

Invest in Fish South West Report



*Imagining change:
A survey of South West Fishermen*



Investinfish

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INTRODUCTION

Invest in Fish South West is a stakeholder led project that seeks to develop a regional strategy for managing fisheries in the Celtic Sea, English Channel and Western Approaches that improves fish stocks in a way that will benefit the marine environment, regional economy and local communities. The project was launched on 28 April 2004 by HRH the Prince of Wales and to celebrate progress made within its first year, Invest in Fish South West will be releasing four reports over the next month. Each report will discuss important findings from different research projects conducted within the context of the project to date.

Although these reports do not convey the collective views of Invest in Fish South West, they do provide a basis for discussion that will aid stakeholders in defining a fisheries management strategy. Relevant biological, economic and social data collected from these reports will also be inputted into the Invest in Fish South West's bio-economic model¹.

The reports and dates for release are as follows:

- Imagining Change: A Survey of South West Fishermen - by Invest in Fish South West - released 9th May 2005
- The Motivation, Demographics and Views of South West Recreational Sea Anglers and their Socio-economic Impact on the Region by Nautilus Consultants - to be release 16th May 2005
- Analysis of the Interactions between Fishing and Marine Mammals by The Sea Mammal Research Unit, SMRU - to be released 23rd May 2005
- Analysis of the Legal and Institutional Policies Relating to South West Fisheries by The Institute of European Environmental Policy (IEEP) - to be released 30th May 2005

Editor's note

1. The Centre for the Economics and Management of Aquatic Resources at the University of Portsmouth, Cemare, and The Centre for Environment, Fisheries and Aquaculture Science, CEFAS are currently developing a bio-economic model to test the social, economic and environmental implications of different management options on behalf of Invest in Fish South West.

CONTEXT

Invest in Fish South West aims to define a fisheries management strategy that improves fish stocks while balancing the needs of the marine environment, regional economy and local communities.

As Invest in Fish South West is a stakeholder led initiative, it is critical that the project understands the opinions of all stakeholder groups within the region, including commercial fishermen.

The following report, *Imagining Change: A Survey of South West Fishermen*, presents results from a survey of more than 100 fishermen from the South West of England. It provides insight into the opinions and values of fishermen in the region, how they feel about the current fisheries management policies and any suggestions they have for possible changes. This information has been presented to the Invest in Fish South West Steering Group and will play an important role in its fisheries management debate.

STEERING GROUP COMMENTS

The steering group is intrinsically involved in the project. Together with stakeholder dialogue, they will determine the final Invest in Fish South West strategy. Each member represents a stakeholder group which has an ultimate interest in the management and use of fish stocks.

All the research conducted and reports issued within the Invest in Fish South West project are a basis for discussion between stakeholder groups. Naturally, each steering group member will have a different opinion on the relevance and details of the reports and it is important that these thoughts are made known.

The steering group members' comments on *Imagining Change: A Survey of South West Fishermen* are as follows:

Mike Barry, representative of retailers in the South West and sustainable development manager for Marks & Spencer comments: "The report provides a novel insight into the world of fishing. It shows how passionately many fishermen feel about the future of the seas they fish and how many practical ideas they have on better management options."

Caroline Bennett, representative of South West restaurateurs and managing director of the London based sushi restaurants Moshi Moshi, which sources some species of fish from the South West comments: "From a restaurateur's point-of-view, we can help provide incentives to fishermen who adopt sustainable fishing activities. Restaurateurs and fishermen alike should share the responsibility of improving traceability, thereby bringing deliciously fresh fish to the table, and sounder fishing practices. Restaurants can take advantage of the huge wealth of under utilised species in the South West, and play a role in encouraging small scale fishermen to catch from sustainable stocks and in an environmentally sound way."

Helen Davies, representative of environment NGO's and fisheries management officer for WWF-UK comments: "WWF encourages fishermen to engage in the Invest in Fish South West project and hence in the long-term future of the industry. Healthy fish stocks lead to a profitable industry which is what we're all working towards but without a healthy marine environment, recovery and sustainable yields will not be possible."

Joan Edwards, representative of environment NGO's and conservation organisations for Invest in Fish South West and head of the Marine Conservation Programme for The Wildlife Trusts, comments: "This report is a really important part of this project. We believe it is essential that fishermen are involved in the future management of their fisheries. For too long decisions have been taken centrally, often for political reasons, and without regard for individual fisherman. All fishermen have a lot to contribute to management. They have a lot of knowledge which should not be ignored. By involving fisherman in this project we hope to encourage a sense of ownership of the management decisions that will be made in the future. If fishermen are involved they will be able to see why certain decisions are being made and hopefully will support the management objectives."

