

European Fisheries Fund project:

Sustainable use of fisheries resources in Welsh waters



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Official project start date 1st of May 2012

Staff employed from the 1st of June:

Dr. Hilmar Hinz (Project coordinator)

Dr. Gwladys Lambert (Research officer - scallops)

Dr. Natalie Hold (Research officer – genetics)

Staff starting from 17th of September

Dr. Giulia Cambiè (Research officer – finfish)

Dr. Jodie Haig (Research officer – crabs, lobster, whelks and prawns)

Miss Julia Pantin (Research assistant)

Miss Harriet Salomonsen (Research assistant)

Admin personal (not yet appointed)



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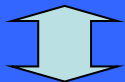


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Science User Advisory Group (SUAG)

- Ensure science is fit for purpose and meet industries needs
- Ensure that results meet objectives stated.
- Discuss potential changes to project objectives if appropriate.
- Ensure coherence among EFF projects.



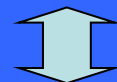
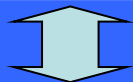
Project Management (Dr H.Hinz)

- Communication on progress.
- Managing research personal.
- Coordination of work packages and time keeping.
- Quality control of research output
- Progress reports and final report writing.



Project Science Board (Prof MJ Kaiser, Dr L. LeVay, Dr Jan Hiddink, Dr Ian McCarthy)

- Science advisory role to project management.
- Communication with Science User Advisory Group (SUAG)



•Work Packages 1 – 5 (Lead by responsible scientist)



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Work-package 1— Fishers knowledge (questionnaire survey)

Work-package 2 — Habitat surveys

Work-package 3 — Stock status of target species

Work-package 4 — Connectivity of welsh stocks

Work-package 5 — Assessment and management advice

Additionally to these work packages the project is also able to response to specific burning issues to assist the fishing industry with the sustainable management of marine resources.



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Work-package 1— Fishers knowledge

Work-package lead: Dr H. Hinz

Questionnaire survey across Wales with active and retired fishermen.

Aim:

- To map past and present fishing grounds and their importance to the industry.
- Map conflict zones with other users.
- Map ecological data of the target species (i.e. nursery grounds, migration routes etc.)

Industry involvement: Fishers, Fishermen representatives and fisheries liaison officers, WAG fisheries



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Work-package 2 — Habitat surveys

Work-package lead: Dr H. Hinz

Work to be conducted:

Habitat mapping of priority sites for industry.

Aim:

- Provide precise data on the location of specific species and habitat features for spatial management.

Industry involvement: Fishers, Fishermen representatives and WAG fisheries.



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Work-package 3 — Stock status of target species

Work-package lead: Dr Hilmar Hinz and Dr Gwladys Lambert

Scallops – Dr Gwladys Lambert

Crustaceans and whelks - Dr. Jodie Haig, Dr Natalie Hold

Bass and other fish species – Giulia Gambie

Work to be conducted:

Devise appropriate sampling program on the basis of fishermen and habitat information collected in WP1 and 2. Conduct stock assessments from research and fishing vessels. Implement sampling program that will continue after EFF

Aim:

Capture the status of welsh stock to aid management decisions.

Industry involvement: Fishermen will need to be involved in data collection..



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Work-package 4 — Connectivity of welsh stocks

Work-package lead: Dr S. Neill and Dr N. Hold

Larvae modelling - Dr P. Robinson and Dr S. Neil I

Population genetics - Dr N. Hold

Work to be conducted:

- Modelling of larvae source and sinks on the basis of data obtained from WP2 and 3 to determine connectivity of welsh stocks.
- Genetics to verify stock concepts and connectivity.

Aim:

Increase our knowledge of connectivity of populations for to inform spatial management.



Work-package 5 — Assessment and management advice

Work-package lead: Prof M.J. Kaiser and Dr L. LeVay.

Personal involved: Modeller at CEFAS

Work to be conducted:

Modelling to set catch limits and minimum landing size.

Modelling of fleet behaviour.

Modelling of management scenarios.

Summary of model predictions into a report that will be communicated to stakeholders and SUAG.



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Progress made thus far.....



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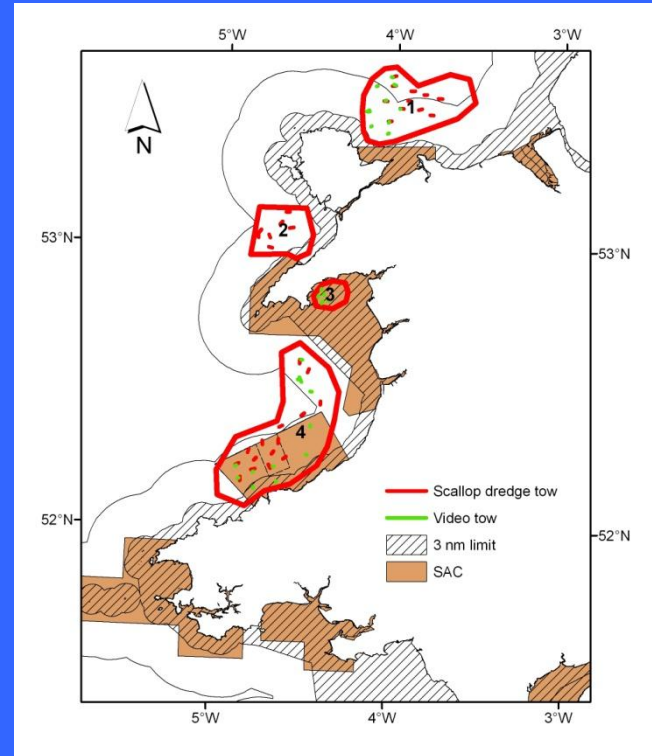


