



Inshore Fisheries and
Conservation Authority

Research & Environment Plan

2012 – 2013



1. RV Three Counties

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Alternatively a hard copy can be viewed at:

Eastern Inshore Fisheries and Conservation Authority
6 North Lynn Business Village
Bergen Way
King's Lynn
Norfolk
PE30 2JG

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Foreword

The Eastern Sea Fisheries Joint Committee had a long history of delivering high quality research and environmental advice that assisted the Joint Committee in achieving its overall goals. As an Inshore Fisheries and Conservation Authority we aim to continue this fine legacy and strive to continue to perform at this level.

To help us meet these expectations we are building on the Joint Committee's research with a strategic approach that encompasses a specific framework of a vision, success criteria, and High Level Objectives for IFCAs to work to and be measured against. Specific performance outputs will measure achievement in relation to the high level objectives. These objectives outline the need for annual research plans and reports as well as requiring officers to take a proactive role in national initiatives and events.

An annual research and environment plan provides stakeholders with an overview of the key tasks that the Authority's staff will conduct during the 2012-2013 financial year. These work streams flow from the Annual Plan. Both of these documents result from instructions and guidance issued to IFCAs by Defra, the Marine Management Organisation and ultimately the Marine and Coastal Access Act 2009.

The transition from Joint Committee to Authority, while exciting, has generated challenges for the research and environment team. The duties have diversified from its traditional role of conducting stock assessments, appropriate assessments and gear impact studies to now include habitat mapping and providing evidence of the impact a range of activities may have on the wider environment. The Authority now actively participates in consultation about marine decision making with new challenges in Marine Planning and Conversation Zone development.

Just as the forward thinking approach of the Joint Committee provided the Authority with a sound platform to meet these new challenges, the Authority must continue this approach to achieve these new goals and ambitions.

Eden Hannam

Head:

Marine Conservation

Ron Jessop

Senior Research Officer

Judith Stoutt

Senior Marine

Environment Officer



2. European Lobster



3. Butterfish



4. Chalk Reef

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5. Crew of *Sea Spray* inspecting a fishing vessel

1. Introduction

The Eastern Inshore Fisheries and Conservation Authority is one of ten regional authorities in England providing inshore fisheries and conservation management. Its district covers the three counties of Lincolnshire, Norfolk and Suffolk from Haile Sand Fort in Lincolnshire to Felixstowe in Suffolk and extends six nautical miles seawards.

The Authority's Research and Environment team complements the Enforcement and Administrative teams to deliver evidence-based fisheries management that is sensitive to social, environmental and economic needs. A range of inshore fisheries are operated in the district by local fleets and individuals. The main target species are cockle, mussel, shrimp, crab, lobster, cod, sole, herring and bass – varying according to season and area. The district supports a wealth of important natural features that are protected under a suite of UK and EU designations (Site of Special Scientific Interest, Special Protected Area, Special Area of Conservation, Ramsar site). These collectively form a network of Marine Protected Areas. This network is due to be augmented by the creation of Marine Conservation Zones over the next three years.

The Authority's Research and Environment team faces a considerable challenge in providing the evidence needed to develop fisheries management measures for the new conservation sites. It must also continue to support the Authority's management of the Wash Fishery Order 1992 which oversees the major molluscan fisheries in The Wash. To achieve these goals the Authority must not only continue the research and monitoring programme conducted by its predecessor organisation, the Eastern Sea Fisheries Joint Committee, but must develop new skills and deliver a range of projects that will satisfy its new conservation requirements. To facilitate these additional requirements, staff restructuring during 2011/12 increased the size of the research team from three members of staff to four. The marine environment team also increased from two members of staff to three plus an additional head of department.



6. Eastern Inshore Fisheries & Conservation Authority district.

European Marine Sites (Special Areas of Conservation and Special Protection Areas) are shaded in red.

2. IFCA Vision, Success Criteria and High Level Objectives

IFCA vision

"Inshore Fisheries and Conservation Authorities 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."

This vision presents a considerable challenge for all IFCAs in requiring them to balance the needs and expectations of all those with a stake in the inshore marine environment. The creation of IFCAs has created an opportunity to focus on the sustainable exploitation of sea fisheries resources through collaborative, local decision making.

The main duties for IFCAs are set out within the Marine and Coastal Access Act 2009:

Each IFCA must manage the exploitation of sea fisheries resources in its district. In doing so it 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.

IFCAs must also seek to ensure that the conservation objectives of any MCZ in their districts are furthered.

Eastern-IFCA has an additional responsibility inherited from its predecessor organisation, Eastern Sea Fisheries Joint Committee: the Authority must seek to manage the Wash Fishery Order 1992 in a manner that supports the local fishing industry without having a detrimental impact on the site's conservation features.

IFCA Success Criteria

To support the IFCA's in delivering their new duties Defra established clear guidelines in the form of seven Success Criteria. These are:

1	IFCA's have sound governance and staff are motivated and respected.
2	Evidence-based, appropriate and timely byelaws are used to manage the sustainable exploitation of sea fisheries resources within the district.
3	A fair, effective and proportionate enforcement regime is in place.
4	IFCA's work in partnership and are engaged with their stakeholders.
5	IFCA's make the best use of evidence to deliver their objectives.
6	IFCA's support and promote the sustainable management of the marine environment.
7	IFCA's are recognised and heard.

Whilst each of the success criteria must be embraced by all IFCA's, the four highlighted targets have particular resonance in guiding the Authority's research and environment work streams.

IFCA High Level Objectives

More detailed targets have also been set for IFCAs in the form of a suite of High Level Objectives derived from each success criterion. Within these, several key themes guide the work of the research and environment team. These themes include:

- Working in partnership with other organisations to gather and share data;
- Demonstrating an 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; and
- The main issues affecting the sustainable exploitation of sea fisheries resources in the district are understood, and appropriate management plans for them are put in place.

The achievement of High Level Objectives can be demonstrated through the meeting of a number of specific performance indicators (PIs). These outline the need for strategic research plans, annual research reports and for officers to take a proactive role in national initiatives and events. This document outlines the main projects that will be undertaken during the 2012-2013 financial year by the research and environment teams in line with the Authority's high level objectives, success criteria and ultimately its vision.

2.1 High Level Marine Objectives

As set out in the IFCA vision, sustainable development is at the heart of our activities and decisions. The formation of IFCAs in April 2011 was a key step in enabling local delivery of the High Level Marine Objectives set out in the UK Marine Policy Statement:

- achieving a sustainable marine economy;
- ensuring a strong, healthy and just society;
- living within environmental limits;
- promoting good governance; and
- using sound science responsibly.

The environment and science principles and their associated High Level Marine Objectives are set out below. These principles provide additional context against which IFCAs can set their approach to research and environment planning.

Table 2.1 Environmental and Science principles and high level marine objectives

Principle	High level marine objective
Living within environmental limits	Biodiversity is protected, conserved and where appropriate recovered, and loss has been halted.
	Healthy marine and coastal habitats occur across their natural range and are able to support strong, bio-diverse biological communities and the functioning of healthy, resilient and adaptable marine ecosystems.
	Our oceans support viable populations of representative, rare, vulnerable and valued species.
Using sound science responsibly	Our understanding of the marine environment continues to develop through new scientific and socio-economic research and data collection.
	Sound evidence and monitoring underpins effective marine management and policy development.
	The precautionary principle is applied consistently in accordance with the UK Government and devolved administrations' sustainable development policy.

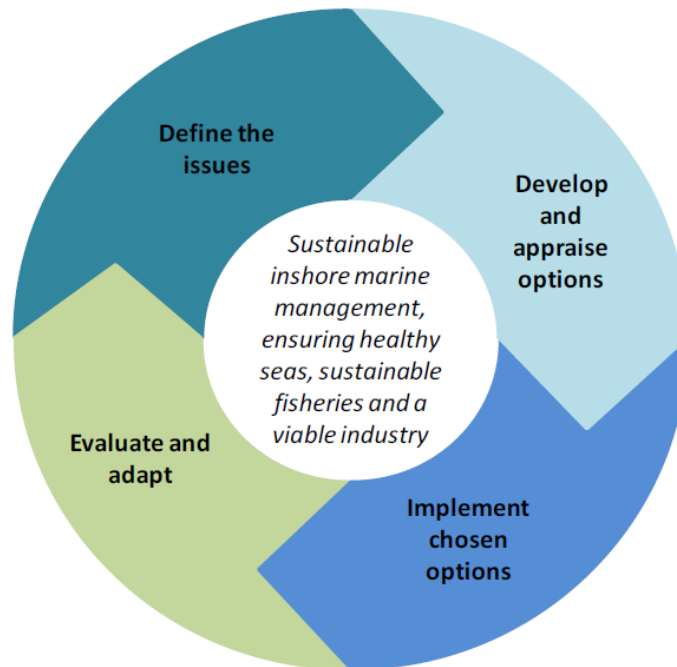
(Defra 2009)

2.2 Evidence-based Management

The use of sound evidence to support decisions is critical to effective fisheries management. The Authority conducts its own research to obtain various types of data relating to shellfish stocks, habitat types and fishing impacts. In addition to in-house evidence, the Authority needs to be proactive in sourcing external data to inform environmental assessments and fisheries management decisions.

Defra guidance to IFCA illustrates best practice for IFCA to apply in order to achieve robust, evidence-based management to inshore marine management:

Evidence-based marine management cycle



7. Defra (2010)

This evidence cycle is the foundation of the Authority's approach to fisheries and environmental decision-making.

2.3 Research Priorities

The research and environment team provide a broad range of services to the Authority and work synergistically across the organisation. The two parts have particular roles to play within the Authority.

The focus of the Authority's research team members during 2012-13 will be:

- to review and, where appropriate, continue with existing RCM projects;
- to advance the Authority's understanding of the species, habitats and activities along with their impacts within Marine Protected Areas;
- to ensure staff are adequately trained to fulfil their work objectives;
- to work in partnership with other organisations and stakeholders to effectively gather and share information; and
- to produce an annual research report to ensure the work conducted by the research team members is recognised.

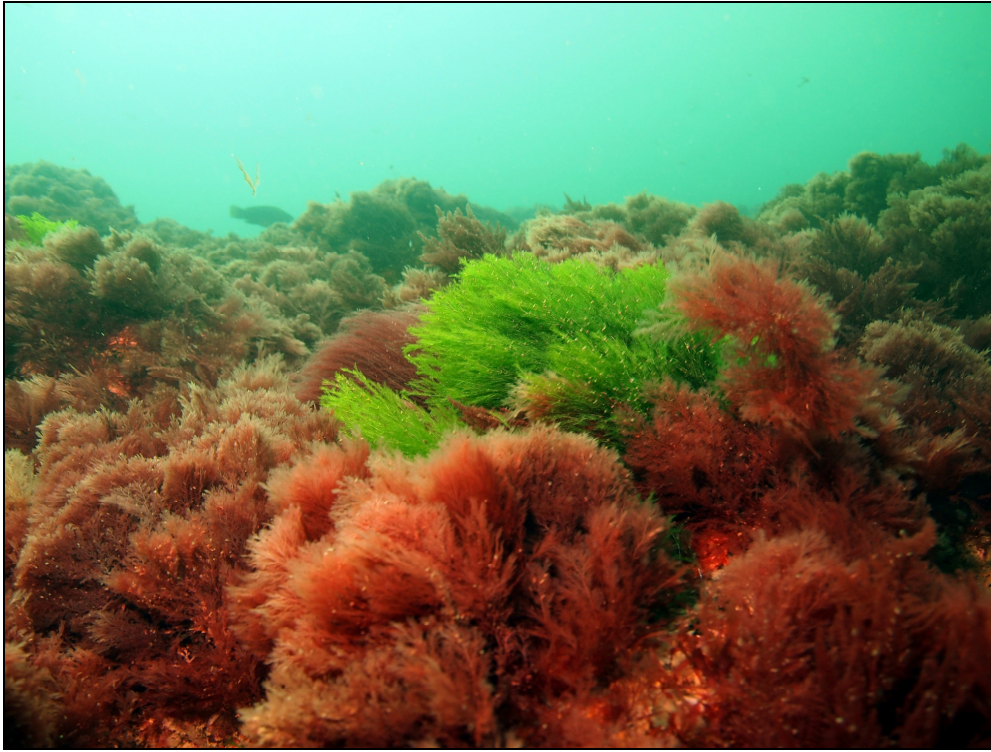
2.4 Environment Priorities

The environment team members face a slightly different challenge in the coming year. Much of the newer work requires analysis and organisation of information. Recognising these new requirements, the Authority has focused on gaining skills in geographic information and data analysis to support the now expanded environment aspects of its work.

