



Inshore Fisheries and  
Conservation Authority

## Annual Research Plan 2012-2013

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Vause, B. J and Clark, R. W. E. 2012.  
Sussex Inshore Fisheries and Conservation Authority Annual Research Plan 2012-2013.  
27pp.  
Second draft published April 2012

This report is available to download from  
[www.sussex-ifca.gov.uk](http://www.sussex-ifca.gov.uk)  
Published online on XXXX

Alternatively a hard copy can be viewed at:  
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The Sussex IFCA is funded by



#### Acknowledgements

The authors would like to acknowledge and thank all of the fellow organisations noted in this plan and their personnel that make this research work possible.

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## EXECUTIVE SUMMARY

The Sussex IFCA Annual Research Plan is one of a suite of plans which have been developed under the Sussex IFCA management framework to complement each other. This management framework and in turn the plans, reflect the Authorities purpose and duties and provide a clear approach to planning both strategically and operationally. The Authority provides strategic oversight of the plans.

This Annual Research Plan has been formulated in accordance with the framework provided for IFCAs by the Marine and Coastal Access Act 2009 and guidance provided by Defra. IFCAs have Success Criteria, High Level Objectives and Performance Indicators which outline what is expected of IFCAs to achieve the IFCA Vision to;

*'lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.'*

Research contributes to all of the seven IFCA Success Criteria and in particular Success Criteria's two, four, five and six and subsequently contributes towards achieving multiple High Level Objectives.

The overall purpose of the Sussex IFCA conducting research is to gather data and information to support the decision making processes of the Authority. A strategic approach and thus a research framework, is essential in order to identify the resources and capabilities required to undertake research, to underpin the IFCA evidence based approach to management of fisheries resources and the marine environment.

This Annual Research Plan details the strategic framework for the Sussex IFCA to manage its research activities and lays out the priorities for research in 2012-2013. It describes the research resources and capabilities of the Sussex IFCA internally and recognises the value of working with others.

The research framework comprises of three Research Themes, these are; Sustainable exploitation of fish stocks, Ecosystem interactions and Socio-economics. Each theme has been divided into a number of Activities, each activity has actions to be fulfilled and where possible a partnership approach to achieving these actions is to be pursued. In turn specific projects can fulfil, contribute towards, or supplement an Activity. An outline of each existing and/or proposed project and associated actions and partnerships has been identified within each relevant Activity.

Research can take many forms from practical fieldwork to seeking out and collating existing information. The Sussex IFCA will endeavour to fulfil each research activity in the most cost-effective manner, including working with partner organisations to increase efficiency and share resources and seeking out externally funded projects which align with our Research Themes.

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## **1.0 INTRODUCTION**

The purpose of the Sussex IFCA conducting research is to gather data and information to support the decision making processes of the Authority. The Authority provides strategic oversight of the research plan. This Annual Research Plan lays out the priorities for research in 2012-2013. A strategic approach is essential in order to identify the resources and capabilities required to undertake research to underpin the IFCA evidence based approach to management of fisheries resources and the marine environment. Thus this Research Plan identifies priorities and has been formulated in accordance with the framework provided for IFCA's by the Marine and Coastal Access Act 2009 and guidance provided by Defra.

## **1.1 IFCA Principles**

The Main Duties of an IFCA are identified in The Marine and Coastal access Act 2009 (<http://www.legislation.gov.uk/ukpga/2009/23/contents>); Part 6, s153 and s154 whereby:

153 Management of inshore fisheries

*(1) The authority for an IFC district must manage the exploitation of sea fisheries resources in that district.*

*(2) In performing its duty under subsection (1), the authority for an IFC district Must;*

*(a) seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way,*

*(b) seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation,*

*(c) take any other steps which in the authority's opinion are necessary or expedient for the purpose of making a contribution to the achievement of sustainable development, and*

*(d) seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district*

154 Protection of marine conservation zones

*(1) The authority for an IFC district must seek to ensure that the conservation objectives of any MCZ in the district are furthered.*

## **1.2 The IFCA Vision**

Nationally IFCA's have a shared vision. We will; *'lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.'*

## **1.3 IFCA Success Criterion**

There are seven IFCA success criteria; this plan contributes to all of them and in particular Success Criteria 2, 4, 5 and 6:

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- Evidence based, appropriate and timely byelaws are used to manage the sustainable exploitation of sea fisheries resources within the district
  - IFCAs work in partnership and are engaged with their stakeholders
  - IFCAs make the best use of evidence to deliver their objectives
  - IFCAs support and promote the sustainable management of the marine environment

#### **1.4 IFCA High Level Objectives**

The IFCA High Level Objectives are the tangible embodiment of the Success Criteria. High Level Objectives have been established for 2011-2015, the following key objectives are of particular relevance to the IFCA research:

Identify and evaluate key issues that are likely to impact on the sustainable management of the marine environment

The impacts of different courses of action are thoroughly evaluated, are proportionate and are continuously monitored

Partnership working and the sharing of mutually beneficial information to improve efficiency and the delivery of beneficial outcomes

Stakeholder engagement and communication

Best available evidence must be used

Demonstrate in-house capability to collect analyse and interpret evidence to inform management policy decisions

The adoption of the principles of best practice in sustainable management of the marine environment

Demonstrate minimum standards and a precautionary approach has been adopted for the management and protection of designated marine protection areas.

The IFCA Vision, Success Criteria and High Level Objectives can be downloaded from the Sussex IFCA website; [http://www.sussex-ifca.gov.uk/index.php?option=com\\_content&view=article&id=38&Itemid=3](http://www.sussex-ifca.gov.uk/index.php?option=com_content&view=article&id=38&Itemid=3)

#### **1.5 Defra guidance for IFCAs**

Defra has produced a number of best-practice guidance documents for IFCAs to help IFCAs understand and fulfil their role ([http://www.sussex-ifca.gov.uk/index.php?option=com\\_content&view=article&id=116&Itemid=201](http://www.sussex-ifca.gov.uk/index.php?option=com_content&view=article&id=116&Itemid=201))

##### **1.5.1 Sustainable development**

IFCAs have a duty in 153(c) of the Marine and Coastal Access Act 2009 to make a contribution towards achieving sustainable development. To assist the Secretary of State has provided the IFCAs with guidance as to how the authority is to perform its duty in order to make such a contribution.

The goal of sustainable development is to enable people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of

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life for future generations. The government is committed to sustainable development and has agreed a set of principles that are the basis for sustainable development in the UK, these have been adapted for the marine area as 'High Level Marine Objectives' and have been adopted by the UK administrations (<http://archive.defra.gov.uk/environment/marine/documents/ourseas-2009update.pdf>)

High level marine objectives: the shared UK principles of sustainable development for the marine environment are as follows;

- Achieving a sustainable marine economy
- Ensuring a strong, healthy and just society
- Living within environmental limits
- Promoting good governance
- Using sound science responsibly

### **1.5.2 Evidence-based marine management**

In order for an IFCA to make the best decisions a consistent approach using best available evidence must be applied and will allow decisions to be clearly articulated to stakeholders. The evidence-based marine management cycle developed by Defra ([http://www.sussex-ifca.gov.uk/repository/2011ifcaguide\\_marinemanagement.pdf](http://www.sussex-ifca.gov.uk/repository/2011ifcaguide_marinemanagement.pdf)) in accordance with section 153 (3) of the Marine and Coastal Access Act 2009, provides a common framework for IFCAs to do this.

