007final.pdf>

are a mix of 2004 and 2005 data.⁷ There is also a limited production of other species, such as carp and brown trout, and relatively new species to aquaculture such as turbot, halibut, cod and Arctic char. In the shellfish sector, oysters and clams are also farmed.

Species	Tonnes produced
Salmon	160,000
Mussels	27,000
Rainbow trout	23,000

Fish stocks

20. As previously noted under 'current consumption' above, oily fish consumption is considerably (77g/person/week) short of guidelines. The RCEP in its report² estimated that an extra 33 million portions of oily fish per week would need to be consumed to meet the Agency's advice. If current Agency advice was followed in full there would be a potentially more significant effect on oily fish stocks, although the Agency's advice encourages consumption and so may not help to alleviate overall existing pressure on worldwide white fish stocks. Nevertheless, the interaction between advice on fish consumption, changes in demand and impacts on stocks is complex. Changes in demand in one market could prompt changes in supply networks that would meet this without necessarily changing the overall volume of fish caught by the full amount implied by the demand.

21. The table below illustrates that the current domestic supply of fish is considerably below what would be needed to meet demand if the Agency's advice on fish consumption was followed in full. The estimates are derived by multiplying up the weekly consumption from the DEFRA family food survey to estimate the tonnes of fish needed on the domestic market to follow Agency advice.

Fish consumption and annual tonnage needed to satisfy demand⁸

	Oily Fish		White Fish		
	Weekly consumption (g/person)	Annual consumption by UK population ('000s of tonnes)	Weekly consumption (g/person)	Annual consumption by UK population ('000s of tonnes)	Total annual consumption ('000s of tonnes)
Current consumption	63	194	115	354	548
Agency advice	140	431	140	431	862
Difference	77	237	25	77	314

⁷ The table is a summary of headline data available at: <http://www.defra.gov.uk/marine/farm-health/aquaculture.htm>, all except for salmon (2004 figures) are 2005 figures

⁸ Each weekly consumption is multiplied by 52 to turn it into annual consumption then multiplied by the UK population that does not remove fish from their diet (approx. 59.2million in 2006). The UK population estimate was taken from ONS available at: http://www.statistics.gov.uk/downloads/theme_population/Population-Trends-134.pdf and multiplied by 97.7% - see footnote 5.

22. Below is the balance sheet for the UK in 2007 collected by the Marine Fisheries Agency, where possible the data has been split into white and oily fish but unfortunately not all of the data was available.⁹

2007 balance sheet data	'000s of tonnes		White (Demersal + Shellfish)	Oily (Pelagic)
Landings by UK vessels into the UK	425		260	165
Imports	672	Foreign catches into the UK	65	45
		Other	n/a	n/a
Total supplies	1,097			
Exports	431	UK vessels landing in a foreign port	63	47
		other	n/a	n/a
Total available for domestic use	666			

Please note: Salmon and trout are excluded from the landings data, Landings are given in terms of landed weight equivalent (i.e. head on, gutted for most species) and Landings include transshipments of mackerel. Imports and exports exclude fish products

23. This does not provide a complete picture of the total amount available for domestic use because it does not record the amount aquaculture provides on the domestic market. It also is not accurately comparable to consumption data because the volumes given are not final consumable volumes, as for example landed weight may be before gutting of the fish. However, it does illustrate the international nature of fishing, the role of fish imports in the UK and provides estimates of the balance of trade.

24. It is not possible to fully breakdown the figures in the balance sheet into white and oily fish but it is clear from the consumption table above that a considerable increase (estimated above at 314,000 tonnes) in domestic supply would be needed to adhere to the Agency's advice. Increased demand could be met from a variety of potential sources, including production from fisheries not yet exploited to the maximum sustainable extent, increased imports or increased aquaculture production. Exports could also be reduced but as described below in the prices section, this would not be a simple case of substituting fish used for export to the domestic market.

Certification

25. A number of schemes exist that set standards for, and offer certification of, 'sustainable' fisheries. Good quality scientific evidence on which to base assessments is also available. Certification is not the only sign of a 'sustainable' fishery (and not in itself necessarily the best marker), but may offer an indication of increasing awareness of sustainability issues and willingness on the part of industry to take steps to address these. Taking the single example of MSC certification as an illustration, the MSC estimates that by 2009 275,000 tonnes of fish, much of it (approx 200,000 tonnes) oily fish, caught by British trawlers will be MSC certified as several of the UK's largest

⁹ Marine Fisheries Agency, main table used is: http://www.mfa.gov.uk/statistics/documents/UKSeaFish07-Tab4_1.xls, the additional breakdown into white and oily was compiled using tables 3.7 and 3.8 available at: <http://www.mfa.gov.uk/statistics/ukseafish07tables.htm>

fisheries are applying for certification. Annex A provides more background on the MSC scheme as an example of the accreditation schemes available, and on ICES (International Council for the Exploration of the Sea) as an example of the evidence available.

Prices

26. Continuing the illustrative example above and considering only UK information, meeting increased demand for oily fish from UK sources would mean decreasing UK exports. However, since the exports also captures UK registered vessels landing in foreign ports, there isn't as large a scope to decrease exports as the balance sheet suggests. The remaining exports potentially available to switch to domestic consumption would only occur if the revenue collected from the UK market was equal to or higher than is currently raised from these, and other, overseas markets. The level of increase in demand needed in the UK, necessary to raise prices enough to make it profitable for UK fisheries to sell to the UK market instead of abroad, will be dependent upon the profit margins currently being made by UK fisheries selling to foreign markets. The UK price relative to the rest of the EU, and indeed the world, will therefore be the key determinant. These prices themselves will be heavily dependent upon consumer preferences and strength of demand in each country. Similarly, imports into the UK will increase if the price foreign sellers can achieve by selling to the UK market outstrips their domestic prices.
27. The dynamic nature of the worldwide market for fish means that prices will be susceptible to change wherever in the world the fish are harvested. The global nature of fishing and supply of fish products will add further complications. The example above, referring to the UK alone, is a necessarily simplified view.
28. Increases in demand sufficient to meet the Agency's target are not likely in the short-term. At current rates of increase, it will be 2040 before the average consumption of oily fish per person reaches 140 grams. Therefore the Agency's current advice is having little effect on the price of fish.

