

Sensitivity of capelin Early life stages to low levels of a crude oil fraction.

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What

Oil and gas exploration, shipping, and tourism are growing in the Arctic and along the north Norwegian coast and these activities increase the risk of an accident, potentially affecting fish populations. Capelin (*Mallotus villosus*) is a key species in the Barents Sea ecosystem, representing a major food source for several predators in the ecosystem, including cod (*Gadus morhua*), marine mammals, and sea birds. Spawning takes place at the seabed in coastal areas. Oil spills close to the coast during capelin spawning can be critical to early life-stages such as embryos and larvae. A previous study on Barents Sea capelin has shown that the capelin egg/larval survival and hatching success is significantly affected when chronically exposed to environmentally realistic oil concentrations leaking from contaminated gravel. We will conduct a laboratory experiment at the Barents Ecotox Laboratory (Tromsø, Norway) whereby fertilized capelin eggs will be collected from the field. Embryo sub-samples will be exposed to several concentrations of crude oil and effects on the embryo development will be investigated through several methods, including picture analysis and histology (malformations), cardiac activity, and behavioral effects (swimming activity in of newly hatched fish).

The master student will work closely with the ecotoxicology group at Akvaplan-niva and at UiT/AMB and work together with a PhD student, and potentially other Master students. This project is a collaborative work and part of a PhD thesis.

Where

The experiment will take place in the Spring (starting in April 2019) at the Marine Ecotoxicology laboratories of Akvaplan-niva in Kraknes.

Requirements

- Bachelor level studies in biology
- Good collaborative skills
- Proficiency in written and spoken English
- Hard working and accepting long days in the lab, potentially also sleep-overs at the marine station.
- Flexible in terms of availability to go to the lab on short notice.

Project start

The experiment start by collecting eggs of capelin on the beaches of Balsfjord, potentially during Easter break. It is thus an advantage to start on the project already in January 2018 in order to participate in the preparation of the experiment and in its design.

Interested?

Please send a CV and an email to: Marianne Frantzen and Jasmine Nahrgang.