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# Sustainable Use of Fisheries Resources in Welsh Waters



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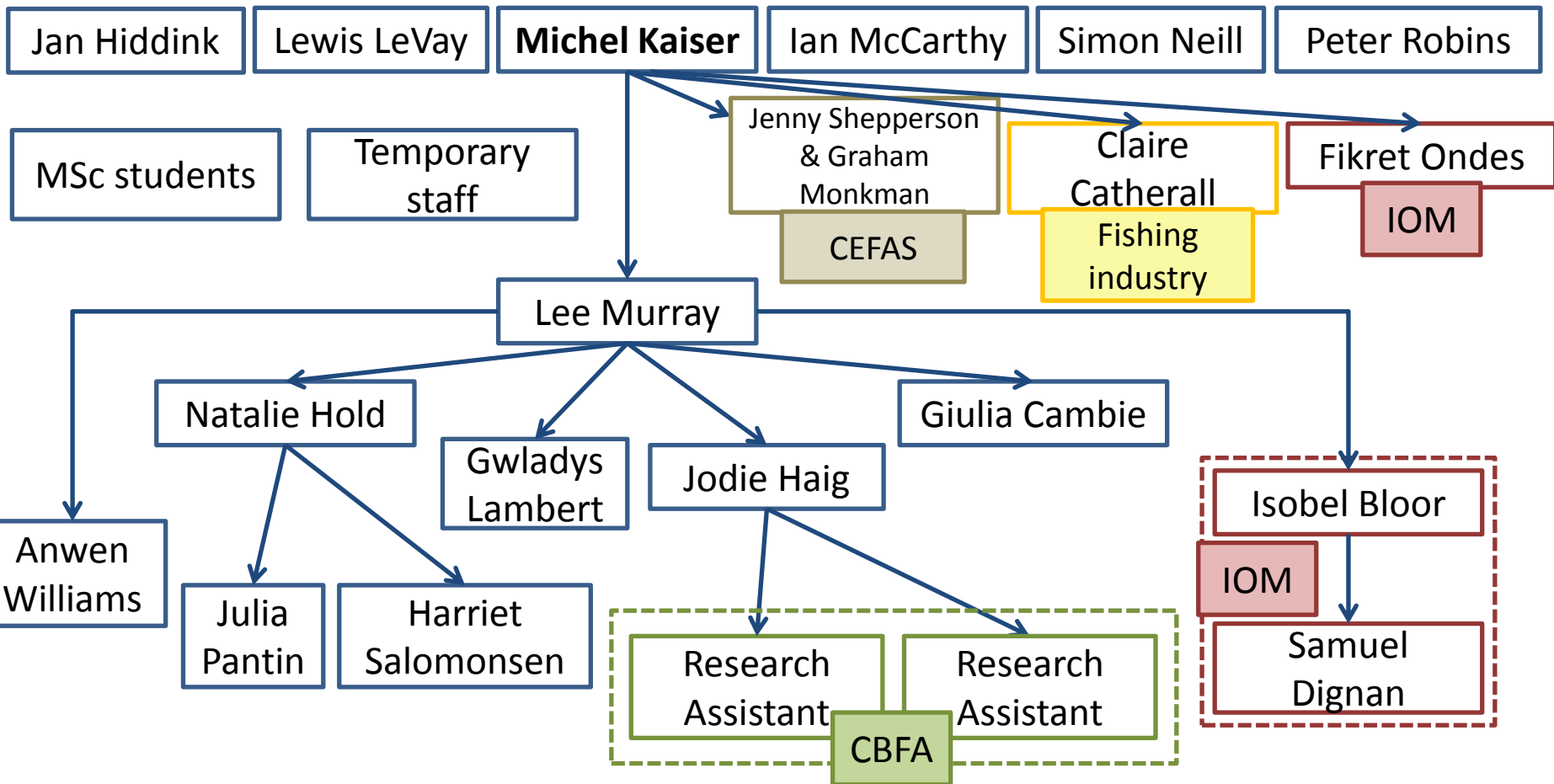


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Looking into the void

# RESEARCH GROUP



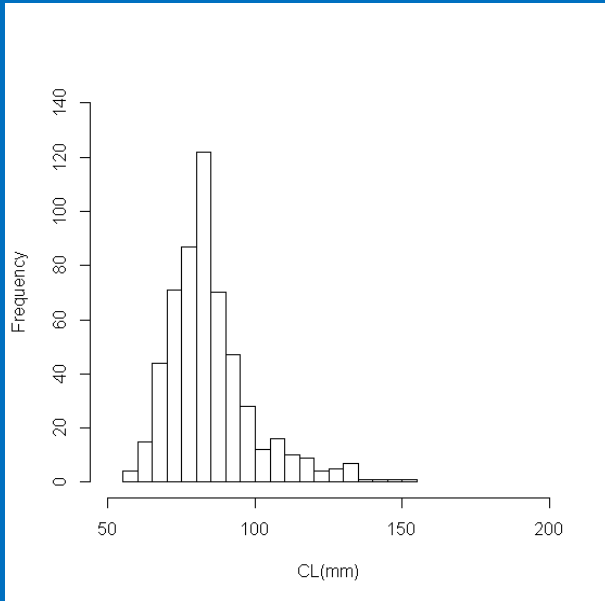
# Lobsters & Crab



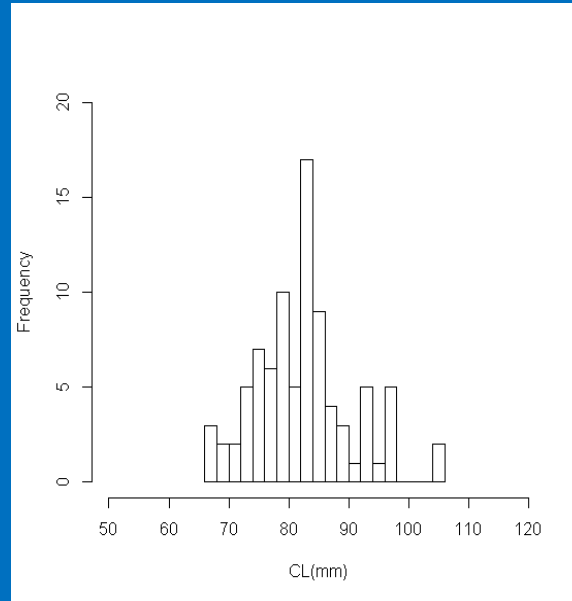
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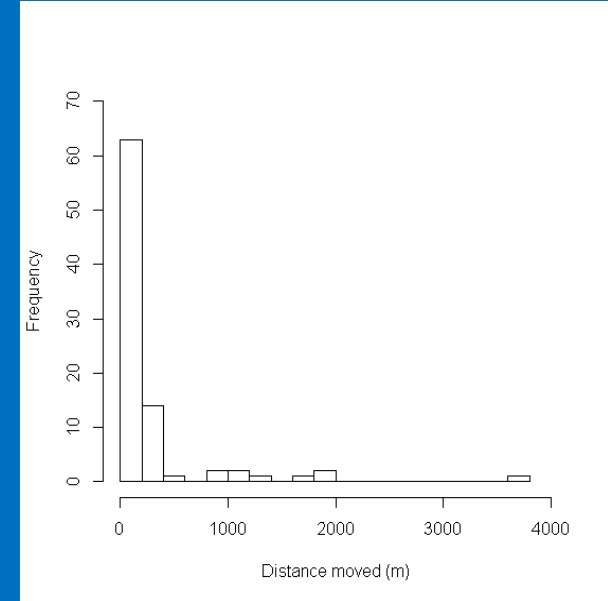
# LOBSTER TAGGING



Lobsters tagged ranged in size from 56 mm – 151 mm CL



Lobsters re-caught ranged in size from 66 mm – 105mm CL



Lobsters moved a median distance of 114m with the majority of lobsters moving less than 200m. Maximum distance moved was 3.6km.