UK Fishing Industry

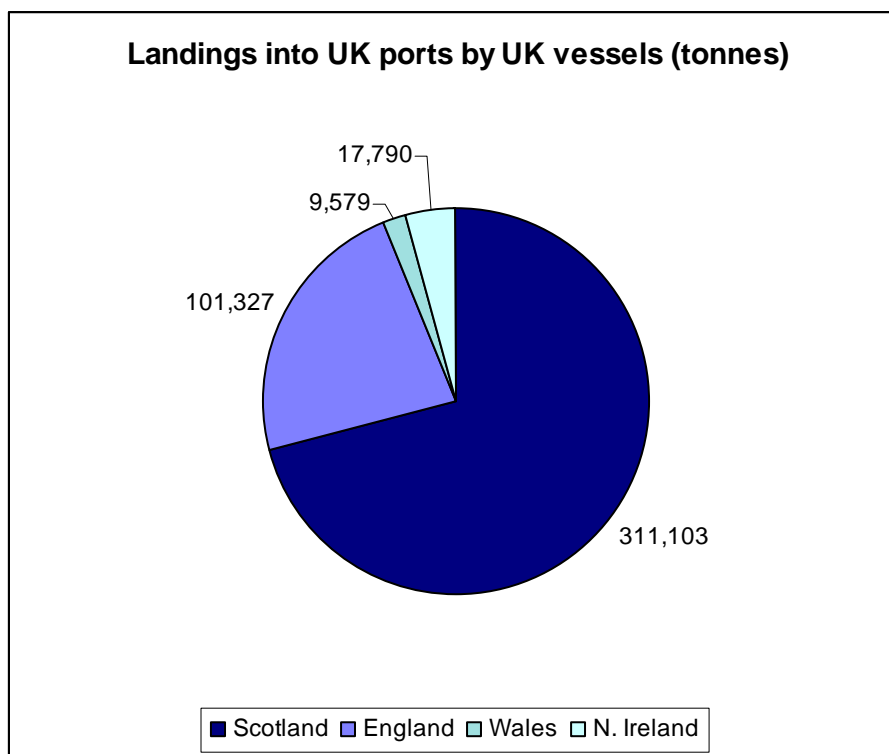
29. Consumers spent approximately £3.5bn in 2007 on fish, comprising 4.6% of total food expenditure in the UK.¹⁰ The UK fishing and fish processing sectors are estimated to contribute approximately £4.3bn to UK GDP (in 2002 basic prices).¹¹ This can be seen as an upper end estimate, since it is derived by estimating the impact of removing the whole industry and includes employment and multiplier affects.
30. There are 4,080 VAT registered fishing related businesses in the UK, dominated by smaller businesses with 98% employing less than 10 people (2008).¹² The

¹⁰ Marines and Fisheries Agency – UK Sea Fisheries Statistics 2007, table 1.2 available at: http://www.mfa.gov.uk/statistics/documents/UKSeaFish07-Tab1_2.xls

¹¹ Seafish industry authority (2006), 'The economic impacts of the UK sea fishing and fish processing sectors: An input-output analysis' available at: <http://www.seafish.org/upload/file/economics/FINAL-%20Input%20output%20report%20%20,full%20report.pdf>

¹² UK Standard Industrial Classification of Economic Activities (SIC) produced by ONS: http://www.statistics.gov.uk/methods_quality/sic/

businesses are predominantly (48%) based in Scotland and 71% of UK catches go through Scottish ports, as illustrated below. The UK businesses comprise 12,729 fishermen in 2007, which has declined considerably in the last 10 years (by 32%).¹³



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31. Much is already being done throughout the food chain to improve the sustainability of fish supplies. The UK fishing industry is subject to rigorous legal controls, including vessel licensing and fishing quotas, which are actively policed in order to ensure that fish stocks are exploited in a more sustainable way. The industry as a whole is increasingly aware of sustainability issues and the proportion of UK fish stocks being exploited sustainably has increased in recent years. This situation is likely to improve still further with several large UK fisheries applying for accreditation and through the impact of management/recovery plans. However, fishing is very much a global industry, as the import and export figures in the 'balance sheet' above indicate.

Dietary Alternatives to Fish

32. Fish is undoubtedly a good source of protein but there are obviously many alternative sources such as meat, dairy products, eggs and pulses, although some of these are also high in saturated fat. High intakes of saturated fat increase the risk of high blood cholesterol, which in turn is associated with an increased risk of heart disease. The health benefits of fish with regard to the reduction in the incidence of heart disease are thought to be linked to long chain omega 3 fatty acids found in fish, especially oily fish. At present fish and fish oils are the only significant sources of these fatty acids as fish obtain these

¹³ Marines and Fisheries Agency – UK Sea Fisheries Statistics 2007, available at: http://www.mfa.gov.uk/statistics/documents/UKSeaFishStats_2007.pdf

¹⁴ Marines and Fisheries Agency – UK Sea Fisheries Statistics 2007, correlations of tables 3.6 available at: <http://www.mfa.gov.uk/statistics/ukseafish07tables.htm>

from plankton or from eating other fish. Plants and animals cannot synthesise these fatty acids effectively.

33. Agency funded research¹⁵ into the use of alpha-linolenic acid (an omega 3 polyunsaturated fatty acid) derived from non-marine plant sources has shown that this is not an effective alternative to the marine derived long chain omega 3 fatty acids since this shorter chain form does not appear to provide the same beneficial effects. The shorter form can be metabolized into the longer forms, but in humans the conversion appears limited.
34. Various foods are claimed to be rich in omega 3 fatty acids, including spreads, certain eggs and milk. However, these products tend to contain short chain omega 3 fatty acids which have not been shown to be beneficial for heart health or, if they do contain long chain omega 3s, derive these from fish sources. Food supplements can also provide long chain omega 3s, although these are mainly derived from marine sources.
35. Research is being carried out into the production of crops, such as oilseed rape, that are genetically modified to contain long chain omega 3s. These crops have been modified with genes from marine algae. It is from these algae that fish obtain their long chain omega 3s. These crops could be used in animal feed so producing omega 3 rich meat, milk and eggs. Any such solution is at best five or six years away as more research is required into omega 3 levels that can be achieved and GM crops have to go through a thorough authorisation process before they could be grown, or used, in the EU.
36. Another possibility is to farm the marine algae that are rich in beneficial omega 3 fatty acids. Studies have looked at the effect of DHA-rich algal oils on adults¹⁶ However, it cannot be assumed that the effects of a supplement containing DHA alone or DHA and EPA (eicosapentaenoic acid) in a different ratio to that found in fish oils will be similar to the effects of a fish oils supplement.

Current Action being undertaken in the UK

37. Defra has identified in its 2027 Vision for fisheries¹⁷ the need for a clear position on the sustainability of fish stocks so that consumers and commercial buyers have information available to support informed choices when buying fish, and is developing advice to cover this. Similar policies are in place elsewhere in the UK. A range of non-Government organisations offer guidance on sustainable fish sources or supply scientific evidence on fish stocks. Seafish publishes Responsible Sourcing Guides for individual species and other advice related to seafood and health. Many food manufacturers and retailers operate their own internal policies on sourcing.
38. Industry has embraced the concept of sustainability and responsible sourcing in the last few years. Seafish's Responsible Fishing Scheme has been developed to raise standards in the catching sector. The Responsible Fishing Scheme

¹⁵ Sanderson et al. UK Food Standards Agency alpha-linolenic acid workshop report. British Journal of Nutrition. 2002. 88, 573-579

¹⁶ See, for example, studies listed at <http://www.acnfp.gov.uk/assess/fullapplicants/dharichoil>

¹⁷ See <http://defraweb.defra.gsi.gov.uk/marine/pdf/fisheries2027vision.pdf>

was created in response to the needs of the seafood supply chain to demonstrate their commitment to the responsible sourcing of seafood. <http://rfs.seafish.org/>. The Scottish pelagic sustainability group website provides evidence of industry's commitment to sustainability <http://www.scottishpelagicsg.org/>, with a similar grouping now formed to move forward with accreditation for Nephrops and haddock in the North Sea. Seafood Scotland also host an "econews" section on the responsible sourcing part of their website, which list various initiatives by the industry http://www.seafoodscotland.org/index.php?option=com_content&task=section&id=7&Itemid=34 The industry has also adopted its own measures such as the conservation credits scheme and 3rd party accreditation schemes (all with the support of government and government agencies). These can go beyond the requirements of other schemes and illustrate the range of practical approaches that exist.