It shows how IFCAs can use best practice principles of evidence based decision making in sustainably managing sea fisheries resources.

#### **Evidence-based marine management cycle**

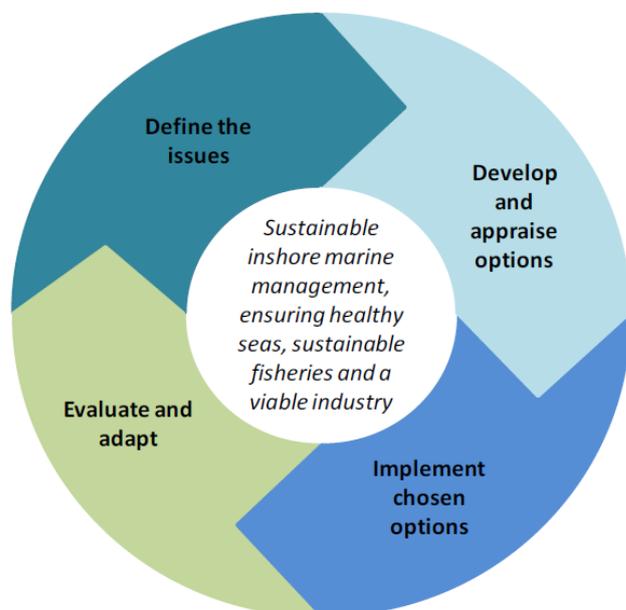


Diagram 1. Evidence-based marine management cycle

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### **1.5.3 The Marine Policy Statement**

As Public Authorities IFCA must have regard to these policy documents when taking other decisions on the management of their Districts.

The Marine Policy Statement is the framework for preparing Marine Plans and taking decisions affecting the marine environment to ensure that marine resources are used in a sustainable way, and thereby;

- Promote sustainable economic development;
- Enable the UK's move towards a low-carbon economy to mitigate the causes and adapt to the effects of climate change and ocean acidification;
- Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems, and protects marine habitats, species and our most important heritage assets;
- Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.

<http://archive.defra.gov.uk/environment/marine/documents/interim2/marine-policy-statement.pdf>

### **1.6 Annual planning and reporting**

IFCAs are required to prepare and publish Annual Plans, setting out their work program for the year and submit Annual Reports which describe the activities. These documents are submitted to the Secretary of State and published widely to communicate the intentions and actions of the Authority. Annual planning is a key part of the evidence-based marine management cycle; to define issues that the IFCA is facing in the coming year, to set out how the IFCA intends to implement any interventions to tackle those issues and to define how they will evaluate if the interventions have worked or not. Annual reports then give an account of that evaluation which in turn informs the next year's annual plan.

One of the key priorities in the Sussex IFCA 2011-2012 Annual Plan was to 'develop a clear approach to planning with strategic and operational plans that reflect the Authorities purpose and duties'. The Sussex IFCA have developed a Management framework detailing the suite of plans to fulfil this; this document is the Annual Research Plan for 2012-2013 and details the research activity that the research team plans to undertake during this financial year.

In conjunction with the Annual Research Plan 2012-2013 the Sussex IFCA is developing a Strategic Research Plan 2012-2015, this longer term strategic vision will also take lead from the framework provided by the Marine and Coastal Access Act 2009 and Defra, and will be used to inform and direct the Annual Research Plans.

### **1.7 How it fits together**

This Annual Research Plan can be understood as the cascade from the vision, through the success criteria as a mechanism to implement the IFCA objectives. This Plan thus will

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be the basis for the establishment of IFCA officer work objectives for the year. The work objectives will be overseen by the IFCA members and regular reports will be submitted to members, through the Authorities quarterly meetings.



## **2.0 RESEARCH RESOURCES & CAPABILITIES**

The Sussex IFCA has a suite of potential resources available to fulfil its research duties, including Sussex IFCA employees and Sussex IFCA owned equipment, but equally as important are the partnerships and collaborations the IFCA has. The potential value in working together to share and utilise the resources of partners and stakeholders should not be underestimated and usually results in a suite of benefits including improvements in the quality of the research, improvements in communication and understanding of the research and subsequent outcomes, increased efficiency per participant and better value for money. It is for these reasons that working together and sharing of resources is considered best-practice.

### **2.1 Sussex IFCA staff**

The Sussex IFCA employs 8 warranted Inshore Fisheries and Conservation Officers (IFCO's) including a Chief Fisheries and Conservation Officer, a Deputy Chief Fisheries and Conservation Officer, a Fisheries and Conservation Compliance Manager, a Fisheries and Conservation Marine Operations Manager, a Fisheries and Conservation Research Manager and 3 Inshore Fisheries and Conservation Officers whom have individual additional responsibilities. Each member of staff has a variety of qualifications, skills and experience in conducting research and where necessary may be available to carry out research work streams. There are also two members of administration staff and a marine technician acting in a support function. The role of students and volunteers in delivering the research is also highly beneficial and often a very efficient way of delivering certain aspects of work, student and voluntary roles are anticipated to increase during 2012-2013.

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## **2.2 Sussex IFCA equipment**

The Sussex IFCA has a variety of equipment which may be utilised for research purposes and experienced staff that are skilled in a range of survey methodologies. These resources include;

- FPV 'Watchful' 18m aluminium patrol vessel MCA coded for working up to 60nm from safe haven with; daughter vessel 'Delta One' (6m RIB), Westerbeke 20KVA single phase generator, 'A' frame for towing equipment astern (safe working load 1 ton), deck winch (1 ton Spencer carter) and Slave Hauler and Davit (1 ton Spencer carter safe working load 750kg)
- Multi-beam Sonar (WASSP) on-board FPV Watchful
- Echo sounder with single beam transducer on-board FPV Watchful
- Transas Multi-Functional Display on-board FPV Watchful
- Olex (v 7.30) on-board FPV Watchful
- FPV Sea Harrier (8m jet RIB) coded for working up to 20nm from safe haven
- 4x4 road vehicle
- Simrad Combi chart plotter, portable GPS and aerial Portable QTC and ADGS (Multibeam Echo sounder and Acoustic Ground Discrimination System)
- Large selection of ropes and cables
- Underwater Bowtech camera and umbilical (for a live video feed)
- Stainless steel sledge (designed for towing Bowtech camera and umbilical)
- Camera frame (1m<sup>2</sup> stainless steel frame for photography or still filming)
- Maplin underwater colour surveillance system (self-contained and portable)
- VideoRay 'scout' Remotely Operated Vehicle (ROV)
- Olympus camera and flash with underwater housing
- Sledge mounted underwater video camera and stills camera with live-feed to ruggedized laptop (self-contained and portable)
- Beach seine (ownership shared with Chichester Harbour Conservancy)
- Grab (10cm<sup>2</sup> clam shell design)
- Digitising/Graphics tablet
- Handheld GPS and Radios
- Digital scales
- Personal Protective Equipment (PPE) including dry suits, waterproof clothing, footwear and lifejackets.