Malcolm Gilbert, representative of South West recreational sea anglers, fisheries representative for the National Federation of Sea Anglers and European liaison officer for the Bass Anglers Sportfishing Society comments: "Many of the suggested fisheries management options proposed by some of the commercial fishermen in the report are either identical or similar to those suggestions made by recreational sea anglers. It is encouraging to see such common ground, including some fishermen's desire to see seasonal closure of wreck fisheries and spawning or juvenile aggregations, no inshore trawling or gill nets within 1 mile, a ban on industrial fishing and pair trawling in the South West, with increased minimum landing sizes and minimum mesh sizes."

Malcolm adds, " I disagree with the view of some of the commercial fishermen that they are the only stakeholder group directly affected by fisheries management and therefore should be considered over other interest groups. Such a view fails to recognise that fishery resources are one of society's natural heritage [FAO Code of conduct for responsible fisheries] just as Dartmoor or the Forest of Dean. Determining how such resources are utilised must therefore always be 'societal' decisions. The fact that some fishermen felt that they were under- represented on Sea Fisheries Committees surprises anglers. In Cornwall, there are 26 committee members, 19 of which have declared interests in commercial fishing in some way or another - so to suggest 75 per cent representation is insufficient is difficult to reconcile."

Jim Portus, representative of the commercial fishing sector in the South West and the chief executive officer for the South Western Fish Producer's Organisation (SWFPO) comments: "This report is a very important element of the entire Invest in Fish South West project that aims to seek the opinion of commercial fishermen. I've always said that we need to go to the people who are closest to the resource and have the most to lose from bad fisheries management policy and the most to gain from good fisheries management policy. It is absolutely crucial that the opinion of the fish-catching sector is taken into consideration when developing policy. This report demonstrates that fishermen can think outside of their normal frame of reference and can propose options that could potentially be great solutions for all stakeholders."

Paul Trebilcock, representative of the commercial fishermen and chief executive of Cornish Fish Producer's Organisation (CFPO) comments: "The report is a starting point for understanding the genuine point-of-view of real commercial fishermen on the quay side. The unfiltered, raw opinions represented in this report bring value to the fisheries management debate and will be one of the main drivers for the rest of the project."

TERMINOLOGY

The following provides a description of terminology used in this report.

0 - 6 miles - The Sea Fisheries Committees (local authority) regulate fisheries from the coast of England and Wales out to the six miles and can make byelaws for the management and conservation of these fisheries, however European legislation also applies. Only fishing vessels from the coastal state can fish inside the six miles.

0-12 miles - known as the 'Territorial Waters', national governments have jurisdiction over this area.

6 - 12 mile limit - This refers to the inshore fisheries, technically the area of water from the coast out to six or twelve nautical miles. Fishing vessels from certain countries can fish between 6 -12 miles through international agreements.

Berried lobster - a female lobster bearing eggs.

Closure - defining an area within a fishery that is off limits for fishing or, sometimes, for certain types of fishing methods.

Effort - a way of measuring the amount of fishing carried out in a specific area. This measurement for each vessel is currently established by multiplying the engine power (kW) of a vessel by its 'days at sea' for a given period. Individual vessel effort figures can be amalgamated to give global estimations of fishing effort in certain areas or certain vessel groups.

Effort controls - managing fisheries by restricting the amount of fishing effort.

Effort displacement - the movement of fishing effort from one area to another, generally due to legislation that places a restriction on the usual fishing ground.

Effort units - see 'effort'.

Faeroes model - An effort control based system used to manage fisheries around the Faeroes Island. The model re-evaluates yearly the number of fishing days individual fishermen can fish and any technical measures necessary (closed areas, fishing gear restrictions) based on the state of fish stocks. Fishermen are allowed to trade these days with other fishermen owning similar sized vessels and are also free to land whatever fish they catch. Fishery inspectors are in charge of protecting juvenile and spawning stock and can close areas for up to a fortnight if large numbers of juvenile or spawning fish are appearing in catches. The system is widely supported by the industry and considered easy to monitor.

Juvenile aggregations - groupings of young fish of similar species, normally seasonal.

kW limits - the maximum size of engine power a vessel is permitted.

LOA - short for 'length overall', refers to the longest dimension of a vessel permitted.

Mackerel Box - Established in 1981 off the coast of South England and Ireland to protect a relatively high concentration of juvenile mackerel. Since the box was introduced, the relative mortality of fish aged 0, 1 and 2 years has reduced by 83%, 60% and 20% respectively and the state of the stocks have benefited from the closure.

Mega-fauna culls - specifically reducing the population of large animals by slaughter.

Minimum landing sizes (MLS) - a measurement that defines the smallest size at which specific species of fish can be retained legally from a catch. By European law, fish under the MLS should be returned to the sea immediately.

Mobile zone - fishing areas where vessels are permitted to use mobile or towed gears.