39. In Scotland, the Aquaculture and Fisheries (Scotland) Act 2007 (Asp 12), which has provisions specifically designed to underpin the industry's Code of Practice on controls of sea lice and prevention of escapes is now in force and escapes of salmon have already dropped significantly in companies that have signed up to the Code. In addition, the Strategic Framework on Scottish Aquaculture is in the process of being renewed with a view to the new Strategic Framework coming into play in spring 2009. While general concepts of environmental sustainability, improved research and development, improved governance and appropriate regulation are core to the draft new Strategic Framework, there is additional focus on the following 5 main themes: 'healthier farmed fish'; 'better sited farms'; 'improved containment'; 'marketing and image'; and 'economic development'.

Discussion

40. If acted on fully and immediately the current Agency advice could have a significant effect on the demand for fish particularly for oily fish. This would raise consumption from a population average of 63g per person per week to 140g), with a potential to put pressure on oily fish stocks as these are exploited to meet demand and/or to increase the environmental impact of fish farms.
41. Whilst the Agency has a regulatory role in terms of food hygiene regulations it does not provide the fishing industry with advice on which fish to catch, on fishing methods or on aquaculture. This falls to other Government departments, non-departmental public bodies and organisations that have the relevant remit and expertise.
42. With our remit in relation to the interests of consumers in mind we aim to focus our efforts on providing clear and useful information to consumers to assist them in making informed choices. 'Sustainability' is an integral part of all aspects of the Agency's work, as it is for all Government departments, and is an important consideration for many stakeholders. We aim to use our role to complement rather than duplicate the work of others.
43. As in the fishing industry, much is already being done elsewhere in the food chain to improve the sustainability of fish supplies. Many food manufacturers and retailers critically assess their policies on sourcing and processing, with the

aim of offering only sustainable choices and informing consumers. Using accredited or certified sources is not the only way to identify a sustainable fishery or inform consumers, but moves in this direction illustrate a commitment to sustainable fishing.

44. Our aim is to link into and where appropriate support work carried out or being planned by other Government departments and stakeholders. All Departments have their own areas of responsibility and expertise but by working with an awareness of the roles of others we will seek to avoid unnecessary duplication or conflicting messages.

Advice on sustainable sources of fish

45. In order that consumers can make sustainable choices regarding fish they will need simple ways of identifying such products. Labelling linked to certification/assurance schemes offers one way of doing this. The Agency currently provides a weblink to information on sustainability and fish from the Marine Stewardship Council, the Marine Conservation Society as well as Government's long term vision for fisheries to 2027.

46. The Agency already provides guidance on assurance schemes¹⁸ which aims to encourage transparency, involvement of public interest groups, monitoring, and clarity for consumers. The Agency does not endorse or audit schemes but we would only advise consumers to use schemes which follow this advice.

47. Comments on further criteria specific to fish consumption that could usefully supplement the Agency's guidance would be welcomed. For example, advice might need to be able to reflect the subtleties of the status of fish stocks, for example that the sustainability of a species can vary from area to area and over time.

Encouraging the use of a wider range of sustainable fish

48. Demands on stocks of the most popular fish (e.g. cod, haddock, plaice) could be transferred by encouraging consumers to use a wider range of sustainable fish, although care would be needed in doing this to avoid unintended consequences of increasing pressure on other stocks. We would welcome views on practical steps the Agency might take in this regard, such as possible links to information or promotional work provided by other organisations.

The role of retailers, manufacturers and caterers

49. Many retailers, manufacturers and caterers are taking steps to ensure sustainability of the fish they sell. We would welcome comments from all sectors of the food industry on ways in which the Agency could help consumers to access clear, helpful information about these practices.

The role of Fisheries Departments

¹⁸ See <http://www.food.gov.uk/foodindustry/guidancenotes/labelregsguidance/foodassuranceguidance>

50. Fisheries Departments in all four countries of the UK are encouraging sustainable fishing and aquaculture.¹⁹ We would welcome comments from these Departments on how the Agency might help consumers to access information on this work. This links to work the Agency is carrying out to provide consumers with integrated Government advice on food as part of the agenda set out in Food Matters.²⁰

Options

51. From the discussion above, two possible approaches appear most practical;

- leave the Agency's advice on fish consumption unchanged
- maintain the Agency's consumption advice, but supplement it with encouragement to make sustainable choices and advice (or direction toward sources of advice) on how to do this.

52. These options are considered in more detail in the enclosed draft impact assessment. Other options, such as withdrawing the fish advice entirely, replacing specific advice with a more generalised message or reducing the advised consumption level are also included. These may address directly environmental concerns, but do not address the social (nutrition and health) or economic aspects of sustainability. In the case of nutrition and health, for example, to draw back from the evidence of health benefits from fish consumption would remove an opportunity to reduce the burden of cardiovascular disease. These other options are not discussed further in this consultation.

Your views

53. We welcome your views on:-

- The Agency's role in helping consumers find information on fish sustainability as part of its existing advice on fish consumption, in particular on the information that would be of most practical use to consumers and criteria the Agency should apply in selecting sources for this (paragraphs 9, 45-49).
- Additional criteria that might be needed to complement existing best practice guidance on assurance schemes and improve their usability by consumers (paragraph 47).
- Additional information other than certification/labelling that would be of most use to consumers (paragraph 9)
- Consumer perceptions of sustainability issues (paragraph 9)
- An early draft impact assessment has been included. Your views on the economic, social and environmental impacts, as well as the description of costs and benefits, would be welcome.
- Whether sufficient good quality evidence is available to support a review of advice on the consumption of shellfish on nutrition and environmental sustainability grounds. (No decision on the practicality of such a review has been taken yet – this is not a call for submission of evidence, but rather for comment on its availability.)

¹⁹ See for example Defra's 'Fisheries 2027: a long term vision for sustainable fisheries' at <http://defraweb.defra.gsi.gov.uk/marine/pdf/fisheries2027vision.pdf>

²⁰ Cabinet Office, July 2008. See http://www.cabinetoffice.gov.uk/strategy/work_areas/food_policy.aspx

Next steps

54. The outcome of this consultation will inform the development of clear, integrated advice to consumers on eating fish. This will update the information already available on the Agency's websites and that used in future work on healthier eating.

55. Thank you on behalf of the Food Standards Agency for participating in this public consultation.

Yours faithfully

Mark Bush
Branch A
Nutrition Division

Enclosed

Annex A: Examples of information sources available

Annex B: Standard Consultation Information

Annex C: Draft Impact Assessment

Annex D: List of interested parties

Annex A

Examples of information sources available (see paragraph 25)

(Note: this is not an exhaustive list of all sources)

ICES – The International Council for the Exploration of the Sea

ICES has been based in Copenhagen, Denmark, since 1902. It coordinates and promotes marine research in the North Atlantic and adjacent seas such as the Baltic Sea and North Sea, acting as a ‘meeting point’ for the marine science community from 20 countries around the North Atlantic. It is funded and supported by its member countries.