## **2.3 Working with others**

There are often significant benefits in working together and sharing resources with partners and stakeholders. These benefits include; improvements in the quality of the research, improvements in communication and understanding of the research and subsequent outcomes, increased efficiency per participant and better value for money. It is for these reasons that working together and sharing of resources is considered best-practice.

The Sussex IFCA has a good working relationship with many other statutory authorities, including; Environment Agency (EA)\*, Marine Management Organisation (MMO)\*, Natural England (NE)\*, Centre for Environment Fisheries and Aquaculture Science (Cefas)\* and the British Geological Survey (BGS), South Downs National Park Authority

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\* The Sussex IFCA has established Memorandums of Understanding (MOUs) and/or Service Level Agreements with these organisations, the MOUs outline agreed ways of working and sharing information.

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local authorities and fellow IFCAs and Non-government Organisations (NGO's), including; The University of Southampton, The University of Sussex, local Wildlife Trusts, Sussex Seasearch, Wessex Archaeology, Shellfish Association of Great Britain (SAGB), Channel Coastal Observatory (CCO), Chichester Harbour Conservancy (CHC) and local fishermen's associations.

The Sussex IFCA is committed to seeking collaboration with partners to achieve shared objectives, this includes working with partners to contribute, efficiently, to statutory duties including making contributions to the implementation of the Water Framework Directive, WFD ([http://ec.europa.eu/environment/water/water-framework/index\\_en.html](http://ec.europa.eu/environment/water/water-framework/index_en.html)), Marine Strategy Framework Directive, MSFD ([http://ec.europa.eu/environment/water/marine/directive\\_en.htm](http://ec.europa.eu/environment/water/marine/directive_en.htm)) and the Habitats Directive ([http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm)) as well as supporting the implementation of Marine Spatial Planning.

The IFCA Technical Advisory Group (TAG) was established to promote the collaboration of statutory authorities whom have an interest in fisheries management, members of the group include, IFCAs, Welsh Government, Crown dependencies in the British Isles (Jersey, Guernsey and the Isle of Man), Defra, MMO, NE, EA and Cefas. The aims of the group are a) to improve the quality and extent of fisheries management information through better coordination and dissemination of fisheries related scientific research and b) to define and apply best practice relating to the scientific & technical functions and responsibilities of IFCAs. The group meets bi-annually and a web-based Community of Practice has been established to support communication and information sharing amongst the group. The Sussex IFCA helped establish this group and has benefited from participation in several regional and national research projects.

Working with others is bilateral, it considers 'what can others do for us' and 'what can we do for others'. The Sussex IFCA has an admirable breadth of expertise and equipment and an excellent reputation in the provision of research support for fellow organisations with interests in the marine environment. Sussex IFCA is keen to continue to seek opportunities to provide our resources for relevant external research as there are many benefits; contribution towards achieving the Sussex IFCA objectives, a source of additional funding, provision of new equipment, knowledge transfer and personnel development.

Attendance at conferences and national workshops are also valuable opportunities to increase the knowledge and experience of IFC Officers and a presence at such events promotes national awareness of IFCAs and their role in management of the marine environment.

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### **3.0 FOCUS AND PRIORITIES OF THE YEAR 2012-2013**

With the guidance of members and with regards the main duties of the IFCA's 3 key themes have been established for the focus of IFCA research in 2012-2013, these are; Sustainable exploitation of fish stocks, Ecosystem interactions and Socio-economics. Within each theme are a number of activities.

Table 1: A summary of the Sussex IFCA research themes and activities for 2012-2013

	<b>Theme 1 Sustainable Exploitation of Fish Stocks</b>	<b>Theme 2 Ecosystem Interactions</b>	<b>Theme 3 Socio-economics</b>
<b>Activity 1</b>	Analysis of Available Data to Conduct Stock Assessments	Habitats	Analysis of National Landing Value Records
<b>Activity 2</b>	Analysis of National Catch Records	Fishing Activity	Identification and Analysis of Third Party Economic records
<b>Activity 3</b>	Identification and Analysis of Third Party Stock Data/Research	Endangered Threatened & Protected species (ETPs)	The Value of Recreational Fishing Activities
<b>Activity 4</b>	Analysis of Available Species Biology Information	Bycatch	Archaeology and the Historic Marine Environment
<b>Activity 5</b>		Marine Protected Areas (MPAs)	
<b>Activity 6</b>		Bait Collection	
<b>Activity 7</b>		Small Fish Monitoring	

The Sussex IFCA is currently engaged in a variety of existing and proposed research projects which will contribute to one or several activities, details of relevant projects for each activity are described in further detail below.

### **3.1 RESEARCH THEME 1: Sustainable Exploitation of Fish Stocks**

The purpose of this research theme is to provide the evidence base which will help inform future management decisions in relation to the sustainable exploitation of fish stocks. The long term desired outcome would be to have a stock assessment, harvest strategy and harvest control rule information for each stock. A framework for the

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collation of this data has been developed (Annex 1). Research will develop an evidence base to enable the establishment of overall objectives for key fisheries in the IFCA District. This research will entail gathering available information and conducting an initial analysis and estimation of data needs and where necessary the identification of appropriate reference points. In 2012 work will continue to identify the current strengths and weaknesses in the existing management framework and so informing a review of the regulatory framework and supporting a risk based approach to management.

### **3.1.1 Activity 1.1: Analysis of Available Data to Conduct Stock Assessments**

Identify the key fish and shellfish resources in the Sussex marine environment; these species will be identified using the Risk Based Enforcement Framework approach under guidance of the members of the authority and through engagement with the wider community with an interest in the Sussex marine environment.

The Sussex SFC Navigating the Future Inshore Fisheries Sustainability Pilot project and the Sussex IFCA Baseline Fisheries Information will make a significant contribution to this activity.

#### **ACTION**

For each identified resource we will conduct a gap analysis of the stock information to (where required) identify the species for which stock information is insufficient to conduct a stock assessment and where data deficiencies exist develop appropriate and proportionate research projects to fulfil the deficits.

#### **PARTNERSHIPS**

Leader: IFCA. Partners: To be identified.

### **Project Activity 1.1a: Sea Angling 2012 – Recreational catches**

Sea Angling 2012 (<http://www.marinemanagement.org.uk/seaangling/>) is a government-sponsored project to provide data on recreational sea angling that can help improve the scientific understanding of fish stocks off our coast, as well as ensuring that the needs of sea angling can be represented as effectively as possible in future marine policy development. The project will look at how to provide the most cost-effective information on; the number of people who go sea angling during the year; how often they fish from the shore or from boats in different parts of England; numbers and sizes of fish caught or released to the sea and; the social and economic importance of sea angling in England.