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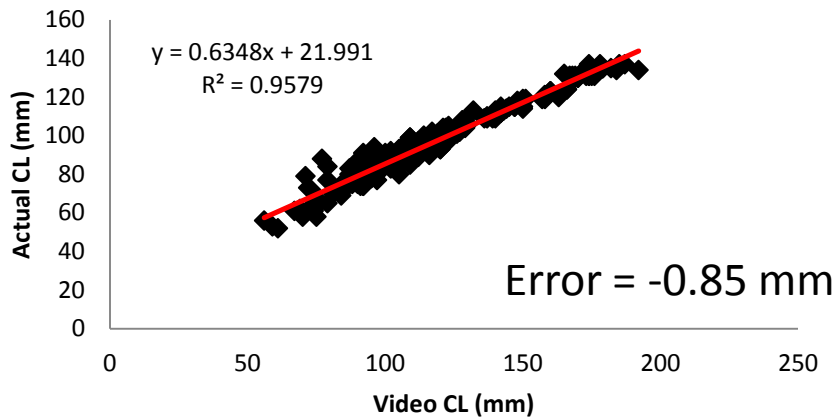


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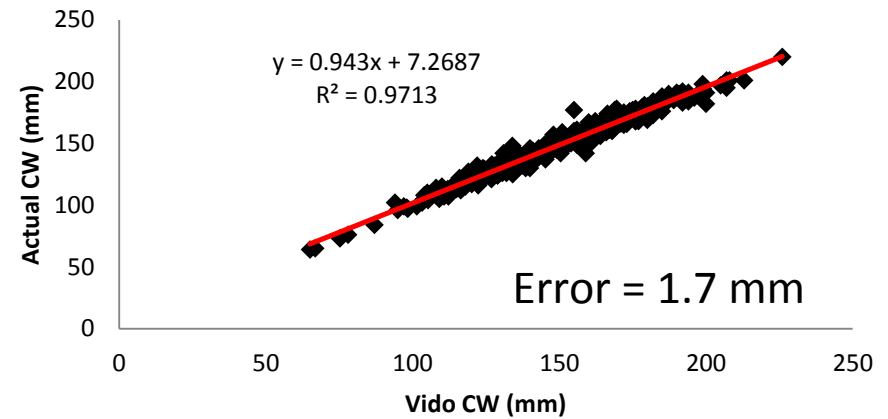


# On-Board Camera

## Lobster



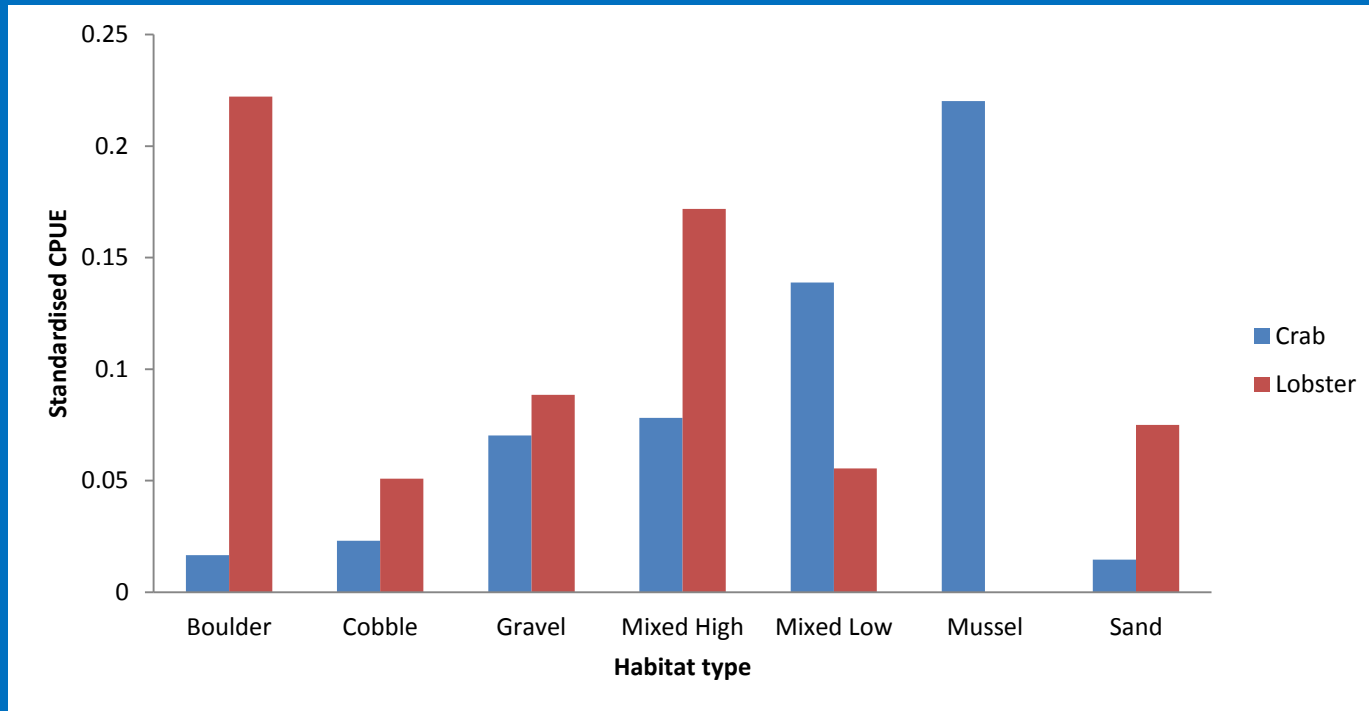
## Crab

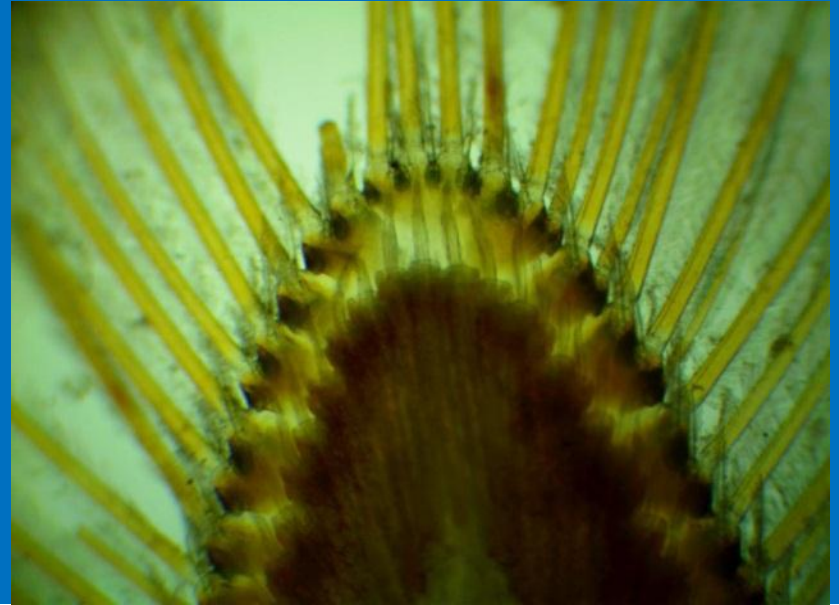
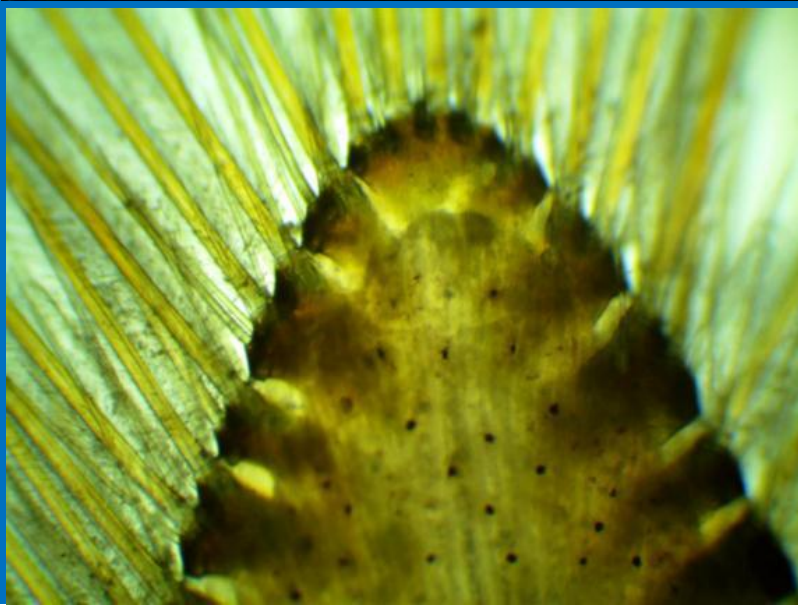
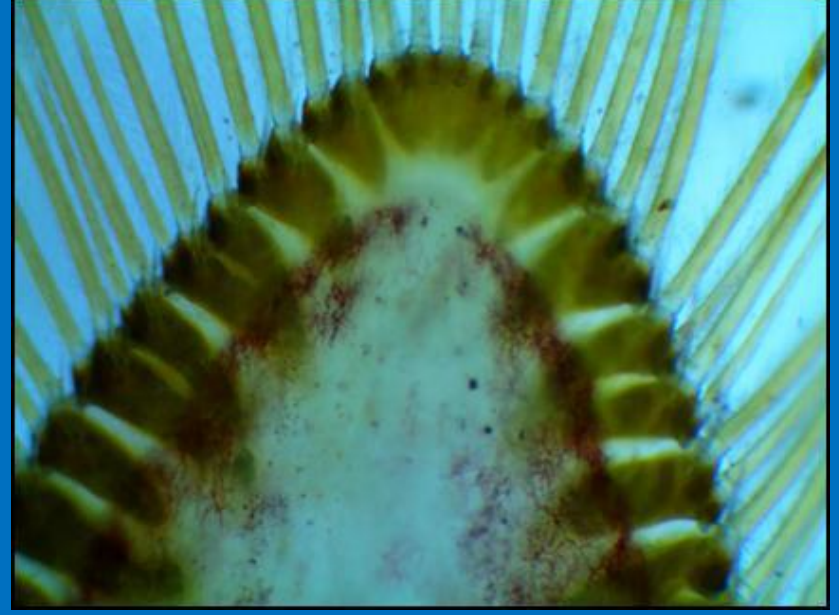
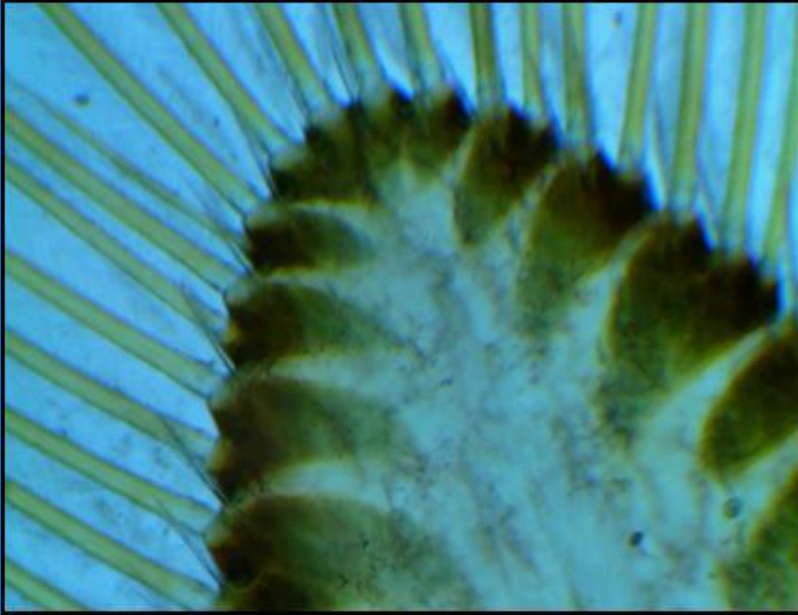


