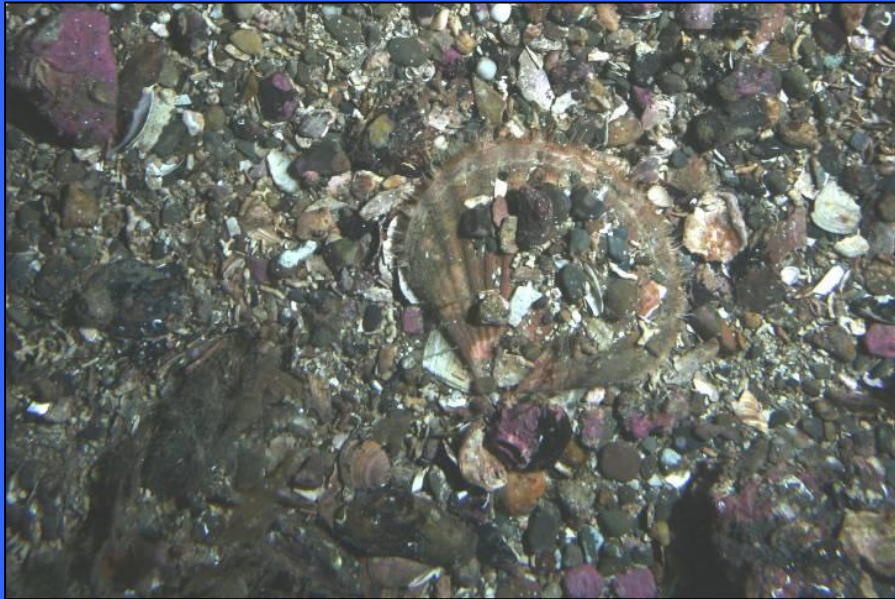


# Welsh Scallop survey June 2012

Hilmar Hinz, Gwladys Lambert and Natalie Hold



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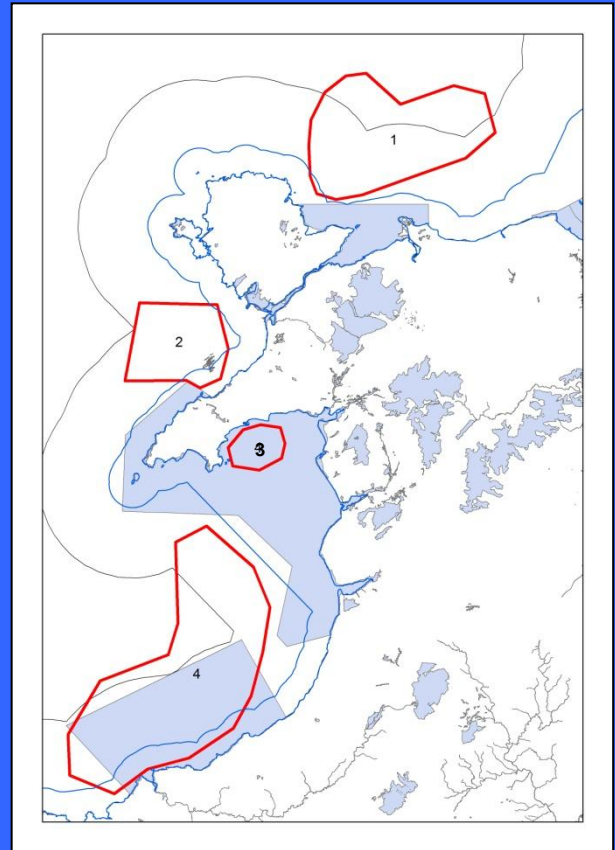