Anglers will be interviewed during or after fishing to record their catch rates (kept and released) and the sizes of fish caught. The areas of coastline covered by the survey will be divided up according to local knowledge of the typical amount of angling. Surveys will cover all days of the week and different times of day. In conjunction with recording catch rates the surveyors will also be asking some simple economic questions (see theme 3, activity 3.3). Additionally Cefas will carry out an online survey for anglers to record more detailed information on their activities, catches and expenditure and will lead on a detailed study of the economic value and social benefits of recreational sea angling.

#### **ACTION**

To conduct surveys of anglers fishing from the shore and from private or rental boats throughout 2012 as part of the Sea Angling 2012 project.

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To promote engagement between the Sea Angling 2012 project and sea anglers in Sussex.

To support the Sea Angling 2012 project through membership on the SA2012 steering group and the TAG.

**PARTNERSHIPS**

Leader: Defra/Cefas. Partners: IFCAs, MMO and the Office of National Statistics.

**3.1.2 Activity 1.2: Analysis of National Catch Records**

The Marine Management Organisation (MMO) administers the UK commercial fisheries Registration of Buyers and Sellers scheme (RBS). This scheme records the landings of fish by species, weight, fishing method, location (ICES sub-area), port and first sale value of all fish and shellfish landed by commercial UK fishing vessels. The MMO also gathers some shellfish catch data through the monthly 'shellfish returns' reporting scheme.

**ACTION**

We will gather and exchange information with the MMO to inform (where necessary and appropriate) stock assessments.

We shall seek to support our partners in the collection of this data.

**PARTNERSHIPS**

Leader: IFCA. Partners: MMO.

**3.1.3 Activity 1.3: Identification and Analysis of Third Party Stock Data / Research**

If 'information gaps' on stocks are identified we will seek to fill these gaps with data and information that has already been conducted by partners. There are numerous potential sources of third party information including; individual fishers records, traders records, processors records, marine developers data and research (e.g. aggregate extraction or renewable energy companies), charities, conservation agencies, fellow IFCA's and Cefas. This search for existing stock data can be conducted in conjunction with the search for socio-economic data (theme 3, activity 2).

**ACTION**

Seek out where third party data/research exists that is relevant to conducting the stock assessments as identified in theme 1 activity 1.

**PARTNERSHIPS**

Leader: IFCA. Partners: To be identified.

**Project Activity 1.3a: Chichester Harbour Oyster Partnership Initiative - CHOI**

In February 2010, using the principles of a 'Community of Practice' the Chichester Harbour Oyster Partnership Initiative was established, the commonality amongst the members being an interest in the Chichester Harbour Oyster population. The members include; local fishers, Sussex IFCA, Southern IFCA, Chichester Harbour Conservancy, and Natural England with further support from Southampton NOC, Cefas and the local Environmental Health teams (Chichester District Council and Havant Borough Council).

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The primary purpose of the group is to promote the long term sustainability of the oyster population in Chichester Harbour. So far the group have worked together to create three broodstock areas, established a monitoring programme of CPUE monthly and length frequency quarterly and are now in the process of developing a fisheries and conservation management plan.

**ACTION**

To continue to support the CHOPI partnership towards the development of a co-management plan.

To provide resources and secretariat services to the group.

To promote the partnership as an exemplar of co-decision making.

**PARTNERSHIPS**

Leader: IFCA. Partners: CHOPI members, SAGB.

**3.1.4 Activity 1.4: Analysis of Available Species Biology Information**

In order to effectively manage the exploitation of a species it is vital to understand their lifecycle and behaviour. For many traditional commercially exploited species this has been well studied and there is a wealth of scientific information but where this does not exist or is not site specific, it will be necessary for the Sussex IFCA to advocate research to provide the evidence necessary to make sound management decisions.

**ACTION**

To gather data on the life history of key existing and potential marine resources in the Sussex Marine Environment.

**PARTNERSHIPS**

Leader: IFCA. Partners: To be identified.

**Project Activity 1.4a: Sussex Whelk Project**

Since 2009, the Sussex IFCA have been facilitating stakeholder engagement with the whelk fishing industry through 'Whelk Summit' meetings and collaborating with Cefas to investigate the population structure of whelks in Sussex through an extended Fisheries Science Partnership (FSP) project. Many industry stakeholders have raised concerns regarding increasing fishing effort on the whelk stocks and are keen to have regulations and monitoring put in place to ensure the fishery is being exploited in a sustainable manner. The knowledge and information from the collaborative research is being communicated to industry and the results of this stakeholder engagement will inform the development of a Sussex whelk fishery management plan which will feed into any subsequent byelaw reviews.

**ACTION**

To support the continued collection of biological data on this stock.

To contribute to a national whelk biology project.

To support the development of a whelk management plan through the provision of evidence.

**PARTNERSHIPS**

Leader: Sussex IFCA. Partners: Cefas and the Whelk Fishing Industry.

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### **Project Activity 1.4b: Sussex Whelk Project: Research into Technical Measures**

Recent studies on the reproductive biology of whelks in the English Channel show that the size at which whelks become sexually mature is above the Minimum Landing Size (MLS) and that the current legislation does little to protect the sustainability of the spawning stock. A number of potential policy changes are under consideration, including increasing the MLS, but also the requirement for better selectivity in both fishing gears and on-board sorting devices. The primary objective of this research is therefore to determine the efficacy of two methods for reducing the numbers of undersized whelks in commercial landings. The first objective will look at the effectiveness of incorporating various sizes and numbers of escape holes in commercial traps and the second objective will determine the selectivity of various on-board sorting devices (riddles).

#### **ACTION**

To test the efficacy of two methods (riddles and pot escape holes) designed to reduce the numbers of undersized whelks in commercial landings.

#### **PARTNERSHIPS**

Leader: Cefas. Partners: Sussex IFCA, Kent and Essex IFCA and the Whelk Fishing Industry.

### **3.2 RESEARCH THEME 2: Ecosystem Interactions**

An ecosystem is the physical and biological environment in an area and research in the area of ecosystem interactions considers how these factors are influenced by each other and how they are affected by natural changes or human/anthropogenic actions. The purpose of this research theme is to provide the evidence base which will inform future management decisions on how anthropogenic interactions are affecting the ecosystem in which marine resources live. The desired outcome is to understand, and where possible to mitigate or reduce any undesirable effects on the wider physical or biological environment that are caused by anthropogenic interactions with the marine ecosystem. Ecosystem interactions is the largest and most diverse of the three research themes within which seven fundamental activities have been identified i.e. Habitats, Fishing Activity, Endangered Threatened and Protected Species, Bycatch, Marine Protected Areas, Bait Collection and Small Fish Monitoring. This research theme is will focus upon the provision of evidence to the support duties under 154 of the Marine and Coastal Access Act, 2009 and to further the objectives of duties and partnerships to secure effective implementation of the Habitats Directive, Marine Strategy Framework Directive and the Water Framework Directive and in so doing seek to contribute to the sustainable development of the marine resource.