Key focus areas for the Authority's environment team members during 2012-13 will be:

- to make best use of the new personnel and provide appropriate training to develop a productive and effective environment team;
- to work closely with the Research and Enforcement teams to ensure environmental functions are supported e.g. via stock assessment, habitat mapping, fisheries impact assessment, environmental monitoring, fishing activity surveillance and enforcement;
- to develop robust databases for marine protected area features, fishing activities, fishing impacts and stakeholder contacts;
- to develop management measures in developing management measures for activities within marine protected areas; and
- to promote *Project Inshore* within the district and work with its project team to deliver appropriate information on the district's fisheries.

The environment team will also continue its existing role in responding to external consultations relating to marine developments that could affect the district's fisheries or the wider marine environment.



8. Seaweed habitat

2.5 Partnership Working

Partnership working is crucial to the effectiveness and efficiency of all IFCAs. Key partner organisations for the Authority's research and environment team include our funding authorities – Lincolnshire, Norfolk and Suffolk County Councils - the Marine Management Organisation, Natural England, the Centre for Environment, Fisheries and Aquaculture Science (Cefas), the Environment Agency, local biodiversity partnerships, and wildlife NGOs including the Royal Society for the Protection of Birds, the Wildlife Trusts and Seasearch. In addition, the Authority benefits from collaborating with other relevant authorities on the management groups for the European Marine Sites within the district.

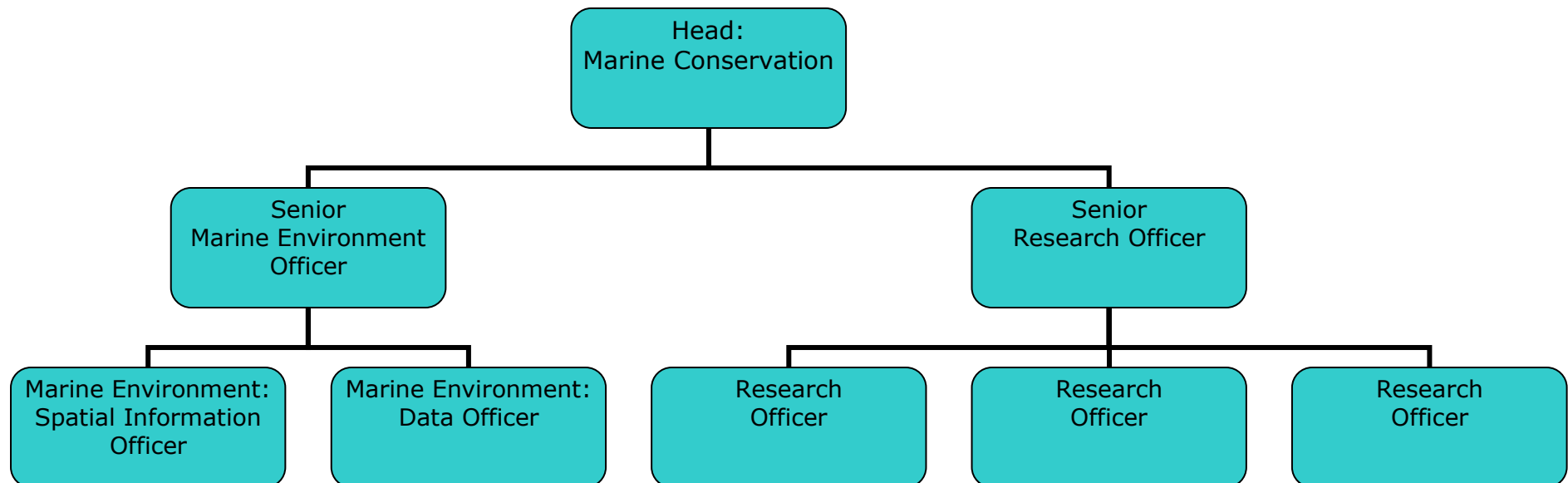


9. Beach seine netting

3. Research and Environment Resources

3.1 Staff

Inshore Fisheries and Conservation Authorities have been given a range of duties that were not included in the remit of their predecessor Sea Fisheries Committees. These include enhanced conservation responsibilities and a clearer focus on scientific evidence. One of the first tasks for Eastern Inshore Fisheries and Conservation Authority upon establishment in April 2011 was to realign the staff structure to meet the needs of the new organisation. Both the research and environment teams benefited from the restructure, gaining one member of staff each. In addition a Head of Marine Conservation post was created to oversee the two teams. The research and environment teams are supported by the Community Development Officer, the Authority's administrative staff, senior management, shore-based officers and vessel operators.





10. Juvenile mussels



11. Sea Bass



12. European Lobster

3.2 Research Vessels and Equipment

To meet the expectations and legislative requirements, the Authority utilises a wide variety of tools, instruments and vessels.

3.2.1 Vessels

Three Counties

The Authority has a dedicated research vessel: *Three Counties*. Launched in 2002, its 18m catamaran design provides a stable working platform from which the crew can deploy a wide range of sampling equipment. Constructed of aluminium to save weight, it has a draft of just 1.2m permitting the vessel to continue operating in very



13. RV *Three Counties*

shallow water as well as drying out on sandbanks to allow survey work to be conducted on foot.

Three Counties is equipped with a large galley, four twin cabins, two toilets and two showers providing sufficient comfort for the crew to operate at sea for up to five days at a time. The deckhouse also contains a wet laboratory for analysing samples and an office for processing data.

Deck equipment includes a stern gantry with a sampling winch, two trawling winches and a deck crane allowing the crew to deploy a variety of survey equipment including Day and Hamon grabs and small beam trawls or to carry and launch the RIB Runner. The wheelhouse contains navigation and communication equipment allowing the vessel to be accurately positioned on survey stations or to record and map acoustic survey data. This information is fed to scientists working on deck via additional monitors in the wet and dry laboratories.

ESF Protector III



14. *ESF Protector III*

Launched in 1994, *ESF Protector III* is the Authority's fisheries patrol vessel. With its focus on enforcing fishery management measures, *ESF Protector III* is occasionally employed in a research capacity as a back-up for *Three Counties*. In this role, it is capable of collecting shellfish and water samples or conducting acoustic

surveys while on patrol. With a speed that is double that of *Three Counties*, *ESF Protector III* is particularly suitable for conducting acoustic surveys at more distant locations within the district.

Rigid Inflatable Boats (RIBs)

The Authority has three RIBs. Of these, *Runner* is most frequently used by research team members. With a length of 3.5m it can be carried on the deck of *Three Counties* or suspended from the aft gantry. Being MCA un-coded, *Runner* cannot operate alone, but



15. *Sea Spray*

is used closely with *Three Counties* for ferrying survey teams onto the sandbanks or for collecting samples.

The Authority's other two RIBs, *Sea Spray* and *Pisces III* are both Category 3 MCA Work Boat Coded, enabling them to operate alone up to 20nm offshore. Primarily used for enforcement duties, both of these RIBs are occasionally used in for research. In this role they are used to ferry surveys teams to and from sandbanks or for collecting shellfish and water samples.

3.2.2 Equipment



16. Day grab

Day grab - The research team uses a variety of equipment when conducting surveys. One of the most used pieces of equipment is the Day grab. Deployed from *Three Counties*, this takes a 0.1m² sample from the seabed to a depth of 14cm. This grab is used extensively during the annual cockle surveys and for ground truthing data collected during acoustic surveys. The research team also has a number of 0.1m² quadrats that are used to collect comparable samples at low water when the sandbanks are exposed.

VideoRay Remotely Operated Vehicle

(ROV) - The VideoRay is a small remotely operated underwater video camera that gives the research team the capability of "seeing" what is on the seabed. Able to be deployed from both *Three Counties* and *ESF Protector III*, this camera is capable of operating in depths of up to 70m and currents of 3 knots. It is mainly used for assessing the condition of sub-littoral mussel beds and for mapping habitat features like *Sabellaria* reefs. The video data is displayed and stored in a portable DVR.



17. ROV

Sled camera - In addition to the VideoRay ROV, the research team also has an older underwater video camera attached to a towed sled. This can be deployed from *Three Counties* or *ESF Protector III* and is used mainly for ground truthing acoustic data. The video data is displayed on a monitor and stored on VHF video cassettes.



18. Trawling from RV Three Counties

Beam trawls – The research team has two beam trawls: one 2m in width, the other 3m in width. Both are fitted with fine mesh cod-ends enabling all sizes of shrimp and fish to be sampled. These nets are used primarily when conducting shrimp or juvenile fish surveys and can be deployed from *Three Counties*.

Dredges – The research team has a standard 1m wide Baird mussel dredge. Deployed from *Three Counties*, this dredge is mainly used when conducting stock assessments on sub-littoral mussel beds or for conducting fishing gear impact assessments. In addition to the Baird dredge, the research team also has two 1m oyster dredges and a scaled-down 30cm wide Baird dredge. Able to be deployed from all of the vessels (including the RIBs), these latter dredges are used primarily for collecting shellfish samples or for ground truthing acoustic data.



19. Dredging from RV Three Counties

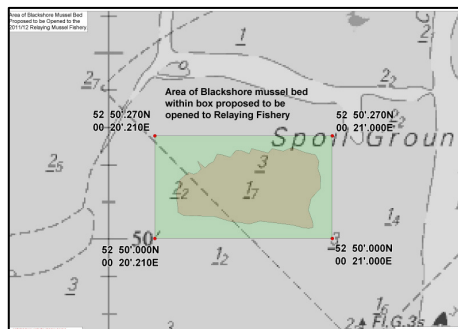
Data Buoy/YSI Sondes – In order to monitor aspects of water quality the research team has two YSI multi-parameter water quality sondes. One unit (YSI 6820-V2) is used for taking spot samples and displays and records the data into a handheld unit (YSI 650 MD). The other unit (YSI 6920) has a built in power supply/memory and is deployed continuously on a data buoy. Both sondes record temperature, salinity, turbidity and Chlorophyll-a RFU. These are used for monitoring water quality in the Wash, particularly with regard to Chlorophyll levels around the shellfish beds.



20. Sonde Buoy

Sorting table/sieves – To assist when sorting through samples, the research team uses a stainless steel sorting table. This table acts as a 2mm sieve allowing sediment to be easily washed overboard while leaving the samples on the screen. If the sampled material is likely to pass through a 2mm screen, a number of smaller sieves are also available for the team to use. These include two 0.5mm sieves and one 0.25mm sieve. These smaller sieves are also used for sorting the samples collected during foot surveys on the intertidal beds.

Weighing scales – The research team uses two sets of electronic weighing scales for measuring samples. For fine-scale measurements an Ohaus precision balance is used. This is capable of recording measurements up to 175g and is accurate to 0.01g. For larger samples a set of scales capable of measuring up to 5kg is used. These are accurate to 1g.



21. Map created with GIS software PowerPoint, plus MapInfo 10.5 and Vertical Mapper 3.7 GIS software. In addition, ten remote licenses are available for Seazone raster charts covering the district. For statistical analysis the research team has a single license for Minitab.

Roxann Acoustic Ground Discrimination System (AGDS) – Both *Three Counties* and *ESF Protector III* are equipped with Roxann GD-A AGDS units enabling both vessels to conduct acoustic surveys of the seabed. Roxann interfaces with the vessel's echo-sounder, interrogating the signal to determine the hardness and roughness of the seabed. This information can then be displayed as a real-time track on the vessel's plotter or downloaded for further analysis. This equipment is used when habitat mapping or prospecting for sub-littoral mussel beds.

Microplot 7 Software – In addition to *Three Counties* navigation equipment, the research team also uses its own dedicated Microplot 7 navigation software. This is used for plotting survey sample stations and for displaying acoustic survey track data taken from the Roxann AGDS equipment.

4. Research & Environment Activities 2012/13

4.1 The Eastern Inshore Fisheries and Conservation Authority's Priorities

As well as aligning with the High Level Objectives set for IFCAs by Defra, the research and environment activities described in this section have been designed to complement the Authority's eight organisational priorities for the year (as set out in the Annual Plan available on the Authority Website <http://www.eastern-ifca.gov.uk>). The team's work will not be limited to these key priority areas over the year but they will provide a focus for our activities.

The Authority's key research and environment activities for 2012/13 and estimated timescales are shown in Table 4.1 below. Further detail on each activity is provided in the subsequent tables. These tables include a brief description of each project, the expected outputs, key personnel involved, resources required, relevant IFCA guidance and partner organisations. This section is completed with a summary chart that highlights the relative importance of each work-stream as identified in the risk assessment (Section 5).

This document sets out the key research and environment activities that the Authority plans to undertake during 2012/13. It is acknowledged that additional unplanned or emergency activities are likely to be identified during the year. As and when these arise, the risk assessment will be applied to prioritise between planned and unplanned activities and to identify when external resources might need to be commissioned. In light of perennial environmental and operational constraints, the research team in particular is well adapted to optimising use of available resources. The Authority recognises that whilst following an agreed annual plan helps ensure it meets its organisational targets, a degree of flexibility is essential in order to maximise efficiencies in the research and environment team.

