

Improving Baltic Sea monitoring

Novel marine monitoring methods

Aim

In BONUS FUMARI, we propose an enhanced monitoring system of the Baltic Sea marine environment.

We review *novel marine monitoring methods* to supplement the current monitoring by complementing the gaps identified before (see poster: *Gaps between requirements and praxis*).



Active Biomonitoring with Blue Mussels
Jana Ulrich, FTZ University of Kiel

Methodology

Which methods?

- Identification by:
- Stakeholders
 - Project members
 - External researchers
 - Project reports

How to rate them?

- Rating of methods by:
- Reliability
 - Added value
 - Applicability
 - Cost-efficiency

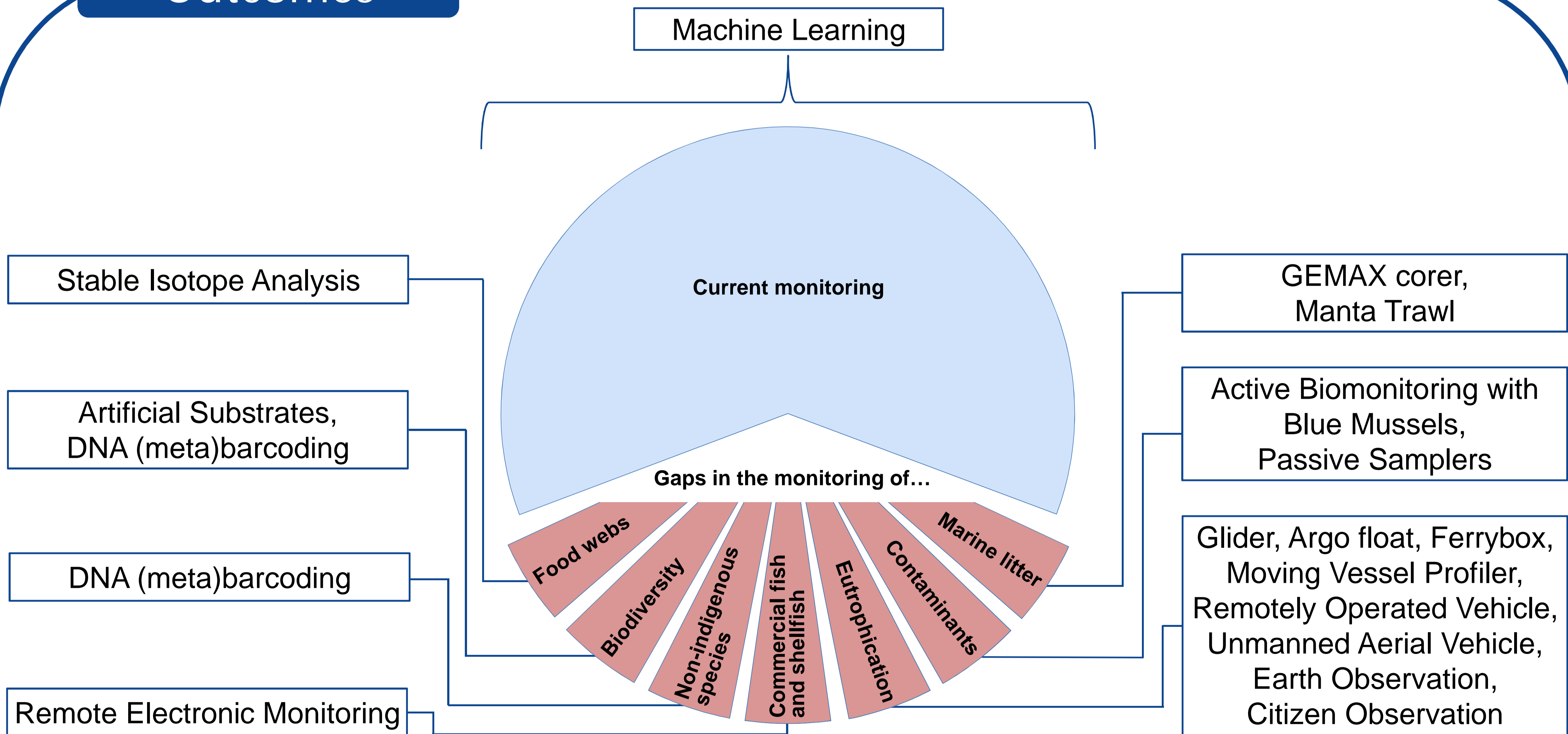
Where to find the information?

