

## Scandinavian coastal bivalves — conservation status and interactions with invasive Pacific oyster

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Our study organisms — Pacific oysters (*Crassostrea/Magallana gigas*), European flat oysters (*Ostrea edulis*) and blue mussels (*Mytilus edulis*).

Our bivalve research group can offer several types of projects in conservation biology for BSc- and MSc-level students. Please contact us for further discussions about your specific skills and interests.

### Possible topics (a non-exhaustive list)

1. Using the invasive Pacific oyster as a resource
2. Managing the Pacific oyster in different invasion zones in Scandinavia
3. Ecological effects of the Pacific oyster invasion
4. Modelling the direction and speed of the geographic range expansion of the invasive Pacific oyster in Scandinavia
5. How efficient is citizen science data to follow the Pacific oyster invasion in Scandinavia?
6. Developing methods for estimating biomass of coastal bivalves
7. Testing the efficiency of different survey and monitoring methods of coastal bivalves
8. Restoring native bivalves (e.g. European flat oysters and blue mussels)
9. Literature studies to determine the baselines for determining conservation status and future management actions to protect native blue mussels and flat oysters
10. Development of protocols and methods for flat oyster seed production (related to either aquaculture or oyster restoration)
11. Evaluation of effects of temperature on recruitment processes of the invasive Pacific oysters

### Workplace

Some of the projects can (but don't have to) be computer-based (e.g. 1, 2, 4-6, 9) and can thus take place anywhere with frequent contact with supervisors through email and videoconference. Other projects can be based entirely at the Marine Laboratories at Kristineberg or Tjärnö in western Sweden (e.g. 10, 11). For non-Gothenburg students we have a standing collaboration with University of Gothenburg (GU) to register students on GU courses that provide free

accommodation at the field stations. A substantial part of the field-based projects takes place around the Oslo fjord (Bohuslän, Østfold, Vestfold, Agder), but some of the projects (e.g. 2, 4-6) can venture further south along the Swedish west coast and the Danish archipelago, or northwards along the Norwegian west coast. We have funds to cover field work expenses, but we encourage prospective students to apply for scholarships whenever possible.

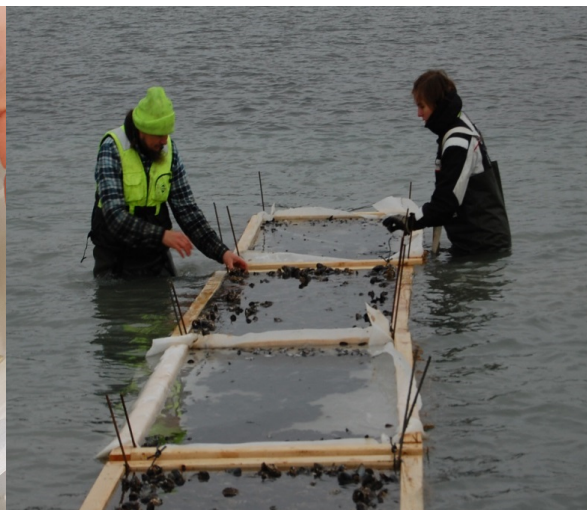
### The group

Ane Timenes Laugen is an evolutionary ecologist by training and is currently interested in sustainable use of marine resources and getting students fluent in the programming language R. Åsa Strand is an ecologist with a keen interest in developing sustainable aquaculture of marine bivalves. We have collaborated on Scandinavian bivalve communities since 2010 and have a long track-record on supervising students with different backgrounds and interests. Don't hesitate to contact us for an informal discussion about what we can offer and to tailor a project that suits your interests.

### Contact

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Left: European oyster (*Ostrea edulis*) spat for population restoration trials. Right: Experimental setup for blue mussel (*Mytilus edulis*) restoration trials



Left: Looking for Pacific oysters in Skåne. Right: Pacific oyster reef in Bohuslän