#### **3.2.1 Activity 2.1: Habitats**

Knowledge of habitat types and the distribution of those habitats is a major component necessary to develop our knowledge of ecosystem interactions. Some information already exists as a result of previous collaborative projects conducted through the Marine Aggregate Levy Sustainability Fund (MALSF); Habitat Classification Using Video and Acoustic Techniques (MAL0020), The South Coast Regional Environmental Characterisation and the extension, MALSF Synthesis Study Regional Environmental Characterisation in the Central and Eastern English Channel (MEPF 08/02) <http://www.cefas.defra.gov.uk/alsf/projects/rec-projects.aspx> The aim of this activity is

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to continue to develop our knowledge of marine habitats in Sussex at a spatial scale and to develop the capacity to create marine habitat maps.

**ACTION**

To continue to develop our knowledge of marine habitats in Sussex at a spatial scale and to develop the capacity to create marine habitat maps.

**PARTNERSHIPS**

Leader: IFCA. Partners: To be identified.

**Project Activity 2.1a: The use of multi-beam data acquired from vessels of opportunity to develop habitat maps**

**ACTION**

To gather and use data derived from multi-beam sonar, acquired from vessels of opportunity, to develop maps of the benthic habitats in Sussex Coastal waters

To gather, analyse and interpret multi-beam data acquired from a WASSP system aboard FPV Watchful.

**PARTNERSHIPS**

Leader: Sussex IFCA. Partners: Southampton University.

**Project Activity 2.1b: Adur and Ouse Pilot Project - Habitats**

To provide a description and characterisation of the marine environment in the Adur and Ouse coastal water body by creating, using established and appropriate techniques, a high resolution benthic habitat map from best available evidence and through expert interpretation.

**ACTION**

To lead the Adur Ouse Pilot Catchment project, and contribute to the implementation of the Water Framework Directive in Sussex Transitional and Coastal Waters.

To provide a habitat map of the near shore waters off Sussex

To report on the fisheries in the near shore waters off Sussex.

**PARTNERSHIPS**

Leader: Sussex IFCA. Partners: Environment Agency, Channel Coast Observatory, South Downs National Park and Sussex Wildlife Trust.

**Project Activity 2.1c: Sussex Seasearch**

To support the continued collection of data by the Sussex Seasearch project. Sussex Seasearch is part of a national Seasearch project for volunteer sports divers who have an interest in what they're seeing under water, want to learn more and want to help protect the marine environment around the coasts of Britain and Ireland. The main aim is to map the various types of sea bed found in the near-shore zone around the whole of the Britain and Ireland. In addition we are recording what lives in each area, identifying the richest sites for marine life, the degraded sites and the sites which need protection.

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#### ACTION

To contribute to the steering group of the Sussex Seasearch project and support the collection of habitat data through that group.

#### PARTNERSHIPS

Leader: Sussex Seasearch. Partners: Sussex IFCA.

### **3.2.2 Activity 2.2: Fishing Activity**

To understand the interactions of fishing activities with the marine environment it is necessary to have knowledge of what types of fishing methods are being used, when and where. Therefore it is essential to continue to develop our knowledge and to monitor fishing activity in Sussex at a spatial scale. During sea patrols the Sussex IFCA patrol vessels keep a Fishing Activity Sightings Log which records the vessel name, location (latitude and longitude) and fishing method for all vessels that are sighted with the capacity to engage in fishing and are continuously adding to our knowledge of the spatial extent of fishing activity within the marine environment. Furthermore the Sussex IFCA contributes to, and has admission to, the UK Fisheries Monitoring and Surveillance System (MCSS); a database which encompasses the UK reporting of sightings of vessels, whether by fisheries patrol aircraft, fisheries patrol vessels, or in-port inspectors, and position reports from vessels reported via Satellite Transponders. The MCSS system is governed by the MMO.

#### ACTION

To continue to develop and keep our knowledge of fishing activity up to date by monitoring fishing activity in Sussex at a spatial scale.

We will gather and exchange information with the MMO so as to unite our knowledge of fishing activity and will continue to support the MMO in the collection of this data.

#### PARTNERSHIPS

Leader: IFCA. Partners: MMO.

### **Project Activity 2.2a: Continued Development of National Inshore Fisheries Data Layer**

Previous collaborations with Cefas to collate the fishing vessel sightings data has resulted in the development of a series of national data layers illustrating the distribution and intensity of inshore fishing activities and has provided national standards for the recording of such data. It is important that this collaborative work continues and as the data set grows temporal changes in the location and intensity of fishing activities can be explored. This research will also work towards developing the *Zone of Influence* concept which defines the spatial extent of fishing activities around coastal ports.

#### ACTION

To contribute to the continuation of the National Inshore Fisheries Data Layer.

#### PARTNERSHIPS

Leader: Cefas. Partners: IFCAs.

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### **Project Activity 2.2b: Adur and Ouse Pilot Project - Fishing Activity**

Gather available datasets on the uses of, and potential pressures on, the marine environment within the Adur and Ouse Pilot area, including information on the spatial distribution, value and physical impacts of sea fishing.

#### **ACTION**

To lead the Adur Ouse Pilot Catchment project, and contribute to the implementation of the Water Framework Directive in Sussex Transitional and Coastal Waters.

To report on the fisheries in the nearshore waters off Sussex.

#### **PARTNERSHIPS**

Leader: Sussex IFCA. Partners: Environment Agency and Sussex Wildlife Trust.

### **3.2.3 Activity 2.3: Endangered, Threatened and Protected Species (ETPs)**

In accordance with our duties we will work with our partners to identify species which are identified as Features of Conservation Interest, and/or which are protected by law.

#### **ACTION**

To support the collection of further data within areas recommended as Marine Conservation Zones.

To establish recording mechanisms for the collection of data on protected species.

#### **PARTNERSHIPS**

Leader: Natural England. Partners: Defra/Cefas.

### **3.2.4 Activity 2.4: Bycatch**

Bycatch is the term commonly used to describe marine organisms that are not targeted and/or unintentionally caught during the act of fishing. Bycatch most commonly consists of undesirable fish species e.g. those of little commercial value and/or an individual's of an undesirable size of the target species e.g. below the minimum legal size. In order to assess if a fishing activity is sustainable it is necessary to understand the effect of that fishing activity on the non-target species and on the juveniles of the target species. The Sussex IFCA will remain mindful of the ongoing Common Fisheries Policy reform when gathering evidence which may inform local management decisions.

#### **ACTION**

To work with the compliance manager and fishing community to identify areas where fisheries bycatch occurs of the Sussex Coast and report on findings with recommendations.

#### **PARTNERSHIPS**

Leader: Sussex IFCA. Partners: Fishing community, Cefas.

