2nd UNITED Workshop – Aquaculture Multi-Use Offshore: Environment and Biology

German Pilot

Eva Strothotte

This Project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no 862915

17.05.2022

German Pilot

Pilot Description

- 80km west of the island Sylt in the German North Sea
- ***Extreme Exposed offshore!***
- First time in Germany combining **offshore wind research** (FINO3 research platform) and **offshore aquaculture** (seaweed and mussel)

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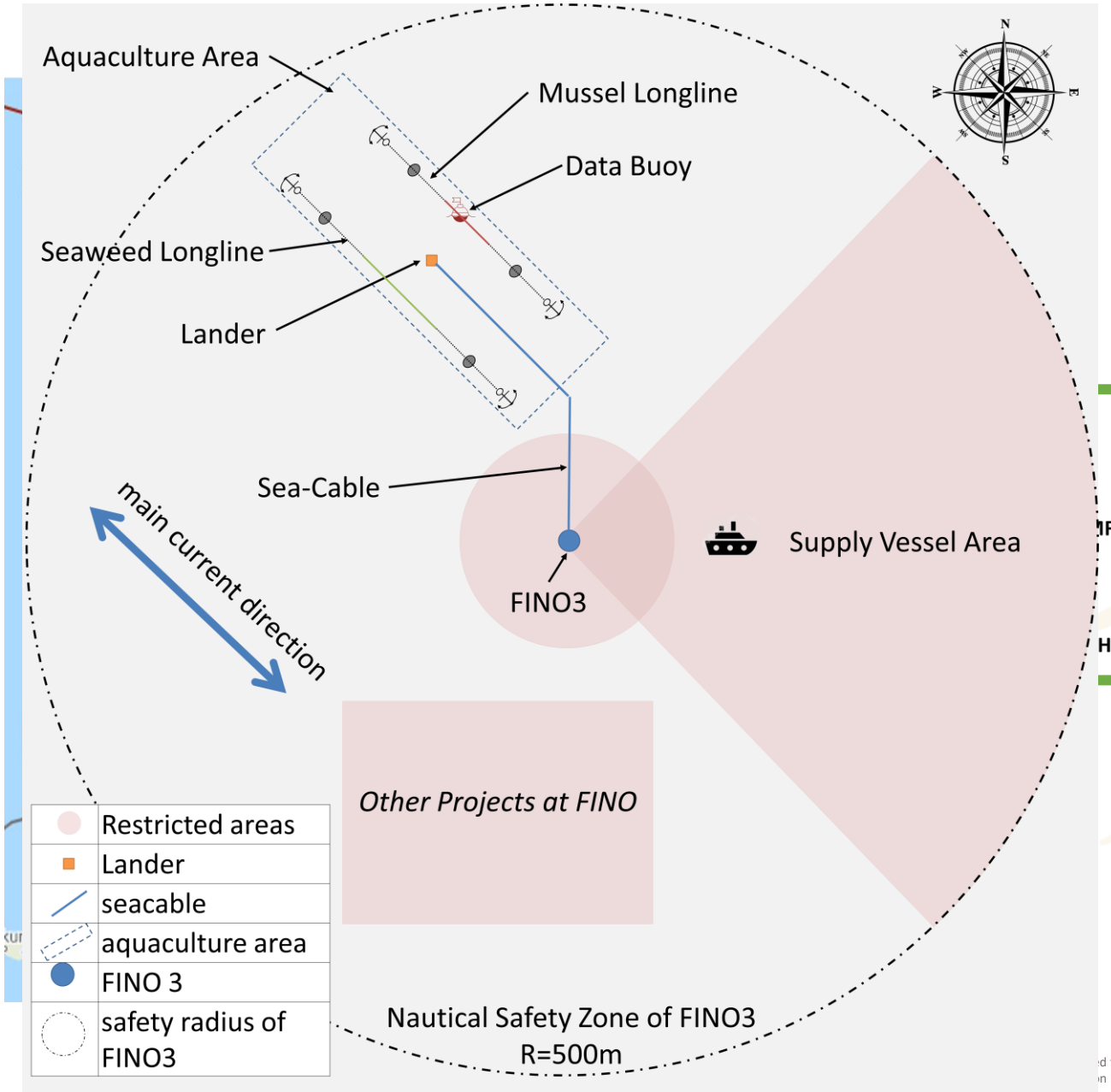