Table 4.1 Research and Environment Activity summary

Lead Team	Reference	Project title	Lead officer
Management	SRP2012	Strategic Research Plan	HMC
Research	RP2012A	Wash Fishery Order 1992 Spring cockle surveys	SRO
	RP2012B	Wash Fishery Order 1992 Autumn cockle surveys	SRO
	RP2012C	Wash Fishery Order 1992 Autumn mussel surveys	SRO
	RP2012D	Bio-toxin sampling	SRO
	RP2012E	Habitat mapping (<i>Sabellaria</i> reefs, Marine Conservation Zones)	RO
	RP2012F	Sub-littoral mussel surveys	RO
	RP2012G	Water quality monitoring	RO
	RP2012H	Cockle dredge environmental impact assessment	SRO
	RP2012I	Cockle mortality study	SRO
	RP2012J	Management of Wash Fishery Order 1992 Several Fishery	SRO/SMEO
	RP2012K	Juvenile fish monitoring survey	SRO
	RP2012L	Suffolk river surveys	SRO
	RP2012M	Angling 2012	SRO
	RP2012N	Annual Research Report	SRO
	RP2012O	To explore research opportunities for the RSA sector	RO
	Environment	EP2012A	Habitats Regulations Assessment – 2012 cockle fishery
EP2012B		Habitats Regulations Assessment – 2012/13 mussel fishery	SMEO
EP2012C		Wash Fishery Order 1992 review – Constraints study	HMC
EP2012D		Environment Training package	HMC
EP2012E		External environmental consultations	SMEO
EP2012F		Fisheries sustainability appraisal – <i>Project Inshore</i>	SMEO
EP2012G		Marine Protected Areas – fisheries management measures	SMEO
EP2012H		Marine Protected Areas – management groups	SMEO
EP2012I		Biodiversity duty	SMEO
EP2012J		Impact Assessment	MEO Data
EP2012K		Communication & Education strategy – environment aspects	SMEO
EP2012L		the Authority website maintenance	MEO Data
EP2012M		Corporate environment policy	HMC
EP2012N		Annual Environment report	SMEO
EP2012O		Research & Environment Strategy	HMC

4.2 Research Activities

The following tables set out the primary activities that the research team will be conduct during the 2012/13 financial year.

Table 4.2 Research team activities

WFO Spring Cockle Surveys		Reference No.			RP2012A	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The spring cockle surveys are conducted in order to ascertain the condition of the cockle stocks present on the regulated intertidal beds of the Wash. Determining the stock levels are critical in managing the following season's fishery, as several of the management policies are based directly on stock evaluations.</p>	<p>1) Survey - stock assessment 2) Data analysis and compilation of stock distribution charts 3) MPASC report and recommendations</p>	<p>SRO SRO SRO</p>	<p>• • •</p>			•
	Project Leader		Ron Jessop			
Resources Required	Responsibility					
<p>The project involves collecting samples from approximately 1,300 stations, analysing the data and proposing recommendations for the fishery. This requires:</p> <ul style="list-style-type: none"> • <i>Three Counties</i> – 22 days during spring tide periods to collect samples with a Day grab • SRO – 20 days to analyse data, prepare charts, propose recommendations and compile paperwork for MPASC 	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992 which means it is responsible for the management of the cockle fishery on the regulated beds. • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> • Industry provides input towards management decisions. • NE, who provide conservation advice through the Appropriate Assessment process 						

WFO Autumn Cockle Surveys		Reference No. RP2012B				
Project Description	Output	Lead	Q1	Q2	Q3	Q4
The autumn cockle surveys are conducted in order to provide an insight into the state of the cockle stocks on the Wash regulated beds following the previous season's fishery and summer recruitment. These surveys provide important information regarding the impact the fisheries may have had on the stocks as well as an indication of how successful recruitment may have been.	1) Survey - stock assessment 2) Data analysis and compilation of stock distribution charts	SRO SRO			• •	
Project Leader		Ron Jessop				
Resources Required		Responsibility				
The autumn cockle surveys are not as extensive as the spring cockle surveys, focusing sampling on beds that have been exploited during the fishery and where recruitment has been observed. This requires: <ul style="list-style-type: none"> • <i>Three Counties</i> – 14 days during spring tide periods to collect samples with a Day grab • SRO – 7 days to analyse data and compile report 	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992 which means it is responsible for the management of the cockle fishery on the regulated beds • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
Project Partners						

WFO Autumn Mussel Surveys		Reference No.		RP2012C		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The autumn mussel surveys are conducted in order to ascertain the condition of the mussel stocks present on the regulated intertidal beds of the Wash. Determining the state of these stocks is critical in managing the following season's fishery, as several of the management policies are based directly on stock evaluations.</p>	1) Survey - stock assessment 2) Data analysis and compilation of stock distribution charts 3) MPASC report and recommendations	SRO			•	
		SRO			•	
		SRO			•	
Project Leader Responsibility		Ron Jessop				
Resources Required						
<p>This project involves conducting surveys on 20 intertidal mussel beds and the Welland Wall. Surveys are conducted on foot at low water but most of the beds must be accessed by a boat drying out on the bed. The data must then be analysed and recommendations proposed to inform the MPASC. This requires:</p> <ul style="list-style-type: none"> • <i>Three Counties</i> – 20 days during spring tide periods • RIB – 1 day on spring tide to conduct Welland Wall survey • SRO – 10 days to analyse data, prepare report for MPASC and propose recommendations 	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992 which means it is responsible for the management of the mussel fishery on the regulated beds • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
Project Partners						
		<ul style="list-style-type: none"> • Industry provides input towards management decisions. • NE, who provide conservation advice through the Appropriate Assessment process. 				

Bio-toxin Sampling		Reference No. RP2012D				
Project Description	Output	Lead	Q1	Q2	Q3	Q4
European Regulation 854/2004 requires classification of all shellfish harvesting areas. Although management of the monitoring programme is carried out by CEFAS on behalf of the Food Standards Agency and Local Authorities, the shellfish and water samples for the sites within the Wash are collected by the Authority.	1) Sample collection 2) Replenishing sample stations	RO RO	• •	• •	• •	• •
Project Leader Responsibility		Evonne Maxwell				
Resources Required	Project Partners					
<p>This programme involves the Authority collecting eleven shellfish and four water samples each month from stations within the Wash. The sampling requires 2 days/month and requires spring tides to be used. Occasionally additional sampling dates are required if samples show indications of bio-toxins being present.</p> <p>As some samples are collected from maintained stations, these stocks occasionally require replenishing with mussels collected from wild beds. This requires:</p> <ul style="list-style-type: none"> • <i>Protector III</i> (+RIB) – 2 days/month on spring tides for sample collection • <i>Three Counties</i> – 2 days for replenishing sample stations 	<ul style="list-style-type: none"> • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • CEFAS, who manage the bio-toxin monitoring programme • Local Authorities provide funding for the sample collection 					

Habitat Mapping (<i>Sabellaria</i> reefs, MCZs)		Reference No. RP2012E				
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p><i>Sabellaria spinulosa</i> reefs are a named feature of the Wash and North Norfolk Coast Marine Special Area of Conservation. Due to the adverse impact that the shrimp fisheries may have on these features, a new byelaw may be required to protect core areas of reef from these fisheries. The surveys will provide important evidence of the location of the reefs.</p> <p>Other features (e.g. cobble banks) have also been highlighted as important features within the site. In 2011 a joint mapping project was conducted in partnership with CEFAS and NE. With the introduction of MCZ reference areas within the district it is anticipated that the Authority will have an active role in future partnerships monitoring some of these sites.</p>	1) Surveys mapping <i>Sabellaria</i> reefs	RO	•	•	•	•
	2) Data analysis, producing distribution charts	RO			•	•
	3) Producing report	RO				•
	4) Habitat mapping surveys within MCZ reference sites	RO	•	•	•	
	5) Data analysis, producing distribution charts	RO			•	•
	6) Producing report	RO			•	•
Project Leader		Research Officer				
Resources Required	Responsibility					
<p>This project involves conducting acoustic surveys using Roxann AFDS equipment followed by ground-truthing using Day grabs and a VideoRay ROV. The project requires:</p> <ul style="list-style-type: none"> • <i>Three Counties</i> – 20 days for conducting acoustic and ground truth surveys on <i>Sabellaria</i> reefs. Neap tides are preferable for deploying the ROV • RO – 12 days for analysing data and producing report • <i>Three Counties</i> – 10 days for conducting habitat mapping surveys • RO – 6 days for analysing data and producing a report 	<ul style="list-style-type: none"> • Success Criteria 2: Evidence based, appropriate and timely byelaws are used to manage the sustainable exploitation of sea fisheries resources within the district • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
Project Partners		<ul style="list-style-type: none"> • CEFAS, who provide equipment and research staff for joint projects. • NE, who fund several of the projects 				

Cockle Dredge Environmental Impact Assessment		Reference No.		RP2012H		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>Due to the environmental designations assigned to the Wash, it is important to demonstrate that fishing activities within the site do not have an adverse impact. In 2010 an impact assessment was conducted on the handwork cockle fishery, with particular regard to the practice of "prop-washing". In 2011 a similar assessment was conducted for the hydraulic suction dredge fishery on predominantly sandy sediments. Should this study ascertain that the dredging has not had an adverse impact on the site, it is planned to conduct a similar study on muddier sediments during 2012.</p>	1) Organisation of vessel tender 2) Selection of appropriate study site 3) Conduct dredging activity 4) Collection of core samples/delivery of samples to Unicomarine 5) Analysis of data/Preparation of report	SRO SRO SRO SRO RO		• • • •	• • • •	•
	Project Leader		Ron Jessop			
Resources Required	Responsibility					
<p>This project will involve conducting dredging activities with a commercial vessel on a selected site. Sediment and biota samples will then be collected from 4 dredged and 3 control stations at intervals of Day 0, Week 1, Month 1 and Month 3. These samples will be analysed by the marine consultants, Unicomarine, who provide biota data at specific level and conduct particle size analysis (PSA) of the samples.</p> <ul style="list-style-type: none"> Commercial fishing vessel – 1 day to conduct dredging activity <i>Three Counties</i> (+RIB) – 6 days for selection of study site and collecting samples Unicomarine – Analysis of biota and sediment samples SRO/RO – 16 days to organise vessel tender, deliver samples to Unicomarine, analyse data and provide report 	<ul style="list-style-type: none"> The Authority is the responsible body for the management of the Wash Fishery Order 1992. It is important to identify what impact the dredge cockle fishery may have on sediment and benthic communities Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders Success Criteria 5: IFCAs make best use of evidence to deliver their objectives Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> Fishing industry, who will conduct dredging activity in designated area Unicomarine, who will conduct analysis of the sediment and biota samples NE, who it is planned will provide funding for project 						

Cockle Mortality Study		Reference No.			RP2012I	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
Since 2008 cockles in the Wash have suffered high, atypical mortality rates which have had a significant impact on the cockle fisheries. Should high mortality be detected during this study it is planned to adapt the management of the 2012 cockle fishery to enable harvesting of the stocks most likely to be lost.	1) Survey sampling 2) Data analysis 3) Prepare report	SRO RO RO	• •	• •	• •	• •
Project Leader		Evonne Maxwell				
Resources Required	Responsibility					
Cockle beds will be monitored regularly from spring onwards to determine the rate of atypical mortality. This will require: <ul style="list-style-type: none"> • <i>Three Counties</i> (+RIB) – 15 days on spring tides to conduct monitoring • RO – 9 days to analyse data and prepare report 	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992. It is important to monitor the cockle stocks for impacts of an atypical mortality that could have a great impact on the cockle fishery. • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCAs make best use of evidence to deliver their objectives • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
Project Partners						
<ul style="list-style-type: none"> • Fishing industry, who will provide input into management measures • NE, who will provide conservation advice through the Appropriate Assessment process 						