Mortality - a measure of the amount of a stock lost annually to natural or artificial factors.

No Take Zone - an area temporarily or permanently closed off to fishing and/or other extractive activities, including dumping, dredging or construction.

Nursery aggregations - area or natural habitat where the immature members of a species are found.

Potting box - An area, permanently or temporarily designated by legislation or agreement between fishermen, where crab or lobster pots are permitted. This limits conflict between shell fishermen and mobile gear fishermen, like trawlers.

Recruitment - the point at which fish from a given stock become physically or legally available to a fishery.

Sea Fisheries Committee (SFC) - the committee that regulates fisheries from the coast of England and Wales out to the six nautical miles and are empowered to make byelaws for the management and conservation of these fisheries, usually comprised of local authorities and interested parties. SFC does not have exclusive control of inshore fisheries. National and European legislation also applies and can be enforced by the Department of Environment, Food and Rural Affairs.

Spawning aggregations - areas where a group of fish of the same species gather to mate.

Static Zone - fish areas where vessels are only permitted to use fixed fishing gears i.e., pots, nets, lines or traps.

Transitional Aid - financial support during a period of change.

Total Allowable Catch (TAC) - The quantity of fish that can be taken from a stock each year. In the Europe, the figure is agreed by the Fisheries Council of Ministers each December for the following year. EU Member States are allocated a fixed proportion of the TAC as their national quota.

Transferable quota system - the right to fish for a certain quantity of specific fish species. The quota can be traded to other fishing vessels.

Under 10m - referring to vessels that are less than 10 meters in length, usually inshore boats.

V-notching programme - In some parts of the UK, female lobsters carrying eggs are marked by fishermen with a small triangular notch. The mark disappears during the following moult. Females that have been v-notched should be returned to sea to ensure that they are left to spawn. V-notching is also used on large male lobsters to protect their role in spawning stock.

Vessel Monitoring System (VMS monitoring) - technology used throughout European waters to track the location of selected fishing vessels by GPS, and contribute to the monitoring, control and surveillance of fisheries. VMS is currently required on any European vessels over 15 meters.

Zoning -defining areas where fishing for certain species or the use of certain type of fishing gear and/or other extractive activities, including dumping, dredging or construction is either permitted or restricted.

Imagining Change: a Survey of South West Fishermen

Aim

The aim of this 'grass roots' survey was to collect and describe the range of options put forward by the South West fishing industry for managing the regions fisheries in the medium to long-term, across gear type or fishing methods. This survey was not an attempt to establish the most popular options from a list as none were ever offered to the participants.

Methodology

The original plan was to carry out face-to-face interviews with as many commercial fishermen as possible across as wide a geographical range, sector (inshore/offshore) and métiers (fishing method targeting a specific species in a specific fishing zone) as possible, west of the 20 W line. A further sub goal was identified as talking to as many people representing or owning as much of the potential effort (considered as an unquantified function of vessel numbers, Vessel Capacity Units [VCUs]) as possible. Several 'open' questionnaires were then sent by post on the recommendation of fishermen's representatives, and with their support. Interviews were also carried out by phone to allow contact at sea.

It is important to note that the views of any individual fishermen or boat owner were taken to be of equal importance to any other in this first phase, as it was assumed there would be no correlation between 'power' (however defined) and innovation. It was hoped this approach would generate as many options as possible and also allow the identification of 'shared' ideals or options which cut across the various gear types and sectors. Again, this survey was not an attempt to establish the most popular options from a list as none were ever offered to the participants.

The questions asked and topic areas covered were broadly those shown in the prompt sheet appendix II.

Fleet and employment figures used are based on the *DEFRA Economics & Statistics - UK Sea Fisheries Statistics 2003* and the SWRDA's *Socio-Economic Baseline Study of the South West Fishing Industry*.

Coverage

Numbers

120 members of the fishing industry were consulted including owners, fishermen and heads of regional fishing organisations. This translates into 112 directly employed fishermen or 10% of the fishermen in the South West of England (1,132).

Geographically

The following ports were visited (from the east):

- Portland
- Bridport
- Torquay
- Brixham
- Ilfracombe
- Barnstaple
- Bideford
- Plymouth
- Looe
- Port Isaac
- Padstow
- Mevagissey
- Newquay
- St. Ives
- Newlyn

Interviewees from the following ports were also interviewed by phone:

- Brixham
- Falmouth
- Newquay

And by mailed questionnaire:

- Dartmouth
- Clovelly
- Polperro
- Helford

Catching Power

The total VCU of vessels owned by those interviewed exceeds 22,549, or 32% of the total catching power in the South West of England.

The number of vessels owned by respondents of the survey was approx 130 or 11% of the total number of vessels (1,149) in the South West of England.

