



Coastal & Offshore Modelling Symposium

COMS2026



A Policy-Integrated GIS-Based Spatial Mapping Tool for Ireland's Aquaculture

Gary Littler
UCD



26 Feb, 2026
Cork, Ireland

Aquaculture

- Rapidly expanding globally
- Replacing traditional fishing in terms of supply
- Worth €211 million in Ireland in 2024
- Employing ~ 2,000 people

- Suffered operational loss of a €4.1 million in 2023
- Fragile in nature
- Rising costs, supply constraints, export market surpluses, pollution/HAB events
- Competing for space with offshore renewables, fishing, marine traffic etc

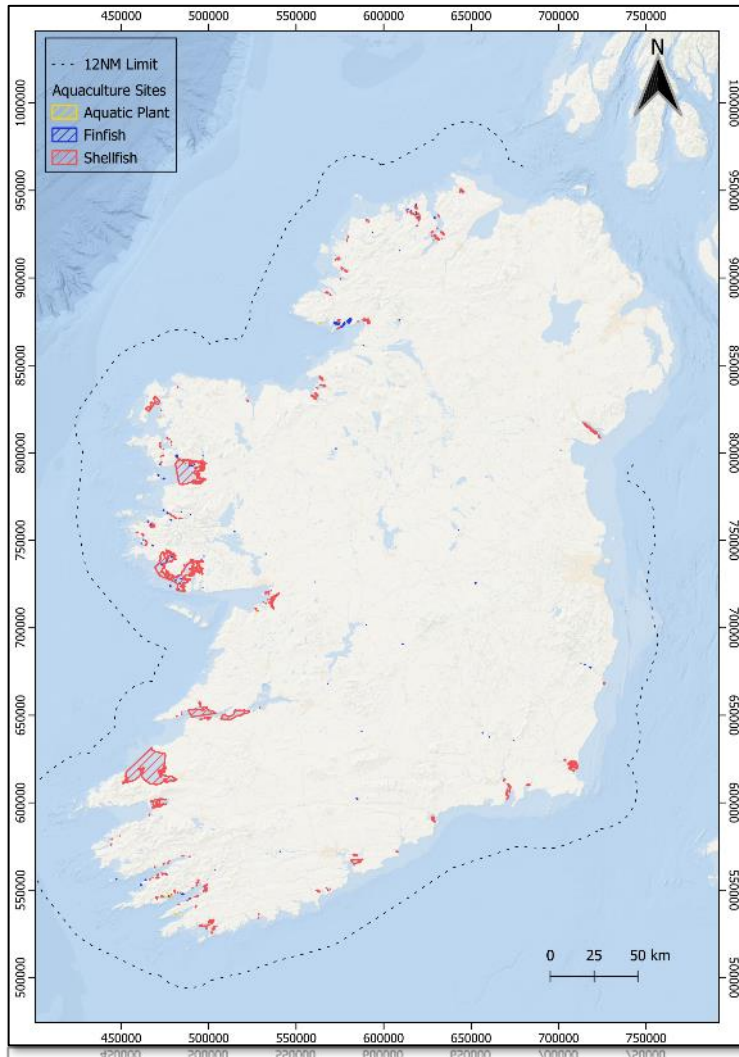
Aquaculture & GIS

- Geographic Information Systems (GIS) used extensively in offshore planning
- Sources can be fragmented across websites
- Data often hard to validate or can be outdated
- Quality varies