Management of WFO Several Fishery		Reference No.		RP2012J		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>There are currently a number of issues relating to the Authority's management of the Several Fishery that require addressing. These include a Review of Consents of a section of the fishery operating under expired leases, a Constraints Study to identify limiting factors in the future development of the Several Fishery and to develop a formal approach when progressing WFO lay applications. There is currently a moratorium on applications for new lay leases being issued until a full review of the management of the Several Fishery has been undertaken. There are currently 16 applications for new lays that were received prior to the moratorium.</p>	1) Review of Consents	SMEO	•	•		
	2) Constraints Study	GIS	•	•		
	3) Review Management of the use of dredges on WFO lays	HMC	•	•	•	
	4) Develop formal approach for progressing WFO lay applications.	SRO	•	•		
	5) Process current and new applications	SRO				•
Project Leader		Judith Stoutt/Ron Jessop				
Resources Required	Responsibility					
<p>This is a large project that will have input from both the Research and environment teams. The Constraints Study will require consultation with the industry and other stakeholders and will use GIS to display the results spatially. The project will require:</p> <ul style="list-style-type: none"> • SMEO – 20 days to conduct Review of Consents • MEO/GIS – 30 days to consult with industry and conduct Constraints Study • HMC – 10 days to review the management of the use of dredges on the lays • SRO – 25 days to develop formal approach for progressing WFO lay applications and processing current lay applications 	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992, which includes the management of the Several Fishery • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> • Fishing industry, who will provide input into the Constraints Study and input into proposed management measures • NE, who will provide conservation advice 						

Juvenile Fish Monitoring Programme		Reference No.		RP2012K		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>Many of the rivers and estuaries within the district are important nursery areas for juvenile fish. Some of these areas are currently monitored by the Environment Agency (EA) through the Water Framework Directive (WFD) while CEFAS have monitored juvenile fish stocks with their Young Fish Survey (YFS) and bass monitoring programmes. The district is also an important area for the Recreational Sea Angling (RSA) sector. The Authority worked with other IFCAs, the EA and CEFAS during 2011 to assist in developing juvenile fish monitoring programmes that could fulfil the monitoring requirements of IFCAs. These requirements have not yet been fully identified, but it is anticipated that they will become clearer following MSC pre-assessments that will be undertaken on all of our fisheries during 2012.</p>	<ol style="list-style-type: none"> 1) Continue joint projects with the EA 2) Liaise with CEFAS, EA and other IFCAs through the SFWG 3) Develop Juvenile Fish monitoring programme 	RO	•	•		
		SRO	•	•		
		SRO			•	
Project Leader		Ron Jessop				
Resources Required	Responsibility					
<p>The aim of this project is to develop a juvenile fish monitoring programme that fulfils the requirements of the Authority but which can potentially compliment the WFD and YFS. This will be achieved by liaising and conducting joint working with other IFCAs, the EA and CEFAS through the Small Fish Working Group (SFWG) and the Technical Advisory Group (TAG). This requires:</p> <p>SRO – 7 days to liaise with other organisations and develop monitoring programme</p> <p>ROs – 4 days to conduct joint projects with the EA</p>	<ul style="list-style-type: none"> • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCAs make best use of evidence to deliver their objectives • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
	<ul style="list-style-type: none"> • Environment Agency, who will provide training and equipment during joint projects • CEFAS, who can provide technical support, equipment and training during joint projects • IFCAs, who can assist with training, manpower and equipment • Recreational Sea Angling sector who may have input into development of programme 					

Suffolk Rivers Surveys		Reference No.		RP2012L		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Rivers Stour and Orwell support a rich biodiversity of shellfish and invertebrate species that in turn provide a valuable food resource to bird populations and potential fisheries. The Authority conducts annual surveys in these rivers to determine the condition of the cockle, mussel, manila clam and native oyster stocks. These surveys also monitor the occurrence of environmental features (such as peacock worm) that are present in these rivers.</p>	1) Cockle survey - stock assessment 2) Clam survey - stock assessment 3) Mussel survey - stock assessment 4) Oyster survey - stock assessment 5) Data analysis and compilation of report	RO RO RO RO RO	• • •			• •
	Project Leader		Ron Jessop			
Resources Required	Responsibility					
<p>This project involves conducting several surveys. These include surveying cockle and clam beds in both rivers using a Day grab deployed from a research vessel, dredge surveys on the native oyster beds, foot surveys on the mussel beds and AGDS/grab surveys to map the peacock worm populations. This requires:</p> <ul style="list-style-type: none"> • <i>RV Tamesis</i> – 12 days • RIB – 2 days on spring tide to conduct mussel surveys • RO – 12 days to analyse data and prepare report 	<ul style="list-style-type: none"> • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> • Kent and Essex IFCA who charter <i>RV Tamesis</i> and staff to assist in conducting the surveys 						

Angling 2012		Reference No.			RP2012M	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Angling 2012 project is a collaboration between the MMO, CEFAS and IFCAs to determine what fish are being caught by anglers and the importance of this sport to businesses around the coast of England.</p>	1) Creation of angling activity database	HMC	•			•
	Project Leader		Eden Hannam			
Resources Required	Responsibility					
<p>The Authority's contribution to the project will be to collect data during 2012-2013 by regularly interviewing anglers. These will be conducted weekly by each of the four shore-based area officers. This will require:</p> <ul style="list-style-type: none"> FO – 4 x 52 days to interview anglers 	<ul style="list-style-type: none"> Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders Success Criteria 5: IFCAs make best use of evidence to deliver their objectives Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> MMO and CEFAS who are responsible for the overall delivery of the project Recreational Sea Angling sector who will provide the data for the project 						

Annual Research Report		Reference No. RP2012N				
Project Description	Output	Lead	Q1	Q2	Q3	Q4
The Authority/Joint Committee has compiled annual officer research reports since 1993. These summarise the research conducted through the year and provide a valuable historic reference source detailing the condition of the stocks that are monitored annually and research projects that have been undertaken.	1) Compile Annual Research Report	SRO	•			•
Project Leader		Ron Jessop				
Resources Required	Responsibility					
Producing the officer research report requires: SRO – 30 days to compile and edit report ROs – 30 days to produce report sections	<ul style="list-style-type: none"> Success Criteria 7: IFCA's are recognised and heard 					
Project Partners						

To explore research opportunities for the RSA sector		Reference No.		RP20120		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
In 2010 ESFJC commissioned an MSc project to conduct a literary review of the European flounder, <i>Platichthys flesus</i> . The Authority plans to liaise with the Recreational Sea Angling sector during 2012-2013 to identify further research projects that can potentially be conducted in the future.	1) Report detailing further research activities that will be of benefit to the Authority and to the RSA sector and their costs.	RO	•	•	•	•
		Project Leader		Research Officer		
Resources Required	Responsibility					
RO – 15 days to liaise with RSA members, conduct desk study, analyse Angling 2012 questionnaires and compile report.	<ul style="list-style-type: none"> • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives 					
		Project Partners				
		<ul style="list-style-type: none"> • Recreational Sea Angling sector 				

4.3 Environment Activities

The following tables set out the primary activities that the environment team will conduct during the 2012/13 financial year.

Table 4.3 Environment team activities

Habitats Regulations Assessment – 2012 Regulated Cockle Fishery		Reference No.		EP2012A		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Authority licenses the Regulated cockle fishery in the Wash Fishery Order 1992 area on an annual basis. Each year, the cockle fishery proposals must be assessed in accordance with the Habitats Regulations 2010 since the fishery operates within a European Marine Site. The assessment involves evaluating the impact of the proposed fishery on the habitats and species for which the Site is designated. Fishery management measures provide mitigation of impacts to ensure the fishery operates within acceptable limits. The assessment requires close liaison with Natural England.</p>	<p>1) Test of Likely Significance (initial stage in Habitats Regulations Assessment) 2a) Appropriate Assessment report 2b) Appropriate Assessment charts</p>	SMEO	•			
		SMEO MEO/ GIS	• •			
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>1. Cockle fishery proposals, including management measures (available after Sub-Committee agreement)</p> <p>2. Habitat and species condition data, i.e. (i) Cockle and mussel stock data; sediment and in-fauna maps (provided by the Authority's Research team); (ii) Common seal population and haul-out data (provided by Sea Mammal Research Unit); (iii) Bird population and distribution data (provided by Natural England)</p> <p>3. SMEO – 10 days to write Appropriate Assessment report</p> <p>4. MEO/GIS – 5 days to produce charts</p>	<ul style="list-style-type: none"> The Authority is the responsible body for the management of the Wash Fishery Order 1992 through which the cockle fishery is regulated. Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders Success Criteria 5: IFCAs make best use of evidence to deliver their objectives Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> Natural England Local fishery stakeholders Local conservation stakeholders, e.g. RSPB Wash & North Norfolk Coast European Marine Site project 						

Habitats Regulations Assessment – 2012/13 Regulated Mussel Fishery		Reference No.		EP2012B		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Authority licenses the Regulated mussel fishery in the Wash Fishery Order 1992 area on an annual basis. Each year, the mussel fishery proposals must be assessed in accordance with the Habitats Regulations 2010, since the fishery operates within a European Marine Site. The assessment involves evaluating the impact of the proposed fishery on the habitats and species for which the Site is designated. Fishery management measures provide mitigation of impacts to ensure the fishery operates within acceptable limits. The assessment requires close liaison with Natural England.</p>	<p>1) Test of Likely Significance (initial stage in Habitats Regulations Assessment) 2a) Appropriate Assessment report 2b) Appropriate Assessment Appendix: charts</p>	SMEO				
		SMEO MEO/ GIS			• • •	
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>1. Mussel fishery proposals, including management measures (available after Sub-Committee agreement)</p> <p>2. Habitat and species condition data, i.e. (i) Mussel and cockle stock data; sediment and in-fauna maps (provided by the Authority's Research team); (ii) Common seal population and haul-out data (provided by Sea Mammal Research Unit); (iii) Bird population and distribution data (provided by Natural England)</p> <p>3. SMEO – 10 days to write Appropriate Assessment report</p> <p>4. MEO/GIS – 5 days to produce charts</p>	<ul style="list-style-type: none"> The Authority is the responsible body for the management of the Wash Fishery Order 1992 through which the mussel fishery is regulated. Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders Success Criteria 5: IFCAs make best use of evidence to deliver their objectives Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> Natural England Local fishery stakeholders Wash & North Norfolk Coast European Marine Site project Local conservation stakeholder's e.g. RSPB 						

Wash Fishery Order 1992 review – Constraints study		Reference No.		EP2012C		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The constraints study will ascertain and evaluate factors limiting the development of the Several Fishery (the private, cultivated fishery), which operates under the Wash Fishery Order 1992. The results will provide a firm evidence base upon which the Authority makes decisions relating to the development of this fishery.</p> <p>Officers will investigate the potential to obtain external funding for this project.</p> <p>This study is part of a wider, ongoing review of the Authority's management of the Several Fishery.</p>	<ol style="list-style-type: none"> 1) External funding assessment and application(s) 2) Constraints study stakeholder consultation 3) Constraints study report 4) Constraints study appendix: charts 	<p>MEO/ GIS HMC HMC MEO/ GIS</p>	<p>•</p>	<p>•</p> <p>•</p> <p>•</p>		
Project Leader		Eden Hannam				
Resources Required	Responsibility					
<p>MEO/GIS – 20 days funding assessment and applications</p> <p>HMC – 10 days stakeholder consultation preparation and analysis of results</p> <p>HMC – 20 days constraints study investigation and report</p> <p>MEO/GIS – 5 days constraints study charts</p>	<ul style="list-style-type: none"> • The Authority is the responsible body for the management of the Wash Fishery Order 1992 through which several fishery lays are leased. • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
Project Partners		<ul style="list-style-type: none"> • Wash Fishery Order leaseholders • Natural England 				

Environment Training Package		Reference No.		EP2012D		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Research and Environment team has recruited six new personnel over the past year. Embedding these new staff into the Authority is a priority in order to maximise this new resource and achieve the research and environmental outputs required of the Authority. Each new team member brings individual strengths but will require training in a range of environmental work areas addressed by the Authority. Opportunities will also be sought for new team members to disseminate their skills to existing team members.</p> <p>The Senior Marine Environment Officer will liaise with the Head of Marine Conservation to develop a package of training material to underpin this training.</p> <p>In addition to the training packages, ongoing coaching will be provided to new staff as necessary.</p>	<p>Training packages relating to:</p> <ol style="list-style-type: none"> 1) Marine Protected Areas 2) Habitats Regulations Assessment 3) Responding to consultations 4) Ongoing coaching and support of new staff 5) Training sessions for scientific staff to share skills 	<p>SMEO</p> <p>SMEO</p> <p>SMEO</p> <p>HMC</p> <p>HMC</p>	<p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p>	<p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p>	<p></p> <p></p> <p>•</p> <p>•</p>	<p></p> <p></p> <p></p> <p>•</p> <p>•</p>
		Project Leader		Judith Stoutt		
Resources Required	Responsibility					
<p>SMEO – 15 days developing training materials</p> <p>HMC – 20 days coaching; daily support of new staff</p> <p>SMEO – 20 days coaching; daily support of new staff</p> <p>HMC – 10 days overseeing training sessions</p>	<ul style="list-style-type: none"> • Success Criterion 1: Staff are motivated and feel able to influence the Authority’s decisions 					
		Project Partners				
		<ul style="list-style-type: none"> • Internal process, feeds into personal development plans for scientific staff members 				