ICES gathers information about the marine ecosystem, developing objective advice that can be used by governments and international regulatory bodies to help manage the North Atlantic and adjacent seas. ICES publishes its scientific information and advice in reports and other publications, and on its website (<http://www.ices.dk/indexfla.asp>)

Member countries of ICES are Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, the United Kingdom and the United States of America. Affiliates are: Australia, Chile, Greece, New Zealand, Peru and South Africa.

MSC – Marine Stewardship Council

MSC is an international non-profit organization that was set up in 1997 to promote solutions to the problem of overfishing. Among other work it runs an environmental certification and labelling scheme for wild capture fisheries. The scheme follows the FAO “Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries”, which require that credible certification and labelling schemes include:

- Objective, third-party fishery assessment utilizing scientific evidence;
- Transparent processes with built-in stakeholder consultation and objection procedures;
- Standards based on the sustainability of target species, ecosystems and management practices.

The MSC has offices in London, Seattle, Tokyo, Sydney, The Hague, Edinburgh and Berlin. (See <http://www.msc.org/>)

Annex B

Standard Consultation Information

Queries

1. If you have any queries relating to this consultation please contact the person named on page 1, who will be able to respond to your questions.

Publication of personal data and confidentiality of responses

2. In accordance with the FSA principle of openness our Information Centre at Aviation House will hold a copy of the completed consultation. Responses will be open to public access upon request. The FSA will also publish a summary of responses, which may include personal data, such as your full name and contact address details. If you do not want this information to be released, please complete and return the Publication of Personal Data form, which is on the website at <http://www.food.gov.uk/multimedia/pdfs/dataprotection.pdf> Return of this form does not mean that we will treat your response to the consultation as confidential, just your personal data.
3. In accordance with the provisions of Freedom of Information Act 2000/Environmental Information Regulations 2004, all information contained in your response may be subject to publication or disclosure. If you consider that some of the information provided in your response should not be disclosed, you should indicate the information concerned, request that it is not disclosed and explain what harm you consider would result from disclosure. The final decision on whether the information should be withheld rests with the FSA. However, we will take into account your views when making this decision.
4. Any automatic confidentiality disclaimer generated by your IT system will not be considered as such a request unless you specifically include a request, with an explanation, in the main text of your response.

Further information

5. A list of interested parties to whom this letter is being sent appears in Annex B. Please feel free to pass this document to any other interested parties, or send us their full contact details and we will arrange for a copy to be sent to them direct.
6. A Welsh version of the consultation package can be found at www.food.gov.uk
7. Please let us know if you need paper copies of the consultation.
8. This consultation has been prepared in accordance with HM Government Code of Practice on Consultation, available at: <http://www.berr.gov.uk/files/file47158.pdf> The Consultation Criteria are available at <http://www.berr.gov.uk/whatwedo/bre/consultation-guidance/page44458.html>

9. The Code of Practice states that an Impact Assessment should normally be published alongside a formal consultation. Please see the Impact Assessment at Annex C.
10. For details about the consultation process (not about the content of this consultation) please contact: Food Standards Agency Consultation Co-ordinator, Room 2C, Aviation House, 125 Kingsway, London, WC2B 6NH. Tel: 0207 276 8630.

Comments on the consultation process itself

11. We are interested in what you thought of this consultation and would therefore welcome your general feedback on both the consultation package and overall consultation process. If you would like to help us improve the quality of future consultations, please feel free to share your thoughts with us by using the Consultation Feedback Questionnaire at <http://www.food.gov.uk/multimedia/worddocs/consultfeedback.doc>
12. If you would like to be included on future Food Standards Agency consultations on other topics, please advise us of those subject areas that you might be specifically interested in by using the Consultation Feedback Questionnaire at <http://www.food.gov.uk/multimedia/worddocs/consultfeedback.doc>. The questionnaire can also be used to update us about your existing contact details.

Summary: Intervention & Options

Department /Agency: FSA	Title: Impact Assessment of Advice on fish consumption	
Stage: Consultation	Version: 1	Date: January 2009
Related Publications:		

Available to view or download at:

<http://www.food.gov.uk/>

Contact for enquiries: Mark Bush

Telephone: 0207 276 8905

What is the problem under consideration? Why is government intervention necessary?

Whilst the health benefits of eating fish are widely accepted concerns have been expressed about the sustainability of fish stocks and the wider environmental impact of fishing and fish farming. Government intervention is necessary to ensure that the principles of sustainability are incorporated in policy making.

What are the policy objectives and the intended effects?

The objective is to produce sound dietary advice for consumers, which promotes nutritional guidance and safety, whilst incorporating wider sustainability evidence. This is an integrated approach to policy making which aims to improve public health by encouraging the consumption of fish (which has benefits in relation to reducing heart disease and has other nutritional benefits as a good source of some micronutrients and a protein source low in saturated fat) whilst recognising the potential impact this may have on demand for fish and how this might be met in as sustainable a way as possible.

What policy options have been considered? Please justify any preferred option.

Option 1. Advice remains unchanged.

Option 2. Advice remains but consumers are encouraged and assisted in making more sustainable choices. This is the preferred option as it maximises health benefits whilst recognising wider responsibilities on sustainability and the roles of other stakeholders.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

CEO Sign-off For SELECT STAGE Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the Food Standards Agency Chief Executive*:

.....Date:

* for non-legislative Impact Assessments undertaken by non-ministerial departments/agencies

Summary: Analysis & Evidence

Policy Option: Two

Description: Advice remains but consumers are encouraged to choose fish from sustainable sources and also to eat a wider variety of fish.

COSTS	ANNUAL COSTS		Description and scale of key monetised costs by 'main affected groups'
	One-off (Transition)	Yrs	
	£ N/K	5	
	Average Annual Cost (excluding one-off)		
	£ N/K		Total Cost (PV) £ N/K
Other key non-monetised costs by 'main affected groups' Negligible FSA costs incurred in updating their website. Industry transaction costs are discussed in the body of the IA			

BENEFITS	ANNUAL BENEFITS		Description and scale of key monetised benefits by 'main affected groups'
	One-off	Yrs	
	£ N/K	5	
	Average Annual Benefit (excluding one-off)		
	£ N/K		Total Benefit (PV) £ N/K
Other key non-monetised benefits by 'main affected groups' Possible future benefits include more informed consumer awareness of sustainability issues and fish.			

