



**SYSSELMESTEREN
PÅ SVALBARD**

Under the pole

Att.: Myrina Boulais

Vår dato:
21.03.2022

Vår ref: (bes oppgitt ved svar)
22/00679-9

Deres dato:
09.02.2022

Reply to research application – under the pole – deeplife – 2022 - RiS-ID 11908

We refer to research application dated 09.02.2022 regarding fieldwork on ecological function and vulnerability status of marine animal forests in the mesophotic zone at different locations on the north-west coast of Spitsberget in the period 25.04.-27.06.2022.

Fieldwork description

Marine animal forests (MAFs) are biotic assemblages mainly composed of “eco-engineering” sessile benthic organisms like sponges, corals and bryozoans, which form three-dimensional structures.

DEEPLIFE brings together the scientific expertise of an international consortium and the exploration expertise of UNDER THE POLE team, with a sailboat equipped for scientific research and a crew of scientific divers expert in deep diving in polar environments, including a hyperbaric and anaesthetic doctor. Due to the lack of knowledge on mesophotic habitats in Svalbard, 25 sites will be explored by diving to identify 3 sites of interest on which MAF ecological functions, biodiversity and environmental conditions will be studied according to the methods detailed below.

For each MAF, samplings include:

1. MAF biodiversity and health.

1.1 Sample collection. Non-invasive sampling of small fragments of species composing the MAF. A maximum of 2 samples per individual whose size will not exceed 3 cm will be collected. A maximum of 20 individuals will be sampled per species per depth.

1.2 e-DNA Seawater will be filtered using an autonomous robot. Three samples (100L each) directly filtered inside each MAF resulting in the collection of eDNA on 3 filters.

1.3 Acoustic diversity. Underwater soundscape will be recorded for approximately 72h in each MAF by means of hydrophones installed on 10 Kg weights.

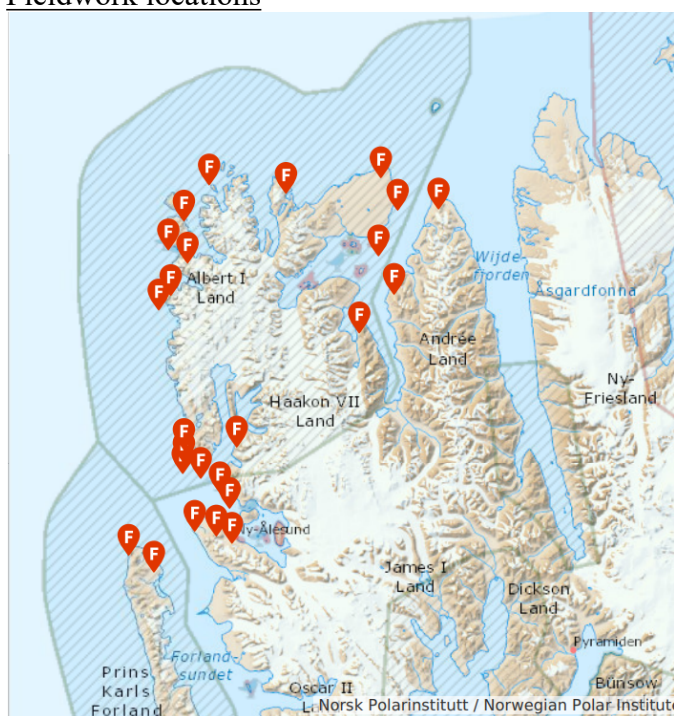
1.4 Fish visual census. Estimates of the number of species and individuals will be performed in each MAF along 50 meters transects (n=2) by 2 scientific divers. No sample collection is planned.

2. Temperature and light. Loggers fixed on 5 Kg weights will be deployed for 7 to 20d on each site.

3. Sedimentation. Three sediment traps fixed on 5 Kg weights will be deployed for 7d on each site. The quantity of sediment collected is quantifiable in a few dozen grams per trap.