The percentage of the South West quota owned by those interviewed could not be accurately assessed but can be considered to be significant based on the sample size and the inclusion in the survey of all the largest fleet/quota holders in the survey.

Sector

Representatives working across as many gear sectors or using as many fishing methods as possible were interviewed. These included:

Beam trawlers	19%
Trawlers (single and multiple, offshore and inshore)	17%
Scallopers	4%
Gillnetters (inshore and offshore)	19%
Potters	14%
Handliners	4%
Multi-use inshore	22%

Discussion on Methodology - Limitations and Considerations

Interviews

Although most fishermen approached were willing to take part in the survey (three direct refusals out of 123); actually being able to meet with them was problematic, particularly where the Invest in Fish South West Liaison Officer was not well known. As some fishermen may perceive that their relationship within the fisheries management system has worsened and they have less power, they may have found it difficult to talk to a stranger about their experiences within this system. What was once 'merely' a way of life has now become politicised, perhaps as a result of feeling threatened or marginalised by other groups. Another consideration was that some fishermen were inclined to present views which they believed broadly represented their industry's perspective - even when their personal views differed - following a belief that presenting the industry as diverse could weaken it.

Coverage

Tides, weather and the presence or absence of fish drives the industry rather than a predictable work pattern, and arranging a time in the future to meet was always difficult, more so in an area where the Liaison officer was unknown. For many, the first thing to do after landing the catch was to get home to see the family and sleep, time ashore (particularly in the summer) being highly valued. The best approach was usually to get the name of a respected fisherman or community representative, talk to them by phone and then arrange to meet them in the port, hopefully in a place where fishermen would meet. If not introduced to others immediately, a follow-up meeting would certainly be easier - providing they were in from sea.

Reaction

Trust was and is an important part of this process. Over the years fishermen have been "questionnaire-d to bloody death" as one put it, receiving many queries and questionnaires from students, Master's, PhD's etc, all returned without feedback, and it was often necessary to explain that they would be hearing from us again. Many of these previous queries were seen as having made the assumption that fishing was a 'problem' and were concerned more with limiting or reducing fishing per se than looking at how to sustain it. The longer time could be spent with a fisherman, particularly on a one-to-one basis the more interesting and thoughtful the discussion became. The initial reaction was one of surprise at being asked to contribute ideas on management rather than being asked to supply data or to react to an option already proposed.

Results

These summaries of the survey are presented in the order in which they were (usually) covered when following the prompt sheet.

Views on Current Management System

There were both negative and positive statements made about the current management system. The following section elaborates on the major themes overall.

Negative feedback about the current management system:

Top down management

There was almost universal criticism of the current national management system and the Common Fisheries Policy (CFP) even by those whose fishery is least affected by it. They all resented the top-down management represented by (in their view) the CFP, the national Government and regional authorities. The respondents said that they felt they were powerless and rarely consulted, and if they were it was usually at too late a stage in any managerial or legislative process. The almost universal contempt for the CFP was often matched by an equal scepticism as to the ability of a national government to manage a fishery, based on historical experience. The few virulent anti-EU (rather than CFP) sentiments were normally expressed by older fishermen and those involved actively in political campaigning.

Negative effects felt down to inshore boats

Those who were not directly affected by CFP, or to a lesser extent, (under 10m sector, shellfish vessels) pointed out that they felt the effects of either bad legislation or limited/inappropriate policing of vessels foreign or otherwise) came inside limits, denied them ground or had impacts on the stocks that they fished inshore.

Transferable quota system

The current single-species transferable quota system came under attack from every sector as being perhaps the major cause of the industry's problems. Its main failings were seen as:

- A) an inappropriate method of managing a multi-species fishery
- B) based on out-of-date and inaccurate figures
- C) incapable of reacting to changing conditions
- D) preventing the loss of regional fishing opportunities
- E) institutionalising discarding and waste
- F) exacerbating the fishing of spawning aggregations
- G) penalising vessels which had little effect on stocks (generally the under 10m sector)

The exception to this are the relative few who have invested large amounts of capital with the hope of leasing it to others.

Quota management system

It is worth stressing again that almost all fishermen were against the current status quo of management by quota - at least at the levels it is currently set at. Many of those gave it as a reason leave or abandon the current Common Fisheries Policy (CFP), fewer expressed the desire to leave EU entirely. Most believed that the CFP's quota system of management had failed to sustain either their industry or their community.

CFP

The over-riding view of those interviewed is that the CFP has failed completely both as a conservation tool and as a means of ensuring their future livelihood. In fact many of those interviewed believe the CFP has failed to the point that it is as actively working against the future of the South West industry and the communities which depend on it. As noted above, the exception to this view are the few who have been able to buy very large amounts of quota (often with the intention of leasing their excess capacity) and who are therefore strongly wedded to the continuation of some form of the status quo - at least until they can be satisfied they would be compensated for their investment.