Key Assumptions/Sensitivities/Risks

Price Base Year	Time Period Years 5	Net Benefit Range (NPV) £ N/K	NET BENEFIT (NPV Best estimate) £ N/K
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What is the geographic coverage of the policy/option?	UK			
On what date will the policy be implemented?	Expected by end 2009			
Which organisation(s) will enforce the policy?	N/A			
What is the total annual cost of enforcement for these organisations?	£ N/A			
Does enforcement comply with Hampton principles?	N/A			
Will implementation go beyond minimum EU requirements?	No			
What is the value of the proposed offsetting measure per year?	£ 0			
What is the value of changes in greenhouse gas emissions?	£ 0			
Will the proposal have a significant impact on competition?	No			
Annual cost (£-£) per organisation (excluding one-off)	Micro N/K	Small N/K	Medium N/K	Large N/K
Are any of these organisations exempt?	No	No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices)			(Increase - Decrease)
Increase of	£ 0	Decrease of	£ 0
Net Impact			£ 0

Key: Annual costs and benefits: Constant Prices (Net) Present Value

Evidence Base (for summary sheets)

[Use this space (with a recommended maximum of 30 pages) to set out the evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Ensure that the information is organised in such a way as to explain clearly the summary information on the preceding pages of this form. Click once on the grey area below and type. Format using EB styles from the toolbar above]

Objective

The purpose is to produce sound dietary advice for consumers, which incorporates sustainability evidence within nutritional advice. The Agency aims to improve public health by encouraging the consumption of fish (which has proven benefits in relation to reducing heart disease) whilst considering the need for sufficient fish stocks to ensure future consumers can also benefit from eating fish. It also aims to minimise any other adverse environmental effects.

Background

The Agency's current advice is to eat at least two portions of fish a week, one of which should be oily. Consumption at these levels will confer significant public health benefits, particularly in relation to reducing the incidence of heart disease. Oily fish can contain low levels of pollutants that can build up in the body. For this reason, the Agency recommends that girls and women who might have a baby in the future and women who are pregnant or breastfeeding should not exceed two portions of oily fish a week. Other people should not consume more than four portions of oily fish a week. People who regularly eat a lot of fish are advised to consider choosing from a wider variety of fish in order to limit their intake of dioxins. In addition, women who are pregnant or trying for a baby should limit consumption of certain types of fish (shark, swordfish and marlin) that contain relatively high levels of methylmercury.

The agency's 2007 consumer attitudes survey found that only 10% of respondents were making an effort to eat more oily fish and white fish.¹ Mintel also found only roughly a third of consumers followed the agency's advice and declared that they ate fish twice a week or more.² This illustrates that the agency's advice still has a role to greater influence consumers and that any change to advice is unlikely to have a great impact upon consumption behaviour.

Health Effects

Fish are a good source of protein, some specific vitamins and minerals, and they are low in saturated fat. There is much evidence to demonstrate a direct correlation between fish consumption and lower incidence of heart disease. In 2004 the Scientific Advisory Committee on Nutrition (SACN) reviewed the evidence available at that date on the health benefits of fish and fish oil consumption particularly in relation to cardiovascular disease (CVD) and pregnancy outcome³.

SACN concluded that the balance of the evidence suggested that fish consumption and particularly oily fish consumption due to their long chain omega 3 polyunsaturated fatty acids (LC n-3 PUFA) content reduced the risk of CVD. In fact the potential for reducing risk is greatest amongst those at highest risk for example the middle aged and elderly. None of the studies examined showed a significant association between fish or fish oil consumption and haemorrhagic stroke, and the relationship between fish consumption and thrombotic stroke was equivocal. The benefits of fish consumption considered by SACN relate to coronary heart disease. There was some evidence that increased LC n-3 PUFA intake by pregnant women, especially those from lower birth weight populations, resulted in better pregnancy outcomes in terms of infant neurodevelopment and growth.

¹ FSA (2007) 'consumer attitudes to food standards: wave 8'

² Mintel (September 2008) 'Fish and Seafood – UK, Market Intelligence'

³ Scientific Advisory Committee on Nutrition and Committee on Toxicity - "Advice on fish consumption: benefits and risks" 2004

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The link between fish consumption and reduced incidence of heart disease has been established. There are a number of possible explanations for this. Fish consumption may improve the overall balance of the diet and nutritional well being as fish tend to be low in saturated fat⁴ compared with alternate protein rich foods (e.g. meat or full fat cheese) and high in a number of micronutrients. Also, oily fish are a particularly good source of LC n-3 PUFA and the consumption of these has been shown in randomised control trials to reduce CVD risk. There is a large body of evidence to support the link between oily fish and CVD benefits. SACN went on to increase the previous COMA population guideline recommendation on LC n-3 PUFA intake from 0.2 grams per day to 0.45 grams per day. This equates to the amount of LC n-3 PUFA contained, on average, in one portion of oily fish.

At present fish or fish oil are the only significant sources of LC n-3 PUFA. Omega-3 polyunsaturated fatty acids can be broadly divided into plant-derived and marine-derived (i.e. fish, especially oily fish). The form which has been shown to be protective for cardiovascular disease, and may also have beneficial effects on foetal development, is found in fish (the long chain omega-3 – eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)). The shorter chain form (alpha-linolenic acid) is found in plant sources of omega-3 e.g. walnuts and rapeseed oil, and does not appear to be as beneficial as the long chain forms found in fish. The shorter form can be metabolized to the longer forms, but in humans the conversion appears limited. Plant sources of omega-3 polyunsaturated fatty acids do not appear to provide an alternative to marine sources.

Although eating fish is good for you, Agency recommendations are to limit consumption of oily fish to two portions a week for women who are pregnant, breast feeding or who might have a baby in the future or four portions for other women, men and boys. This is due to the potential human health risks from persistent pollutants, such as dioxins, that are particularly found in oily fish. SACN and COT concluded that an increase in population oily fish consumption to one portion a week would confer significant public health benefits without appreciable risk from the contaminants in fish. People who regularly eat a lot of fish are advised to choose from a wider variety of fish to limit their intake of dioxins. In addition the Agency advises that women who are pregnant or trying for a baby should limit consumption of certain types of fish (shark, swordfish and marlin) as these contain relatively high levels of methylmercury.

Further claims have been made in relation to eating fish including effects on behaviour and on cognitive function but an Agency review⁵ concluded that on the evidence available at the time it was not possible to draw firm conclusions about the effect of diet on learning, education and performance in school aged children in developed countries.

Environmental Aspects

Concerns about declining fish stocks globally and other environmental impacts of fishing and fish farming are often voiced. In 2006 the UN Food and Agriculture Organisation (FAO) classified about half of the world's fish stocks as fully (sustainably) exploited, with a little less than a quarter able to increase production to meet rising world demand. The remaining quarter of stocks were classified as over exploited or depleted. The Royal Commission on Environmental Pollution's report "Turning the Tide" took an in depth look at the impact of fisheries on the marine environment and concluded that over-fishing can have a major impact on our seas. It pointed out the dangers of over-fishing and the wider damage to marine ecosystems caused by this. The environmental impacts of fishing are widespread, and include the following

- use of fossil fuel to power fishing boats and emissions from fuel combustion
- depletion of targeted stock
- depletion of non-target species ('by-catch')
- disturbance and displacement of benthic communities (animal and plant life found on the seabed)
- pollution from anti-fouling coatings
- construction and maintenance of fishing vessels and gear
- consumption of water and ice

⁴ Saturated fat consumption is associated with increased risk of high blood cholesterol, which is associated with increased CVD risk.