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Welsh scallop survey in June 2012

- The **Liverpool Bay** King scallop population showed low abundances and was dominated by old individuals (+6)
- Llyn Peninsula and Tremadog Bay similarly showed low abundances.
- Cardigan Bay showed the highest densities (mean abundances were 7 - 14 times higher) and was dominated by 3-4 year old scallops (105-125 mm).
- By-catch levels were high in Liverpool Bay but low in all other areas,

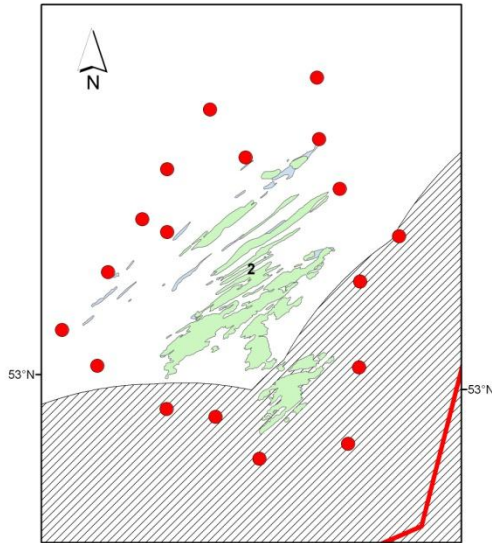


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Grab samples were collected around the modiolus reef at the North East Llyn Peninsula to assist modelling of sedimentation processes.



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Gear improvements to limit impact of scallop dredges



Modification reduces contact area of belly:

Potentially:

- Better sorting (i.e. lower bycatch)
- Lower fuel consumption
- Lower impact on benthos



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Without skids...



With skids...

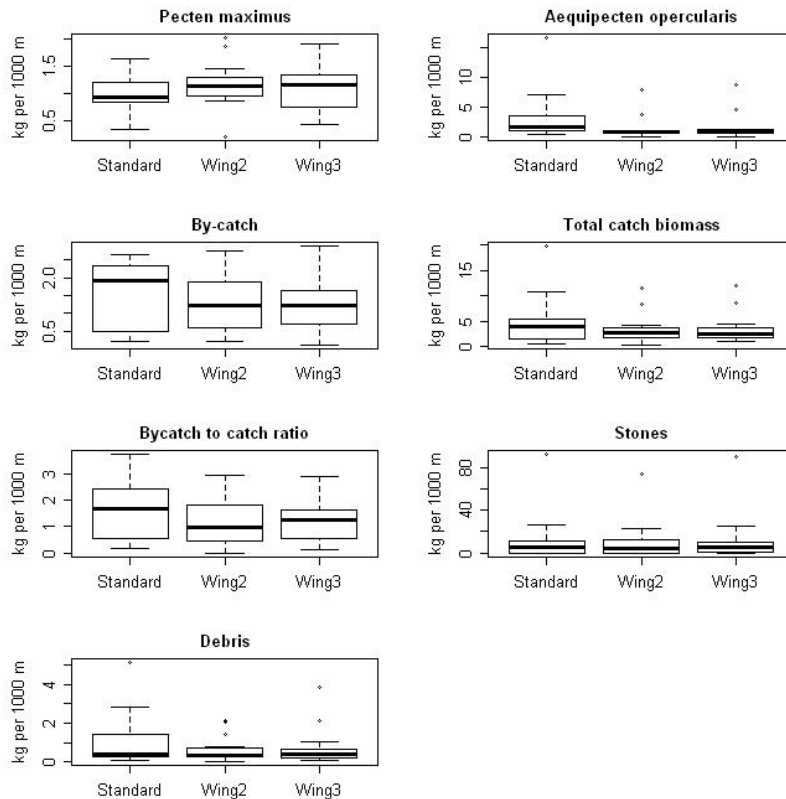


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Prince Madog trial looked promising.

Commercial trial planned for October.



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Habitat and scallop abundance mapping in Cardigan Bay involving industry

Prototype sled is currently being tested and we will start work hopefully by the end of this month.



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Crab, Lobster, Whelk and Prawn stock assessments

Define ecological subunits of the stock for reporting and management – questionnaire survey (WP1) should help with this

Devise a cost effective sampling program to determine the status of the stock – this will require input from the industry in form of advice and commitment in the long term.

Develop an pre-recruitment index for the fishery that can be used to predict next years catches and thus aid management decisions.



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The baseline data which we need to collect for management of the crab lobster fisheries includes:

- Ratio of males to females at different sites
- Size at maturity
- Size distributions at different sites
- Timing of presence of buried females
- Efficiency and bias of pots
- Movement patterns

Some of these conditions will also apply to prawns and to some extent whelks



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We will need your expertise and help to reach our aim of cost effective stock assessments:

- Cameras could be used to monitor crabs and lobsters catch composition and undersized discards
- Dedicated scientific lobster pots could be added to a string of standard pots to record, temperature, monitor movements target species into and out of the pot and to monitor juvenile lobster abundance (pre-recruitment index)





Pilot study proposed to commence in October.

Aim is to capture dynamics of the whole stock but local information will be useful to the individual fisher who engages in the project.

Data protection needs to be discussed as well as management areas (at what scale data can be publicly available).



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Other potential sub-projects:

- Investigate the connectivity of different areas by utilizing genetic markers in conjunction with environmental data.
- Paternity test in lobsters may give some information about how many males are available for fertilization. The relatedness of individual lobsters will also give information about if genetically local stocks are healthy. (Pilot project planned for this September).
- Assessment of egg and larvae quality from different area.



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