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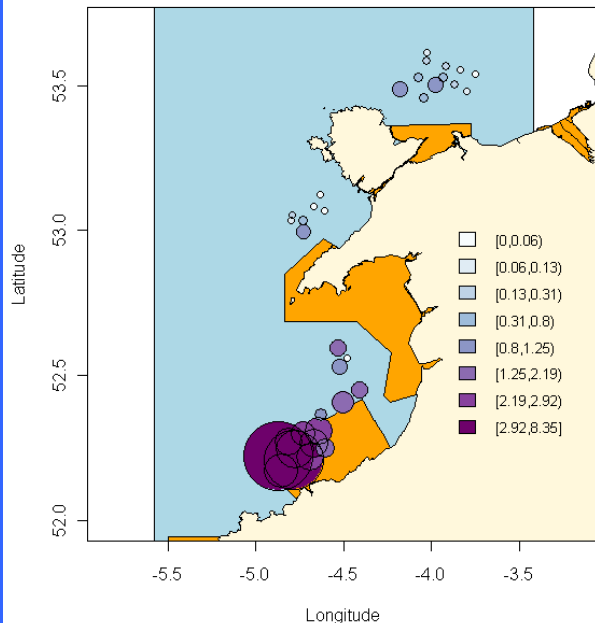
# Cruise objectives

1. Estimate abundances of scallops for four areas around the welsh coast (All areas within 3nm were sampled by camera system)
2. Determine age and size structure of populations
3. Determine by-catch levels for all areas
4. Compare camera and scallop dredge tows for abundance estimates
5. Add to habitat mapping of the area
6. Collecting sediment samples around the *Modiolus* reef at the Llyn Peninsula

