Benen Dallaghan

The Bluefish Project

- Objective :

Bluefish project will investigate the potential impact of likely climate change scenarios on aquaculture and sea fisheries within the study area (Irish Sea)

Funding:

EU Funds: Ireland Wales Cooperation Program (2014 – 2020)

Bluefish operation cost 6.6 million euro

Partners:

4 year program with 6 partners. Bangor University are the lead partner

Building Resilience into Blue Growth in the Irish & Celtic Seas Fisheries & Aquaculture

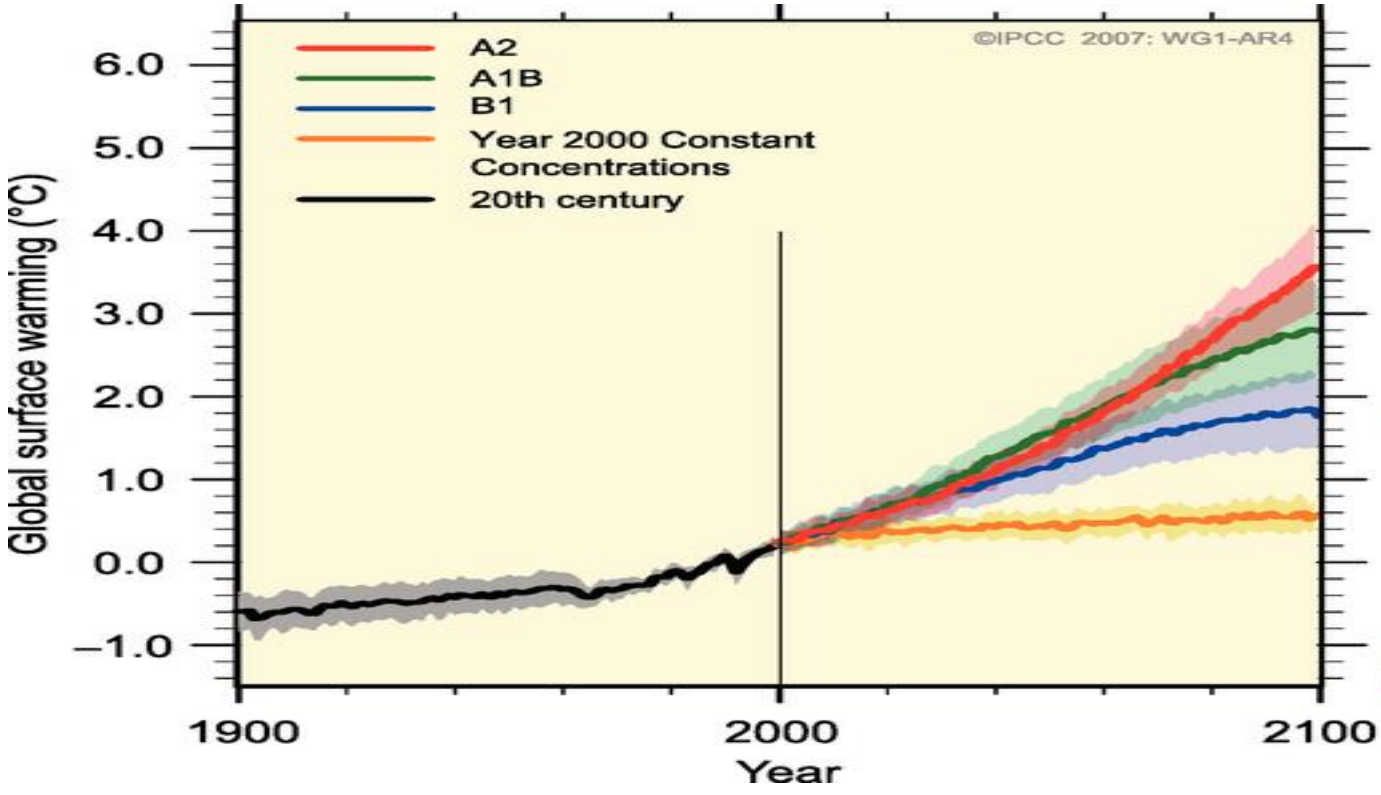
BlueFish

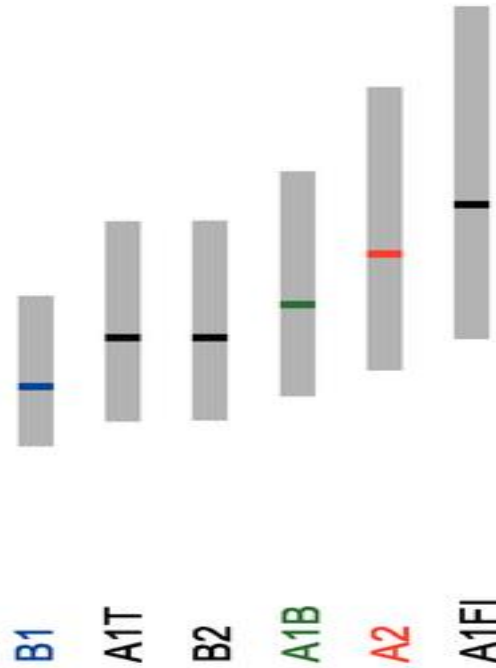
Study area:

Context:

Global threats x 2

Context: Climate change scenarios - IPCC





- Work packages:

WP1 Project Management (BU)

WP2 Ecosystem Understanding (SU / MI)

- Act 2.1 Trophic interactions (BIM)
- Act 2.2 Mapping Predators (SU)
- Act 2.3 Shellfish and climate change (BU)
- Act 2.4 Ecosystem features Goods and Services (MI)

WP3 Ecosystem Resources Sustainability (MI / BIM)

- Act 3.1 Scallops (MI)
- Act 3.2 Seabass (MI)