Postive feedback about the current management system:

Minimum landing sizes (MLS) and mesh sizes

There was almost universal approval of the concept of MLS and appropriate mesh sizes, tempered with dismay at the recent lowering of some sizes.

6-12 mile limits

The 6 and 12-mile limits were seen as essential to the continuing future of the inshore sector, although most wished to see exclusive control out to at least the 12 mile limit (see table, below.)

V-notching programme

Many shellfishermen strongly support the application of the berried lobster/v-notching programme out to the 12-mile limit although this was not unanimous. Opinions varied on proposals to increase the carapace length of lobsters by anything more than a few millimetres, pointing to market considerations.

Summary discussion

Behind the feelings expressed above there is a unanimous belief that the statistics and techniques that are used to set the TACs underpinning the quota management system are fundamentally flawed, further undermining any attempt at realistic and effective management. All believe that this must be addressed before rational management can begin (see below). Equally striking was the widespread support for the 'traditional' technical methods of management such as the MLS/mesh size and strong support for a phased increase of the same.

Many inshore fishermen also expressed the feeling that they were under greater pressure from larger vessels with towed gears that were in-turn under pressure from reduced opportunities offshore. Due to their limited range they believed the felt the impact of competition for the finite inshore resource more keenly than other sectors.

Future Management Systems

The following summarises on participants' responses to questions regarding future management options.

What do you think you should be managed for?

The first three questions under this heading on the original prompt sheet heading 'Who do you think you should be managed by or for?' and 'What do you think the industry should be for?' generally produced puzzled or exasperated answers. Most fishermen strongly believed that the fishing industry should be managed in a way that ensured the survival of the fishing industry. They saw this as essential for the survival and health of the communities in which they lived. When presented with a range of options for what it should be managed for (e.g. profit, sustainability, employment, etc); most stated that all were interlinked, there was no either/or. As a result these questions were generally dropped from the interviews unless they arose naturally as part of the discussion.

Ownership

While the South West fish stocks were not seen by fishermen as being 'owned' by the UK (implying perhaps that there should be a charge on extraction), the territory they resided in *was* seen as 'owned', most believing that that ownership extended out to the 200mile/median line. It followed that those who were willing to risk capital and health on fishing within its territorial waters, felt they should be allowed to take these risks- subject to reasonable regulations. Others pointed to the importance of inshore fishing opportunities to local communities and felt that they should be 'owned' in some way for those communities. This view was often extended to the regional level. A few suggested that they would be willing to pay for this (in the form of licences) if they could be assured they were paying for protection of their financial future, while others argued that they already paid for the privilege in the form of taxes.

The relevance of other stakeholders in the fisheries management debate

When questioned about other stakeholders, few acknowledged the *equivalence* of other groups, even when they accepted that they had a right to be heard. This was due to the perceived disparity of the risk undertaken, physically, financially and socially, by the other groups when compared to the fishing industry. Several separately volunteered that you couldn't be considered a 'stakeholder' in the fishing industry unless you had invested in the industry or its resource; "it's too easy to have an opinion if you have nothing to lose or any change in the law is not going to affect you in any measurable way".

Proposed options for managing fisheries

For most fishermen providing potential options for managing fisheries in the future was by far the most interesting and important part of the interview. The importance and limiting effect of quota in their day-to-day operations and the need for better assessment dominated their initial replies, which were swiftly followed by alternative options. There was some element of 'they should ban x, that's what causes the problem' (x being a gear that they didn't use themselves), but in general overarching suggestions were followed by more detailed discussion of their immediate experience.

All the suggestions proposed are listed below. These groupings are for convenience only, as many options could clearly be classified under more than one heading. Options are ranked alphabetically under each heading. Options and enforcement options are discussed below.

Area based options:

- Expansion of areas already closed to some fishing gears (i.e., wellheads, wrecks)
- No Take Zones (NTZs)
- Rotated closures: offshore areas to be consecutively closed but open for various periods
- Seasonal closures of wreck fisheries
- Seasonal closures of identified spawning and/or juvenile aggregations
- All respondents suggested that area based closures should be compensated at least temporarily, any aid to include crew.