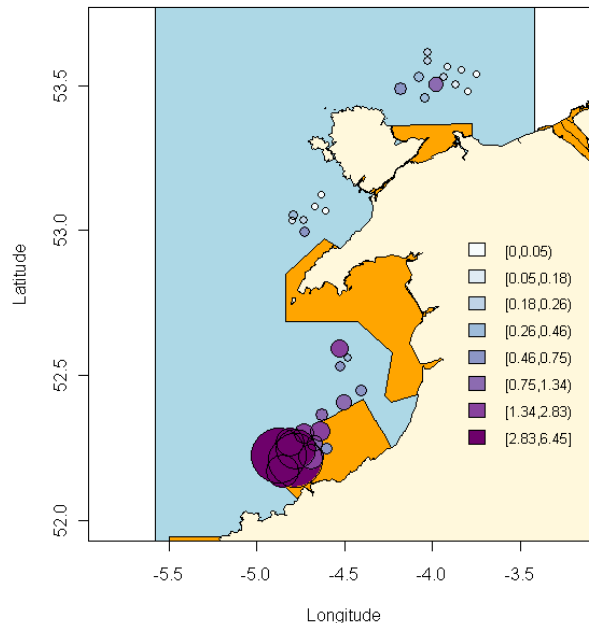


# Abundance estimates of King scallops from dredge samples

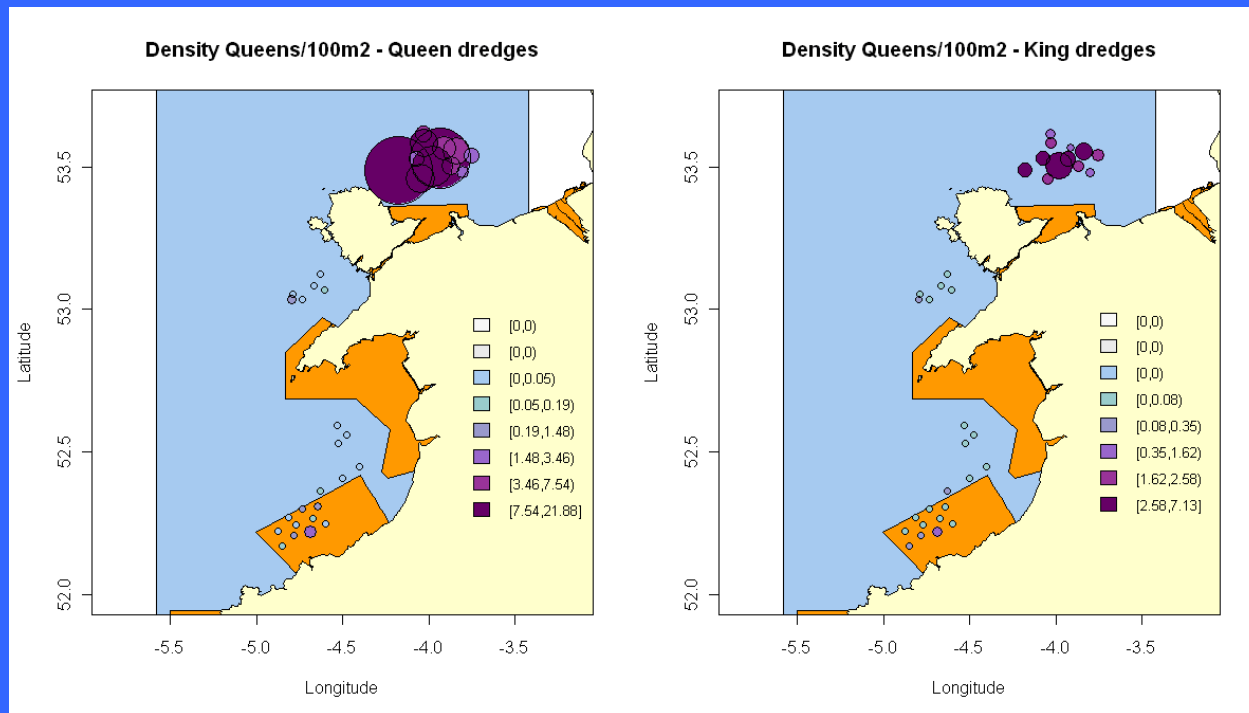
Density Kings/100m<sup>2</sup> - Queen dredges



Density Kings/100m<sup>2</sup> - King dredges