- Data collection using:
- Scientific articles
 - Project reports
 - Expert knowledge



GEMAX Corer
Maiju Lehtiniemi, SYKE

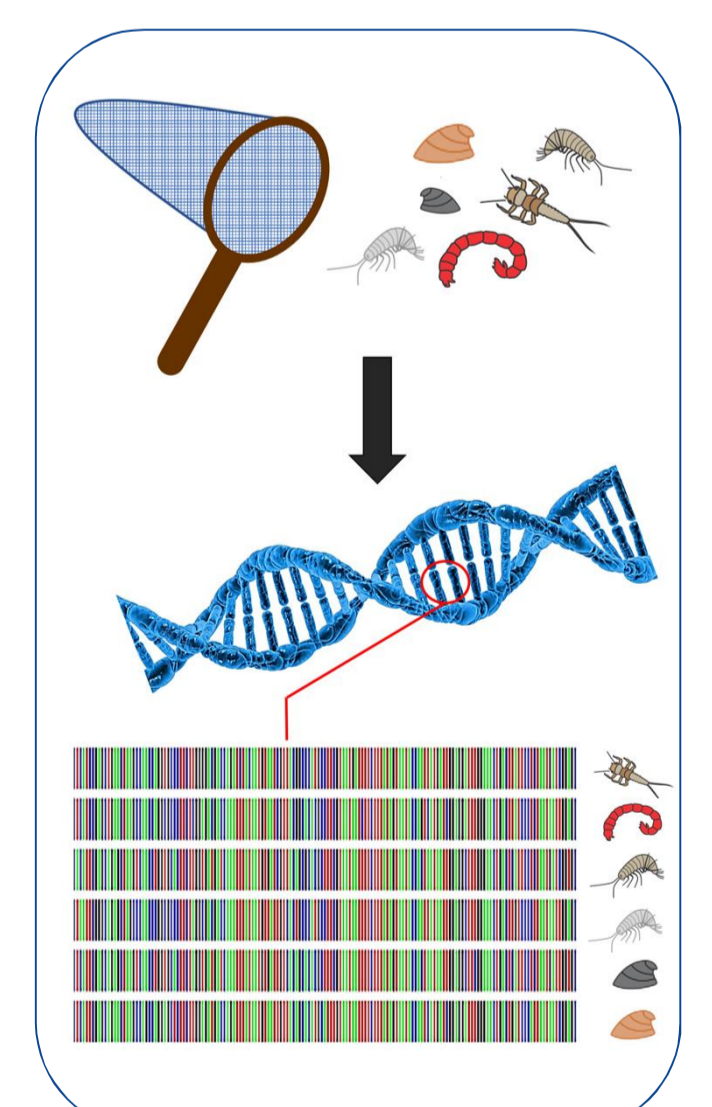
Outcomes



➔ **FUMARI methods database: Description and rating of novel methods**



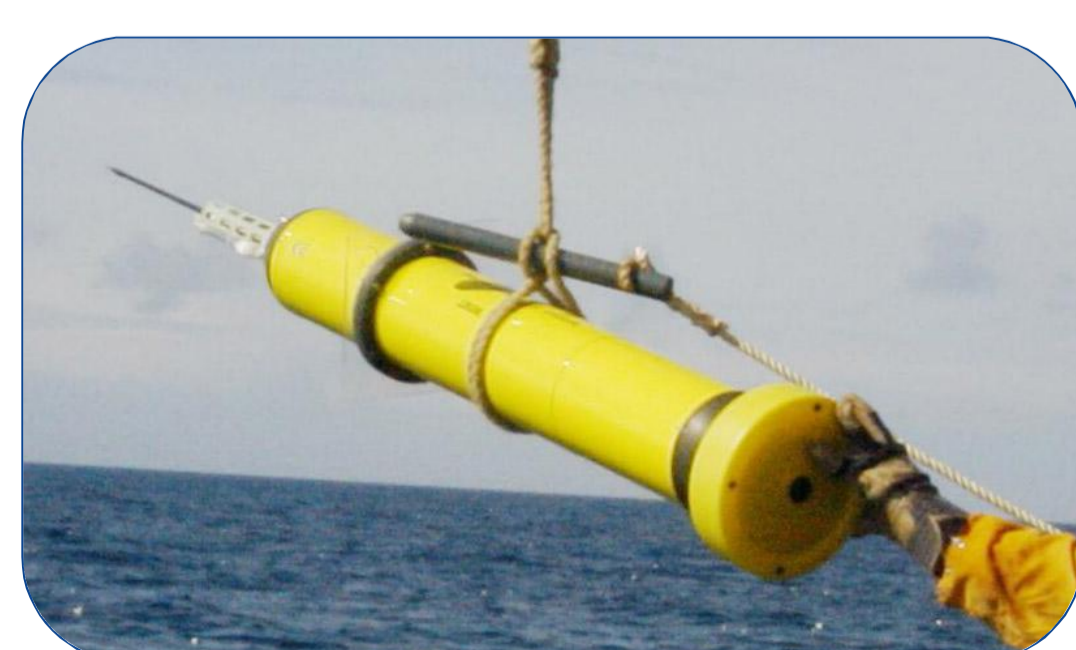
Phytoplankton bloom from space
Original image: ESA Copernicus Sentinel Data, SYKE



Scheme for DNA (meta)barcoding approach



Glider
Tikka Kimmo, SYKE



Argo float
Modified from: www.argo.ucsd.edu



Unmanned Aerial Vehicle
Jan-Erik Bruun, SYKE



Manta trawl
Maiju Lehtiniemi, SYKE



Machine Learning



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This work has been performed by BONUS FUMARI Work Package WP2: Reviewing novel cost-efficient marine monitoring and assessment approaches

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