Zoning:

- 221 kW limit on vessels operating within the 6 mile limit
- Ban on inshore trawling (3-6-12 miles)
- Ban gillnets within 1 mile of shore
- Ban on scallop dredging within 3 mile limit
- Beams excluded inside 12 mile limit
- Permanent potting boxes
- Permanent static/mobile zones (particularly inshore)
- Temporary potting boxes

Effort:

- Days at sea based on track record/quota fished/owned
- Funded 10% overall reduction of effort (5 years, monitored)
- Funded 10% reduction of overall spring (February to March) effort
- Funded tie-ups
- Maximum vessel LOA/kW for EU waters

Quota (All conditional on stock assessments being 'reset')

- Quota year to start after spawning period for relevant species
- Quota/licences to be tied to/remain within region
- Exempt vessels under 6-7-10m from quota regulation

Assessment:

- Allow free fishing for 12-18 months to establish actual stock levels (minimum landing sizes (MLS)/mesh sizes to remain, no discards, observers)
- Closer working relationship with scientists, observers (generally qualified by impossibility of doing same under current quota regulations)
- Stratified free fishing by random selection
- Transitional aid paid for research assessment work

Gear:

- 100mm mesh (exclusion for squid gear) funded transition
- Ban multi-rigs
- Ban on industrial fishing in the South West
- Ban pair teams
- Gear limits per man (no. of nets, pots, beam length)
- Phased increase of MLS/mesh sizes over time, funded transition

Management:

- Regional control (by the Sea Fisheries Committees in some cases) out to 12-25-50 miles
- National control out to 200 miles/median line with/without historical rights
- Controlled access to mackerel box
- Separate management of inshore/offshore fleet (implies redefinition of terms/licences)
- Regional Producers' Organisation or representative body, joint board
- Reformed, redrawn Sea Fisheries Committees
- Establishment of limited company to manage fisheries for shareholders (fishermen)
- True ecosystem management - to include megafauna culls

Enforcement:

- Peer pressure
- VMS (expected to include all >10m)
- Effective (trans-national) policing outside 12 mile
- More land based patrols
- Traceability

Summary discussion

Further elaborations of these findings are explored in this section.

Effort control

Effort control vs. quotas

Most of those interviewed expressed the desire to be managed by effort controls rather than by quota, although they accepted that there would still be difficulties with this, due to the multi-species nature of the South West fisheries. Another problem raised was the equitable conversion of current quota into effort units, as many respondents had spent considerable amounts on leasing or buying extra quota to allow them to carry on fishing. Several of the largest owners expressed concern not only for the conversion of their own assets, but also at those smaller operators with little or no quota entitlement (e.g., those who fish on non-pressure stocks) that might lose out.

Limiting days at sea

Most of the interviewees that proposed an alternative to management by quota seem to prefer 'days at sea' providing there is no quota limitation, pointing out how much easier this would be to enforce and that it is the only way to reduce mortality (short of 'making the net holes bigger' or total closures).

Gear limits

Among static gear operators international gear limits were popular. Some mobile gear operators preferred genuine EU kW limits and maximum LOA below that currently in operation.

Total effort reduction by 10%

An overall reduction in effort (however assessed) of around 10% was proposed by several fishermen, providing funding was available for loss of earnings for all members of the crew. They also pointed out that any such 'tie-up' would have immediate and secondary knock-on effects for shore-side industry and the wider local economy. A strong feeling expressed was that without better assessments being made first it was difficult to decide the best way to manage the future.

Assessment/Free Fishing

A common suggestion from fishermen is to have a period of 'free' heavily monitored fishing based on previous effort/days during which no discarding is to be allowed. There were several variants of this suggested (lottery selection of vessels, all catch landed, all above the minimum landing size to be kept, the rest recorded, all landings to be met by DEFRA) and all accept that this could only be for a limited period. The aim is to 'reset the assessment clock' after the years of distortion caused by operating in a mixed fishery under inadequate quota allowances. None of those interviewed raised the issue of relative stability; the aim was to establish agreement on new baselines against which the future variation in age structure or abundance could be compared.

In relation to this, the interviewees expressed support for working much more closely with scientists providing it was under a more open and less punitive regime. While the two South West Producers Organisations have begun to address this issue (in conjunction with CEFAS) most fishermen felt it to be of limited value at the current scale. Their feeling was that scientists had worked to impose and enforce the policies of the CFP rather than attempting to establish what was actually happening in the fisheries. Many were also concerned as to the validity of the dedicated research 'reference tow' in its current form.

The 'free-fishing' issue will need to be addressed as it comes up again and again and is seen by many to be a prerequisite of any improvement.

Closed Areas

Seasonal closures

By far the single most often suggested option was that of seasonal closed areas (i.e., the original Trevoze season as suggested by the Cornish Fish Producers Organisations) as a way of increasing future recruitment to, or enhancing the sustainability over all of the South West's fisheries. These were seen as an easily defined and enforceable measure that would reduce effort on several species at critical points in their life cycles. Respondents stressed that fishermen should identify the special areas to be closed and that any closure must be agreed by all nations/sectors fishing in that area.

Not all agreed that all sectors should be excluded from closed areas. The limited operating range of the inshore sector was specifically referred to by both the inshore and offshore sectors as a problem.