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Environment

One possible application of data:

Suitability of location

Installation and maintenance trips

Collecting environmental data at Lander:

- **Waves** (significant height, period and direction) and **currents** (velocity and direction)

At FINO3:

- **Wind** (velocity and direction)
- **Air temperature** and **pressure**

At mussel system:

- **pH level, NO3 level, mussel and seaweed growth**

Throughout the water column

- **Water temperature, PAR light level, Salinity, conductivity, Oxygen level, Chlorophyl a and algae classification, Turbidity**

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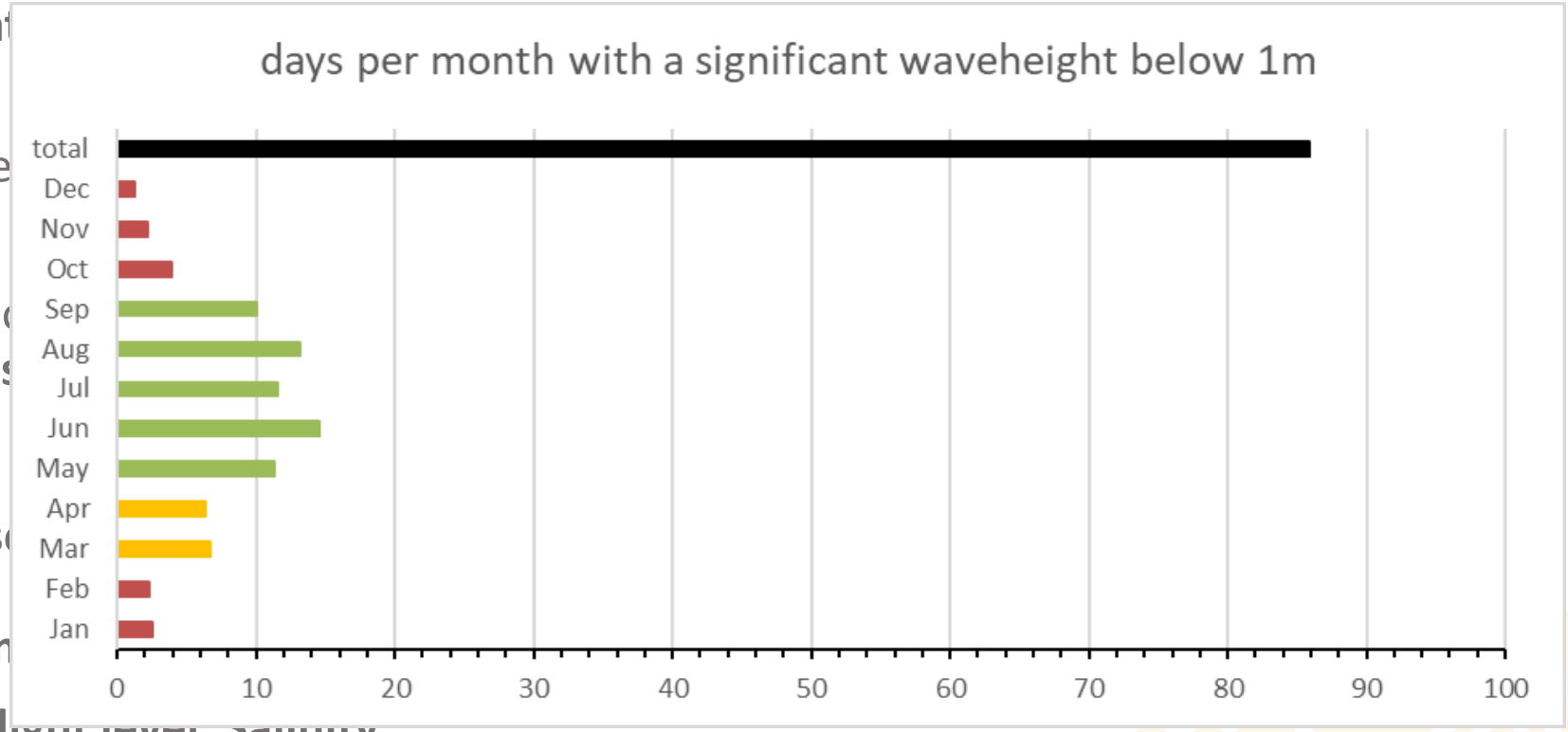