- Act 3.3 Shellfish seed (BIM)

WP4 Ecosystem Health and Well-being (UCC / BU)

- Act 4.1 Invasive species (UCC)
- Act 4.2 Cockle health (AU)
- Act 4.3 Disease connectivity (SU)
- Act 4.4 Emerging Toxins and pathogens (BU)

WP5 Ecosystem change (AU / BU)

- Act 5.1 Models and Scenarios (AU / BU)

WP 6 Communication and dissemination (BU)

Overall approach:

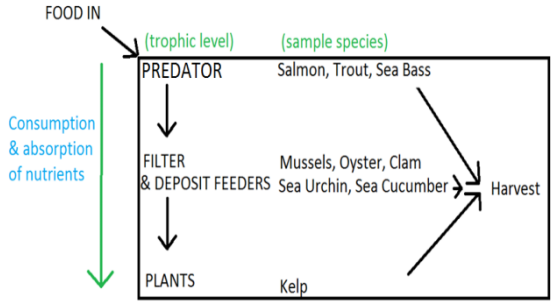
Current (today!) model

> Seabed, Sea Water, Interactions between species, Industry, Resource management/Regulation

Future predictive models

> What are likely impacts and threats

> Advice to industry/regulator on adaption



W.P 2.1 Trophic Interactions

WP objective:

Understanding trophic (and other) interactions between different species within the case study areas. Investigate how these interactions will change in climate change context.

WP Goals:

> Map todays species/aquaculture interactions

> Model future aquaculture scenarios

> Highlight changes / threats to aquaculture. Report on adaptation strategies

Sample scenarios/ questions:

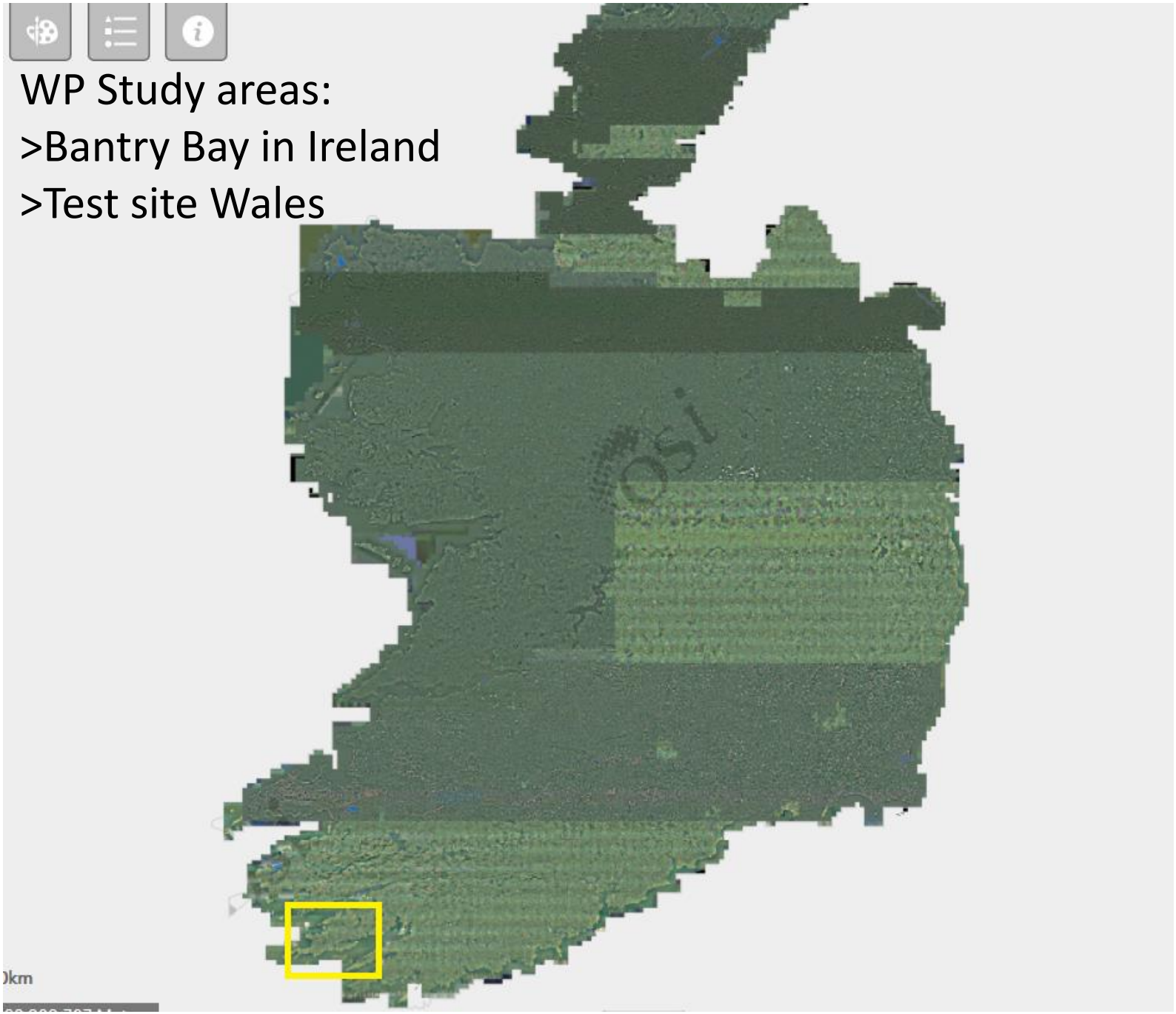
> How will salmon farms in the area be impacted by climate change?
e.g. is there a risk of increased jelly fish numbers causing damage to farmed salmon?