### **3.2.5 Activity 2.5: Marine Protected Areas (MPAs)**

Marine Protected Area (MPA) is a generic term for a marine area where it may be necessary to have restrictions on human activity in the interest of conservation. There are many different types of MPAs according to how, why and by whom they were

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designated and range from a Local Nature Reserves to a European Marine Sites. The Sussex IFCA district contains a suite of different MPAs and in the Marine and Coastal Access Act 2009, the UK government committed to expand these into a network by creating a series of new MPAs called Marine Conservation Zones (MCZs). Sussex IFCA was engaged with the Balanced Seas local and regional groups who were responsible for recommending MCZs to government (<http://www.balancedseas.org/>).

The Marine and Access Act 2009 s154 (1) states *'The authority for an IFC district must seek to ensure that the conservation objectives of any MCZ in the district are furthered and it is a high level objective of the IFCAs to demonstrate minimum standards and a precautionary approach has been adopted for the management and protection of designated marine protection areas'*.

#### ACTION

To further the duties of IFCA with regards to sustainable management within Marine Protected Areas.

#### PARTNERSHIPS

Leader: Sussex IFCA. Partners: To be identified.

### **Project Activity 2.5a: Adur and Ouse Pilot Project – MPAs**

The aims of the Adur and Ouse Pilot project relevant to MPAs are as follows;  
Provide a description of the existing and proposed Marine Protected Areas (MPAs) within the Adur and Ouse coastal water body and describe aspects of the local fisheries management arrangements.

Describe the current process of classifying the status of coastal water bodies for the purpose of the Water Framework Directive (WFD)

Describe the available WFD tools and techniques for assessing ecological status of the marine environment

Consider the capacity of the wider marine community (including IFCAs, Anglers, the fishing industry, NGOs) to provide evidence to support the identification of the status and pressures on the marine environment.

To undertake an analysis of the strengths, weaknesses and opportunities in the capacity of wider involvement in WFD monitoring.

#### ACTION

To lead the Adur Ouse Pilot Catchment project, and contribute to the implementation of the Water Framework Directive in Sussex Transitional and Coastal Waters.

#### PARTNERSHIPS

Leader: Sussex IFCA. Partners: Environment Agency.

### **Project Activity 2.5b: Protected Area Network Across the Channel – PANACHE; MPA Interreg Project**

Interreg is an initiative that aims to stimulate cooperation between regions in the European Union. If this project application is successful, it will build much closer co-operation between English and French government agencies, scientific institutions, private enterprises and voluntary organisations in MPA management, monitoring and public awareness and engagement. The project proposal addresses Priority 4 of the

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France-Manche INTERREG IV programme and supports the Gothenburg agenda in assuring sustainable development of the shared programme area. The proposal involves five technical work packages that are closely linked and complementary i.e. the ecological coherence of MPAs, more coherent and efficient MPA monitoring, more coherent and efficient MPA management, engaging stakeholders in MPAs and MPA data sharing.

#### **ACTION**

To provide valuable contributions towards the projects following actions; The parameters for ecological coherence; Consistent and comparable MPA monitoring in the Channel; MPA monitoring trials; Development of a flexible management framework; Effective compliance, enforcement and stakeholder management; Management measures and success indicators for cetaceans; Public awareness of MPAs and; Ecological mapping.

#### **PARTNERSHIPS**

Leader: Agence des Aires Marines Protégées (French Marine Protected Areas Agency). Partners: Agence des aires marines protégées (French Marine Protected Areas Agency), Directions Interrégionales de la mer (DIRM, French Interregional Directions of the Sea), Cornwall Wildlife Trust, Hampshire and Isle of Wight Wildlife Trust, Intitut français de recherche pour l'exploitation de la mer Boulogne (IFREMER, French Research Institute for Exploration of the Sea), Nausicaa, Porte de Dunkerque, WWF-UK, Dorset Wildlife Trust, Kent Wildlife Trust, Marine Institute and the Royal Society for the Protection of Birds (RSPB).

### **3.2.6 Activity 2.6: Bait Collection**

Under the Marine and Coastal Access Act 2009 s153, 'bait' became classed as a 'sea fisheries resource' and as such falls under the remit of the IFCAs to ensure any exploitation is sustainable. In addition there are several suggested habitat impacts which results from bait collection including changing the physical characteristics of the sediment and the impact on wading and over-wintering bird populations. Particular attention must be given to areas of bait collection within MPAs to ensure this activity does not pose a risk to the conservation objective of the MPA.

#### **ACTION**

Seek to collaborate with Southern IFCA on the collection of data on the location of bait collection activity.

#### **PARTNERSHIPS**

Leader: Sussex IFCA Partners: Southern IFCA, Solent Forum and Chichester Harbour Conservancy.

### **3.2.7 Activity 2.7: Small Fish Monitoring**

The monitoring of small fish (fish species which are small and juveniles of larger species) is important in order to develop a time series of relative abundance. This monitoring is commonly conducted in the near shore habitats, areas which are commonly utilised by juvenile fish as nursery grounds. The information collected has many applications e.g. to monitor abundance over time, to investigate responses to specific events or to investigate the growth rate of a species. In order to ensure a consistent approach for competent authorities monitoring small fish the IFCA TAG formulated the Small Fish

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Work Group (SFWG) with the assignment to develop a Standard Operating Procedure (SOP) for Surveying Small Fish. In utilising a standardised approach local surveys become relevant and applicable at a local, national and international scale.

**ACTION**

To continue to engage and make advancements in understanding the best approach to monitor small fish and to apply this guidance in Sussex.

**PARTNERSHIPS**

Leader: Sussex IFCA. Partners: TAG, IFCAs, Environment Agency, Cefas and Chichester Harbour Conservancy.

**Project Activity 2.7a: Developing national SOPs for small fish monitoring**

To continue to engage with the small fish working group to develop standardised operating procedures for small fish monitoring

**ACTION**

To engage in further development the Small Fish Sampling Standard Operating Procedure.

**PARTNERSHIPS**

Leader: TAG. Partners: IFCAs, Environment Agency and Cefas.

**Project Activity 2.7b: Bi-annual Small Fish Survey**

Bi-annual surveys of the small fish populations in Chichester Harbour are conducted by the Sussex IFCA in collaboration with Chichester Harbour Conservancy using the SFWG SOP. The information collected fulfils the aims of the Sussex IFCA and Chichester Harbour Conservancy to monitor relative abundance of small fish over time within the European Marine Site and is compliant with the Water Framework Directive monitoring scheme which is managed by the EA and the juvenile bass monitoring scheme managed by Cefas.

**ACTION**

To conduct a biannual survey of small fish in the Sussex IFCA District.

To provide data to Environment Agency and Cefas to support their monitoring programmes.

**PARTNERSHIPS**

Leaders: Sussex IFCA and Chichester Harbour Conservancy. Partners: Environment Agency and Cefas.