External environmental consultations		Reference No.			EP2012E	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Authority is a statutory consultee for certain licensable marine activities managed <i>inter alia</i> by the Marine Management Organisation, Infrastructure Planning Commission, and Environment Agency. Providing input to environmental consultations forms a routine part of the job for the Authority's Environment staff. This work enables the Authority to highlight potential impacts of marine activities or developments on fish or shellfish stocks, sea fishery resource users, and the wider marine environment. During 2012/13, the existing consultation framework (developed by the SMEO for the Authority's predecessor organisation) will need to be updated.</p>	<p>1) Updated external environmental consultation framework for Eastern IFCA 2) Timely responses to consultations, appropriately outlining the role of the Authority, highlighting potential impacts on sea fishery resources, and providing relevant fisheries, environmental and/or socio-economic data (subject to provisions of the Data Protection Act)</p>	MEO/ Data			•	
		SMEO	•	•	•	•
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>Reviewing consultation documents is extremely time consuming. The level of resources required depends on the number and magnitude of consultations that are received in the year.</p> <p>MEO/Data -5 days to create updated consultation framework (liaison with SMEO and HMC)</p> <p>SMEO – Up to 30 days per quarter</p>	<ul style="list-style-type: none"> Success Criterion 6: IFCAs support and promote sustainable management of the marine environment: plans and processes for raising awareness of IFCAs work are in place; issues impacting sea fisheries resources in the IFC district are identified Success Criterion 7: IFCAs are recognised and heard: partnership working is embedded in each IFCA; a strategy for the promotion of IFCAs work is developed 					
	Project Partners					
<ul style="list-style-type: none"> Other IFCAs 						

Fisheries Sustainability Appraisal – <i>Project Inshore</i>		Reference No.		EP2012F		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>A core function of IFCA is the sustainable management of sea fisheries resources. This must be informed by sound evidence relating to fishery stocks fishing activities and environmental impacts.</p> <p><i>Project Inshore</i> is a national initiative to assess the status of fish and shellfish stocks throughout English inshore waters. This project is being led by the Shellfish Association of Great Britain to provide a baseline for the Authority’s management plans. The Authority will liaise closely with the Shellfish Association of Great Britain and other IFCA in developing this project.</p>	<p>1) Contribute to the development of Project Inshore in the Eastern IFCA district</p> <p>2) Provision of existing data relevant to assessment</p>	SMEO	•	•	•	•
		MEO/ Data	•	•	•	•
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>This project is not yet underway so exact requirements of the Authority are not known. It is envisaged that the main role will be to provide as much data as possible about each fishery in the district to be assessed. Although the work is to be carried out by external consultants, Authority officers will be relied upon to provide information and probably assist in interpretation.</p> <p>SMEO – 30 days</p> <p>MEO/DO – 30 days</p>	<ul style="list-style-type: none"> Success Criteria 4: IFCA work in partnership and are engaged with their stakeholders Success Criteria 5: IFCA make best use of evidence to deliver their objectives Success Criteria 6: IFCA support and promote the sustainable management of the marine environment 					
	Project Partners		<ul style="list-style-type: none"> Project Inshore consultants Other IFCA Fishery stakeholders 			

Marine Protected Areas – Fisheries Management Measures		Reference No.		EP2012G			
Project Description	Output	Lead	Q1	Q2	Q3	Q4	
<p>IFCAs are instrumental in delivering the protection of biodiversity in inshore waters. A key mechanism for this is the development and application of fisheries management measures that support the conservation objectives of marine protected areas.</p> <p>This project applies the Authority’s agreed process (Appendix I) for the development of appropriate management of fishing activities within the suite of different MPAs that lie within the Authority’s district. This work will continue to be a core function for the Authority over the next few years as new MPAs are designated and as existing sites evolve.</p>	1) Database of MPAs in the Authority district, their features and conservation objectives	MEO/ Data	•				
	2) MPA Fishing activity database	MEO/Data	•	•			
	3) Reference database for fishing impacts on MPA species and habitats	MEO/Data	•	•			
	4) Risk assessment – risk to MPA features from fishing activities in district	SMEO					
	5) Management options matrix						
	6) GIS charts as necessary	HMC			•	•	
		MEO/GIS				•	
			•	•	•	•	
Project Leader		Judith Stoutt					
Resources Required	Responsibility						
<p>This is a core function for the Authority good data management is critical.</p> <p>MEO/Data – 30 days</p> <p>SMEO – 30 days</p> <p>HMC – 20 days</p> <p>MEO/GIS – 30 days</p>	<ul style="list-style-type: none"> • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCAs make best use of evidence to deliver their objectives • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 						
	Project Partners						
	<ul style="list-style-type: none"> • Natural England • Local fishery stakeholders 						

Marine Protected Areas – Management Groups participation		Reference No.		EP2012H		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
This work is an ongoing commitment rather than a discrete project. Environment officers will maintain the Authority’s representation on management groups for the Humber, the Wash, and the Stour & Orwell European Marine Sites. These groups collectively report on progress with the relevant authorities’ actions that are set out in the management schemes for the respective sites. They provide opportunities to promote the work of the Authority and to discuss proposals or other issues that could affect the conservation of site features.	1) Annual update on Authority actions as set out in Management Schemes for the Humber, Wash and Stour & Orwell European Marine Sites	SMEO	•			•
	2) Fisheries and Authority updates for quarterly management meetings and stakeholder advisory groups	SMEO	•		•	•
	3) GIS Charts as relevant	MEO/ GIS	•		•	
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
SMEO – 10 days Management group meetings and local community meetings SMEO – 5 days update on Authority actions SMEO – 10 days preparing updates for management and community meetings	<ul style="list-style-type: none"> • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
Project Partners						
<ul style="list-style-type: none"> • Other IFCAs • Humber Estuary Relevant Authorities Group • Wash & North Norfolk Coast European Marine Site project • Stour & Orwell Estuaries Management Group 						

Biodiversity duty		Reference No.		EP2012I		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>IFCAs, like all public authorities, must have regard to the conservation of biodiversity in exercising their functions (NERC Act 2006). This is encouraged by integrating biodiversity into policies and plans, and by practical action co-ordinated through Biodiversity Action Plans. The conservation of biodiversity is not restricted to protection of species and habitats within designated sites (Marine Protected Areas) but applies to the entire district. Participation in county biodiversity partnerships provides opportunities to promote the work of the Authority and to discuss issues that could affect the conservation of biodiversity.</p>	<ol style="list-style-type: none"> 1) Participation in relevant biodiversity partnerships 2) Review and delivery of relevant actions in Biodiversity Action Plans 3) Agreed process for Authority to deliver its biodiversity duty 	MEO/DO	•	•	•	•
		MEO/DO	•			
		SMEO			•	•
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>MEO/DO – 15 days</p> <p>SMEO – 10 days</p>	<ul style="list-style-type: none"> • NERC Act 2006 • Success Criteria 4: IFCAs work in partnership and are engaged with their stakeholders • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment 					
	Project Partners					
	<ul style="list-style-type: none"> • County Biodiversity Partnerships 					

Impact Assessment		Reference No.		EP2012J		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The project aims to develop the Authority's approach to Impact Assessments. Impact Assessments are required to accompany the Authority's new or amended byelaws and must take into account environmental, social and economic impacts of policies and plans.</p> <p>This is a new area of work for the Authority wider aspects to proposed changes. The work extends into social science and economics considerations beyond the traditional remit of the environment team.</p>	1) Impact Assessment template	MEO/ DO		•	•	
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>Refer to the Department of Business, Innovation & Skills "Impact Assessment toolkit" and other IFCA Impact Assessment documents.</p> <p>MEO/DO – 10 days research into Impact Assessment and internal report</p> <p>MEO/DO – 15 days development of Impact Assessment template for Authority</p>	<ul style="list-style-type: none"> • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
Project Partners		<ul style="list-style-type: none"> • Other IFCA's • MMO byelaws team 				

Communication & Engagement Strategy – Environmental aspects		Reference No.		EP2012K		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Authority has committed to developing a Communication & Engagement Strategy during 2012/13. Environment officers will liaise with the Community Development Officer in creating the environment sections of this Strategy. This will include a process to engage with conservation stakeholders in the Authority's district. Materials will be developed for use in educating coastal communities about sustainable marine management.</p>	<p>1) Environment sections of the Authority's Communication and Engagement Strategy</p> <p>2) Agreed process to engage with conservation stakeholders</p> <p>3) Environment-themed PR and educational materials</p>	SMEO	•	•		
		HMC	•			
		SMEO		•	•	
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
<p>SMEO – 20 days liaison with CDO and drafting environment sections of Strategy</p> <p>HMC – 10 days – developing process to engage with conservation stakeholders</p> <p>MEO/GIS and MEO/DO – 10 days providing information and charts for PR materials</p>	<ul style="list-style-type: none"> • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment • Success Criterion 7: IFCA's are recognised and heard 					
Project Partners						
<ul style="list-style-type: none"> • Norfolk County Council (PR department) 						

Authority Website maintenance		Reference No.		EP2012L		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Marine Environment/Data Officer will be responsible for maintaining the Authority's website. The Environment section of the website will be improved with additional information, including links to relevant Authority documentation and external resources.</p>	<p>1) Updated environment text for Authority website with appropriate links, images and charts</p> <p>2) Monthly website updates</p> <p>3) Routine website maintenance and troubleshooting</p>	SMEO	•	•		
		MEO/ Data	•	•	•	•
		MEO/ Data	•	•	•	•
Project Leader		Marine Environment/Data Officer				
Resources Required	Responsibility					
<p>SMEO – 5 days</p> <p>MEO/DO – 2 days/month plus 10 days troubleshooting</p>	<ul style="list-style-type: none"> • Success Criteria 4: IFCA's work in partnership and are engaged with their stakeholders • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment • Success Criterion 7: IFCA's are recognised and heard 					
	Project Partners					
	<ul style="list-style-type: none"> • Kent & Essex IFCA • Sussex IFCA • Norfolk County Council (IT support) 					

Corporate Environment Policy		Reference No.			EP2012M	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
The Authority is a leading environmental public body and as such must demonstrate that sustainability is at the core of its work. In order to achieve this, the Authority should assess its consumption of resources and establish processes to encourage efficiency reduce waste and increase recycling. Monitoring should be established to assess environmental improvements and demonstrate any cost savings.	1) Corporate Environment Policy	HMC			•	•
		Project Leader				
		Eden Hannam				
Resources Required	Responsibility					
HMC – 20 days to develop a Corporate Environment Policy	<ul style="list-style-type: none"> • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment • Sustainable development guidance (Defra) 					
		Project Partners				
		<ul style="list-style-type: none"> • Sponsoring County Councils 				

Annual Environment Report		Reference No.			EP2012N	
Project Description	Output	Lead	Q1	Q2	Q3	Q4
Each year environment officers produce a report on progress achieved in relation to the actions set out in the environment section of the Research & Environment Plan (this document). This report will complement the Annual Research Report and the Authority's main Annual Report.	1) Environment Report 2012/13	SMEO				•
	2) Associated illustrative charts	MEO/ GIS				•
Project Leader		Judith Stoutt				
Resources Required	Responsibility					
SMEO – 20 days to produce report MEO/GIS – 10 days to produce charts	<ul style="list-style-type: none"> • Success Criteria 5: IFCAs make best use of evidence to deliver their objectives • Success Criteria 6: IFCAs support and promote the sustainable management of the marine environment • Success Criteria 7: IFCAs are recognised and heard 					
Project Partners						
<ul style="list-style-type: none"> • Internal document but some liaison with other IFCAs is recommended in order to achieve best practice 						

Research & Environment Strategy		Reference No.		EP2012O		
Project Description	Output	Lead	Q1	Q2	Q3	Q4
<p>The Authority needs to produce a longer-term strategy for its research and environment work. This project will establish mechanisms for the evaluation of research and environment priorities over the strategy period. It will identify and prioritise work relating to relevant national projects (e.g. Marine Conservation Zone project, juvenile fish surveys) and local issues (e.g. fishery impact studies and habitat monitoring). Effective liaison amongst Authority members, with district stakeholders and with the Authority's key partner organisations is critical to achieve a robust strategy.</p>	<p>4) Research & environment workshop; 5) Work prioritisation process 6) Research & environment strategy document</p>	<p>CDO HMC HMC</p>			<p>• •</p>	<p>•</p>
	Project Leader		Eden Hannam			
Resources Required	Responsibility					
<ul style="list-style-type: none"> • Planning, running and reporting on a research & environment workshop – CDO 20 days; • Creating a work prioritisation process – HMC 5 days • Drafting and completing the Research & Environment Strategy document – HMC 2 days; SRO 10 days; SMEO 10 days 	<ul style="list-style-type: none"> • Success Criteria 1: High Level Objective 1.3 – Demonstrate a long-term, strategic approach to sustainable marine management... articulated through annual plans and/or longer term strategies. High-level Performance Indicator 1.3 – Issues impacting sea fisheries resources within the district are identified and prioritised (see EIFCA Annual Plan 2012/13) • Success Criteria 5: IFCA's make best use of evidence to deliver their objectives • Success Criteria 6: IFCA's support and promote the sustainable management of the marine environment 					
	Project Partners					
<ul style="list-style-type: none"> • Authority members provide guidance on the range of social, environmental and economic issues within the district • District stakeholders provide input on local issues and priorities • Key partner bodies including Natural England, Cefas, Environment Agency, provide advice on national and regional projects and processes that will help inform development of the Authority's Research & Environment Strategy. 						