4. *Organic matter.* Seawater samples (1.5 L) will be collected in each MAF and filtered onboard.
5. *Current.* Speed and direction will be recorded by high resolution doppler profilers (1 meter cylinder of approximately 8 Kg weight) deployed for 72h in each MAF, for a total of 216h of measurements.
6. *Microclimate.* Temperature, pH, oxygen and sulfur will be measured by a multiparametric probe (50x30cm cm, 3 Kg weight) for 48h in each MAF.
7. *Benthic cover.* Photographic sampling will be performed with an underwater camera mounted over a quadrat (75 x 75 cm). For each MAF, 40 pictures will be taken
8. *Photogrammetry.* A photographic survey (approximately 2000 pictures) will be performed over an area of 10 x 100 m in each MAF. Pictures will be used to obtain a 3D reconstruction to quantify structural complexity, size of organisms and biodiversity.
9. *Demography.* Video sampling will be performed along 50m transects (3 for each MAF) to measure MAF demographic traits (density and size structure) and for fish counting. No drilling or damaging practices will be performed. All the equipment will be removed at the end of the campaign. All the data recorded will be made available upon request. Report will be shared with local authorities. Any specific interest in studying a particular site by local authorities will be considered under the research, if needed

Fieldwork locations



Potential sites for sampling of fragments of species composing the MAF. This site will be explored by diving. Sampling will be conducted on only 3 of the 25 listed sites (3 sites corresponding to 3 marine animal forest). Fieldwork type (i.e., selecting Fauna) and exact dates (according to the weather) in RiS will be adjusted as it become evident during the cruise.

In total, 25 sites are listed in the application in the period 25.04.-27.06.2022.

Fauna:

For each of the three studied Marine Animal Forests (MAF), to determine MAF biodiversity and health, sampling include non-invasive sampling of small fragments of species composing the MAF.



A maximum of 2 samples per individual whose size will not exceed 3 cm will be collected. A maximum of 20 individuals will be sampled per species per depth.

Drone:

The drone will be used to take pictures of the boat to make a scientific documentary on the DEEPLIFE project. The fieldwork personnel and drone pilot will comply with all rules and regulations for the use of a drone. The drone pilot will be registered with Flydrone.no and the drone will not fly within a 20 km radius of Ny-Ålesund, nor near an airport and Kongsfjorden. The rules of drone flying outside the promotion zone (see fieldwork sites) will be respected. UAV size is 214×91×84mm, weight: 907 g.

Regulations

Regulations on the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen, on the nature reserves Nordaust-Svalbard and Søraust-Svalbard, and on the nature reserves for birds on Svalbard.

Section 3. Purpose of the national parks

The purpose of protecting the areas is to maintain large, continuous and largely undisturbed areas of natural environment on land and in the sea with intact habitats, ecosystems, species, natural ecological processes, landscapes, cultural heritage and cultural environments. The areas are to be maintained as reference areas for research purposes and for opportunities to experience Svalbard's natural and cultural heritage.

Section 6. *Protection against development and disturbance*

The areas above are protected against all forms of development, including the construction of buildings and installations of all types, mining, oil exploration and production, extraction of deposits and other activities that involve physical disturbance of the terrain or disturbance of the natural environment.

The seabed is protected against fishing and other harvesting by diving, bottom trawling or dredging. Shrimp trawling is permitted in waters where the depth is 100 m or more.

Section 8. Protection of the fauna

Mammals and birds and their lairs and nests are protected against all types of damage and disturbance.

Act of 15 June 2001 No.79 Relating to the Protection of the Environment in Svalbard

iv. Fauna Section 30 (what protection of the fauna involves)

No person may hunt, capture, injure or kill fauna or damage eggs, nests or lairs unless so authorised by the provisions of this chapter.

Damage to or killing of single-celled animals and invertebrates as a result of lawful access or passage or approved activities, and bycatches taken during lawful fishing operations, are excepted from the provision of the first paragraph.

Section 37 (exemptions) Even if permission may not be granted for a particular undertaking under this chapter, the Governor may grant exemptions from the provisions of this chapter for scientific purposes or when other special reasons so indicate.