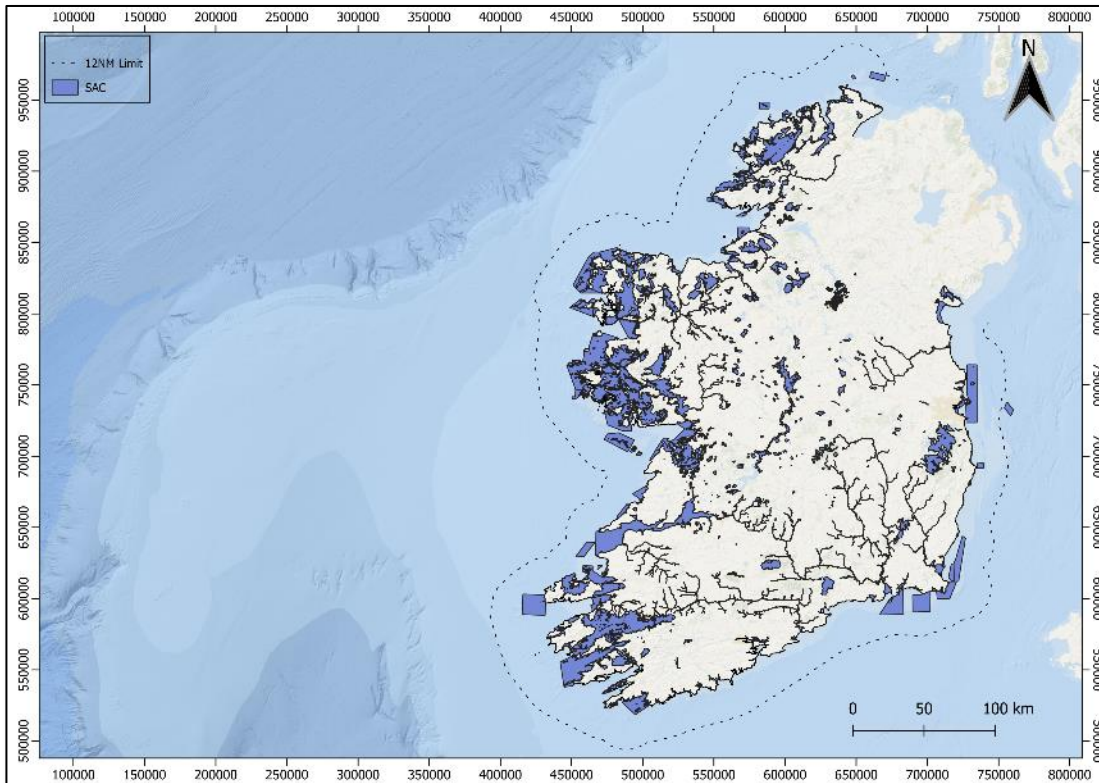


Aquaculture & Policy

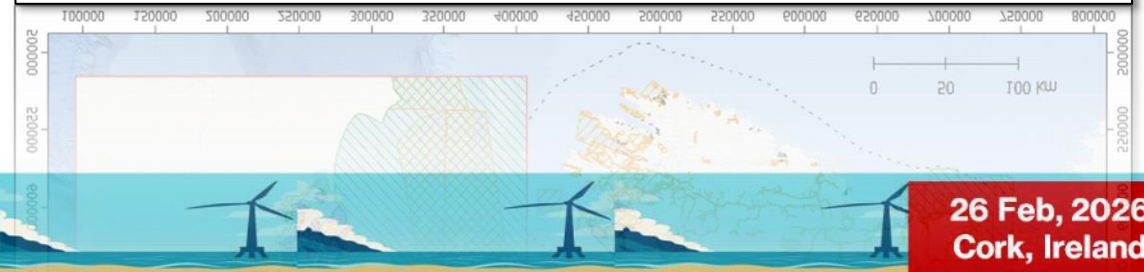
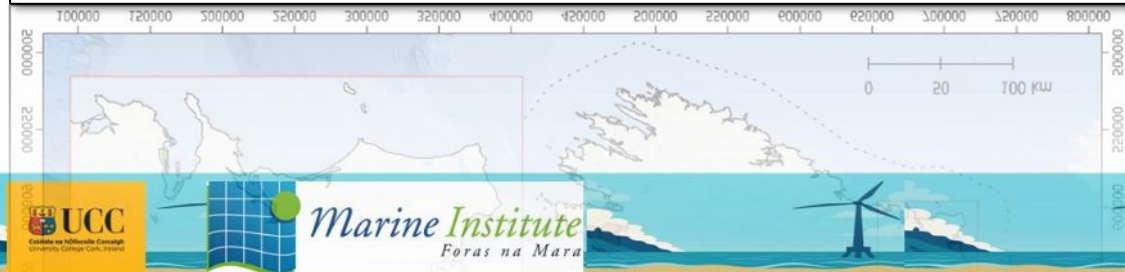
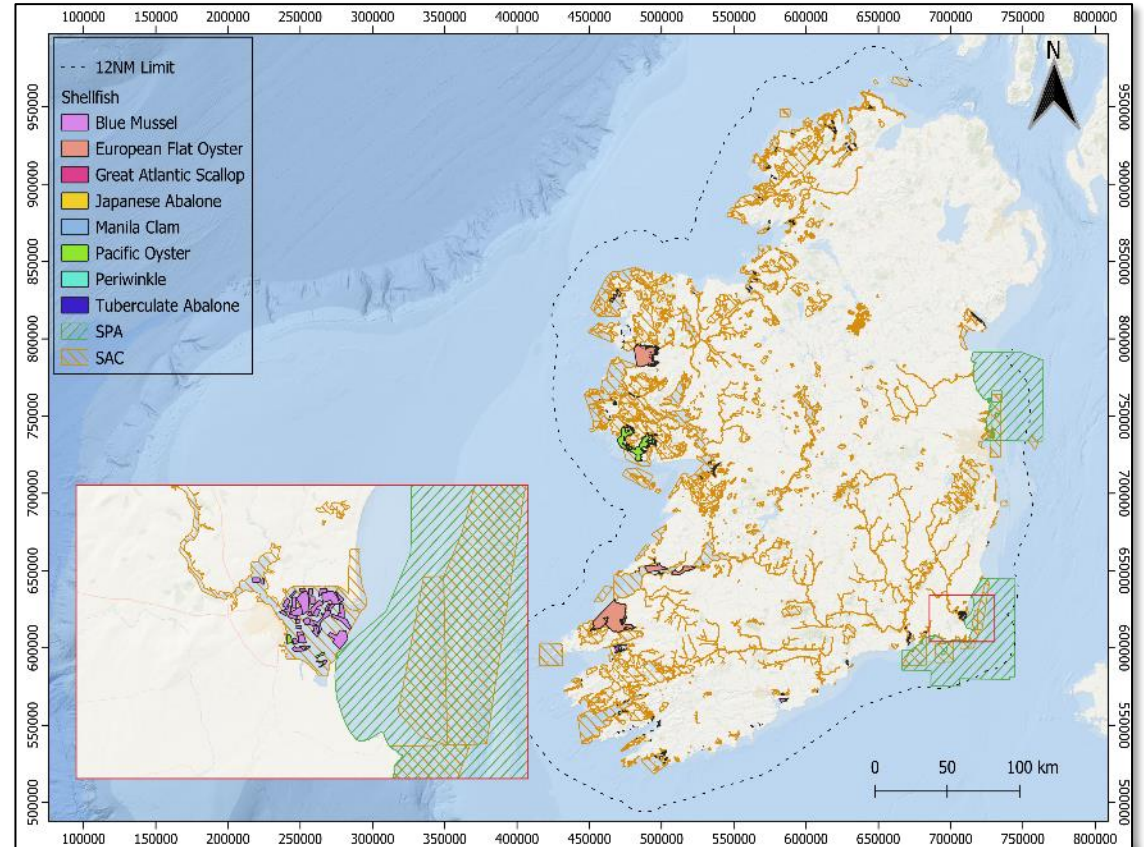