**Project Activity 2.7c: Young Fish Survey Feasibility Study**

Between 1981 and 2010 the Centre for Environment Fisheries and Aquaculture Science (Cefas) undertook young fish surveys (YFS) each year at fixed stations around the south and east UK coast. Analysis of the time-series showed that the abundance of some species of small fish has changed systematically over time, a key result being the abundance of cold-adapted species in the North Sea has declined, and that these species appear to have shifted their distribution northwards. In addition some warm-adapted

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species appear to be on the increase. The YFS was terminated in 2010 as part of a rationalisation of scientific surveys undertaken by Cefas, so future monitoring of changes in the inshore fish community will not be possible unless an alternative survey can be designed. A feasibility study between the IFCA TAG/Small Fish Working Group and Cefas is proposed to investigate how IFCAs are currently monitoring the inshore fish communities, how they may do this in the future and how this may contribute towards the long-term monitoring of the communities in these areas.

#### ACTION

To engage and support the YFS feasibility study.

#### PARTNERSHIPS

Leaders: IFCA TAG Small Fish Working Group and Cefas. Partners: all IFCAs, EA.

### **3.3 RESEARCH THEME 3: Socio-Economics**

Socio-economics can be broadly defined as. the use of economics in the study of society, is a crucial consideration in developing sustainable management of the marine environment. The Marine and Coastal Access Act 2009 s153 which establishes the main duties of the IFCA's states that in performing its duty the authority must; *'seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation; take any other steps which in the authority's opinion are necessary or expedient for the purpose of making a contribution to the achievement of sustainable development and; seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district.* Within the IFCAs duty to make a contribution towards Sustainable Development the high level objectives include: *Achieving a sustainable marine economy and; ensuring a strong, healthy and just society.*

#### **3.3.1 Activity 3.1: Analysis of National Landing Value Records**

The Marine Management Organisation (MMO) administers the UK commercial fisheries Registration of Buyers and Sellers scheme (RBS). This scheme records the landings of fish by species, weight, fishing method, location (ICES sub-area), port and first sale value of all fish and shellfish landed by commercial UK fishing vessels. Routine data gathering and exchange of information with the MMO is important to ensure this national information is integrated when considering the socio-economics in the Sussex marine environment. In addition, Seafish, a pan-industry body which works to promote good quality, sustainable seafood with research and projects aimed at raising standards, improving efficiency and ensuring that the industry develops in a viable way have been producing economic reports for the fishing industry for many years. In 2011, Seafish founded the UK Fisheries Economic Network (UKFEN) (<http://www.seafish.org/about-seafish/ukfen-%E2%80%93-uk-fisheries-economics-network>), a network for economists and analysts working in connection with the fishing and seafood industries. The Sussex IFCA already have a good relationship with UKFEN, this is likely to develop further in the future.

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#### ACTION

We will gather and exchange information with the MMO and Seafish/UKFEN to analyse national landings data when investigating socio-economics.

We shall seek to support our partners in the collection of this data.

#### PARTNERSHIPS

Leader: Sussex IFCA. Partners: MMO and Seafish/UKFEN.

### **3.3.2 Activity 3.2: Identification and Analysis of Third Party Economic Records**

Seek where third party data/research exists that is relevant to increasing our knowledge on the socio-economic value of the Sussex marine environment. If 'information gaps' can be filled by using data/research that has already been conducted the process of conducting stock assessments will be quicker and more efficient. It will prevent a misuse of resources duplicating such work. There are numerous potential sources of third party information including; individual fishers records, traders records, processors records, marine developers data and research (e.g. aggregate extraction or renewable energy companies), charities, conservation agencies, fellow IFCA's and Cefas. This search for existing socio-economic data can be conducted in conjunction with the search for stock data (theme 1, activity 3).

#### ACTION

To seek where third party data/research exists and examine what is relevant to increasing our knowledge on the socio-economic value of the Sussex marine environment.

#### PARTNERSHIPS

Leader: Sussex IFCA. Partners: To be identified.

### **3.3.3 Activity 3.3: The Value of Recreational Fishing Activities**

In 2003 the Economics and Statistics Group of Defra commissioned Drew Associates to conduct a research study on the economic contribution of sea angling to the UK<sup>†</sup>. Consumer surplus benefits from sea angling were found to be considerable; consumer surplus (mean value) on existing annual sea angling activity varied from £381 per shore angler to £886 per own boat angler. When aggregated over sea fishing trips for the whole country, the annual aggregate net benefit based on the mean consumer surplus estimates was £594 million<sup>†</sup>. Most anglers are male (96.7%) and had been fishing for 25.7 years on average. Anglers catch, on average, between 5 (shore anglers) and 13 (boat anglers) fish per trip and retain 32-39% of their catch<sup>†</sup>.

#### ACTION

To gather further information on the value of Sea Angling in Sussex.

#### PARTNERSHIPS

Leader: Sussex IFCA. Partners: Defra/Cefas and the local Sea Angling Community.

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<sup>†</sup> Drew Associates. 2004. Research into the economic contribution of sea angling. Commissioned by Defra.

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### **Project Activity 3.3a: Sea Angling 2012 – Socio-economics**

Sea Angling 2012 is a government-sponsored project to provide data on recreational sea angling that can help improve the scientific understanding of fish stocks off our coast, as well as ensuring that the needs of sea angling can be represented as effectively as possible in future marine policy development. The project aims to gather information on angling activity in the UK including information on '*the social and economic importance of sea angling in England*'. IFCA's in collaboration with Cefas will be conducting surveys of anglers fishing from the shore and from private or rental boats throughout 2012 (see theme 1, activity 1a). In conjunction with recording catch rates the surveyors will also be asking some simple economic questions for example how far have you travelled and by what mode of transport and have you spent anything on fishing consumables today e.g. bait or fishing equipment. Additionally Cefas will carry out an online survey for anglers to record more detailed information on their activities, catches and expenditure and will lead on a detailed study of the economic value and social benefits of recreational sea angling. This work (to be carried out by an independent contractor), will obtain regional and national information on expenditure by individual anglers, the economic value of activities dependent on sea angling such as tourism and tackle shops, and other statistics such as employment related to sea angling.

#### **ACTION**

To conduct surveys of anglers fishing from the shore and from private or rental boats throughout 2012 as part of The Sea Angling 2012 project.

To support the Sea Angling 2012 project through membership on the projects steering group.

#### **PARTNERSHIPS**

Leader: Defra/Cefas. Partners: IFCA's, MMO and the Office of National Statistics.

### **3.3.4 Activity 3.4: Archaeology and the Historic Marine Environment**

The seas around the UK contain an immense wealth of archaeological sites and ranges from extensive submerged landscapes (relating to the period when Britain became divorced from mainland Europe during the early-prehistoric period), to physical remains from anthropogenic interactions. It is not uncommon for users of the marine environment to discover artefacts and it is responsible for the IFCA's to play a role and engage in marine archaeology.

#### **ACTION**

To engage in marine archaeology initiatives (where appropriate) in Sussex.

#### **PARTNERSHIPS**

Leader: Sussex IFCA. Partners: To be identified.

### **Project Activity 3.4a: Finds Protocol**

The Sussex IFCA is collaborating with Wessex Archaeology to develop a protocol for users of the marine environment who find archaeological objects. Wessex Archaeology is both a limited company and a registered charity with the objective 'to promote the education of the public in the subjects of arts, culture, heritage & science through the pursuit of archaeology'. The aims of the Finds Protocol are to; contribute to the understanding and sustainable management of the historic environment and; provide a

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facility for people working in the fishing industry to report their archaeological discoveries to the relevant authority in a manner that is convenient, effective and engaging.