- Time for analysis is still main limitation.
- Searching for funding to help automate some of this



# Juvenile Crustacean Survey





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# Prawns and whelks



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# Common Prawn

## Progress

Samples collected from Swansea to Anglesey (May 2013 – now)

Being processed in the lab

- Sex ratio
- Size at maturity
- Size frequency distribution
- Variations with water depth and habitat
- Tissue bank for future genetic work



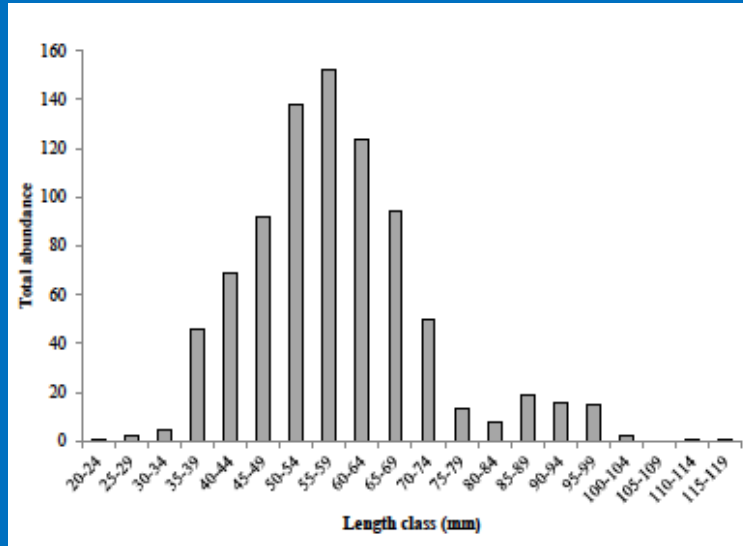
# COMMON PRAWN

Two Summer projects  
(June-July 2013)

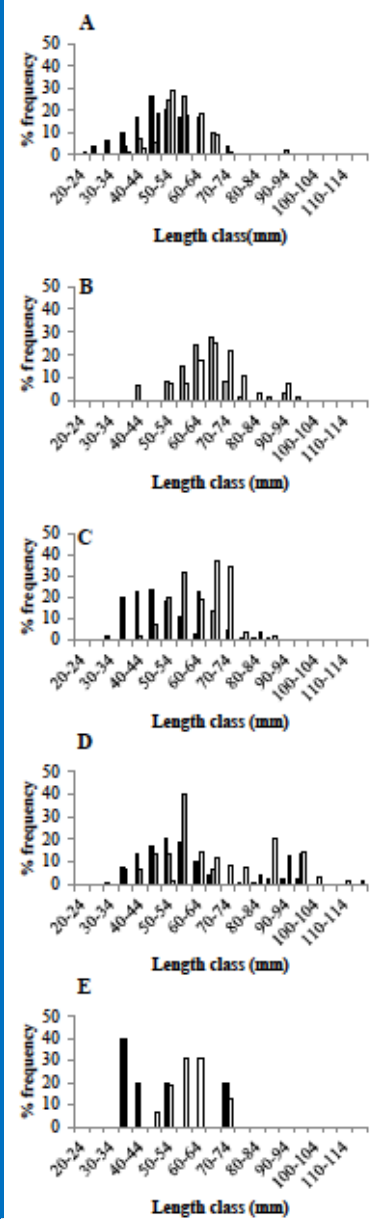
Summer inshore habitat use  
by *Palaemon serratus*

North and South Wales

Report available on the  
website



Female dominated inshore populations  
Abundances much greater in northern inshore regions  
Few gravid females in inshore populations



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# Common Prawn

## CBFA Project collaboration: Sustainable Management of the Cardigan Bay Prawn Fishery

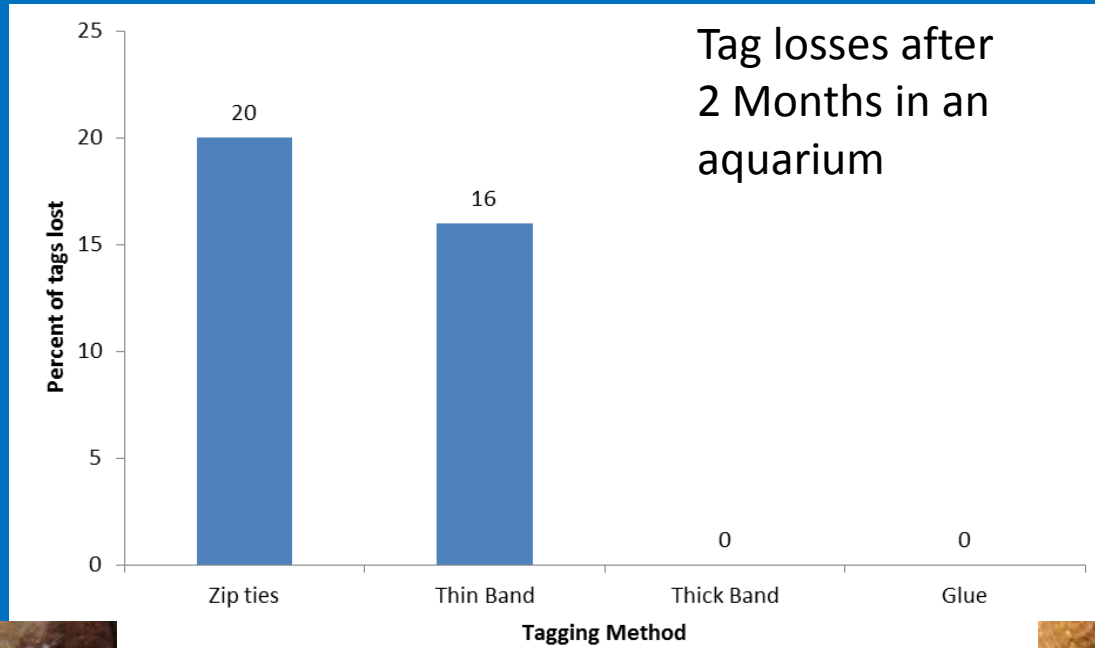
What's next:

Continued sampling for a full 14 month data set

Summer 2014: Inshore habitat use and recruitment patterns of *Palaemon serratus*



# Whelk Tag Retention Study



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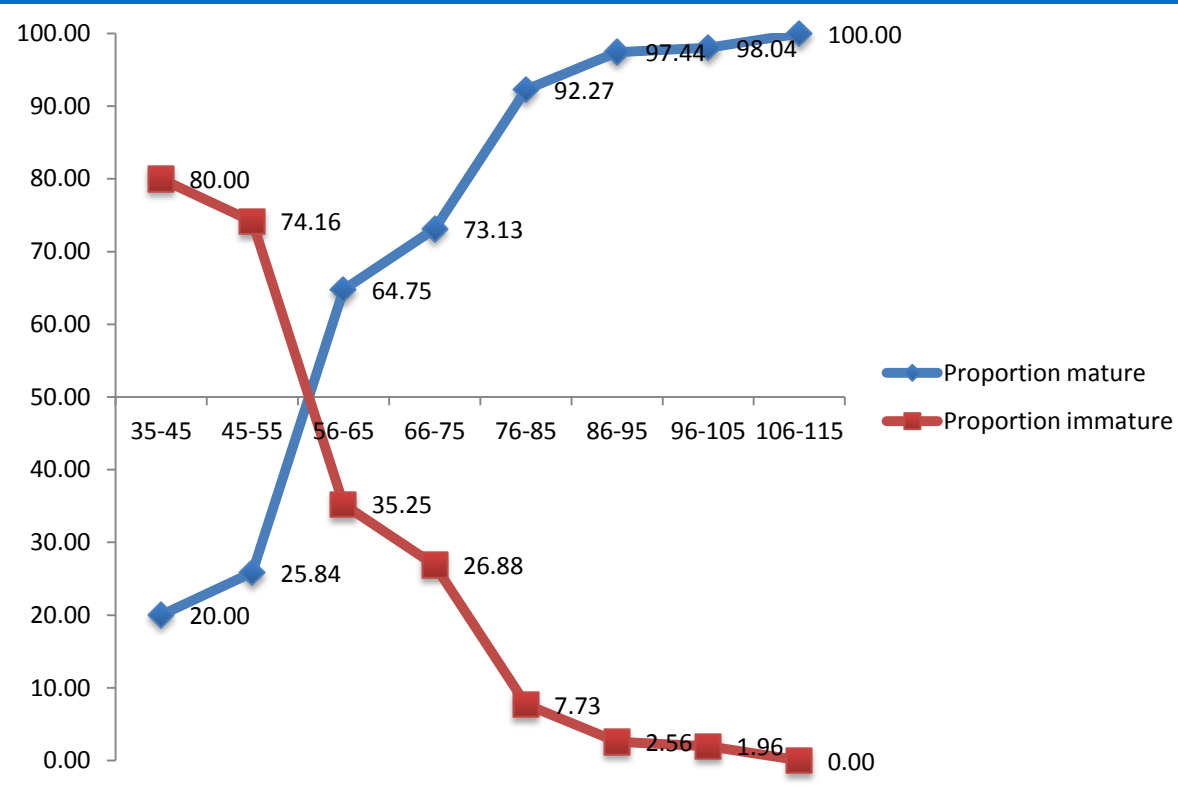
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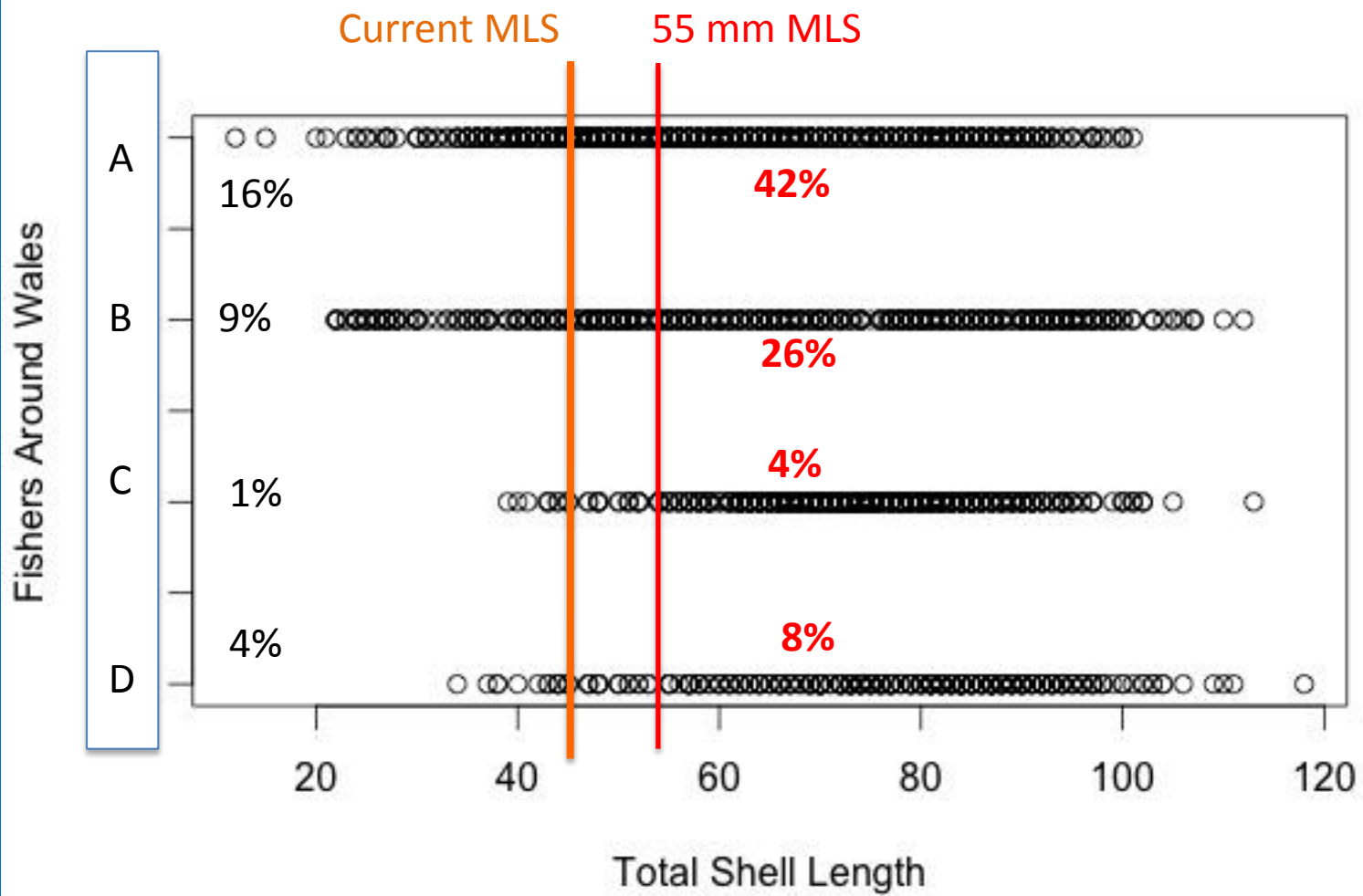


# Whelks

## Progress

- Processed 2807 whelks from Swansea to Anglesey (May 2013 – now)
- Sex ratio: 50:50
- Size at maturity:
- Proportion mature for each
- 10mm size class (all Welsh Data combined).





# Escape hatches



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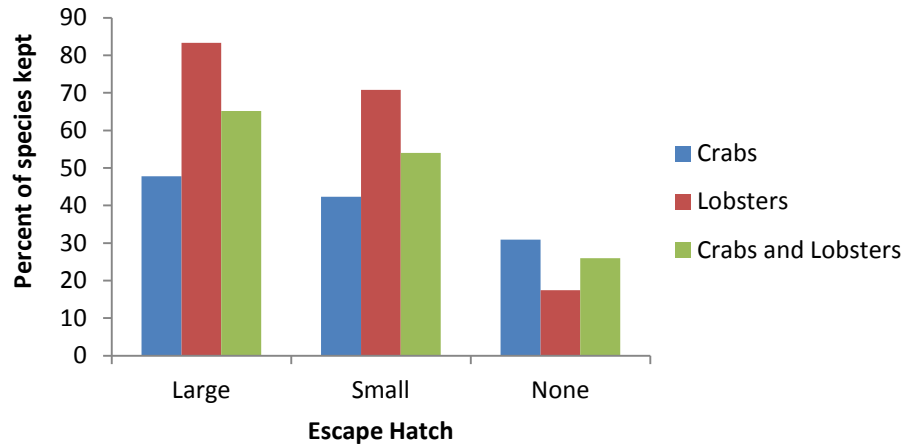


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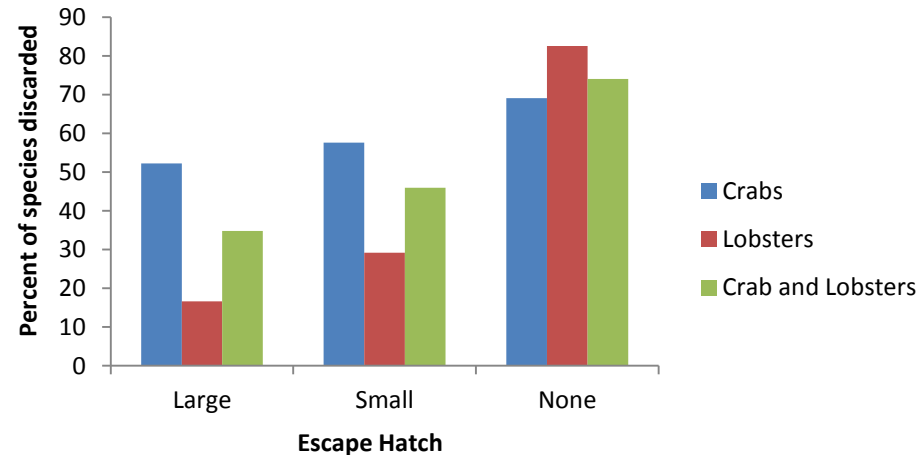


# Escape Hatch Study in Cardigan Bay

## Kept Crabs and Lobsters by Escape Hatch



## Discarded Crabs and Lobsters by Escape Hatch



Based on preliminary results, more legal sized lobsters are caught in pots with escape hatches.