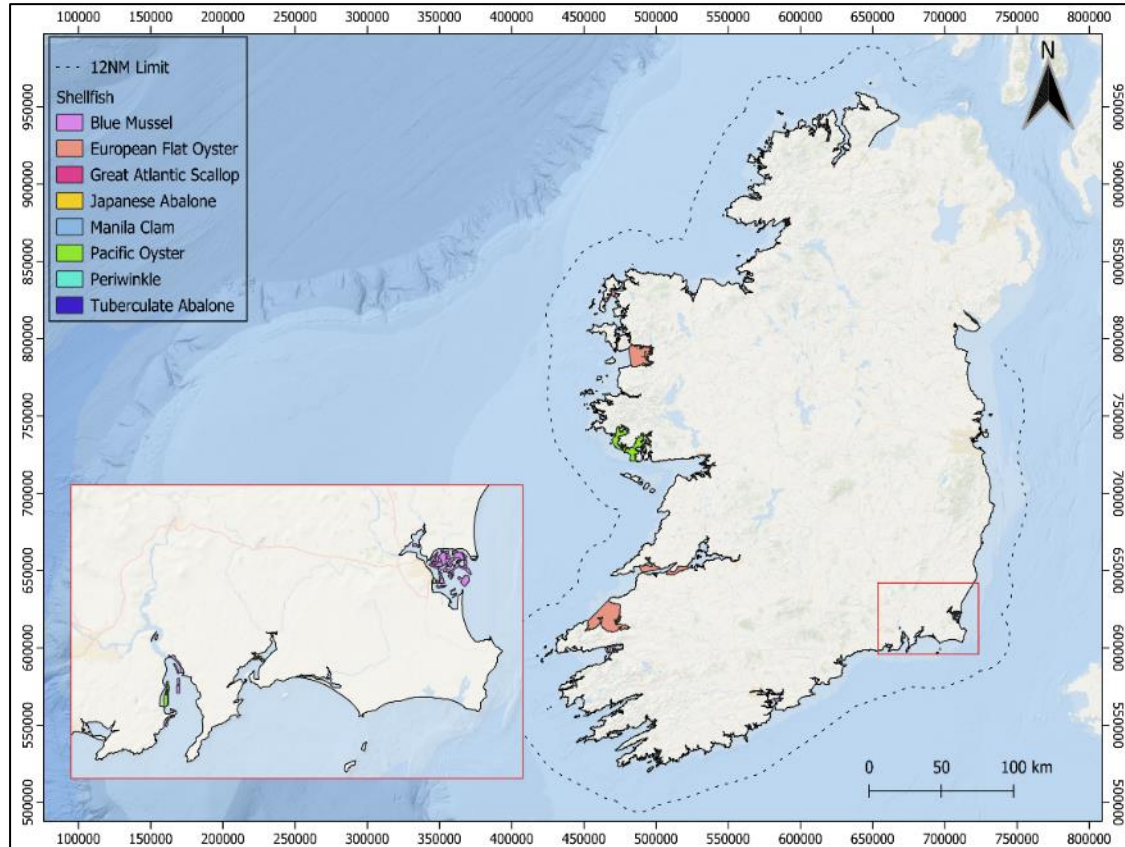
- Planning and O&M subject to various legislative procedures and guidelines
- Exact policy involved varies with aquaculture type and location
- New planning acts can complicate matters
- Species and habitat protections require careful site placement and management, with mitigations in place where necessary

