

Sussex IFCA Annual Research Report 2019-2020

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There was a broad range of research undertaken between April 2019 and March 2020. Twenty seven projects were described in the Annual Research Plan, drawn from the Strategic Research Plan 2016-2020. Each project sits under one of three themes and various appropriate sub-themes. Here, each project is listed with a brief description, the purpose and how it has supported management decisions, as well as the progress that has been made on the project during the financial year from April 2019 to March 2020. The highest priorities for the year were: the Netting and Trawling Activity byelaw reviews, Kingmere MCZ Management Monitoring/Anglers’ Activity – Black Seabream, and Tranche 3 MCZs: Beachy Head East and Selsey Bill and the Hounds. There are highlighted in bold in the report below.

Theme	Sub-theme	Project	Description	Purpose	Progress
Sustainable marine resource exploitation	Fisheries biology data	Shellfish permit monitoring	Collation and analysis of catch return data from shellfish permit holders.	To support the Shellfish Permit Byelaw .	Collation of catch returns, quality assurance and compliance, data entry and analysis. Annual report written.
Sustainable marine resource exploitation	Fisheries biology data	Lobster sampling	Measuring lobsters onboard and in port, opportunistic sampling as part of compliance duties.	The data was shared with Cefas to support their stock assessments. The data also supports the Shellfish Permit Byelaw .	Officers measured lobsters when appropriate. Data shared with Cefas. Sussex IFCA has been part of national discussions regarding the collection of monitoring data and research requirements for the sustainable management of lobsters.

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Sustainable marine resource exploitation	Fisheries biology data	Whelk sampling	Measuring whelks onboard and in port, opportunistic sampling as part of compliance duties.	To support Shellfish Permit Byelaw .	Sussex IFCA has led national discussions regarding whelk research and is working with partner organisations to develop a robust sampling program. Helped establish and vice-chairing the Whelk Working Group.
Sustainable marine resource exploitation	Fisheries biology data	Oyster stock monitoring	Monthly sampling by EHOs, stock assessment pre-season (August), CPUE monitoring during season (November), fishers catch data.	To support the Oyster Permit Byelaw . Also recording of activity for European Marine Site monitoring.	Catch per unit effort data was collected every month. Pre-season stock assessment. Unfortunately, insufficient oysters to open fishery in 2019. Commissioned report on history of oyster fishing in Chichester Harbour.
Sustainable marine resource exploitation	Fisheries biology data	Species specific management plans	Management plans for 25 priority species, including reference to Maximum Sustainable Yield.	To support the sustainable management of key Sussex fisheries.	The plans have been completed for all 25 species, summarising biology, ecology, fishing pressure, concerns and potential future work.
Sustainable marine resource exploitation	Fishing activity	Fishing vessel effort	Location and activity of fishing vessels at sea as part of compliance duties, creating effort maps (activity corrected for patrol effort).	To inform the level of fishing activity across the District, in particular in Marine Protected Areas and to support the development of byelaws.	941 sightings of vessels were recorded Jan-Dec 2019 and were used in the development of netting and trawling management as well monitoring activity in MPAs.
Sustainable marine resource exploitation	Fishing activity	Netting activity	Location and intensity of netting, environmental impacts, value of fishery.	To support new management measures as part of the review of byelaws.	Extensive evidence gathering, analysis and technical support during byelaw development and consultation .

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Sustainable marine resource exploitation	Fishing activity	Trawling activity	Location and intensity of trawling, catch per unit effort, environmental impacts, value of fishery.	To support new management measures as part of the review of byelaws.	Extensive evidence gathering, analysis and technical support during byelaw development and consultation .
Ecosystem interactions	Marine Protected Areas	Anglers' activity – black seabream	At sea and in port inspections to gather catch and biological information, mainly April-June.	To further understanding of the fishing activity in and near Kingmere MCZ .	35 vessels with bream were inspected and 156 bream were measured. There were 67 angling vessel observations in Kingmere MCZ on 10 sea patrols.
Ecosystem interactions	Marine Protected Areas	Kingmere Marine Conservation Zone (MCZ) management monitoring	Ongoing monitoring of Kingmere MCZ management, including elements of Anglers' Activity and Fishing Vessel Effort projects.	To support the achievement of the conservation objectives for the MCZ.	Monitoring of fishing activity in the MCZ. Liaison with partner organisations. Information sharing with stakeholders. Partaking in discussions regarding aggregate extraction and other licence activities.
Ecosystem interactions	Marine Protected Areas	Beachy Head West MCZ management monitoring	Ongoing monitoring of Beachy Head West MCZ management, promoting MCZ and Code of Conduct, supporting partner organisations, may include elements of Intertidal Resource Gathering project.	To support the achievement of the conservation objectives for the MCZ.	Monitoring of fishing activity in the MCZ, shore and sea patrols. Information sharing with stakeholders. Liaison with partner organisations.
Ecosystem interactions	Marine Protected Areas	Pagham MCZ and EMS monitoring	Ongoing monitoring of Pagham MCZ and EMS management, may include elements of Intertidal Resource Gathering and Fishing Vessel Effort projects.	To support the achievement of the conservation objectives for the MCZ.	Monitoring of fishing activity in the MCZ. Information sharing with stakeholders. Liaison with partner organisations.