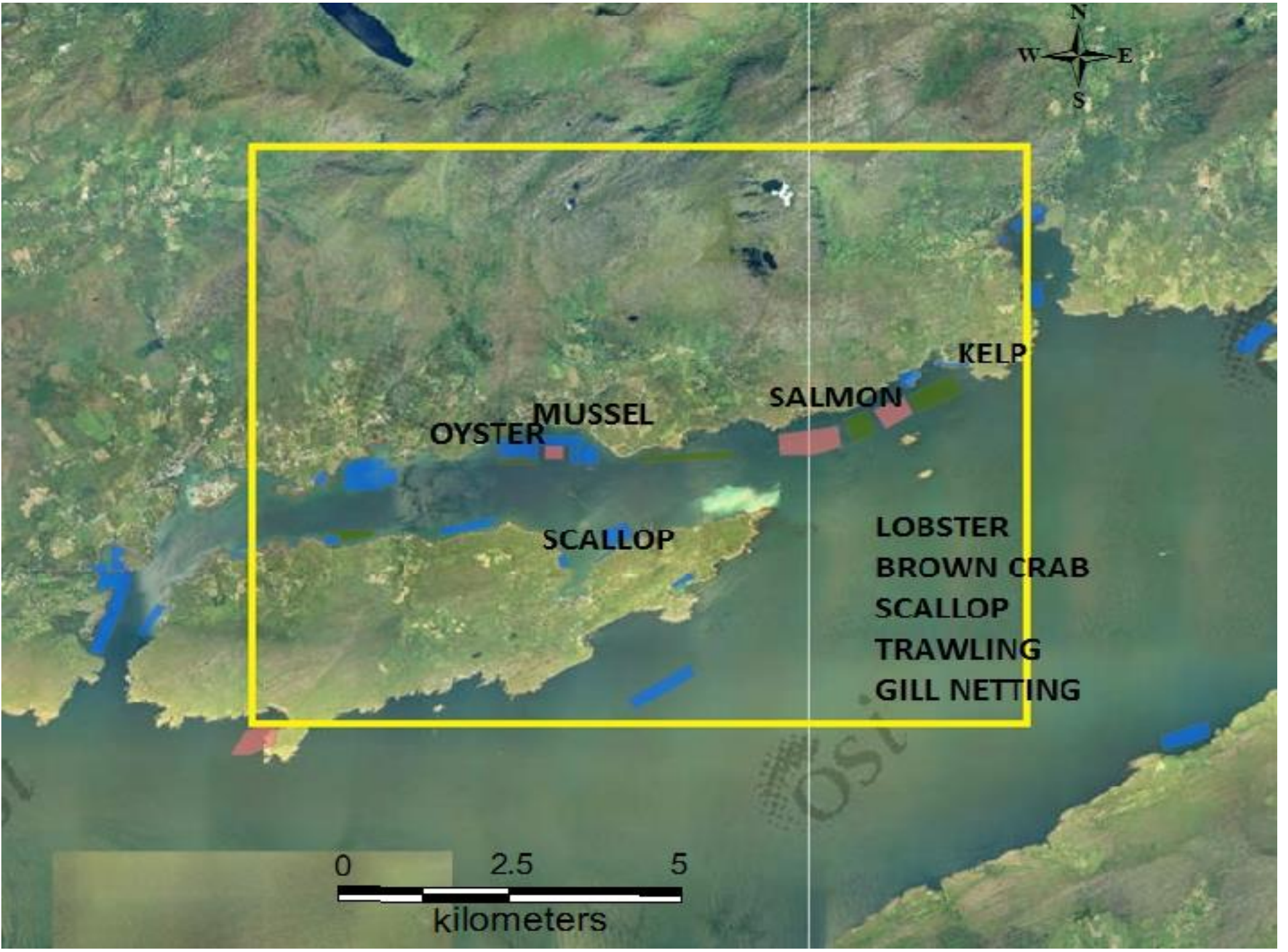
> What is the likelihood of invasive species colonising the case study area? What would the ecological/aquaculture impact of this colonisation be and what can be done about it?

WP Study areas:

>Bantry Bay in Ireland

>Test site Wales




N
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E
S
KELP
SALMON
MUSSEL
OYSTER
SCALLOP
LOBSTER
BROWN CRAB
SCALLOP
TRAWLING
GILL NETTING
0
2.5
5
kilometers

WP 3.3 Shellfish seed – mussel emphasis

WP objective

Understanding mussel populations and mussel larvae settlement / recruitment/resilience in the context of likely climate change scenarios in the Irish Sea

Goals:

> Map todays distribution for different life stages of mussel

> Model future distributions of mussel

> Define risks to industry, species, human health. Report on adaptation strategies where applicable

Key WP scenarios/questions:

> Impact of change in temperature, acidity, invasive species, pathogens, genetics, habitat change, weather patterns, ocean current changes


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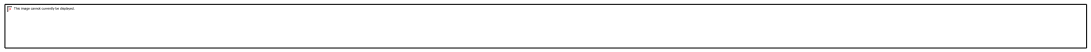
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Santaclara, et al (2006)

Sampling mussel
(and other species)

- Genetics – example of project impact/outcome

  Relevance Now

  Relatedness – informs management strategy

  Relevance Future

  Informs climate change resilience

- Thanks for listening!

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