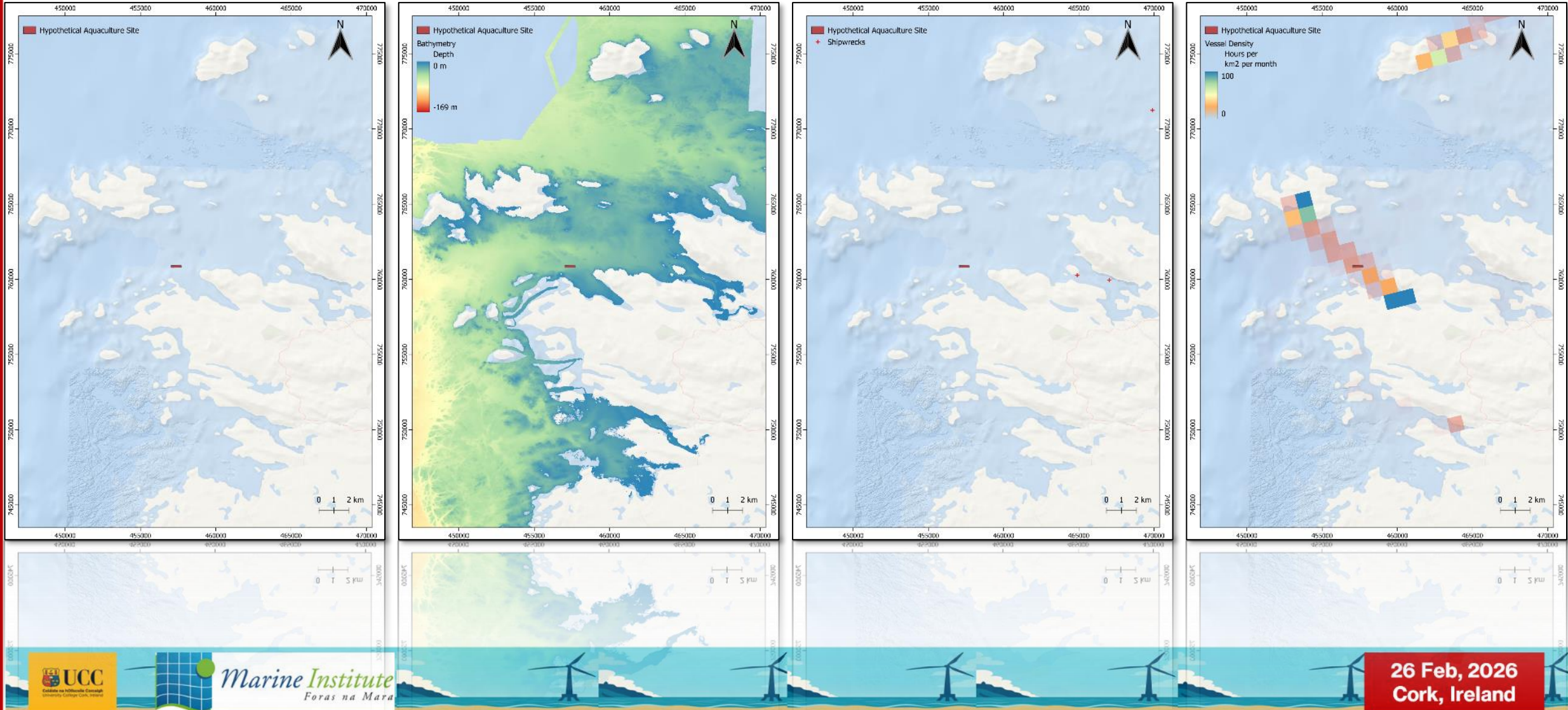


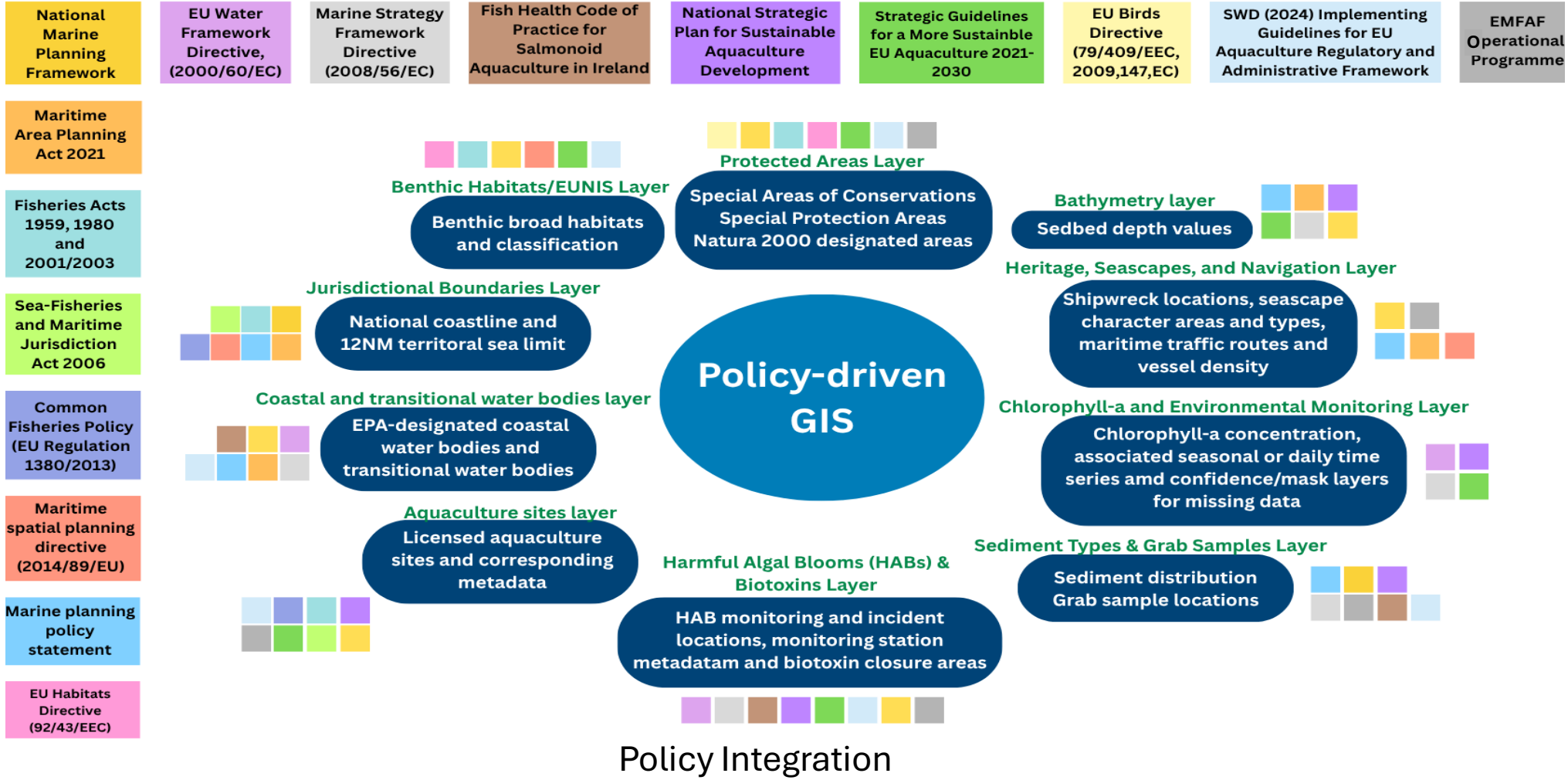
GIS Database



- Analyse specific scenarios
- Utilise multiple layers
- Layers aquaculture specific
- Pre-screened for accuracy and up to date
- Supported with validation of sources
- User-friendly
- Policy-integrated into layers
- Living database







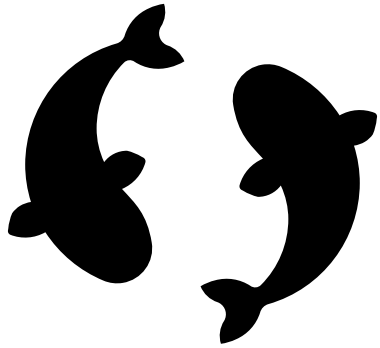
SISDATA

- System to Increase Security/Sustainability in the Domain of Atlantic Traditional Aquaculture
- 4 university project funded by Interreg
- Database will be hosted online – available to all
- Users will be able to add and update, with guidelines

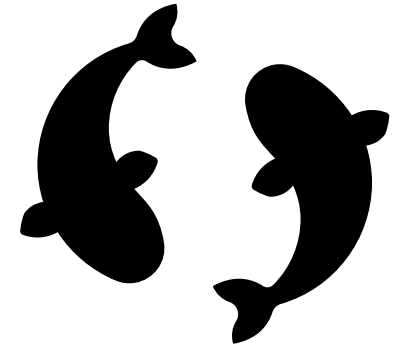


<https://sisdata.dec.uc.pt/>

SUMMARY



- Aquaculture increasingly important
- GIS great tool at all stages
- Drawbacks with data sourcing and validation
- Database seeks to bring together aquaculture-specific elements
- Easy to use for all levels in different disciplines
- Suitable for pre-screening, operations, and decommissioning
- Integrating policy enables compliance and reduces risk
- Will be online as a “living” database, with inputs from users





Thank you
Questions?

This Photo by Unknown Author is licensed under [CC BY-ND](https://creativecommons.org/licenses/by-nd/4.0/)