# Abundance estimates of Queen scallops from dredge samples



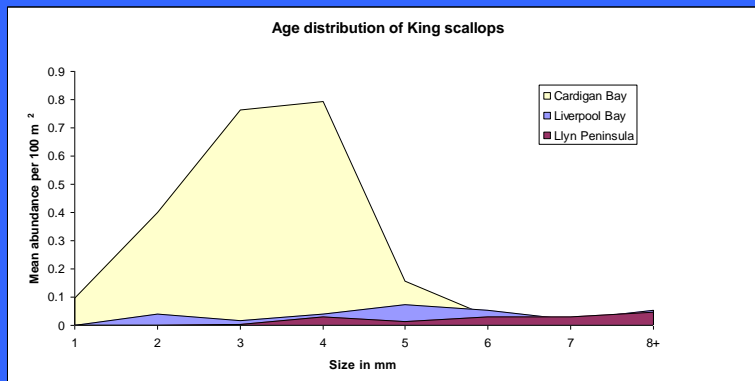
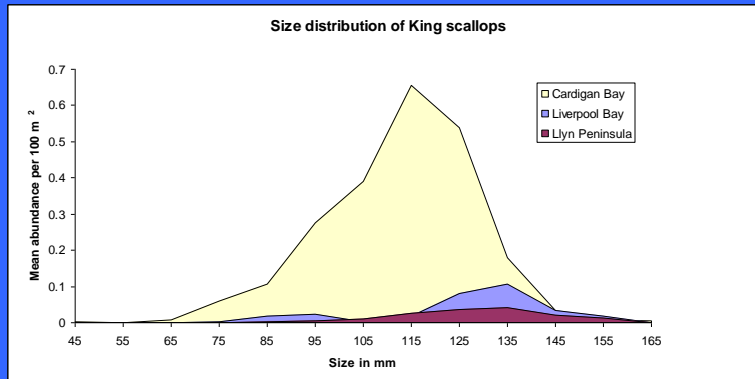
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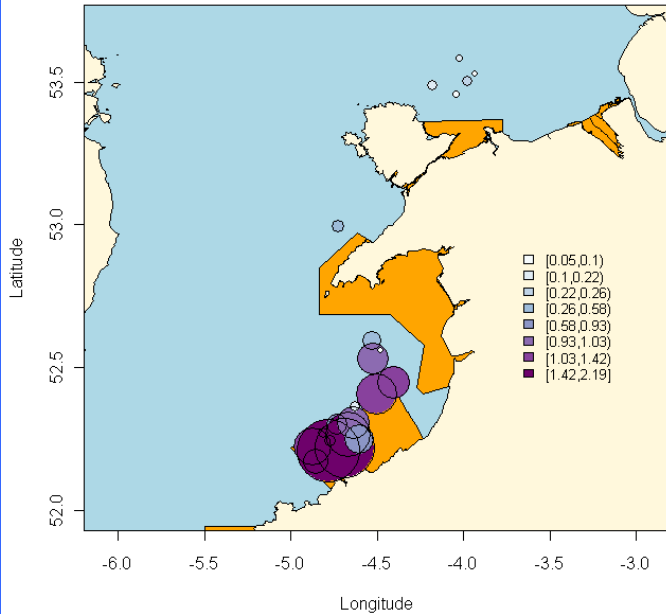