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# Bass



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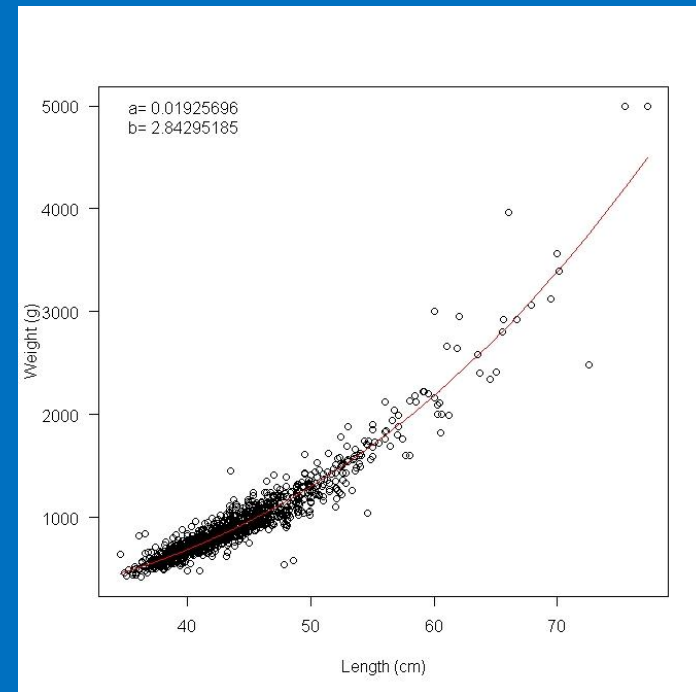
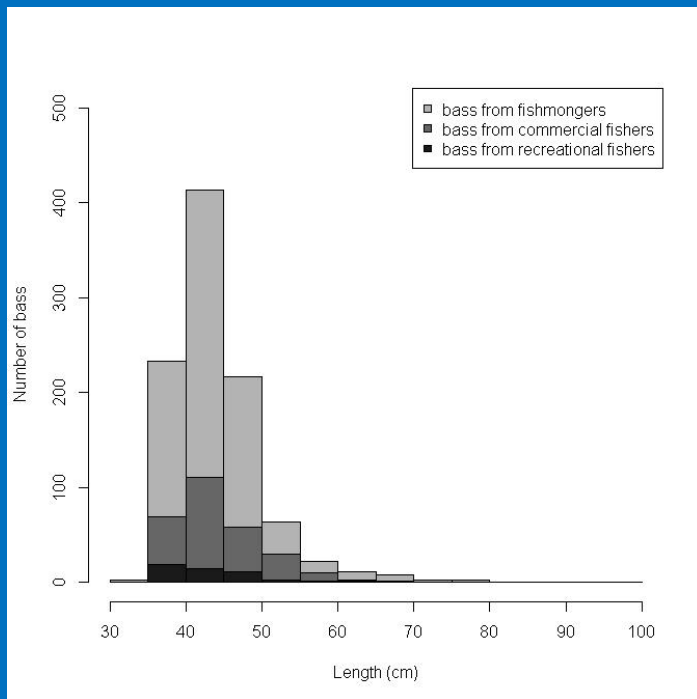


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# 1. Size distribution

A total of 1304 bass were sampled between May and November 2013, 280 from commercial fishermen (n = 6), 49 from recreational fishermen (n = 4) and 975 from fish processing industries (n = 7)



Length-weight relationship ( $Weight = a * Length^b$ ) has been estimated from 1205 fish, 827 from South, 371 from North and 7 from Mid Wales



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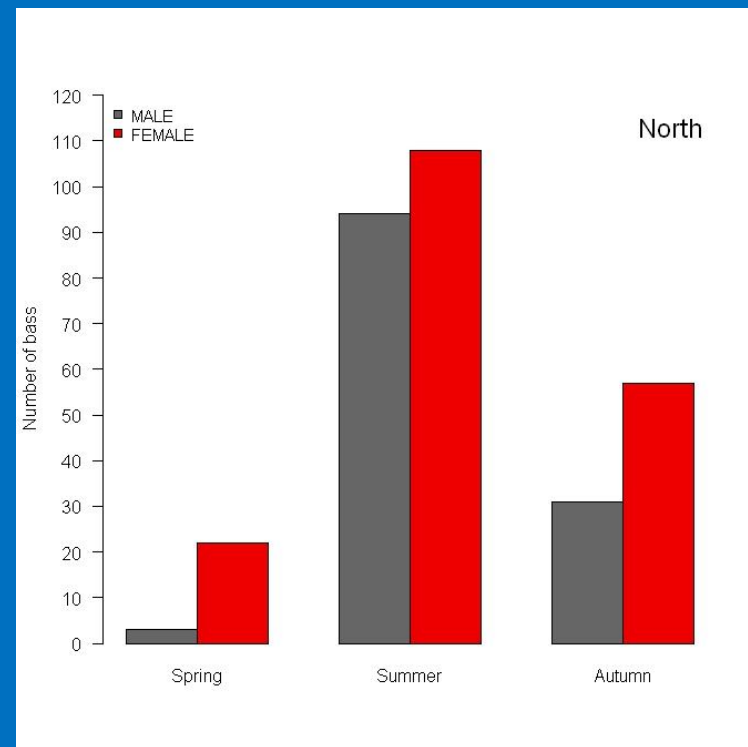
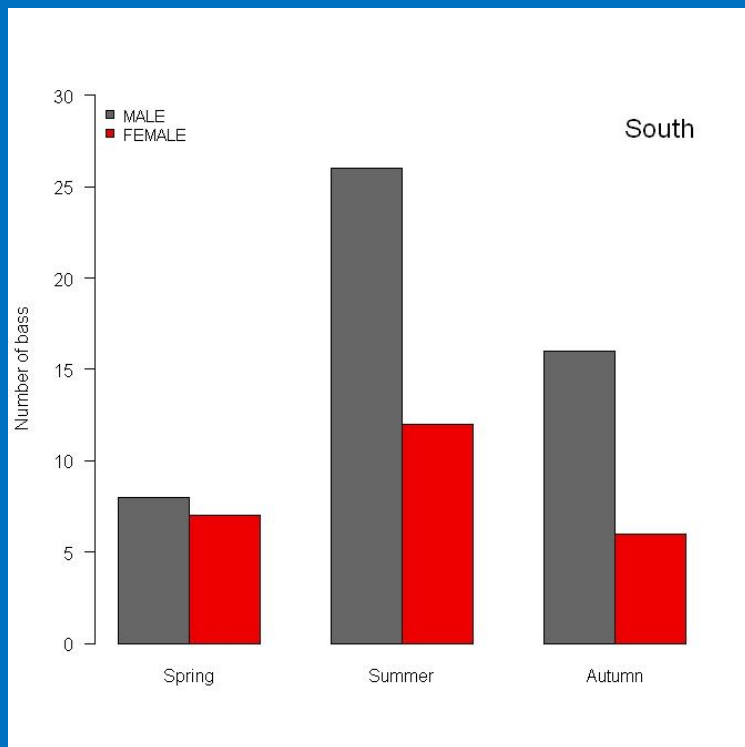


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## 2. Male/female ratio and maturity stage

A total of 390 fish were sexed, 315 from North Wales and 75 from South.



Although these preliminary results show that in South Wales the captures were mainly composed of males (67% of males vs. 33% of females), more data need to be collected to have a robust and representative picture of the exploited stock in that area.