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Ecosystem interactions	Marine Protected Areas	Utopia MCZ monitoring	Ongoing monitoring of Utopia MCZ management, may include elements of the Fishing Vessel Effort project.	To support the achievement of the conservation objectives for the MCZ.	Monitoring of fishing activity in the MCZ. Information sharing with stakeholders. Liaison with partner organisations.
Ecosystem interactions	Marine Protected Areas	Offshore Overfalls MCZ management development	Supporting the MMO in the development of management for Offshore Overfalls MCZ.	To support the achievement of the conservation objectives for the MCZ.	Shared information with the MMO as required, as they are the lead managers for this site.
Ecosystem interactions	Marine Protected Areas	Selsey Bill and the Hounds MCZ management development	Supporting partner organisations by providing information as requested for the designation process of tranche 3 MCZs, then once designated, developing management measures.	To support the achievement of the conservation objectives for the MCZ.	Site designated in May 2019. Included in the Trawling Byelaw development to protect vulnerable reef features.
Ecosystem interactions	Marine Protected Areas	Beachy Head East MCZ management development	Supporting partner organisations by providing information as requested for the designation process of tranche 3 MCZs, then once designated, developing management measures.	To support the achievement of the conservation objectives for the MCZ.	Site designated in May 2019. Started to collate habitat and fishing data in order to consider management options.
Ecosystem interactions	Marine Protected Areas	Solent European Marine Site (EMS) management development	Ongoing monitoring of EMS management, may include elements of the Oyster Stock Monitoring, the Fishing Vessel Effort and Intertidal Resource Gathering projects.	To comply with Defra's revised approach to fisheries in EMS.	Ongoing monitoring of features and fishing activity. Active engagement with the Solent EMS management group, including contribution to annual report.

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Ecosystem interactions	Marine Protected Areas	Dungeness, Romney Marsh and Rye Bay EMS monitoring	Ongoing monitoring of EMS management, may include elements of Intertidal Resource Gathering and the Fishing Vessel Effort projects.	To comply with Defra's revised approach to fisheries in EMS.	Ongoing monitoring of fishing activity in partnership with Rye Harbour Nature Reserve.
Ecosystem interactions	Marine Protected Areas	Anchoring impacts on sensitive habitats	Location, intensity and impact of vessels anchoring on sensitive habitats such as rocky reef and seagrass.	To consider a range of impacts on marine environments and potential impact on fisheries.	The MMO commissioned a report; Recreational and commercial anchoring and mooring impacts in marine protected areas in Wales and England - ME6003
Ecosystem interactions	Habitats	Interactive habitat map	Development of a publically accessible map that highlights the important diversity in the coastal waters of Sussex.	To create a publically available resource showcasing Sussex's marine biodiversity.	Working with Sussex Biodiversity Records Centre, the online interactive map has been further developed with seabed habitats and video clips, bathymetry, MPAs, wrecks, byelaws and fishing effort.
Ecosystem interactions	Habitats	Assessing natural capital	Analysis of the natural capital and ecosystem services provided by seabed habitats in Sussex coastal waters.	To provide evidence for byelaw reviews.	As part of the Wild Coast Sussex project, worked with partners to further understanding of the natural capital in Sussex coastal waters.
Ecosystem interactions	Habitats	Habitat enhancement	Working with Portsmouth and Brighton Universities and other partners, to explore possibility of enhancing the marine environment inshore off West Sussex, including increasing the extent and density of kelp.	To increase biodiversity, to enhance coastal environments, to support local sustainable fisheries and to further collaborative scientific research.	Conducted 28 towed video transects in Sussex Bay to obtain baseline habitat data, supported the Help our Kelp partnership, developed collaborations with numerous organisations.

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Ecosystem interactions	Anthropogenic	Bycatch - seahorses	Collection of information to further understanding of seahorses in Sussex coastal waters, in collaboration with University of Sussex.	To provide evidence of the location and seasonality of this protected species.	A University of Sussex Master's student collated biological and ecological information and presence data for the short snouted seahorse <i>Hippocampus hippocampus</i> .
Ecosystem interactions	Anthropogenic	Marine plastic litter	Working with fishing industry and other marine users to reduce amount of plastic litter going into and remaining in the sea. Reducing input, raising awareness, impacts, hotspots, shoreside facilities, collection, solutions.	To support a healthy marine environment.	As part of the Wild Coast Sussex project, developed a ghost gear initiative which includes the provision of shoreside facilities and the collection of waste fishing gear.
Ecosystem interactions	Endangered, threatened or protected species	Elasmobranch evidence	Research to provide evidence for management measures which will protect vulnerable sharks and rays.	To provide evidence to support healthy populations of sharks and rays in Sussex coastal waters.	Sussex IFCA has been involved in local and national discussions about the sustainable management of elasmobranchs.
Ecosystem interactions	Anthropogenic	Sussex by the Sea (Wild Coast Sussex)	National Lottery Heritage Fund project in partnership with Sussex Wildlife Trust, Marine Conservation Society, National Trust and Sealife Brighton.	To support healthy local seas.	Supported development of the project due to commence April 2020 for three years. In particular, involved in the sections for ghost gear and natural capital (see above).

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Socio-economics	Fisheries value	Value of marine environment and fisheries	Analysing the economic value of fisheries and the marine environment, hot spots/trends, first sale and wider economy, quality of current data recording procedures, impact of management, resilience to change, pressure to conduct illegal activity.	To help inform management decisions.	Considered in the development of the netting and trawling byelaws which were both finalised at the January 2019 Authority committee meeting and are now awaiting ministerial sign off.

The continued hard work of all staff is evident in the breadth and quality of the research produced in this financial year. Collaborative working with partner organisations is a great strength, providing mutual benefits in the sharing of resources, experience, skills and data. In addition, volunteers and work experience students have also made a valuable contribution and IFCA has been able to provide valuable experience to students and early career scientists. Research has been directly applied in providing evidence for the development of new byelaws, which aim to protect the marine environment, balanced against the economic benefits of fishing.