# Size and age distribution

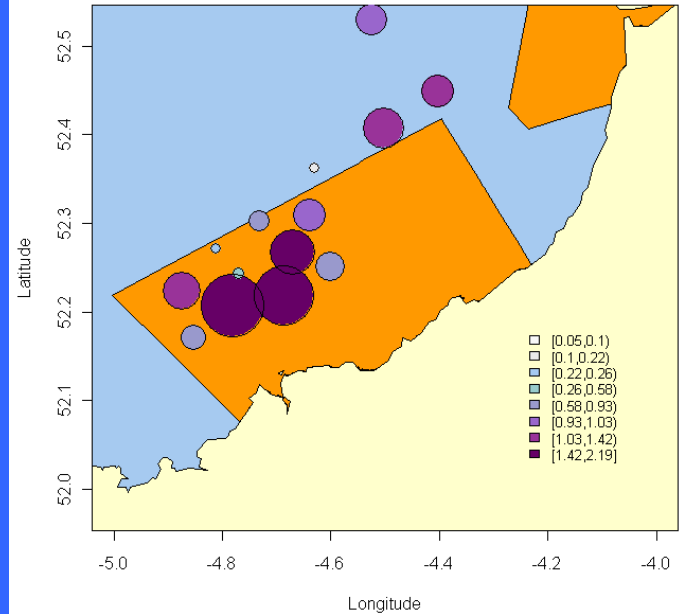


# Pre-recruits King scallops under 110 mm

Density Kings prerecruits/100m2 - Queen dredges



Density Kings prerecruits/100m2 - Queen dredges



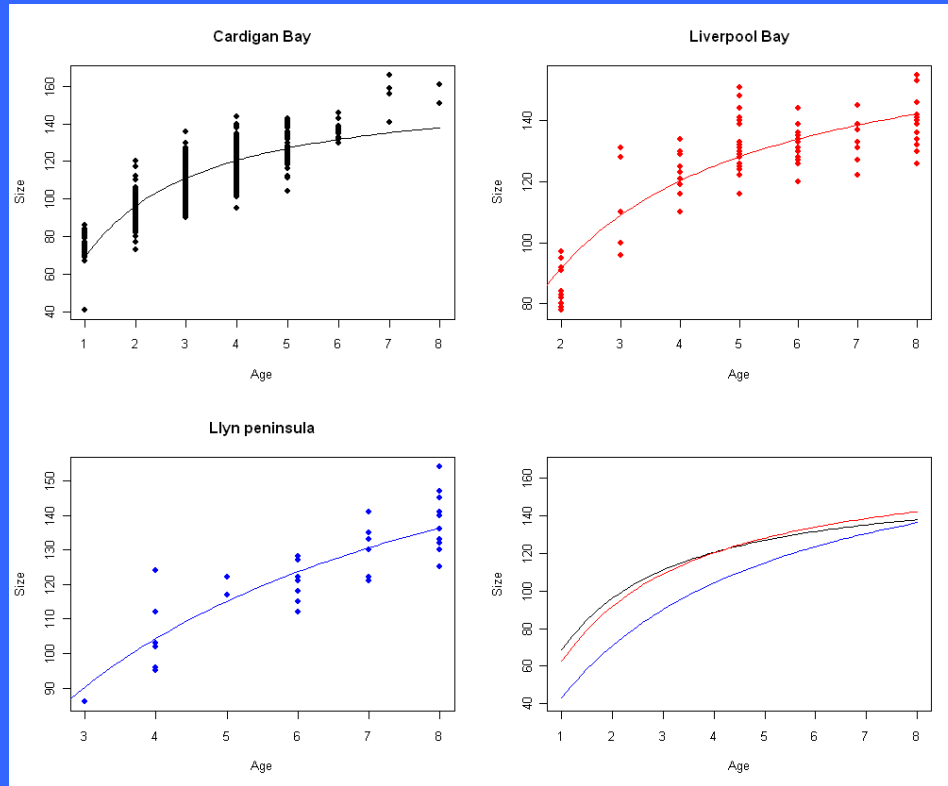
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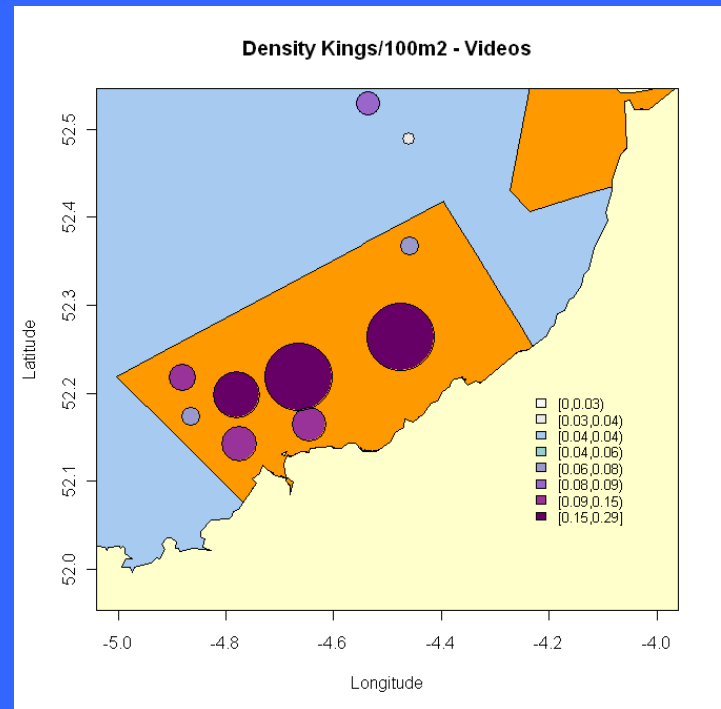
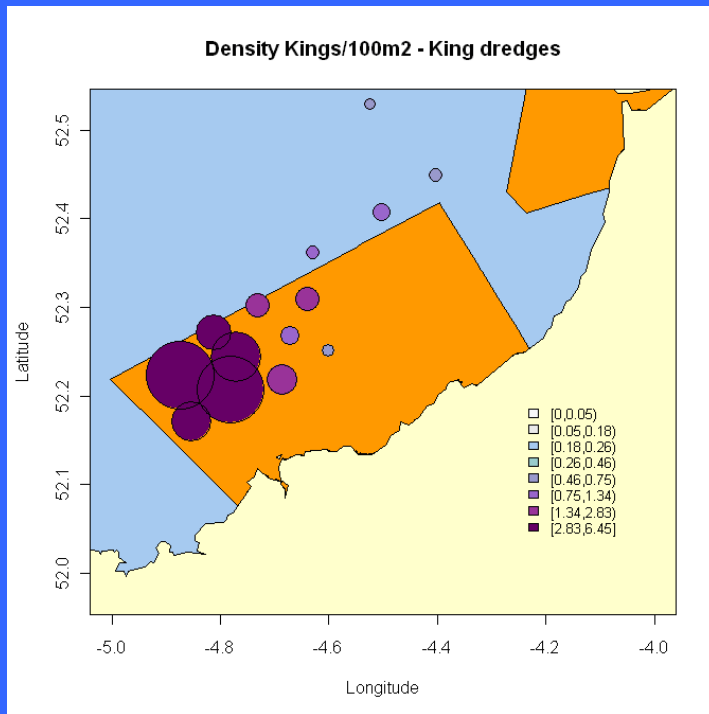
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# Growth rates of King scallops for the three main areas