⁵ University of Teeside – "A systematic review of the effect of nutrition, diet and dietary change on learning, education and performance in children of relevance to UK schools" 2006

Rationale for Government intervention

Eating fish, especially oily fish, is good for our health but it is also evident that global fish stocks are under pressure and that fishing (including aquaculture) can have wider harmful environmental impacts. The Agency needs to be sure that tomorrow's consumers are also able to take advantage of the health benefits of eating fish and that our nutritional advice on fish is compatible with achieving the Government's vision for fisheries in 2027.⁶

Options

Option 1

Advice remains unchanged. This would fulfil the Agency's remit on public health but would not recognise our wider responsibility to take sustainability into account in our work and is therefore not a credible option.

Option 2

Consumers are advised to eat at least two portions of fish a week, one of which should be oily, but we recognise the pressure this could put on fish stocks and the environment if followed to the full. Consumers are encouraged to choose fish from sustainable sources and to choose from a wider variety of fish to reduce the pressure on the more traditional species. To support this position the Agency will act as an information portal directing consumers and other stakeholders to reputable sources of advice and data on sustainable fish sources. We will also provide tips and links on our website, and in other relevant guidance and information, on choosing from a wider range of sustainable species. This is the preferred option as it maximises health benefits whilst taking account of the need to safeguard stocks and protect the environment.

Other options exist, such as withdrawing all advice on fish consumption. This would ignore the social (i.e. health) and economic aspects of sustainability and could not be considered 'sustainable'. This approach may also involve additional nutritional risks to the population or sustainability issues arising should consumers change consumption patterns by replacing fish in their diet, as well as possible economic impacts on businesses across the food chain. The option is not considered further here.

Costs and Benefits

Sectors and Groups affected

UK fishermen, fish product manufacturers, fish wholesalers and retailers could be affected by the Agency's advice. The existing "at least two a week" message is used by sectors of the industry as a marketing tool to encourage the purchase and consumption of fish. The UK fishing and seafood related sectors are economically significant to the country.

Business and employment

There are 4,080 VAT registered fishing related businesses in the UK, dominated by smaller businesses with 98% employing less than 10 people (2008).⁷ The businesses are predominantly (48%) based in Scotland and 71% of UK catches go through Scottish ports, as illustrated below. The UK businesses comprise 12,729 fishermen in 2007, which has declined considerably in the last 10 years (by 32%).⁸

Consumer expenditure and economic contribution

Consumers spent approximately £3.5bn in 2007 on fish, comprising 4.6% of total food expenditure in the UK.⁹ The UK fishing sectors and processing are estimated to contribute approximately £4.3bn to UK

⁶ Fisheries 2027: a long-term vision for sustainable fisheries (Defra, 2007)

⁷ UK Standard Industrial Classification of Economic Activities (SIC) produced by ONS:
http://www.statistics.gov.uk/methods_quality/sic/

⁸ Marines and Fisheries Agency – UK Sea Fisheries Statistics 2007, available at:
http://www.mfa.gov.uk/statistics/documents/UKSeaFishStats_2007.pdf

⁹ Marines and Fisheries Agency – UK Sea Fisheries Statistics 2007, table 1.2 available at:
http://www.mfa.gov.uk/statistics/documents/UKSeaFish07-Tab1_2.xls

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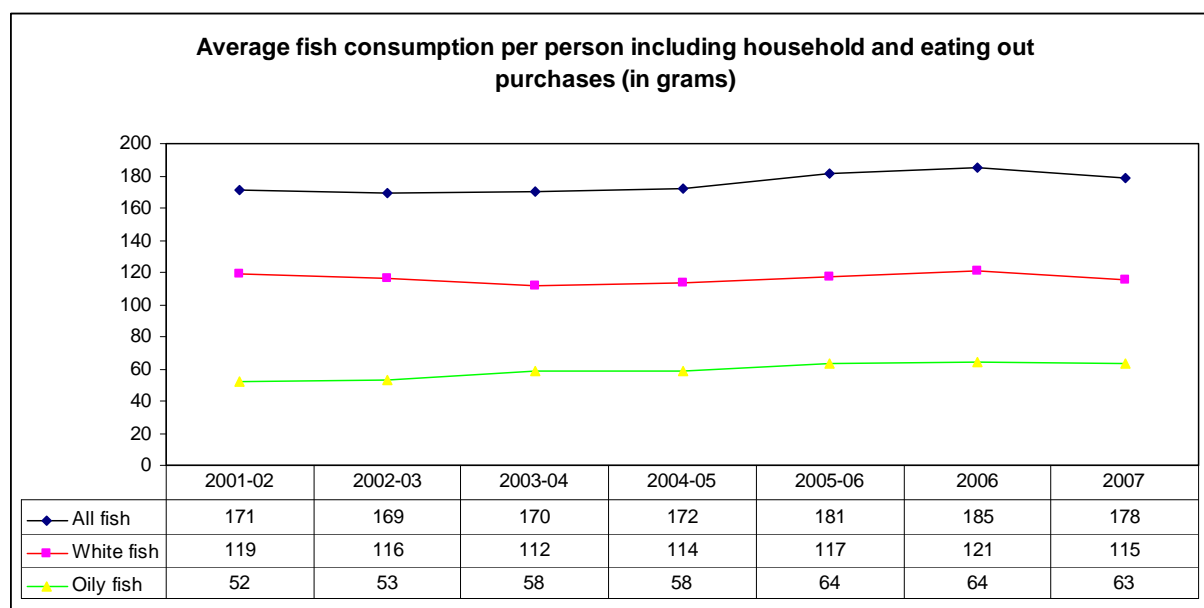
GDP (in 2002 basic prices).¹⁰ This can be seen as an upper end estimate, since it is derived by estimating the impact of removing the whole industry and includes employment and multiplier affects.

The fish and shellfish market

According to a recent Mintel report¹¹, the value market for fish and shellfish was worth nearly £3 billion and has increased by a third since 2003. Volume growth was only 11% during the same period, meaning there has been a value increase reflected in an increase of the base price of fish (roughly 20%).¹² The UK has a large balance of trade deficit for fish and shellfish, importing approximately £1 billion more in 2006 than exporting. It has been predicted that this trend is likely to continue and growth in the market will continue although at a slower rate in the decade ahead.

Consumption patterns

Agency advice is to eat at least two portions of fish per week, including one of oily fish. A portion size equates to 140 grams. The graph below shows average consumption per person per week in grams, based on information from the Department for Environment, Food and Rural Affairs (DEFRA) 'Family Food' Survey 2007.¹³



As the graph illustrates, white fish consumption is close to the Agency's guidance whereas oily fish consumption falls considerably short (77g) of the guidelines. This figure may overestimate the gap between dietary advice and consumption habits because the population numbers include consumers who choose not to eat fish. Figures from the National Diet and Nutrition Survey (NDNS) suggest that

¹⁰ Seafish industry authority (2006), 'The economic impacts of the UK sea fishing and fish processing sectors: An input-output analysis' available at: <http://www.seafish.org/upload/file/economics/FINAL-%20Input%20output%20report%20%20full%20report.pdf>

¹¹ Mintel (September 2008) 'Fish and Seafood – UK, Market Intelligence'

¹² The 20% price increase was calculated using figure 12 of the report, the percentage change between the 2008 (est) price (6.29) and the 2003 price (5.27)

¹³ The information provided adds both recorded household purchases and eating out purchases, available at:

<https://statistics.defra.gov.uk/esg/publications/efs/datasets/default.asp>

Where categories were unclear as to whether they were white or oily fish, the following assumptions were made: Household table: 1) Takeaway fish and takeaway fish meals are assumed to be white fish

2) Fish based ready meals and other category are assumed to be a 50/50 split between white and oily fish

3) Canned fish was split 79% white and 21% oily fish. This was based on mintel canned fish sales data, figure 39 of Fish and Seafood UK 2006.