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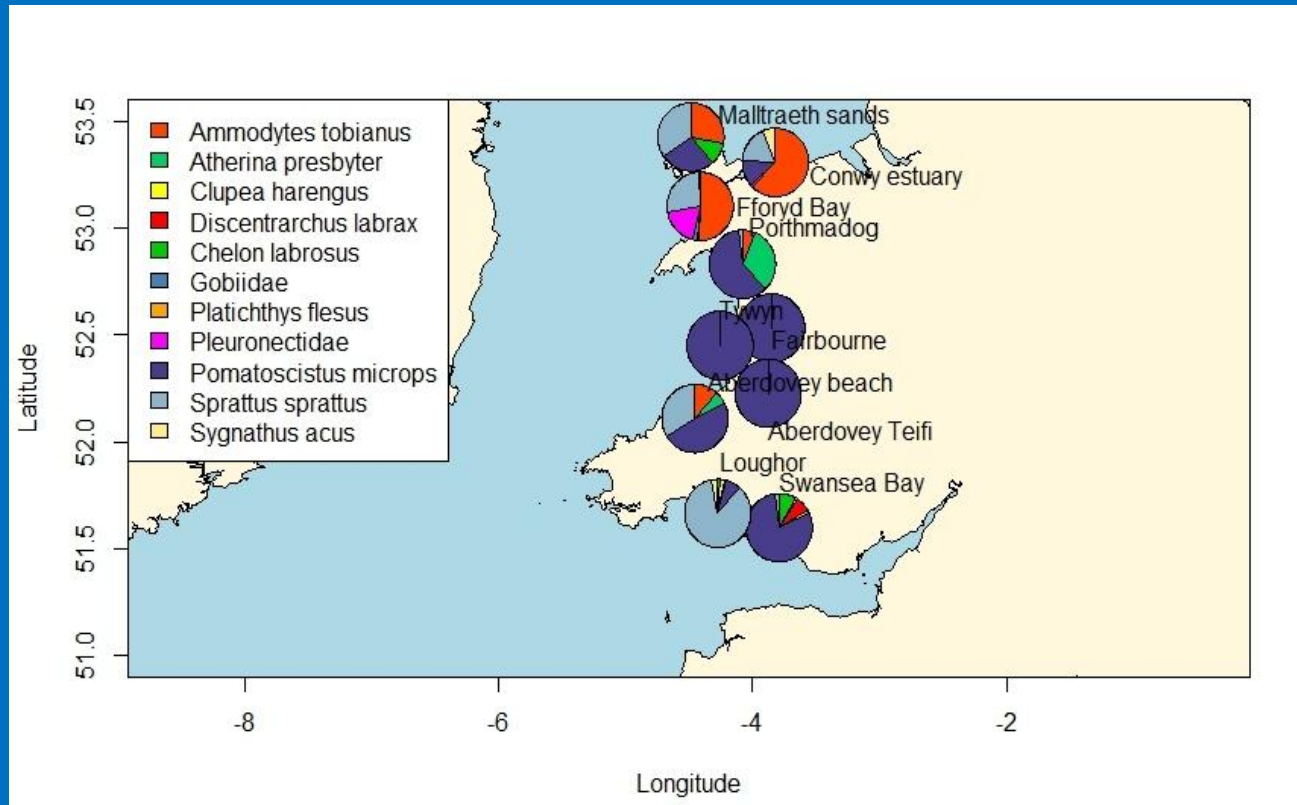


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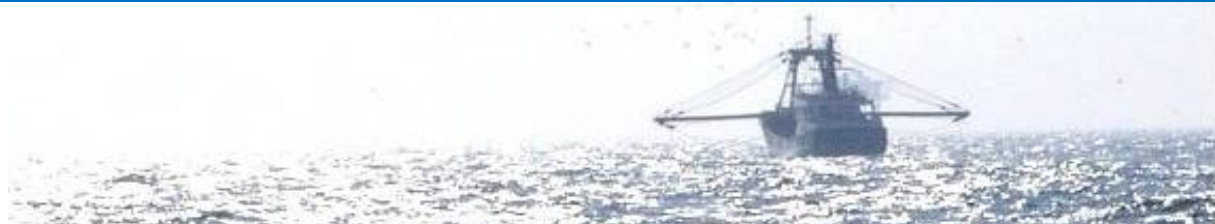


### 3. Nursery areas and recruitment index

A total of 10 sites (coastal areas and estuaries) were sampled from July till October 2013 with a micromesh seine net (4 mm mesh size).



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### 3. Nursery areas and recruitment index

A total of 57 samplings with seine nets 4 mm mesh size were undertaken. A total of 966 individuals from 11 different species were also measured. 0-group bass were detected in small quantities only in South Wales and in Aberdovey estuary .

Sampling Site	n. of netting operations	n. of 0-group bass	Recruitment index (bass/100 m <sup>2</sup> )
Conwy Estuary	3	0	0
Foryd Bay	4	0	0
Malltraeth Sands	2	0	0
Porthmadog	4	0	0
Fairbourne	4	0	0
Tywyn	3	0	0
Aberdovey Teifi	3	0	0
Aberdovey beach	9	1	0.079
Loughor	11	9	0.273
Swansea Bay-Blackpill	14	42	2.432

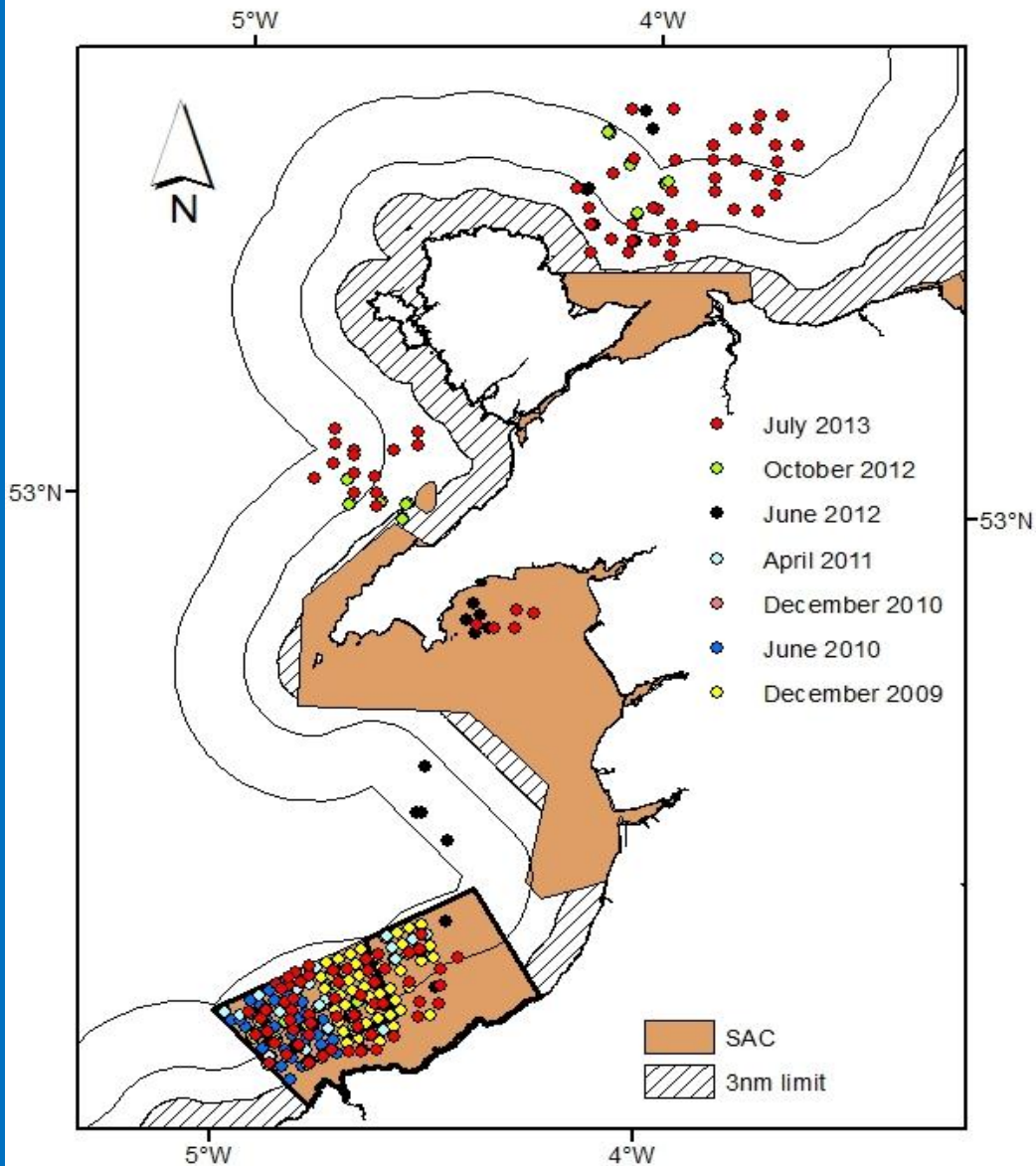


# Scallops and habitats



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All video surveys conducted with the RV Price Madog since 2009