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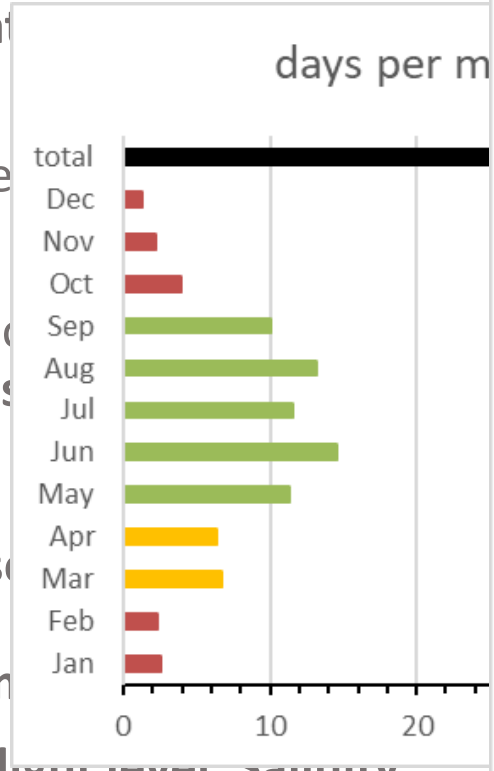

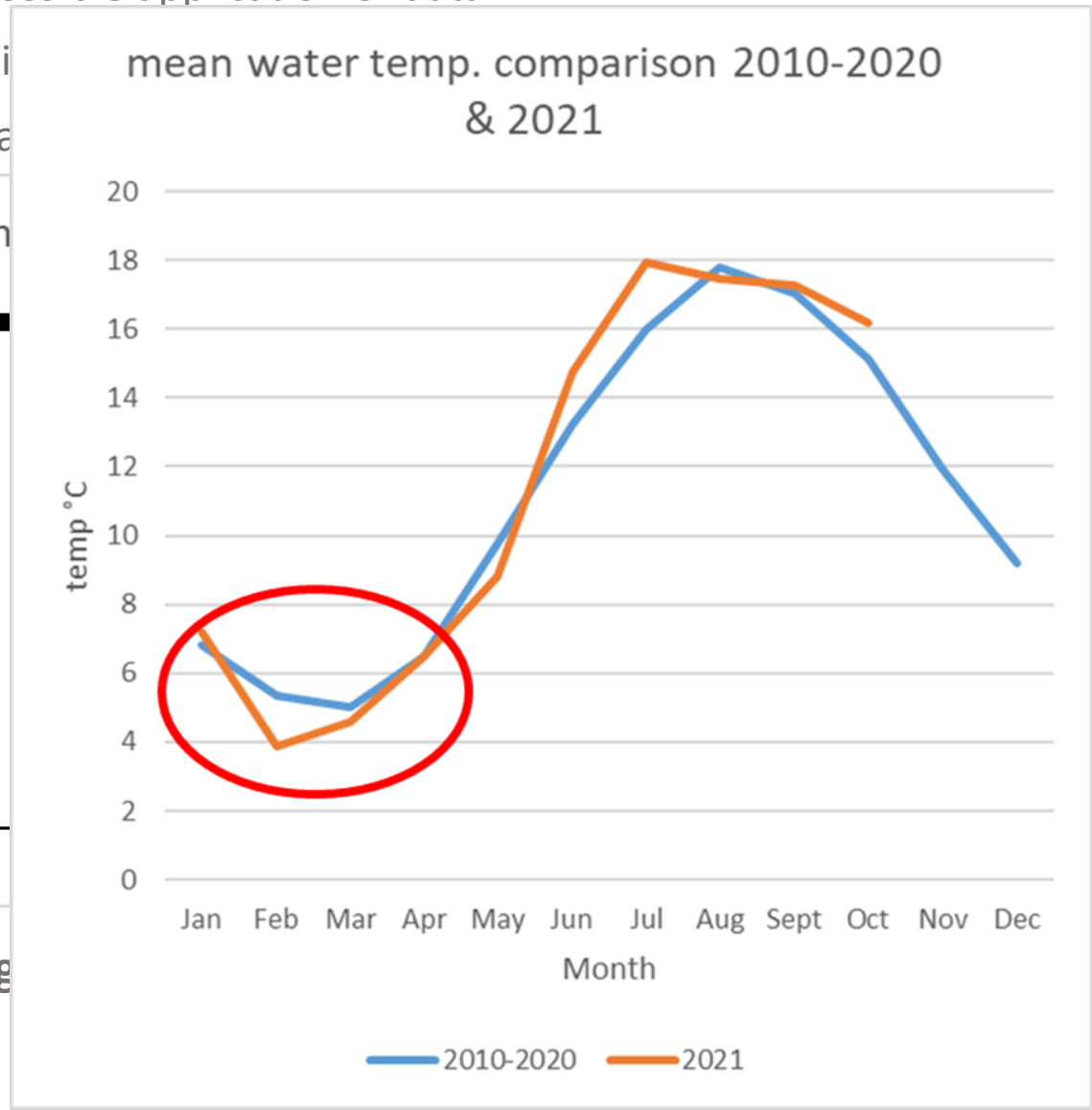

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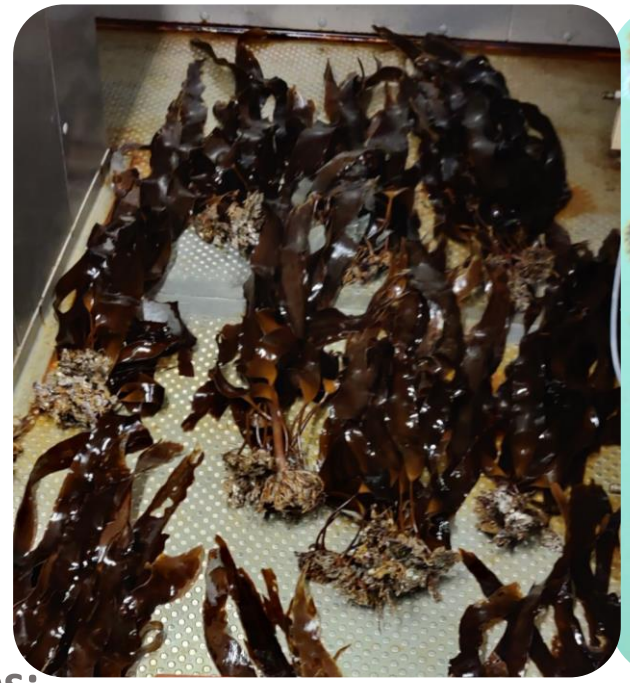
Biology



Target species:

- Seaweed – *Saccharina latissima*
- Mussels – *Mytilus edulis*

Environmental impact on target species:

The location shows favourable conditions for target species (light, temperature, current velocity etc.)