Eating out table: 1) Processed fish and Other are assumed to be white fish

(Weights of fish based 'meals' may include non-fish products, and so may over-estimate the actual amount of fish consumed.)

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approximately 2.3% of the population are vegan/vegetarians who avoid eating fish.¹⁴ Nevertheless, there remains a considerable gap between current consumption habits and the Agency's advice.

Domestic Supply

Below is the balance sheet for the UK in 2007 collected by the Marine Fisheries Agency, where possible the data has been split into white and oily fish but unfortunately not all of the data was available.¹⁵

2007 UK fish and seafood balance sheet data

	'000s of tonnes		White (Demersal + Shellfish)	Oily (Pelagic)
Landings by UK vessels into the UK	425		260	165
Imports	672	Foreign catches into the UK	65	45
		Other	n/a	n/a
Total supplies	1,097			
Exports	431	UK vessels landing in a foreign port	63	47
		other	n/a	n/a
Total available for domestic use	666			

Please note: Salmon and trout are excluded from the landings data, Landings are given in terms of landed weight equivalent (i.e. head on, gutted for most species) and Landings include transshipments of mackerel. Imports and exports exclude fish products

The above does not provide a complete picture of the total amount available for domestic use because it does not record the amount aquaculture provides on the domestic market. Below is a summary of the main species produced by aquaculture, taken from DEFRA's website, these figures are estimates and are purely illustrative as they are a mix of 2004 and 2005 data.¹⁶ However, as this data is from a different time period to the balance sheet and because it does not indicate how much of aquaculture production is used for the domestic market the two datasets cannot be combined. There is also a limited production of other species, such as carp and brown trout, and relatively new species to aquaculture such as turbot, halibut, cod and Arctic char. In the shellfish category, oysters and clams also farmed.

Summary of main species in aquaculture production and volume produced

Species	Tonnes produced
Salmon	160,000
Mussels	27,000
Rainbow trout	23,000

The balance sheet and aquaculture production tables are not accurately comparable to consumption data because the volumes given are not final consumable volumes, as for example landed weight may be before gutting of the fish. However, it does illustrate the UK's reliance on fish imports, provides estimates of the balance of trade and domestic supply.

The table below illustrates that the current domestic supply of fish is considerably below that needed to adhere to the Agency's advice on fish consumption. The estimates are derived by multiplying up the

¹⁴ National Diet and Nutrition Survey: Adults aged 19 to 64 Vol 1, 2002 available at:

[http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/printedreportpage see tables 2.8](http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/printedreportpage%20see%20tables%202.8%20and%202.9) and 2.9. The figure is derived as the number of reported vegan/vegetarians who avoided eating fish

¹⁵ Marine Fisheries Agency, main table used is: http://www.mfa.gov.uk/statistics/documents/UKSeaFish07-Tab4_1.xls, the additional breakdown into white and oily was compiled using tables 3.7 and 3.8 available at: <http://www.mfa.gov.uk/statistics/ukseafish07tables.htm>

¹⁶ The table is a summary of headline data available at: <http://www.defra.gov.uk/marine/farm-health/aquaculture.htm>, all except for salmon (2004 figures) are 2005 figures

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weekly consumption from the DEFRA family food survey to estimate the tonnes of fish needed on the domestic market to follow Agency advice.

Fish consumption and annual tonnes needed to satisfy demand

	Oily Fish		White Fish		Total annual '000s of tonnes
	Weekly consumption	Annual '000s of tonnes	Weekly consumption	Annual '000s of tonnes	
Current consumption	63	194	115	354	548
Agency advice	140	431	140	431	862
Difference	77	237	25	77	314

In the short term it is unlikely that all the additional oily fish required could be met from exclusively UK stocks that are also sustainable although in theory a significant proportion could be. According to the Marine Stewardship Council (MSC), by 2009 275,000 tonnes of fish, much of it oily fish, caught by British trawlers will be MSC certified¹⁷ However, in the longer term it may well be possible to meet UK requirements entirely from sustainable sources. Defra's "Fisheries 2027" vision aims to ensure that in twenty years time fish will be in abundant supply and consumers will increasingly expect fish to be caught sustainably and will be more willing to try different types of fish.

Costs

Option 1

We do not expect this option to have any incremental costs when compared to the base rate, which is taken as the current advice.

Option 2

Industry Transaction costs

This may adversely affect those businesses currently sourcing from unsustainable resources. However, this is expected to be a transaction cost of a substitution away from unsustainable fish sources to sustainable resources by the fishing industry.

Industry move to sustainability

It is believed that a move to sustainable sourcing is already occurring organically within the industry due to a response to consumer concerns and a trend towards aquaculture. UK fish stocks being fished sustainably have risen from 5% in 1990 to 35% in 2005¹⁸ and the UK already has a large and increasing number of MSC certified fisheries. Indeed, the global trend has seen a rise from 237 to 433 of businesses trading in MSC certified fish between 2006-2007, illustrating an increase in concern for sustainable fish in the UK.¹⁹ In addition to mandatory legislation that controls fishing effort and activity, fishermen in parts of the UK have implemented their own projects and ideas, many of which have been developed in partnership with scientists and environmental NGOs, to work towards common solutions to maintain the sustainability of stocks and preserve the marine environment.

Industry move to aquaculture

There are potential environmental costs from changing catching methods i.e. the move from wild fishing to aquaculture. However, there has been a long-term industry trend towards aquaculture whether driven by sustainability concerns or not. Indeed, there has been a rise of approximately 5% a year between 1950-2001 and supplied 30% of total fish and seafood production.²⁰

To conclude, the policy provides additional information to consumers on how to choose fish from sustainable sources. This could impact on industry via influencing consumer choice but transaction costs

¹⁷ The MSC is not the only body offering certification. It should be noted that certification is not the only indication of a 'sustainable' fishery, nor is it necessarily the best indicator.

¹⁸ Joint Nature Conservancy Council

¹⁹ MSC annual report - http://www.msc.org/documents/annual-report-archive/MSC_Annual_report_2006-07_EN.pdf

²⁰ Royal Commission on Environmental Policy – Environmental effects on marine fisheries

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are likely to be negligible because the influence of this policy is not expected to cause an additional shift in the current substitution towards sustainable fish sources.

Implementation costs

There will be minimal cost of updating the FSA's advice via its website.

Environmental costs

Extra carbon dioxide emissions could be a factor in transportation if sustainable fish resources are further away from the UK than current non-sustainable resources. However, geographically, MSC certified fisheries are largely located around the UK and North America and with US fish imports only making up approximately 3% of total imports of fish and fish preparations, this extra environmental cost will therefore be negligible.²¹

Benefits

Option 1

We do not expect this option to have any incremental benefits. Consumers currently benefit from the Agency's advice. The Agency's current advice is intended to maximise health benefits, particularly in relation to reducing heart disease, whilst minimising the risks to health from contaminants in fish.