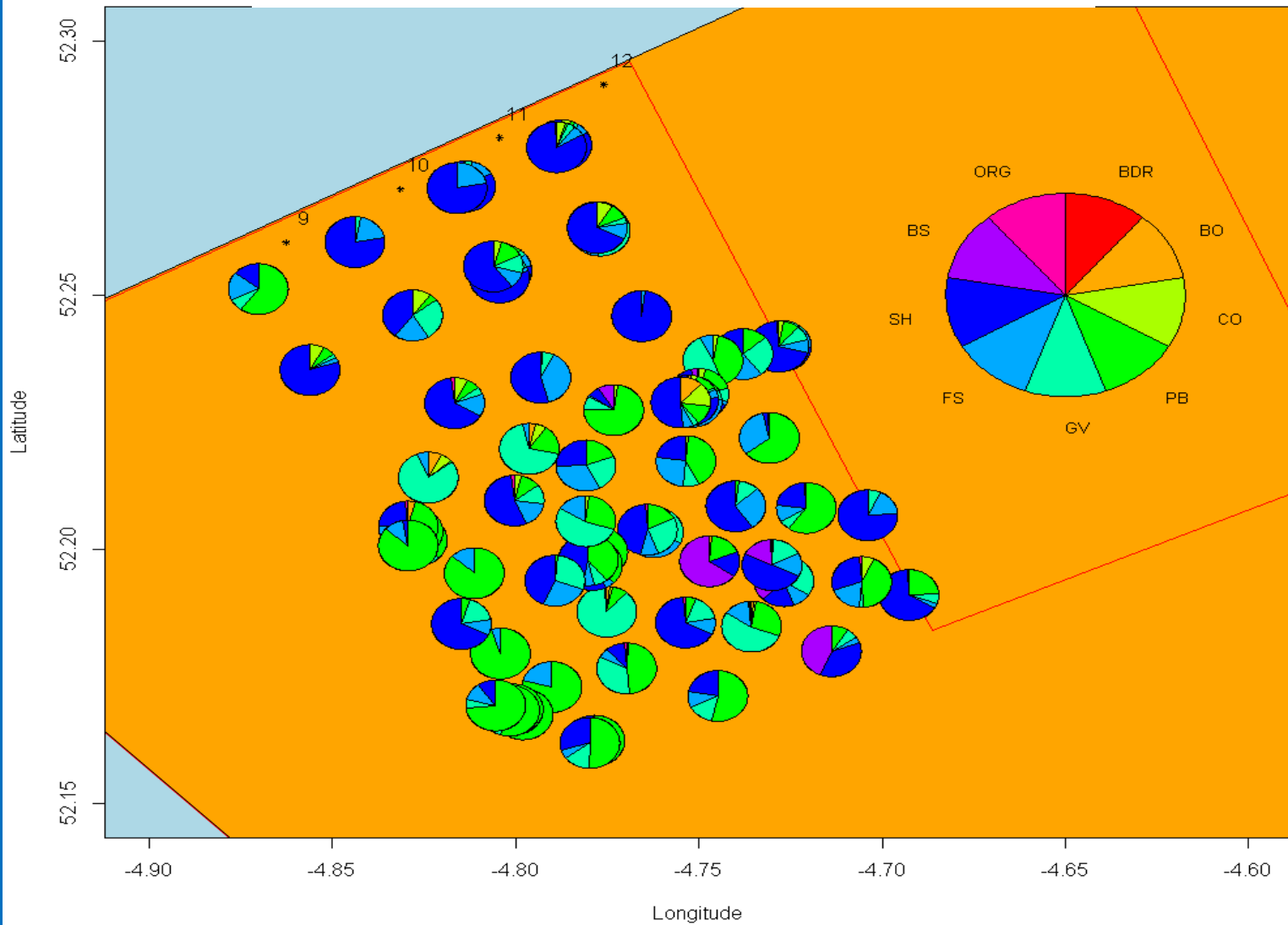
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# Seabed substratum type



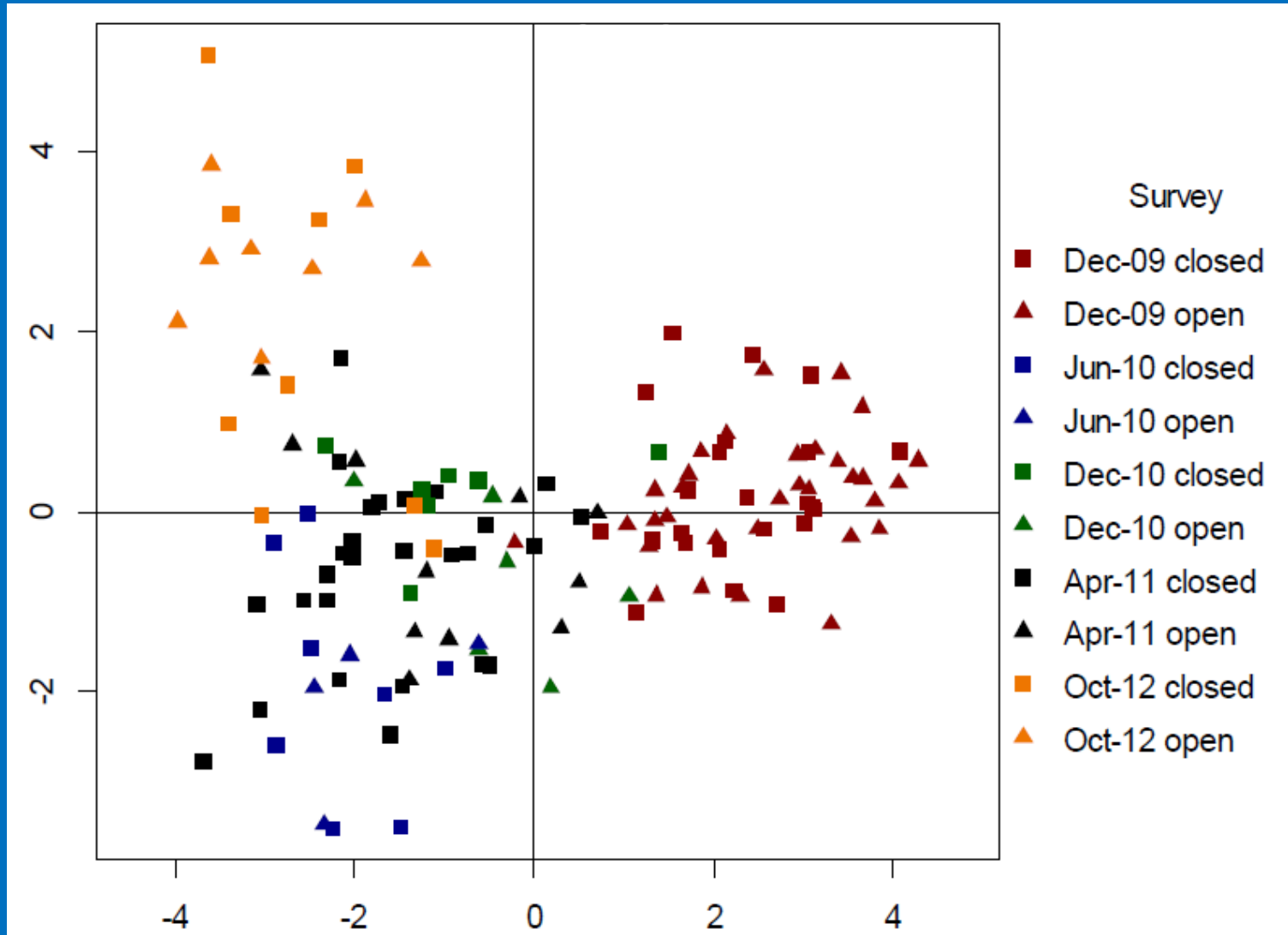
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# Species composition changes in Cardigan Bay