# Abundance estimates of King scallops from dredge samples



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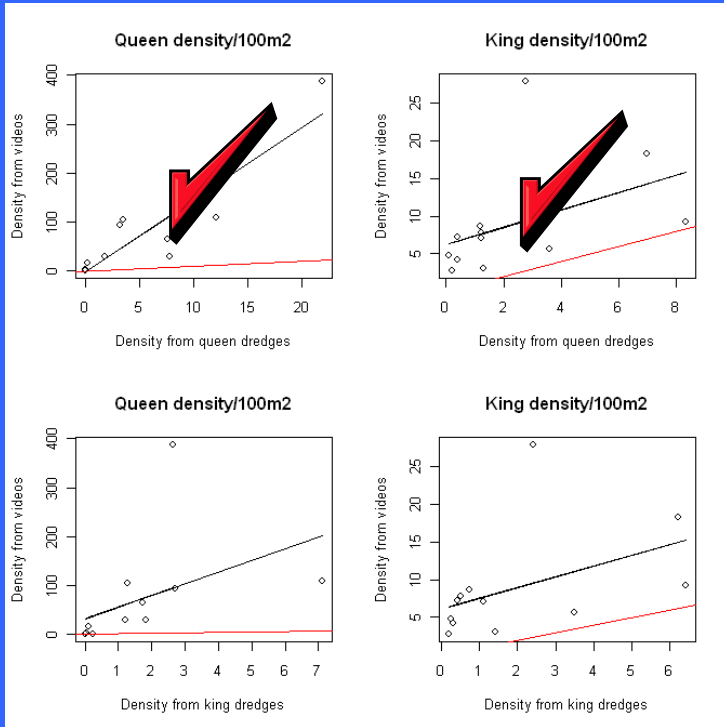


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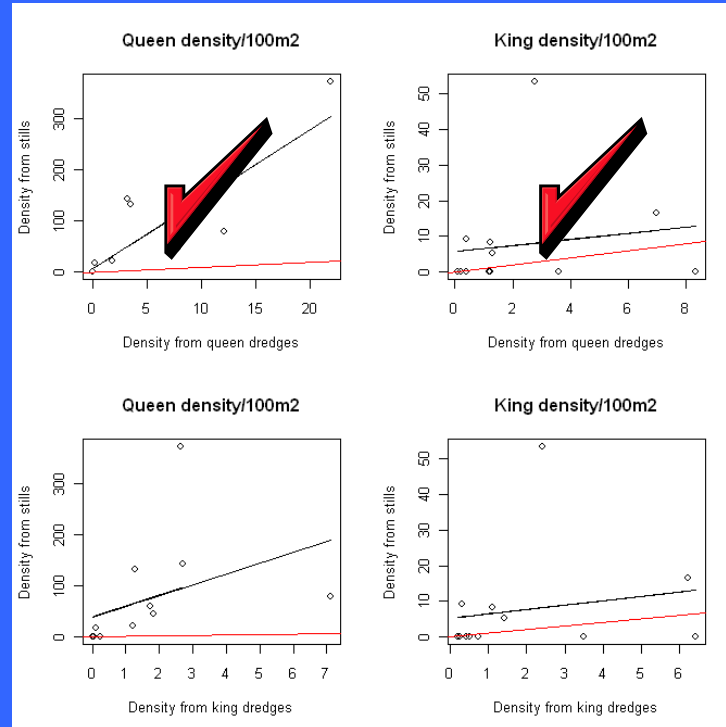