Option 2

More informed consumer awareness on fish and sustainability

This option will enable consumers to identify sustainable choices more confidently, allowing informed choices to be made. Consumers will be able to enjoy the health benefits of fish consumption in a way that minimises any adverse effects.

Safeguarding future capacity of fish stocks

Encouraging consumption of fish from sustainable sources should on the demand side encourage consumers to change consumption to sustainable fish and on the supply side to encourage producers to supply from sustainable sources in response to consumer demand. This should ensure fish is consumed sustainably, safeguarding future stocks and therefore allow future generations to enjoy the health benefits of fish consumption.

UK Industry competitive advantage

If the advice stimulates further demand for fish from sustainable resources, the corresponding market response could place the UK fish industry in a better adjusted position in the future to supply world demand for sustainable fish.

The industry as a whole is increasingly aware of sustainability issues and the proportion of UK fish stocks being exploited sustainably has increased in recent years. This situation is likely to improve still further with several large UK fisheries applying for accreditation and through the impact of management/recovery plans. In addition, the Responsible Fishing Scheme set up by Seafish aims to ensure that fish caught under this scheme are fished in the most responsible way possible, enabling those within the seafood chain to demonstrate responsible sourcing of seafood.

This could place the UK fish industry with a first-mover advantage within the market for sustainable fish. In other words, the UK is already establishing itself within the market, having already adjusted its processing techniques and accrediting its fish sources before its potential international rivals. Thus, if international demand increases for fish from sustainable resources the UK will already be better adjusted to meet this new demand.

Health Benefits due to increased fish consumption

Those who previously boycotted certain fish due to sustainability concerns could substitute back to fish within their diets (see health effects above). Also, if this raises the profile of existing advice this could

²¹ Marine Fisheries Agency table 4.2a: Imports of fish and fish preparation into the UK by exporting country: 2006 to 2007 available at: http://www.mfa.gov.uk/statistics/documents/UKSeaFish07-Tab4_2a.xls

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increase fish consumption. Since the size of this increased fish consumption due to altering advice on sustainability cannot be estimated, it would not be sensible to monetise.

The above costs and benefits have not been monetised because there was not a suitable methodology that could attribute a monetary value to the consequences described.

Competition Assessment

We do not expect there to be a significant effect upon the competitiveness of the UK fish industry. The mechanism through which this policy would influence competition is via consumer demand, which would lead to the substitution of consumers from purchasing fish from unsustainable sources to sustainable sources. This could then lead to industry incurring transaction costs but may also give the UK a competitive advantage in future sustainable fish markets. These issues are discussed above.

Small Firms Impact Test

As discussed in *industry transaction costs*, it is unlikely small businesses will be adversely affected because industry is already moving towards sustainability.

There is some evidence from Mintel that small/specialist firms often market their products with sustainability claims to distinguish themselves from other dominant brands and add a premium to their products. If the agency's advice influenced the increased consumption of 'sustainable' fish then this could positively impact upon smaller firms.

Sustainable Development

Impacts under the three pillars of sustainable development (environmental, economic and social) have been and continue to be considered in the preparation of this Impact Assessment. Option 2 is the preferred option because it aims to find a more proportionate way of achieving the objectives, i.e. by minimising the negative impacts and maximising the positive impacts.

It is also acknowledged that the Agency's advice, if followed to the full, could have some adverse impacts on the marine environment. The negative impacts of fishing and fish farming are outlined in the environmental impacts section. However, these impacts can be reduced if consumers are encouraged and enabled to choose fish from sources that are exploited sustainably. However, if followed to the full, the Agency's advice would confer significant health benefits on the UK population and would result in savings for the Health Services by reducing the burden of cardio-vascular disease.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	<i>Results in Evidence Base?</i>	<i>Results annexed?</i>
Competition Assessment	Yes	Yes/No
Small Firms Impact Test	No	Yes/No
Legal Aid	Yes/No	Yes/No
Sustainable Development	Yes	Yes/No
Carbon Assessment	No	Yes/No
Other Environment	No	Yes/No
Health Impact Assessment	Yes/No	Yes/No
Race Equality	No	Yes/No
Disability Equality	No	Yes/No
Gender Equality	No	Yes/No
Human Rights	No	Yes/No
Rural Proofing	No	Yes/No

EU Annex

[Use this space to set out BRIEFLY the background and current EU position. Click once on the grey area below and type. Format using EB styles from the toolbar above.]

Annexes

"< Use this space to explain your consideration of AT LEAST the following Specific Impact Tests>"

Competition Assessment

Small Firms Impact Test

Sustainable development

Race equality issues

Gender equality issues

Disability equality issues

ANNEX D

Interested Parties

Allergy UK
Anaphylaxis Campaign
Asda
Association of British Salted Fish Curers and Exporters
Association of Fish Canners
Association of Port Health Authorities
Association of Public Analysts
Association of Sea Fisheries Committees of England and Wales
British Fishermen's Association
British Food Importers and Distributors Association
British Frozen Food Federation
British Heart Foundation
British Marine Finfish Association
British Medical Association
British Nutrition Foundation
British Retail Consortium
British Trout Association
Chartered Institute of Environmental Health
Chilled Food Association
Co-operative Group (CWS) Ltd
Crab Processors Association
E3 Consulting
Environment Agency
Environmental Justice Foundation
European Association of Fish Producers Organisation
Fish 4 Ever
Fishmongers Company
Food Commission
Food and Drink Federation
Food Ethics Council
Food from Britain
Foodaware
Forum for the Future
Friends of the Earth
Glenryck
Green Alliance
Greenpeace
Greenwood, Miriam
Grimsby Fish Merchants' Association
Health Food Manufacturers Association
Health Protection Agency
Herring Buyers Association
Infant and Dietetic Foods Association
Institute of Animal Health

Institute of Fisheries Management
International Fishmeal and Fish Oil Organisation
John West
Local Authorities Coordinators of Regulatory Services
London Fish Merchants' Association
Lower Carbon Food Research Network
Marine Conservation Society
Marks & Spencer
M&J Seafood
Marine Stewardship Council
Morrisons
National Consumer Council
National Council of Women of Great Britain
National Federation of Fishermen's Organisations
National Federation of Fishmongers
National Food Alliance
National Heart Forum
National institute for Health and Clinical Excellence
Natural England
Natural History Museum
Princes
Prepared Fish Products Association
Provision Trade Federation
Royal Society for the Protection of Birds
Sainsbury's
Salmon and Trout Association
Sea Fish Industry Authority
Seafood Choices Alliance
Seafood Processors Association Ltd
Sea Trout Group
Shellfish Association of Great Britain
Soil Association
Sustain
Sustainable Development Commission
Sustainable Development Research Council
Trading Standards Institute
Tesco
United Fishermens' Association
Youngs
Waitrose
Vegetarian Society
Which?
WWF
Welsh Consumer Council
Welsh Food Alliance
Food Safety Authority of Ireland
General Consumer Council for Northern Ireland
Northern Ireland Food and Drink Association
Sustainable Development Commission Northern Ireland
WWF Northern Ireland