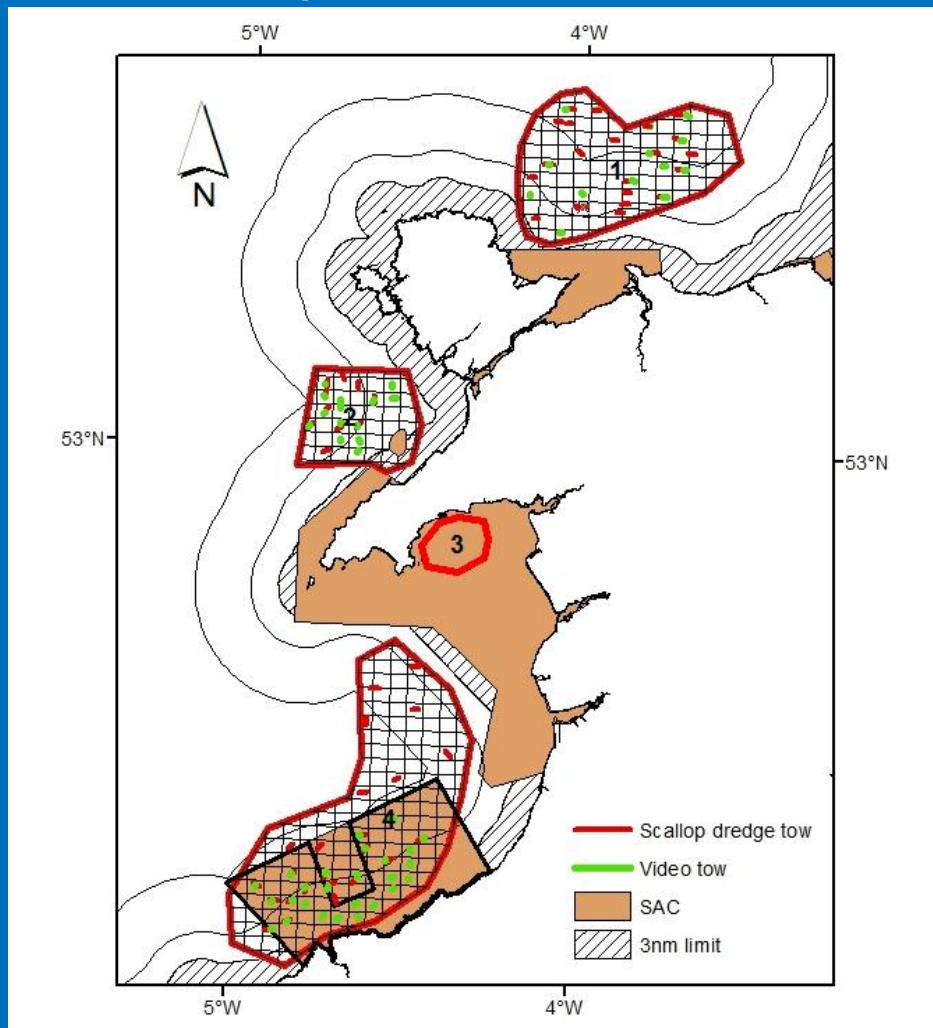
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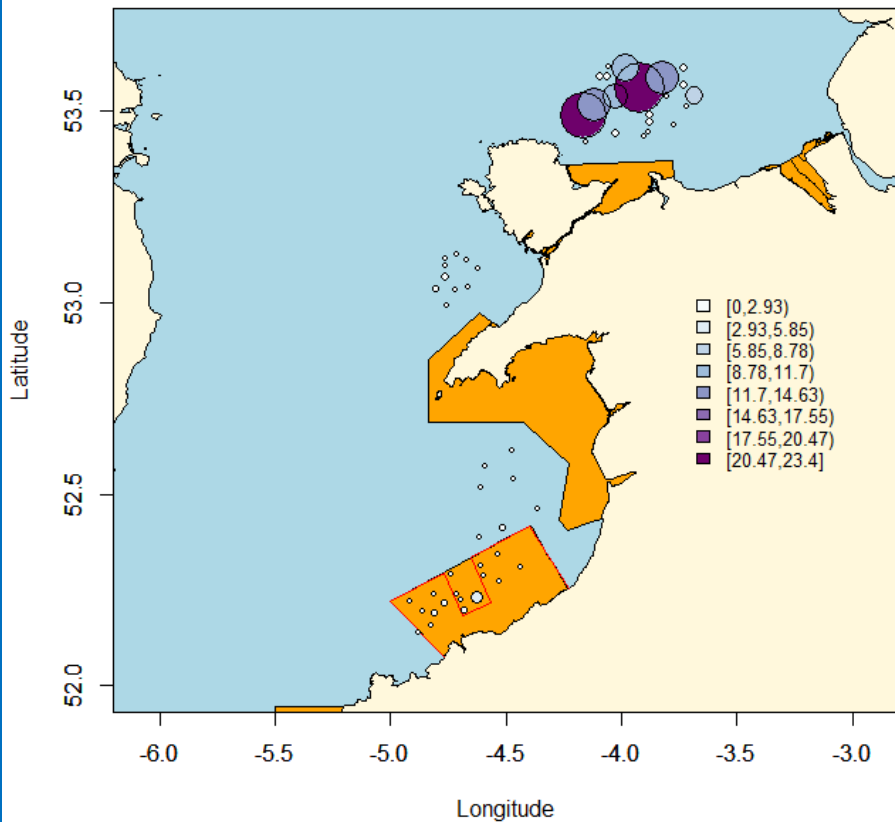
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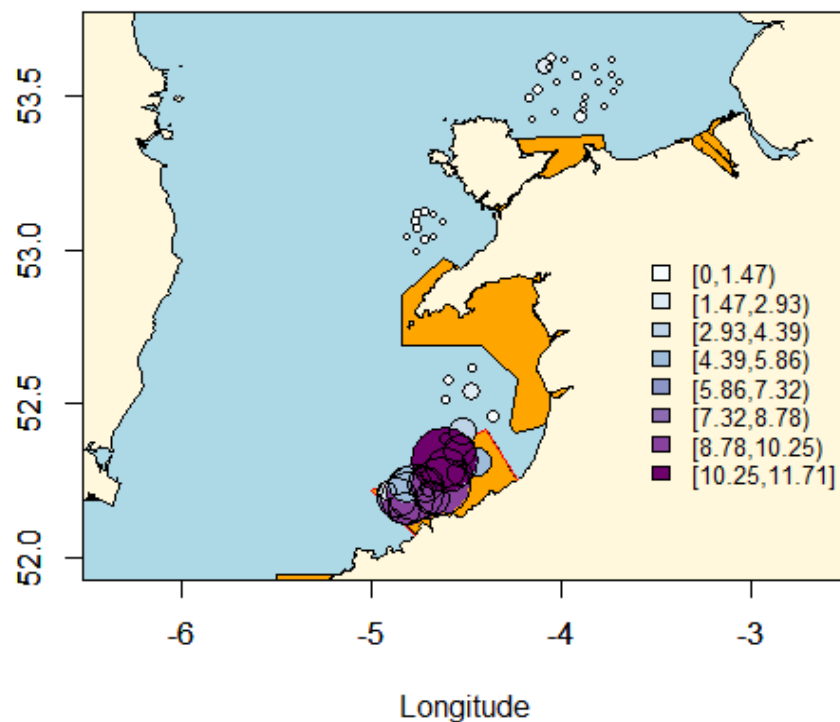
# Scallop stock status



### Density Queens/100m2 Queen dredges



### Density Kings/100m2 Queen dredges



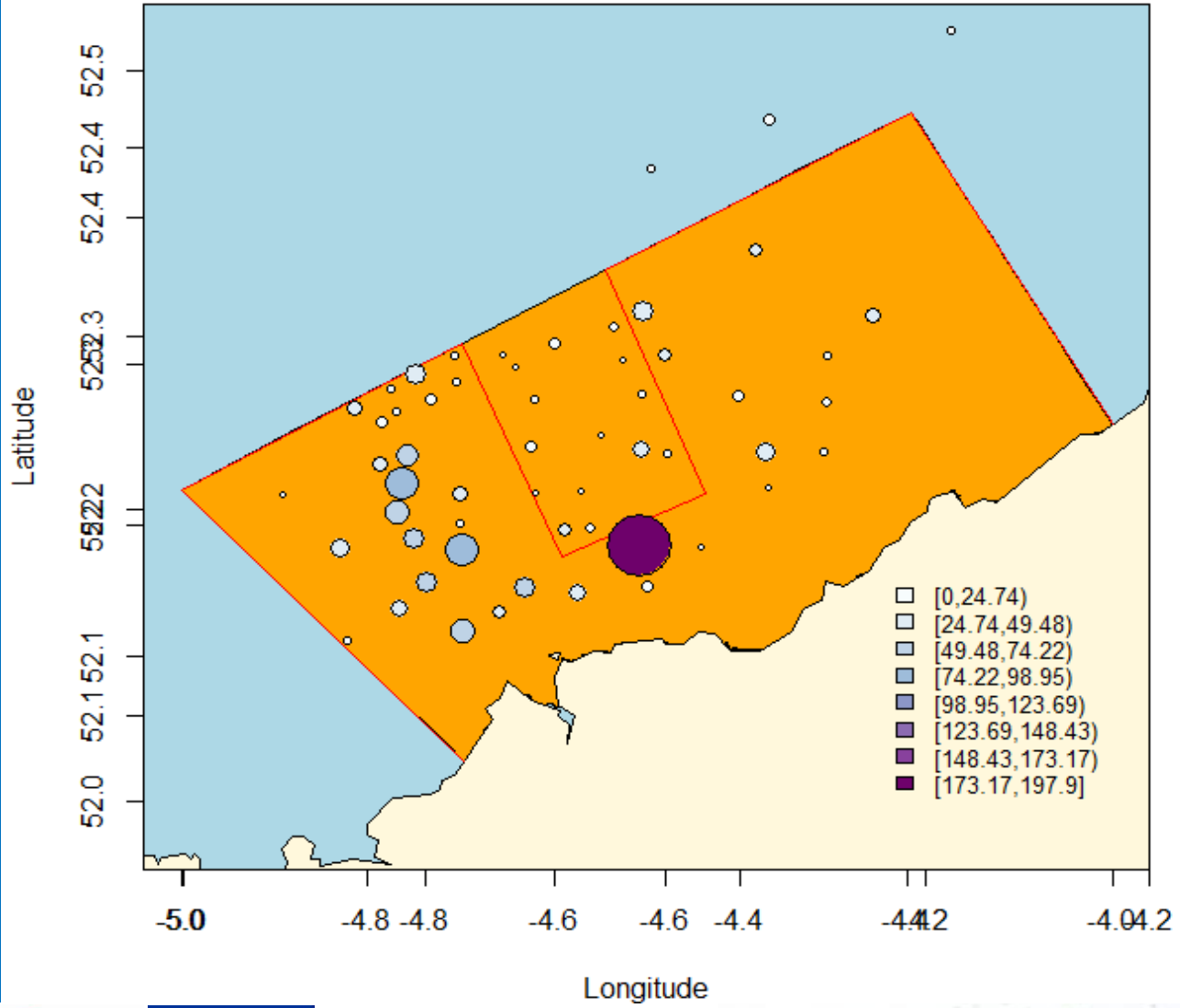
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# Density Kings/100m2



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