4.4 Summary of Research and Environment Activities

The predicted periods of activity for each project are highlighted; colour denotes level of residual risk to the Authority if activities are not carried out (red – high risk; amber – medium risk), as identified in the risk assessment (section 5).

Table 4.4 Research and Environment activities

Reference	Project title	A	M	J	J	A	S	O	N	D	J	F	M
RP2012A	WFO 1992 Spring cockle surveys	Red	Red										Red
RP2012B	WFO 1992 Autumn cockle surveys								Amber	Amber	Amber		
RP2012C	WFO 1992 Autumn mussel surveys						Red	Red	Red				
RP2012D	Bio-toxin sampling	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
RP2012E	Habitat mapping (<i>Sabellaria</i> reefs, MCZs)					Red	Red	Red			Red	Red	Red
RP2012F	Sub-littoral mussel surveys					Red	Red	Red	Red	Red			
RP2012G	Water quality monitoring	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
RP2012H	Cockle dredge environmental impact assessment					Red	Red	Red	Red	Red			Red
RP2012I	Cockle mortality study	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber		Amber	Amber
RP2012J	Management of WFO 1992 Several Fishery	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
RP2012K	Juvenile fish monitoring survey		Amber				Amber	Amber	Amber				
RP2012L	Suffolk river surveys			Amber							Amber	Amber	
RP2012M	Angling 2012	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
RP2012N	Annual Research Report												Amber
RP2012O	Explore RSA research opportunities	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012A	HRA – 2012 cockle fishery	Red	Red	Red									
EP2012B	HRA – 2012/13 mussel fishery							Red	Red	Red			
EP2012C	WFO 1992 review – Constraints study	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012D	Environment Training package	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012E	External environmental consultations	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
EP2012F	Fisheries sustainability appraisal – <i>Project Inshore</i>	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
EP2012G	MPAs – fisheries management measures	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012H	Marine Protected Areas – management groups	Amber		Amber		Amber		Amber		Amber		Amber	
EP2012I	Biodiversity duty	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
EP2012J	Impact Assessment				Amber	Amber	Amber	Amber	Amber	Amber			
EP2012K	Communication strategy – environment aspects	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012L	Authority website maintenance	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
EP2012M	Corporate environment policy							Red	Red	Red	Red	Red	
EP2012N	Annual Environment report										Amber	Amber	Amber
EP2012O	Research & Environment Strategy							Amber	Amber	Amber	Amber	Amber	Amber

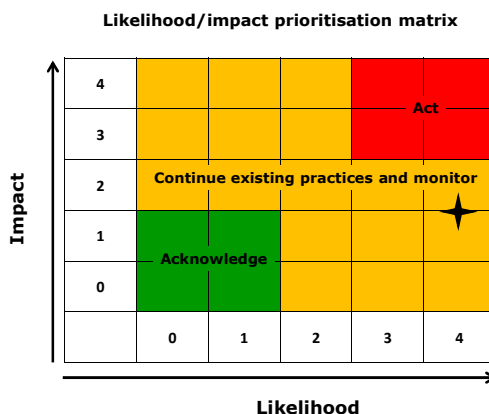
5 Risk Assessments

As part of its annual planning the research and environment team has identified risks to the Authority in relation to planned activities. The risk register shown in the following pages illustrates the main risks to the delivery of the Authority's priorities as evaluated by Officers at time of writing. Risk assessment is subjective based on the experience of the individuals assessing the risk. It should be noted that this risk register only records the main threats to the organisation and is by no means definitive.

The risk register shows the magnitude of impact to the Authority from an organisational viewpoint incorporating reputational and financial risks and the likelihood of that risk occurring. The final column shows mitigation either already in place (green) or to be introduced (red). In most cases there are already many actions being undertaken as part of routine working practices to reduce risks to the Authority. Risk and likelihood are ranked on an arbitrary scale from 0 (low risk - coloured green) to 4 (high risk - coloured red).

The average of the combined financial and reputational risk is plotted against the likelihood of that risk occurring. The matrix identifies what action is required in relation to each identified risk: acknowledge, monitor or act immediately.

An example is provided below to show how the risk matrix works. Risk A poses a financial threat (2) to the organisation and a reputation threat (1) generating an average risk of 1.5. The likelihood of the threat occurring is determined as 4. The resultant risk to Eastern IFCA is plotted on the matrix – the outcome is that Risk A is risk that should be monitored.



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5.1 Research activities risk assessment

Table 5.1 Risk assessment for research activities

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012A WFO Spring cockle surveys (5.3/5.4)	CEO/ SRO/ MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions. This could lead to a delay or failure to open WFO cockle fishery and/or potential over-exploitation of the stocks.	4		4	High	<ul style="list-style-type: none"> • Dedicated 18m research vessel and crew able to operate in moderate sea conditions • Research vessel regularly serviced • Contingency to conduct some surveys on foot from shore or employing RIBs • All research personnel and crew trained to conduct these surveys • High priority given to these surveys, including working weekends and nights • Development of cockle charter with industry
			Reputation	Reputation	Poor weather preventing surveys		
			4	4	Breakdown of vessel Limited access to bombing ranges Loss of key research personnel Short time window in which to conduct surveys		
			High expectation that WFO resources are well managed by the Authority Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.	High expectation that WFO resources are well managed by the Authority Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012B WFO Autumn cockle surveys (5.3/5.4)	CEO/ SRO/ MPASC	Lack of accurate stock data leading to gaps in evidence base. Reduced understanding of the impact of previous season's fishery and spatfall.	1.5		4	High	<ul style="list-style-type: none"> • As above for RP2012A
			Reputation	Financial	As above for RP2012A, with increased potential for poor weather conditions		
			2	1			
			High expectation that WFO resources are well managed by the Authority	Lack of evidence could have impact on success of future fisheries and accuracy of spring survey.			

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete RP2012C WFO Autumn mussel surveys (5.3/5.4)	CEO/SRO/MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions. This could lead to a delay or failure to open WFO mussel fishery and/or potential over-exploitation of the stocks.	3.5	4	As above for RP2012A,	<ul style="list-style-type: none"> As above for RP2012A Further contingency plans to be developed as required
			Reputation	Financial		
			4	3		
			High expectation that WFO resources are well managed by the Authority Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.	Research resources required to be contracted in to fulfil research programme. Potential for civil lawsuit from industry for loss of earnings.		

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete RP2012D Bio-toxin Sampling (5.3/5.4)	CEO/SRO/MPASC	Lack of water classification leads to closure of shellfisheries. Non delivery of agreed MoUs with partner organisations.	3.5	4	Poor weather conditions prevent sampling Breakdown of vessel Loss of key research personnel Strict time restriction in which samples can be collected Low shellfish densities make sampling difficult	<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions Research vessel regularly serviced Contingency to collect samples on foot from shore or employing RIBs All research personnel and crew trained to collect samples Flexibility in work roster to allow additional sampling if required
			Reputation	Financial		
			4	3		
			The Authority reputation as a successful manager damaged. Loss of confidence in the organisation.	Research resources required to be contracted in to fulfil research programme. Potential for civil lawsuit from industry for loss of earnings.		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012E Habitat Mapping (5.3/5.4/6.1/6.3/6.4)	CEO/SRO/MPASC	Lack of accurate environmental data leading to poor evidence base upon which to make management decisions. Non delivery of agreed MoUs with partner organisations. Loss or damage of important habitats and species within environmentally designated areas.	4		4		<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions Research vessel regularly serviced All research personnel and crew trained to conduct these surveys Flexibility in work roster to allow additional sampling if required MoUs with other organisations to share staff and equipment MoU with Kent and Essex IFCA to use <i>RV Tamesis</i> for surveys in Suffolk Research plans to be developed with other organisations
			Reputation	Financial	AGDS equipment requires calm sea conditions, so high probability of being affected by poor weather		
			4	4	Breakdown of vessel Loss of key research personnel Short time window in which to conduct surveys Logistics of surveying long distance from port		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012F Sub-littoral mussel surveys (5.3/5.4)	CEO/SRO/MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions This could lead to a delay or failure to open sub-littoral mussel and/or the potential to damage important habitats and species within environmentally designated areas	3.5		4		<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions Research vessel regularly serviced All research personnel and crew trained to conduct these surveys Contingency to employ industry vessels to conduct some surveys Flexibility in work roster to allow additional sampling if required Formal reporting system developed for industry members to alert the Authority when sub-littoral beds are found Action plan developed to better enable timely surveys to be conducted
			Reputation	Financial	High probability of AGDS equipment being affected by poor weather		
			4	4	Breakdown of vessel Loss of key research personnel Logistics of surveying long distance from port		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation		
Failure to complete RP2012G Water quality monitoring (5.3/5.4/6.1/6.3/6.4)	CEO/SRO/MPASC	Lack of accurate environmental data leading to poor evidence base upon which to make management decisions Non delivery of agreed MoUs with partner organisations. Loss or damage of important habitats and species within environmentally designated areas. Delay or failure to process new several fishery lay applications	3.5		3		<ul style="list-style-type: none"> • Dedicated 18m research vessel and crew able to operate in moderate sea conditions • Research vessel regularly serviced • Contingency to collect samples using RIBs • All research personnel and crew trained to collect samples • Dedicated data buoy and YSI sondes • MoUs with other organisations • Flexibility in work roster to allow additional sampling if required • Strategic review of project with partner organisations 		
			Reputation		Financial			Poor weather conditions prevent sampling	
			4	3	Breakdown of vessel				
			The Authority is not meeting statutory duties under EU and UK conservation legislation. Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district. Loss of confidence in the Authority with partner organisations	Research resources required to be contracted in to fulfil research programme. Potential for civil lawsuit from industry for loss of earnings.	Loss of key research personnel Long-term sampling requires commitment to collect samples throughout year Malfunction or loss of YSI sondes				

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012H Cockle dredge environmental impact assessment (5.3/5.4/6.1/6.3/6.4)	CEO/SRO/MPASC	Lack of accurate environmental data leading to poor evidence base upon which to make management decisions Non delivery of agreed MoUs with partner organisations. Loss or damage of important habitats and species within environmentally designated areas.	3.5		3	High	<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions Research vessel regularly serviced Contingency to conduct some surveys on foot from shore or employing RIBs All research personnel and crew trained to conduct these surveys Close working relationship with local fishing industry MoU with other organisations
			Reputation	Financial	Poor weather preventing surveys		
			4	3	Breakdown of vessel Loss of key research personnel Failure to organise commercial vessel to conduct dredging activity		
			High expectation that WFO resources are well managed by the Authority Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.	Research resources required to be contracted in to fulfil research programme. Potential for civil lawsuit from industry for loss of earnings.			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012I Cockle mortality study (5.3/5.4)	CEO/SRO/MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions Potential loss of earnings to industry if shellfish mortality is not predicted and managed appropriately	3.5		2	Medium	<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions Research vessel regularly serviced Contingency to collect samples from shore or using RIBs Flexibility in work roster to allow additional sampling if required Research staff well qualified and experienced in these activities Develop Emergency Management Plan
			Reputation	Financial	Poor weather preventing surveys		
			4	3	Breakdown of vessel Loss of key research personnel		
			High expectation that WFO resources are well managed by the Authority Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.	Potential for civil lawsuit from industry for loss of earnings.			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation	
Failure to complete RP2012J Management of the WFO several fishery (1.3/2.1/6.3)	CEO/SRO/MPASC	Lack of adequate management of several fishery Failure to address expired leases of several fishery lays Delay or failure to process new and existing lay applications	3.5		4	Complexity of Constraints Study, possible requiring information that is beyond the capability of the Authority to deliver. Poor weather and/or vessel breakdowns prevent survey of lay applications	<ul style="list-style-type: none"> • New staff recruited to enhance GIS and data handling capability of team • Research staff well qualified and experienced in these activities • MoUs with other organisations • Close working relationship with members of fishing industry • Dedicated research vessel and crew • Research vessel regularly serviced • Contingency to conduct some surveys using RIBs • Develop formal approach for dealing with new lay applications 	
			Reputation	Financial	4			3
			High expectation that WFO resources are well managed by the Authority	Potential for civil lawsuit from industry for loss of earnings.				
			Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.					