**ACTION**

To support the development of a Finds Protocol.

To advise and where feasible support communicating the Finds Protocol to members of the fishing industry.

**PARTNERSHIPS**

Leader: Wessex Archaeology. Partners: Sussex IFCA.

### **3.4 AUXILIARY ACTIVITIES**

In such a small organisation it is necessary for the research team to be flexible and utilise their range of skills to provide support and assistance in areas of work outside of the research teams' core role for example; website development and public relations and in auxiliary research activities for example; a data strategy and compliance with fisheries regulations.

#### **3.4.1 Activity 4.1: Data Strategy**

Good data management has a crucial role to play in the success of achieving the Research themes and activities. One of the Success Criteria of the IFCA is 'IFCAs make the best use of evidence to deliver their objectives' and a high level objective is to conduct 'Partnership working and the sharing of mutually beneficial information to improve efficiency and the delivery of beneficial outcomes'. Data sharing will fulfil aspects of several research activities and it is imperative that we share our data with others too.

**ACTION**

To adopt good practices of information storage and sharing.

**PARTNERSHIPS**

Leader: Sussex IFCA. Partners: MEDIN and IFCAs.

#### **Project Activity 4.1a: Marine Environmental Data & Information Network - MEDIN**

The IFCA Technical Advisory Group (TAG) has been collaborating with the Marine Environmental Data & Information Network (MEDIN) to examine ways of sharing IFCA meta-data (the data about the data) with the others. MEDIN is an important component to the UKs contribution to INSPIRE (Infrastructure for Spatial Information in Europe) and the Location Strategy; the basis for delivering the UKs obligations under INSPIRE. <http://location.defra.gov.uk/>

**ACTION**

To continue engagement with MEDIN through the TAG to promote the development of IFCA data sharing.

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## PARTNERSHIPS

Leader: MEDIN. Partners: IFCAs.

### **4. FUNDING**

As described in the Research Themes and Activities above, 'research' can take many forms from practical fieldwork to seeking out and collating existing information. The Sussex IFCA will endeavour to fulfil each research priority in the most cost-effective manner, including working with partner organisations to increase efficiency and share resources and seeking out externally funded projects which align with our Research Themes. The Sussex IFCA has created a Research Budget of £5,000 for 2012-2013, and we anticipate this to be significantly boosted by external funding sources. There are a wide range of potential external funding sources for Research and Development (R&D) at local, national and international levels. The Sussex IFCA will continue to seek additional funding for research and development wherever it is suitable and applicable to do so.

The projected income and expenditure for existing and proposed projects for this financial year is outlined in table 2. Where income or expenditure is projected to exceed £5,000 a financial impact assessment report is presented to the IFCA Finance subcommittee.

Table 2: Projected income and expenditure for projects in 2012-2013

<b>Project Activity</b>	<b>Activity no.</b>	<b>Timeline</b>	<b>Projected Income</b>	<b>Projected Expenditure (excluding IFCA staff costs)</b>
Sea Angling 2012	1.1a 3.3a	Aug 11-Dec12	~£16,000	Ongoing
Chichester Harbour Oyster Partnership Initiative (CHOPI) <sup>‡</sup>	1.3a	Feb 10 - ongoing	not applicable	not applicable
Sussex Whelk Project	1.4a	Fieldwork conducted in past financial yr	previous financial year	previous financial year
Sussex Whelk Project: Research into Technical Measures	1.4b	Apr-12-Dec12	To be confirmed	To be confirmed
The use of multi-beam data acquired from vessels of opportunity to develop habitat maps	2.1a	Ongoing	none	none
Adur and Ouse Pilot Project	2.1b 2.2b 2.5a	Dec 11-May12	£45,000	£22,500
Sussex Seasearch	2.1c	Ongoing	none	none
Continued Development of National Inshore Fisheries Data Layer	2.2a	Apr12-Apr13	£2,000	none
Protected Area Network Across the Channel (PANACHE)	2.5b	Jul 11 – Jun 15	€ 15,348.26	none
Developing national SOPs for small fish monitoring	2.7a	Ongoing	none	none
Bi-annual Small Fish Survey	2.7b	Ongoing	none	<£1,000
Young Fish Survey Feasibility Study	2.7c	Feasibility study in proposal phase	To be confirmed	To be confirmed
Finds Protocol	3.4a	Ongoing	none	none
Marine Environmental Data & Information Network (MEDIN)	4.1a	Ongoing	£153.87	none

<sup>‡</sup> Restricted fund. The Sussex IFCA acts as the secretariat for the Chichester Harbour Oyster Partnership Initiative and does not have right of access to surplus funds.

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## **GLOSSARY OF TERMS**

AIFCA	Association of Inshore Fisheries and Conservation Authorities
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CHC	Chichester Harbour Conservancy
Defra	Department of Environment, Food and rural Affairs
EA	Environment Agency
EMS	European Marine Site
FPV	Fishery Patrol vessel
FO	Fishery Officer
HLO	High Level Objective
HR	Human Resources
IFCA	Inshore Fisheries and Conservation Authority
IFCO	Inshore Fisheries and Conservation Officer
INSPIRE	Infrastructure for Spatial Information in Europe
MaCCA	Marine and Coastal Access Act
MCZ	Marine Conservation Zone
MEDIN	Marine Environmental Data and Information Network
MMO	Marine Management Organisation
MoU	Memorandum of Understanding
MPA	Marine Protected Area
NE	Natural England
NOC	National Oceanography Centre
PI	Performance Indicator
rMCZ	recommended Marine Conservation Zone
SAC	Special Area of Conservation
SC	Success Criteria
SPA	Special Protected Area
SSSI	Site of Special Scientific Interest
TAG	Technical Advisory Group

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## **ANNEX 1**

### **Framework for developing fisheries management plans**

The collation of data for the evidence base which will help inform future management decisions in relation to the sustainable exploitation of fish stocks will follow this framework.

#### **1. Description of fishery**

Species  
Fishing methods  
Socio-economic information  
Spatial

#### **2. Jurisdiction**

Agencies with roles in fishery  
Roles in fisheries management & agreement in fisheries management

#### **3. Objectives of fisheries management**

Biological  
Social  
Economic

#### **4. Operational management**

Access and licensing  
Input/output controls  
License issues

#### **5. Research and stock assessment**

Current research & stock assessment programmes  
On-going data collection  
Socio-economic information  
Environmental issues  
Implications for management

#### **6. Monitoring control and surveillance**

Codes of practice, regulations & rules enforced  
Description of existing capacity  
On-going data collection

#### **7. Consultation with stakeholders**

Co-management & Consultation process  
Provision of information

#### **8. Post harvest sectors**

Description of post-harvest sector  
Management implications

#### **9. Review of plan**

How and when plan will be reviewed?  
Who has responsibility for plan and review?