## Estimates from video and dredges

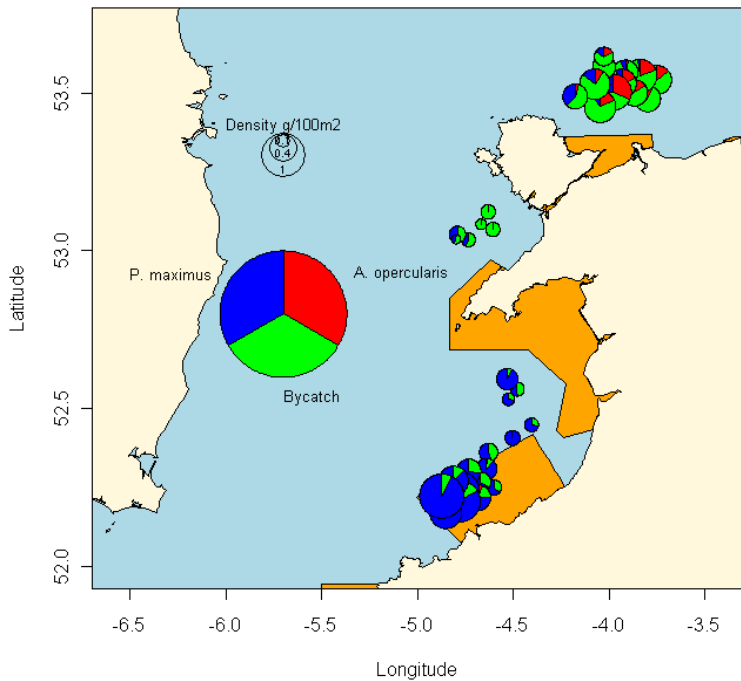


## Estimates from stills and dredges

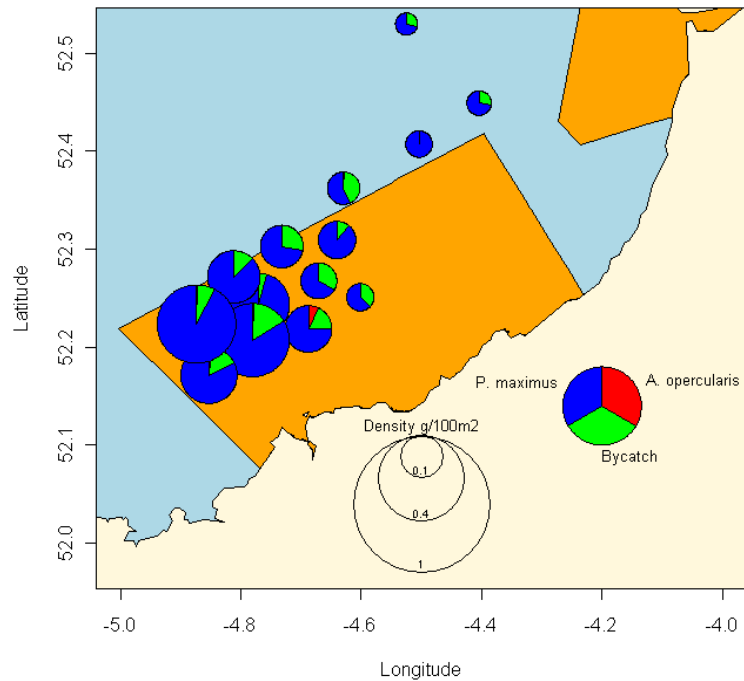


# Bycatch (benthic fauna) in King dredges by area

### Catch composition in the king dredges



### Catch composition in the king dredges



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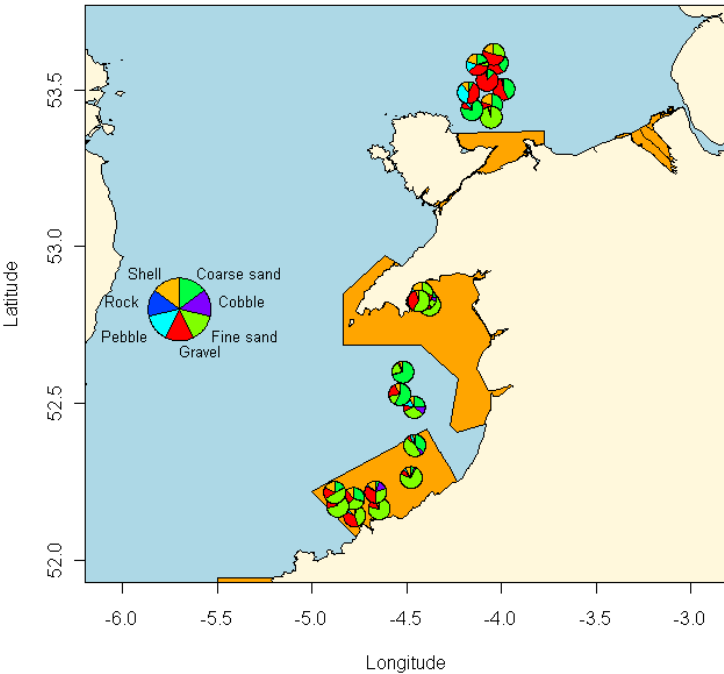


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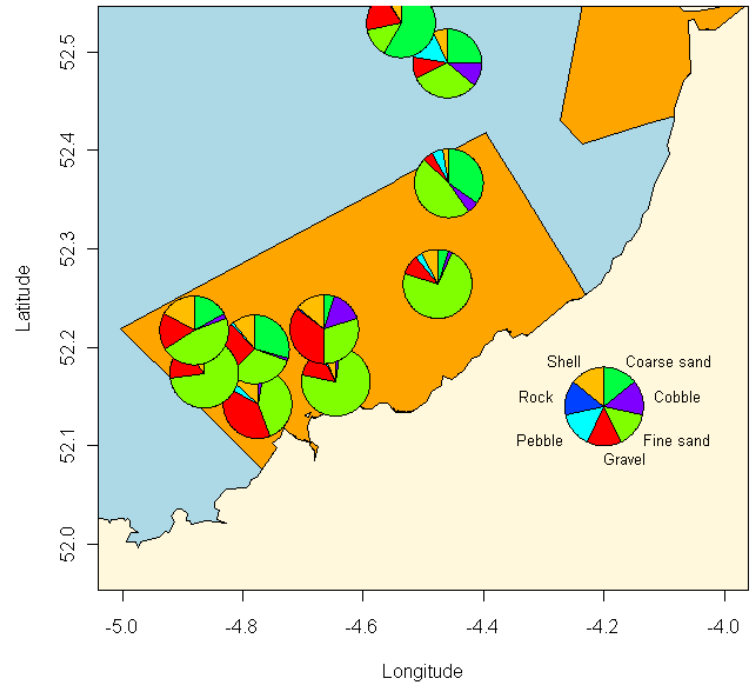


# Sediment composition data for habitat classification

Sediment composition from the stills



Sediment composition from the stills



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## Conclusion

1. The **Liverpool Bay** King scallop population showed low abundances and was dominated by old individuals although some young scallops were sampled.
2. Llyn Peninsula and Tremadog Bay similarly showed low abundances. Again at the Llyn Peninsula King scallops were mainly old individuals.
3. Cardigan Bay showed the highest densities of King scallops of all areas (mean abundances were 7 - 14 times higher) and was dominated by 3-4 year old scallops (105-125 mm).
4. By-catch levels were high in Liverpool Bay but low in all other areas, particular Cardigan Bay.
5. The camera setup for estimating scallop abundances worked but needs refinement



## Our next research questions based on these results

- Fecundity of older scallops? Better to have lots of young or old mothers?
- Connectivity / recruitment? Self recruitment versus external recruitment? Larval modelling.
- Survey strategy for king scallops and catchability estimates? Improve camera sampling and



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Thanks very much for listening!



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