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation	
Failure to complete RP2012K Develop juvenile fish monitoring programme (5.3/5.4/6.1/6.3/6.4)	CEO/SRO/MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions Temporary or permanent damage to fish stocks, fishery habitats or fishing grounds Non delivery of agreed MoUs with partner organisations	2.5		2	Poor weather preventing surveys Breakdown of vessel Loss of key research personnel Strict time frame in which to conduct surveys	<ul style="list-style-type: none"> • Dedicated 18m research vessel and crew able to operate in moderate sea conditions • Research vessel regularly serviced • Contingency to conduct some surveys from shore or using RIBs • Research staff well qualified and experienced in these activities • MoUs with other organisations • Develop fish monitoring programme based on the Authority requirements 	
			Reputation	Financial	3			2
			Loss of confidence of the Authority's ability to manage the sea fisheries resources within its district.	Potential for civil lawsuit from industry for loss of earnings. Legal challenge brought against the Authority for failing to meet obligations under MaCAA and the Habitats Regulations				

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012L Suffolk rivers surveys (5.3/5.4/6.1)	CEO/SRO/MPASC	Lack of accurate stock and environmental data leading to poor evidence base upon which to make management decisions. This could lead to failure to open some potential fisheries or for consented fisheries to damage important habitats and species within environmentally designated areas.	2		2	High	<ul style="list-style-type: none"> Dedicated 18m research vessel and crew able to operate in moderate sea conditions River environment reduces impact of poor weather Research vessel regularly serviced Research staff well qualified and experienced in these activities MoU with Kent and Essex IFCA to use <i>RV Tamesis</i> for surveys Provision to berth vessel in Ipswich
			Reputation	Financial	Poor weather preventing surveys		
			2	2	Breakdown of vessel Loss of key research personnel Logistics of surveying long distance from home port		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012M Angling 2012 (2.1/4.1/5.2)	CEO/SRO/MPASC	Lack of accurate stock data leading to poor evidence base upon which to make management decisions Non delivery of agreed MoUs with partner organisations	2		2	High	<ul style="list-style-type: none"> Flexible team of IFCOs Availability of fleet vehicles RSA represented on Authority
			Reputation	Financial	Loss of key personnel		
			3	1	Breakdown of vehicles Failure to gain cooperation of anglers		
		High expectation that WFO resources are well managed by the Authority Loss of confidence in the organisation		Research resources required to be contracted in to fulfil research programme.			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012N Compile annual research report (5.1/5.3)	CEO/ SRO/ MPASC	Failure to report results and conclusions of research projects conducted through year	2		2		<ul style="list-style-type: none"> • Research staff well qualified and experienced at data analysis and report writing • Report compiled in winter when less time is occupied with sea-going duties • Opportunity to compile some sections earlier in the year
			Reputation	Financial	Loss of key personnel		
			3	1	Time limitations to complete a large piece of work		
			Stakeholder confidence in the Authority declines	Research resources required to produce individual reports			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete RP2012O To explore research opportunities for the RSA sector	RO	Failure to identify or report research projects	2		2		<ul style="list-style-type: none"> • Flexible team of ROs • RSA represented on Authority
			Reputation	Financial	Loss of key personnel		
			2	2	Failure to gain cooperation of anglers		
			Stakeholder confidence in the Authority declines	Potential legal challenges raised by the RSA sector			

5.2 Environment activities risk assessment

Table 5.2 Risk assessment for Environment activities

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012A Habitats Regulations Assessment – 2012 cockle fishery	MPASC CEO/SMEO	Major fishery unable to proceed legally; Authority in breach of European conservation legislation; European Marine Site features potentially at risk from unauthorised fishing activities; Possible limitations on interdependent Wash mussel fishery.	4		3		<ul style="list-style-type: none"> Dedicated environment staff: Habitats Regulation Assessment work is a priority for the environment team; Need for Habitats Regulation Assessment identified in cockle fishery charter; In-house Research team provides stock data and impact assessment evidence to inform the assessment; Strong working relationship with Natural England; liaison with Natural England officers early in assessment planning stage Habitats Regulations Assessment training for new environment staff Consult on Habitats Regulations Assessment with key stakeholders
			Reputation	Financial	Delay in completing assessment if unforeseen data gaps emerge		
			4	4			
			Loss of confidence in Authority's ability to operate fishery within Marine Protected Areas	Potential legal proceedings against authority for failure to meet duties under Habitats Regulations			
Failure to meet fishing and conservation stakeholder expectations	Potential for civil lawsuit against Authority for loss of earnings						

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012B Habitats Regulations Assessment – 2012 mussel fishery	MPASC CEO/SMEO	Major fishery unable to proceed legally; Authority in breach of European conservation legislation; European Marine Site features potentially at risk from unauthorised fishing activities Possible limitations on interdependent Wash cockle fishery	4		3		<ul style="list-style-type: none"> Dedicated environment staff: Habitats Regulation Assessment work is a priority for the environment team; In-house Research team provides stock data and impact assessment evidence to inform the assessment; Strong working relationship with Natural England; liaison with Natural England officers early in assessment planning stage Habitats Regulations Assessment training for new environment staff Consult on Habitats Regulations Assessment with key stakeholders
			Reputation	Financial	Possible delay in completing assessment if data gaps emerge		
			4	4			
			Loss of confidence in Authority's ability to operate fishery within Marine Protected Areas	Potential legal proceedings against authority for failure to meet duties under Habitats Regulations			
Failure to meet fishing and conservation stakeholder expectations	Potential for civil lawsuit against Authority for loss of earnings						

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete EP2012C Wash Fishery Order 1992 review - Constraints study	MPASC HMC	Short-sighted, piecemeal development of the WFO Several Fishery Granting of several fishery leases in unsuitable locations	1.5	3	New piece of work for the Authority	<ul style="list-style-type: none"> HMC experienced in aquaculture constraints study; Expanded research and environment team provides extra resources to conduct new work; MOUs with partner organisations (Cefas, Natural England and Environment Agency) to improve data-sharing
			Reputation	Financial		
			2	1		
			Loss of confidence in Authority's ability to manage the Wash Fishery Order several fishery Failure to meet fishing and conservation stakeholder expectations	Potential for civil lawsuit against Authority for loss of earnings		

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete EP2012D Environment Training package	CEO/ SMEO	Unstructured training for new research and environment staff Extended settling in period for new staff Excessive Senior Officer time spent on training staff.	1.5	3	New piece of work for the Authority	<ul style="list-style-type: none"> HMC experienced in aquaculture constraints study; Expanded research and environment team provides extra resources to conduct new work; MOUs with partner organisations (Cefas, Natural England and Environment Agency) to improve data-sharing
			Reputation	Financial		
			2	1		
			Loss of confidence in Authority's ability to manage the Wash Fishery Order several fishery Failure to meet fishing and conservation stakeholder expectations	Potential for civil lawsuit against Authority for loss of earnings		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012E Update external consultation framework and provide appropriate input to marine development consultations	CEO/SMEO	Incomplete consideration of inshore fisheries and conservation issues by licensing authorities; Preventable impacts on marine environment or inshore fisheries	2.5		4		<ul style="list-style-type: none"> Environment team expanded Prioritising consultations according to level of threat to marine environment or inshore fisheries Training new environment staff to respond to external consultations
			Reputation	Financial	Insufficient resources (officer time) to cope with large volume of external consultations		
			3	2	Response to external consultations given lower priority than Authority's core conservation work		
			Authority is not recognised and heard	Reputation impact could reduce external funding opportunities			
			Failure to meet fishing and conservation stakeholder expectations		New staff require training in this work area		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012F Fisheries sustainability appraisal – Project Inshore	CEO/SMEO	Authority fails to identify issues impacting sea fisheries resources within the Eastern IFCA District Lack of information for byelaw review Lack of information for development of suitable management plans	3.5		3		<ul style="list-style-type: none"> Establish good working relationship with Project Inshore team; Allocate sufficient time (MEO Data officer) to gather and format relevant datasets; Improve liaison with other IFCAs involved in Project Inshore; Use Authority's new Community & Development Officer to promote aims of Project Inshore amongst stakeholders throughout district.
			Reputation	Financial	Liaison yet to be established with Project Inshore team		
			4	3	Requirements of Project Inshore team not known – Authority likely to be asked to provide significant data input		
			Authority unable to effectively manage the sustainable exploitation of sea fisheries resources	Without involvement in this national Project Inshore, the Authority would have to fund its own sustainability appraisals			
			Failure to meet fishing and conservation stakeholder expectations		Consultation fatigue if fishery stakeholders asked to contribute via questionnaires or written surveys		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012G Marine Protected Areas – develop and apply fisheries management measures that help meet the sites’ Conservation Objectives	MPASC CEO/ SMEO	Authority fails to meet duties under European and national marine protected areas legislation Protected habitats and species potentially at risk from fishing activities Potential creation of stringent national fisheries restrictions in absence of sensitive local management	4		2		<ul style="list-style-type: none"> Authority has agreed process to develop fishery management measures for marine protected areas (Appendix 1) Excellent working relationship with Natural England regional marine advisors Environment team expanded and activities under EP2012G allocated according to skills area.
			Reputation	Financial	Data gaps with regards to impact of different fishing activities on particular features and habitats		
			4	4	Authority byelaw review not yet underway Management measures can take a long time to develop		
			Loss of confidence in Authority’s ability to operate fishery within Marine Protected Areas Failure to meet fishing and conservation stakeholder expectations	Potential legal proceedings against authority for failure to meet duties under European and national marine protected areas legislation			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012H Marine Protected Areas – management groups	MPASC CEO/ SMEO	Authority ceases to benefit from working alongside other relevant authorities or under leadership of dedicated Marine Protected Area project manager; Partners and stakeholders not aware of work being conducted by Authority in relation to Marine Protected Areas	2		2		<ul style="list-style-type: none"> Excellent working relationship (daily contact) with Wash & North Norfolk Coast European Marine Site project team (Authority is the employing authority) Authority is established member of existing management groups Expanded environment team with increased resource available to engage with marine protected area management groups, attend meetings and ancillary events MOUs being developed with neighbouring IFCA’s for efficient representation of shared sites
			Reputation	Financial	Dedicated Authority officer time required to attend Management Group meetings and participate in ancillary events, e.g. Stour & Orwell Forum		
			3	1	Authority is not recognised and heard Potential costs to Authority in demonstrating actions taken to meet conservation objectives		
			Authority is not recognised and heard	Potential costs to Authority in demonstrating actions taken to meet conservation objectives			

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete EP2012I Biodiversity duty	CEO/SMEO	Authority fails to meet its duties as a public body in relation to biodiversity Biodiversity is not considered in management decisions Vulnerable species and habitats potentially damaged through absence of fisheries management by Authority	3	3	Biodiversity duty not prioritised by Authority Officers not fully engaged in county biodiversity partnerships	<ul style="list-style-type: none"> Authority is represented on Norfolk Biodiversity Partnership – coastal topic group Authority has contributed to Norfolk, Lincolnshire and The Wash Biodiversity Action Plans Increased liaison with the Wildlife Trusts and relevant county biodiversity groups Expanded environment team to increase resources targeted at this work area Development of process for Authority to follow to enable proper consideration of biodiversity duties
			Reputation	Financial		
			3	3		
			Authority seen to fail to meet statutory duty Failure to meet conservation stakeholder expectations	Possible legal action against Authority from conservation NGOs		

Description	Owner	Implications	Impact	Likelihood	Risk	Mitigation
Failure to complete EP2012J Impact Assessment	R&CSC CEO/SMEO	Authority fails to meet statutory requirement to undertake and report on an Impact Assessment to accompany new management measures or policies Social, economic and environmental impacts of new measures not fully understood Unforeseen impacts could arise for stakeholders, local economy and/or the marine environment as a result of Authority measures or policies	3	4	Authority has no experience in undertaking social and economic impact assessments	<ul style="list-style-type: none"> Expanded environment team to increase resource allocated to this work area – economics background favoured Government department guidance available Liaison with Defra byelaws team and with other IFCA's who have already undertaken this type of work, to follow best practice
			Reputation	Financial		
			3	3		
			Authority develops inappropriate byelaws, other measures or policies Failure to meet conservation stakeholder expectations	Potential for civil lawsuit against Authority for loss of earnings Possible judicial review of Authority decisions		