The Governor's considerations

Potential locations for sampling (cf. map above) is within Forlandet national park and Nordvest-Spitsbergen national park and the regulations relating to the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen, on the nature reserves Nordaust-Svalbard and Søraust-Svalbard, and on the nature reserves for birds on Svalbard comes to an act. For locations outside national parks, the Svalbard Environmental Protection Act comes to an act.

The fieldwork include different measurements at in total 25 sites. Sampling will be conducted at three of potentially 25 fieldwork sites. The Governor of Svalbard consider the installations and instruments planned used as reversible and temporary and that does not require special permission according to the regulations relating to the national parks or the Act of 15 June 2001 No. 79 Relating to the Protection of the Environment in Svalbard (the Svalbard Environmental Protection Act). It is important that the installations are secured properly for humans, marine traffic and wildlife and removed by the end of the fieldwork period.

For each of the three sampling locations, sampling include small fragments of species composing the MAF. A maximum of 2 samples per individual whose size will not exceed 3 cm will be collected, and a maximum of 20 individuals per species per depth. According to section 11d in the regulations relating to the national parks and section 37 in the Svalbard Environmental Protection Act, the Governor may grant permission for scientific purposes. This does not necessarily mean that permission is given. Generally, fieldwork should be carried out outside protected areas. In this particular case, the Governor must consider if the activity is in conflict with the purpose of Nordvest-Spitsbergen and Forlandet national parks or the Svalbard Environmental Protection Act.

The Governor consider the sampling of fauna as a disturbance of fauna. The collection of individuals of different species at different depths in this scientific project will only be a small part of the local populations of marine fauna in the area. Performed correctly and by following the conditions set to the permission, the Governor consider the disturbance to be minimal and not in conflict with the purpose of the Nordvest-Spitsbergen and Forlandet national parks or Svalbard Environmental Protection Act and will not affect the conservation values. The Governor has also placed emphasis on the fact that the purpose of the fieldwork is scientific.

Drone will be used to document the fieldwork. Use of drone does not need special permission. Please be aware of section 5 and 30 in the Svalbard Environmental Protection Act due to use of UAV and that it is forbidden to disturb wildlife.

Please notice that this permission does not allow fieldwork activity inside nature reserves for birds.

The Governor's decision

The Governor of Svalbard grants Under the pole att. Myrina Boulais permission to conduct fieldwork at specified locations at the northwest coast of Spitsbergen in the period 25.04.-27.06.2022 as described in the application.

The permission is given under the provisions of the Regulations relating to the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen and relating to the nature reserves Nordaust-Svalbard and Søraust-Svalbard and the nature reserves for birds section 11 d and the Svalbard Environmental Protection Act section 37.



The Governor's permission is granted on the following conditions:

- This permission is only valid for the people included in the project.
- The installations must be marked with the owner's name, institution, contact information, RiS-ID, date of deployment and retrieval.
- The installations shall be secured properly for humans, (marine) traffic and wildlife.
- All installations must be removed at end of the fieldwork.
- This permission must be brought along during the fieldwork.
- All equipment and all waste items are to be removed and brought back. Garbage shall not be burned, except clean untreated wood.
- The project shall submit a report from the fieldwork including photos of the drilling locations in the RiS database by 01.11.2022.

Please notice that your planned fieldwork outside Management Area 10 requires notification to the Governor according to the regulation FOR-1991-10-18-671 on travel in Svalbard (the Tourism Regulation). The notification form is available here: [Notification of travel plans for individual travellers; residents, visitors and researchers](#).

Duty of care

The Governor calls attention to the duty of care in the Svalbard Environmental Protection Act § 5 first sentence, «Any person who is staying in or operates an undertaking in Svalbard shall show due consideration and exercise the caution required to avoid unnecessary damage or disturbance to the natural environment or cultural heritage. » The Governor requests particular attention regarding wildlife.

Right to complain

According to Norwegian law you are entitled to complain about the present decision. Written complaints must be submitted within three weeks of receiving this letter. The complaint must be submitted to the Governor

Med hilsen

Kristin Heggelund
Head of Environment Protection

Ingvild Øyjordet
Adviser Nature Management

Dokumentet er godkjent elektronisk, og har derfor ikke håndskreven signatur

Kopimottakere:
Miljødirektoratet