Aggregations

Several types of aggregations were identified as being potential candidates for closed areas i.e., spawning, nursery and juvenile. The suggest length of any closure varied between 2-3 months and generally January, February and March were suggested as appropriate months. Opinion varied as to the amount of such areas that should be closed, from total closure of the identified area, to 50%. This seemed to vary depending on the size of the original proposed area; small concentrated areas = total seasonal closure, larger more diffuse areas = 50%. While agreeing that nursery areas should be closed, there was also considerable scepticism as to where or whether these could be accurately identified.

No go areas

Another suggestion was for 'no go' areas to be expanded around existing features, although this seemed to refer to fishing vessels with mobile gears, as many of the areas suggested could be worked directly by fishing vessels with static gears (e.g. wrecks, pipelines, pinnacles, etc).

Displacement Issue

The argument of displaced effort was countered by the contention that the areas concerned could be tightly delineated and were comparatively small in area, the existing concentration of effort being easily diffused over the alternative seasonal grounds harbouring less vulnerable stocks.

No Take Zones (NTZs)

NTZs were proposed by fewer interviewees. Those that did suggest NTZs thought the zones should be small and offshore, again reducing the impact on the less mobile inshore fleet. More respondents support the idea of trialling NTZs but are also sceptical that they would be removed if there was no benefit shown for stock recovery, again indicating the lack of trust between regulatory bodies and fishermen. Several pointed out that as there would be a guaranteed 'benefit' for the conservation movement, (i.e., the area within the NTZ becoming immediately 'conserved'), there would be little incentive to remove them, whatever the impact on the fishing industry.

Wreck fishing

Several wreck fishermen suggested that wreck fishing itself should be banned or effort reduced during the spawning period, all stressing that this should include angling.

Compensation

All of the suggestions were conditional on transitional aid. All sectors agreed they should be compensated for any area denials (and that it should be available for the whole of the crew) over a defined period but were sceptical that it would be paid. All insisted that the effects of the closure should be closely monitored and that such bans should not be considered permanent. For any area proposed outside of the 12-mile limit there was also scepticism that such areas would be enforced on other nations fleets.

Zoning

Another common 'area' option is that more use of zoning should be applied, many pointing to the mutual benefits which they say have resulted from the rotating potting boxes of the Devon coast, suggesting that more could be done along these lines, perhaps by having exclusive static and mobile zones. This suggestion was often put forward by inshore static gear (including potting) vessels as a way of protecting their gear and defining their 'ownership' over the inshore grounds. Other mobile operators suggested that larger offshore zones could be rotated for mutual benefit, essentially allowing a fallow period either from both gear types or from one.

Exclusion of mobile gears

The idea of excluding mobile gears 3-6-12 miles from the shore, again, was usually put forward by the static gear fishermen. Although it could be argued that they 'would say that wouldn't they', their argument was that they had far less impact on the environment, that their gears were uniquely vulnerable to mobile gears and that such exclusions could help the recovery of stocks due the presence of juveniles not vulnerable to the static gears.

Gear

Several operators suggested there should be caps on the amount of gear (see below under Gear options) used by all vessels in the South West, including kW and overall length limits for vessels. Several static gear fishermen suggested limiting static gear by man, as an equitable way of capping effort. Nets/pots could be tagged, labelled and numbered. To replace/renew gears, the tags would have to be returned or if lost, full details given before new tags carrying

the same numbers issued. Respondents suggested that any duplication of tags or nets missing tags should result in bans or fines. Mobile gears could be similarly limited by fishing line, beam, and dredge limits per man.

Management Structures

Regional management structure

Most thought a regional management structure was essential, in or out of the CFP, although definitions of this varied enormously. There was strong demand for greater fishing representation on Sea Fisheries Committees (SFCs) to counteract their perceived conservation bias. There was also support for an increase in the SFCs' powers out to the 12-mile limit. And there was also a call for by-laws to be harmonised between SFCs to prevent effort displacement, such as that which it allegedly occurs between the Devon and Cornwall scallop fisheries (several suggested a ban on night fishing - including all under 10m vessels).

Licensing

The licensing of the shellfish sector was seen as a missed opportunity by those working in it, who felt "the horse had well and truly bolted". Licences were raised by all sectors for varying negative reasons, some pointing out the added cost burden of attempting to build a new vessel trapping or preventing people from moving from inshore to offshore fisheries, others the loss of fishing opportunities to the region due to their transferable nature.

Reforms to quota management

Although most were opposed to quota management in its present form, few believed that the Government or the EU had the power or will to replace the quota system. Consequently several suggested reforms to the system even while being opposed to it. Suggestions included multi-species, multi-annual and non-transferable quotas. If annual single-species quotas had to be used they should be set at the most rational time i.e., immediately after the spawning period for that species, matching them to a biological calendar rather than a political one.