Pilot setup - Impact on environment

- The system can serve as retreate habitat for secondary species e.g. fish
- Potential for future environmental services

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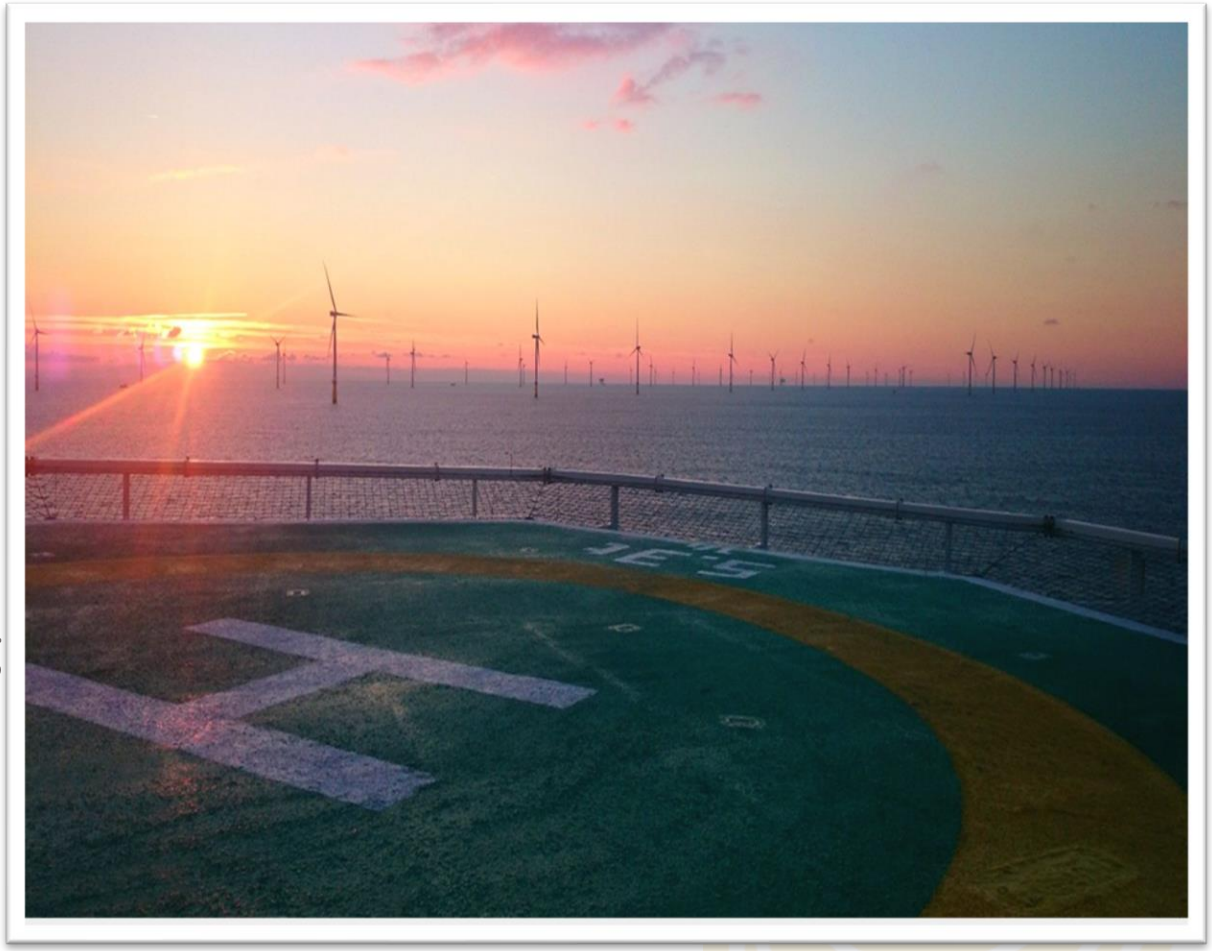
Conclusion

- Combination of:

An already existing offshore structure and

Aquaculture (Seaweed and mussel): Risks and challenges of multi-use systems requiring adjusted planning, and consideration of environmental conditions

- Offshore suitable solutions for collecting environmental data
- Demonstrating synergy effects and resulting in big potential for future environmental services



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Offshore multi-use can contribute to a more sustainable and efficient use of marine resources providing tangible economic and environmental benefits

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The core team (FuE-UNITED)

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Eva Strothotte

eva.strothotte@fh-kiel-gmbh.de