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012K Develop environmental input towards Authority's Communication and Education Strategy	PCSC CEO/ SMEO	The Authority's conservation remit is not recognised nor understood or valued by key partners, district stakeholders or the wider public	3.5		2		<ul style="list-style-type: none"> Community and Development officer employed to lead on this work Expanded environment team enables resources to be dedicated to this work area Environment staff experienced in promoting the Authority's environmental remit amongst external stakeholders Environment staff to liaise closely with Community and Development officer Explore opportunities to work with funding authorities' PR departments for maximum efficiency in this work area
			Reputation	Financial	Authority has not previously developed a formal communication and education strategy		
			4	3			
			The IFCA vision is not known or understood	Lack of understanding of the role of the Authority could lead to reduced contributions from funding authorities, or reduce chances of obtaining external funding			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012L Authority website maintenance	PCSC CEO/ SMEO	Public image of Authority is out-of-date Communication and engagement opportunities lost	2		3		<ul style="list-style-type: none"> New MEO data officer allocated to lead on website maintenance Responsibility for each section of website is allocated to a named member of staff
			Reputation	Financial	Authority adapting to new IT system		
			3	1	Existing staff have limited website maintenance training		
			Public expectations not met Authority seen to be out of date and out of touch	Poor perception of the Authority could lead to reduced contributions from funding authorities, or reduce chances of obtaining external funding			

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012M Corporate environment policy	PCSC CEO/ HMC	Authority has no strategic approach to achieving organisational targets relating to environmental performance Authority fails to deliver sustainable development	2.5		3		<ul style="list-style-type: none"> Expanded environment team enables resources to be directed to this work area
			Reputation	Financial	Organisational environmental performance given lower priority that meeting statutory conservation requirements		
			3	2			
			Authority fails to be identified as leading example in corporate environmental performance	Authority fails to cut costs associated with improved environmental performance			
			Public expectations not met				

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP2012N Annual environment report	CEO/ SMEO	Authority fails to demonstrate it is achieving its environmental duties	3.5		2		<ul style="list-style-type: none"> Environment plan (this document) established as basis for the year's environment report Expanded environment team enables more resources to be allocated to this work area
			Reputation	Financial	Dedicated environment and administration teams		
			3	4			
			Authority appears to be failing to meet its environmental duties	Ultimately funding could be withdrawn if Authority not seen to meet its core duties			
			Failure to meet fishing and conservation stakeholder expectations				

Description	Owner	Implications	Impact		Likelihood	Risk	Mitigation
Failure to complete EP20120 Research & Environment Strategy	PCSC CEO/HMC	Lack of strategic direction in the Authority's Research & environment work programme Mis-aligned priorities result in important work being missed District stakeholders fail to understand Authority priorities and drivers behind research and environment work	3.5		2		<ul style="list-style-type: none"> • Good existing liaison within Authority and between Authority and national, regional and local partners • Agreed process for development of management measures in Marine Protected Areas • Employment of Community Development Officer to facilitate local engagement • Fisheries sustainability assessment throughout Authority district • Mechanisms to identify national and local issues impacting sea fisheries resources
			Reputation	Financial	Authority's Planning & Communication Sub-Committee established		
			3	4			
			Authority fails to deliver in priority areas	Funding withdrawn if Authority fails to deliver priority work			
			Authority work not aligned with national or regional marine environmental priorities				

6. References

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7. Glossary

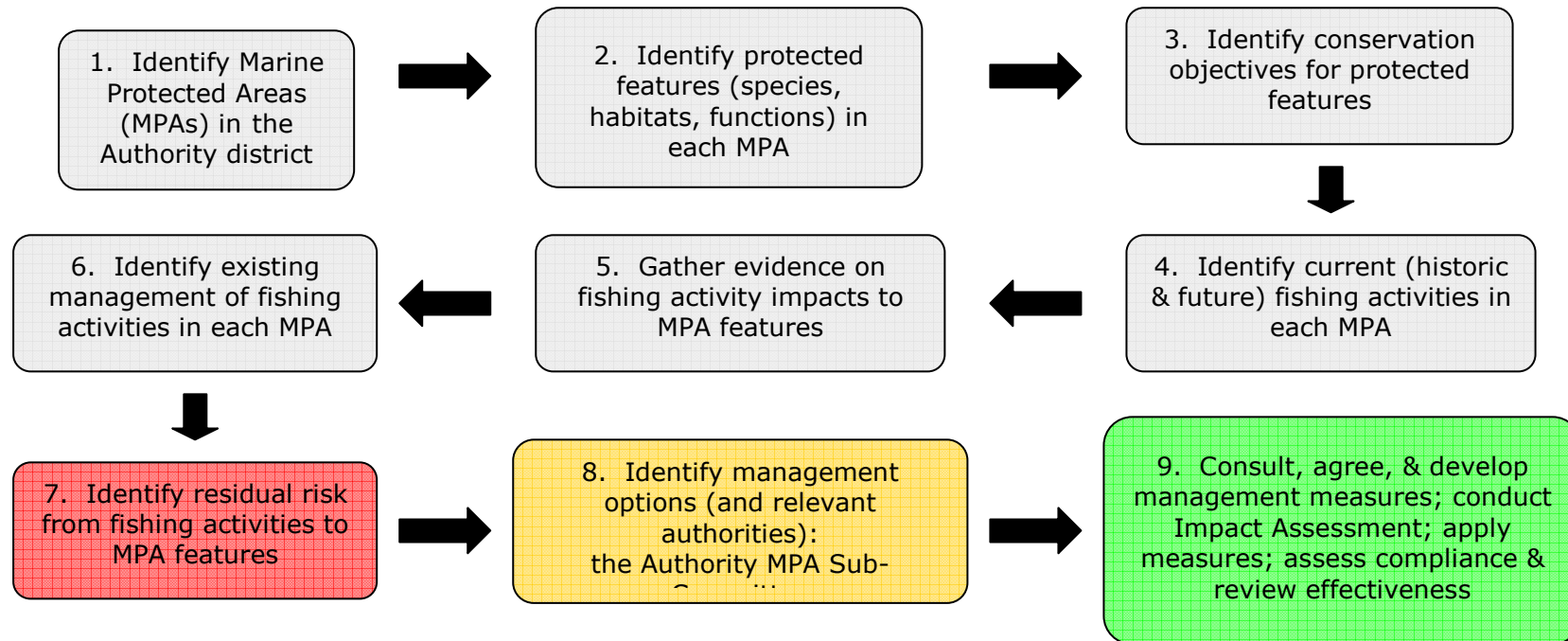
AGDS	Acoustic Ground Discrimination System
CEFAS	Centre for Environment, Fisheries and Aquatic Science
CEO	Chief Executive Officer
Defra	Department of Environment, Food and Rural Affairs
EA	Environment Agency
EMS	European Marine Site
FPV	Fishery Patrol Vessel
FSA	Food Standards Agency
GIS	Geographical Information System
HLO	High Level Objective
HMC	Head of Marine Conservation
ICT	Information Communication and Technology
IFCA	Inshore Fisheries and Conservation Authority
IFCO	Inshore Fisheries and Conservation Officer
LA	Local Authority
LCC	Lincolnshire County Council
MaCAA	Marine and Coastal Access Act
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MEO	Marine Environment Officer
MMO	Marine Management Organisation
MEO/GIS	Marine Environment/Geographical Information System Officer
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MPASC	Marine Protected Area Sub-Committee
NE	Natural England
NCC	Norfolk County Council
PCSC	Planning and Communications Sub-Committee
PI	Performance Indicator
RCSC	Regulatory and Compliance Sub-Committee
RIB	Rigid Inflatable Boat
RO	Research Officer
ROV	Remotely Operated Vehicle
RSA	Recreational Sea Angling
RV	Research Vessel
SAC	Special Area of Conservation
SC	Success Criteria
SCC	Suffolk County Council
SFWG	Small Fish Working Group
SIFCA	Sussex Inshore Fisheries and Conservation Authority
SLA	Service Level Agreement
SMEO	Senior Marine Environment Officer
SoS	Secretary of State
SPA	Special Protection Area
SRO	Senior Research Officer
SSSI	Site of Special Scientific Interest
TAG	Technical Advisory Group
WFD	Water Framework Directive
WFO	Wash Fishery Order
YFS	Young Fish Surveys

8. List of Images

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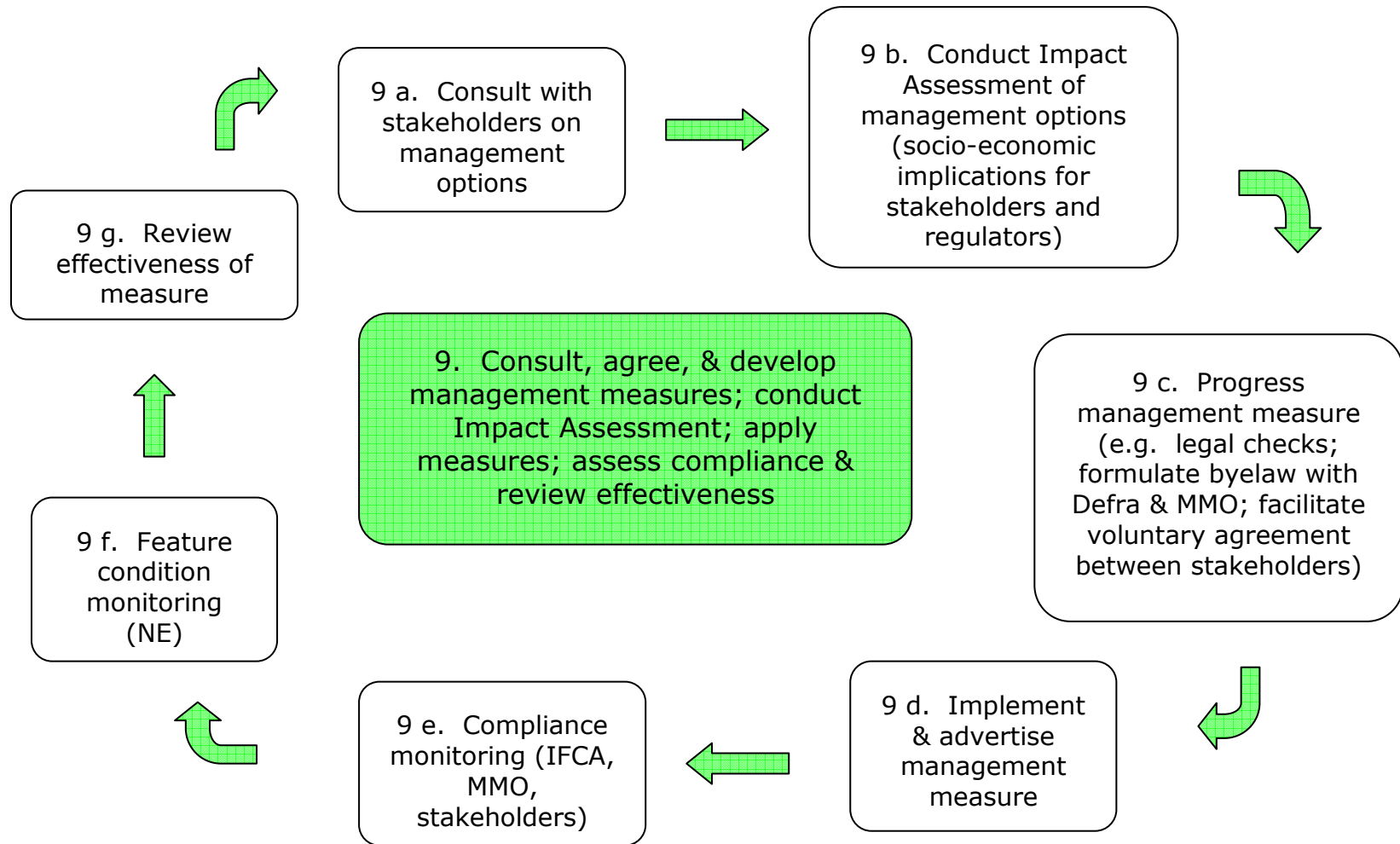
Appendix I – Eastern IFCA agreed process for developing fisheries management measures in Marine Protected Areas



Notes:

- No timescale has been included on this diagram – the time required to develop management measures will vary considerably depending upon the complexity of the issue, and the availability of evidence to inform the process.
- Step 9 is expanded overleaf.
- Each stage will be dependent on data being available to inform decisions. The process will identify data gaps; this will subsequently inform the Authority Research Strategy. Where insufficient data are available to draw conclusions, the Authority must decide an appropriate course of action.
- Liaison with partner agencies and stakeholders will be critical throughout the process.
- the Authority holds various datasets that will inform this process. It is intended that these datasets be reviewed to ensure they are fit for purpose, and continuously updated with Inshore Fisheries & Conservation Officer data and other reliable information.

Eastern IFCA agreed process for developing fisheries management measures in Marine Protected Areas cont. (Step 9 expanded)



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