Ecosystem management

Ecosystem management was understood and discussed but was questioned due to the apparent lack of will to manage anything other than the commercial fishing industry (i.e. not managing other players such as seals or anglers) as well as its perceived inherent bias against towed gears. Many felt that such a management approach would not be realistic under the current quota system, as while it may affect recruitment, it would do little to affect mortality.

Regional based 'real time' management

Many fishermen suggested a regionally based management system of small, fast, 'real-time' closures and openings. This was variously described as adaptive, reactive or real-time management, the terms being interchangeable, and specifically linked to the Faroese model. Several fishermen pointed out that this would mean closer links with scientists and observers and would also ensure better assessment.

Novel suggestions

Two novel suggestions were raised. One envisaged the setting up of a co-operative responsible for managing a defined area having those operating within it as shareholders. The Chief Executive would have total control over the catching sector and be responsible for returning a dividend to the shareholders. Another was to pay fishermen to carry out scientific research in

parallel with their day-to-day work, the payments effectively being considered a loan to be repaid over time in the form of a rent, when stocks/profits had risen to an agreed level.

Regional Advisory Councils

Regional Advisory Councils were seen as being an interesting idea, potentially of benefit to the long term benefit of the industry, providing that they were more than a talking shop and were properly funded and had their advice acted upon.

Enforcement

VMS and peer pressure

Most fishermen believed that VMS monitoring would eventually cover all vessels above 10 meters. This, along with peer pressure, was believed to be a satisfactory measure to ensure compliance of increased minimum landing sizes/mesh sizes and closed areas of whatever form. Several pointed out that for peer pressure to work fishermen and their representatives would have had to 'buy in' to the process, and they would need to believe that the application of those measures would be consistent across regional and national fleets.

Peer pressure was generally considered to be potentially more effective among the inshore fleet and VMS and traceability thought more effective among the offshore operators. Doubts were expressed about the enforcement policies of other nations operating within the area. Many inshore operators believed the emphasis should be on shore-side enforcement rather than the expensive and patchy deterrent of county-based patrol vessels. This seemed to be seen more a criticism of current allocation of resources. However, many seeing a place for increased 'at sea' enforcement suggesting that to be effective there needed to be a mix of locally based inshore patrols and regional based vessels to patrol the 12 mile limit and beyond.

Looking at the numbers: source and support of options

The following table shows a spread of the most frequently suggested options across the interviews and the relative frequency with which they emerged. It's worth stressing again that this is not an indicator of popularity, as the interviewees were not invited to rank or compare the options generated by others. Good examples of this are the very low percentages shown below for banning industrial fishing and bass pair trawling; very few fishermen in the South West would actually support these activities, but very few suggested banning them as specific management options. Another would be the Free Fishing argument; while several specifically suggested it as a means to improve assessment, almost all insisted that current assessments were failing and inaccurate. Many suggested a mix of the options below; very few came up with one option as a solution. Many of those who suggested increases in mesh size or seasonal/area closures for instance, also stated this should not occur without some kind of transitional aid and increased levels of monitoring.

Table. Support of common options by gear type/sector

	Beam	Trawl	Dredge	Gillnet	Potting	Handline	Offshore %	Inshore %	Towed %	Static %	TOTAL %
Effort control to replace quota	x		x	X	x	x	18	15	16	17	33
Seasonal/area closures	x	x	x	X			22	24	21	25	46
Zoning	x	x		X	x		8	23	10	21	31
No Take Zones	x			X			6	10	6	10	16
Phased increase in mesh/MLS size	x	x		X			14	17	12	18	31
Free Fishing	x	x		X			7	2	6	3	9
National control to 200 mile/median	x	x	x		x	x	8	19	10	17	27
Regional control extended to 12 or above	x	x	x	X	x	x					
Transitional aid in some form	x	x	x	X	x	x	9	14	10	13	23
Ban industrial fishing in SW	x	x		X	x	x	2	5	2	5	7
Ban bass pair teams	x	x	x	X	x	x	-	-	-	-	-
Exempt under 7m	x			X	x		2	8	2	8	10

Conclusion

This survey was never going to come up with the most popular option; it was designed to generate, sample and record as broad a range of opinions as possible from the industry, rather than ask them to place a tick against a list of offered options. The months of conversations showed that fishermen above all else are individuals, and while they tend to see their problems as personal to them or their sector, they are capable of taking the longer view - although they are deeply sceptical that they would ever be listened to.

There is a huge hunger for change within the South West fishing industry across the board. Opinions as to what changes need to be taken varies widely by gear and sector. While many of the above options were favoured simultaneously by fishermen, very few considered the same suite of options to be the answer, and even fewer favoured one. All, however, agreed that they would like to see themselves, their children and their communities continue their way of life.

