

Report from the Werewolf field campaign 1-3rd of December 2013



Image of a potential werewolf from the VPR taken December 2nd 2013

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Vessel: Farm

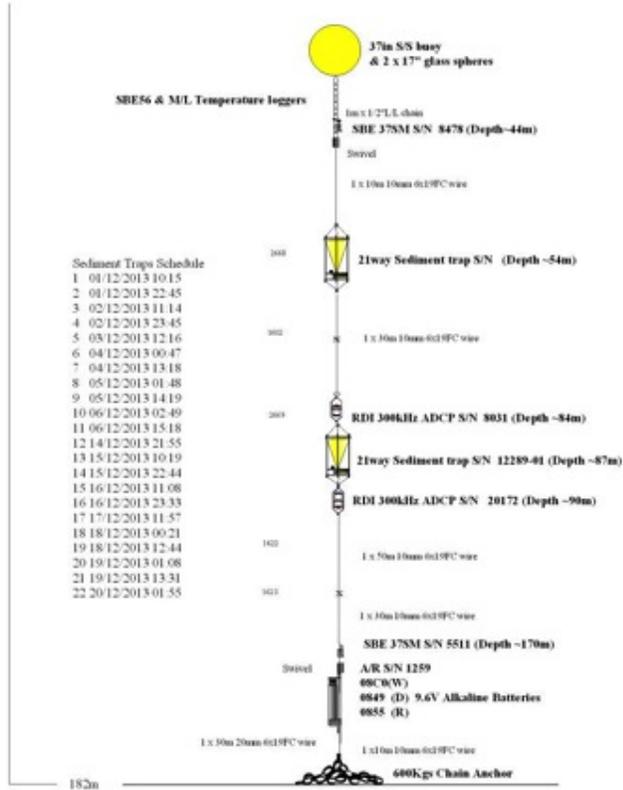
General: The weather the first day made sampling too difficult, with northerly winds and relatively large waves. We aborted sampling and returned to harbor in the late evening. On day 2, the weather had cleared up and the wind turned to east. Conditions for the rest of the cruise was perfect. Temperatures were around -20°C both days (a little above on the 2nd and a little below the 3rd).

Sampling site:

All sampling carried out in the vicinity of the mooring deployed in October 2013, just outside Adventfjorden and Revneset (on the eastern side of the mouth of Adventfjorden).

Isfjorden 2013-2014

LAT: 79°19.129'N
LON: 41°34.401'E
DEPTH: 182m
DEPLOYED: 08:02:06 10 2013
RECOVERED: 11:12:11 11 2014



Light conditions:



Noon, December 2nd 2013



Midnight, December 2nd 2013



Noon, December 3rd 2013

Longyearbyen seen from the sampling site during the campaign. The weather during the first day (December 1st) was difficult and prevented sampling. During the last two days, the weather was very clear, little wind and temperatures around -20C.

Weak northern lights visible during the evening and night of the 2nd of December. No moonlight visible during the campaign.

Key findings / achievements:

- During the cruise, we made a total 5km of VPR vertical tows. When this is repeated the 15-17th of December, this dataset will be vital to the WHO question, as well as documenting presence of organisms in the water column close to the mooring. Combined with the set of WP3, MPS and ADCP data/samples, it should give a very good idea about potential migration in the upper 100m of the water column.
- Observations of polar cod (*Boreogadus saida*) in the surface during LM. During the first set of VPR tows in the evening of the 2nd, we observed one polar cod swimming in the very surface (top cm of the water column). During the second set of VPR later the same evening, at least 20 more were observed. All were swimming in the very surface, and all were swimming away from the light. This observation may indicate active feeding of polar cod in the surface during the polar night. If so, this may also be a key factor in the WHY question – the presence of actively feeding predators in the surface gives an adaptive advantage to organisms capable of diel vertical migration during the polar night.
- Kim initiated his electromagnetic experimental setup using Calanus and chaetognats. This will be continued during the January campaign to look for a diurnal pattern in behavior.

Sampling: After initial difficulties and testing of the capabilities of what was possible to do onboard Farm in the prevailing conditions, we ended up with the following sampling scheme that were carried out during two noons and one midnight (during this campaign, the lunar “up-“ and “down-times” coincided with LSN and LM):

- 1) Four vertical tows with the VPR (macro setting), the first down to 150m and the following three to 100m.
- 2) WP3 nets, 3 replicates from 35-0 and 3 replicates from 70-0. Closing mechanism was not possible due to wire connection.
- 3) MPS net, 50-0 with 10m resolution on each net
- 4) Four vertical tows with the VPR (macro setting), the first down to 150m and the following three to 100m.

Notes for the leg two of the December campaign (werewolf campaign):

- Try to repeat the schedule carried out during the first leg (points 1-4 above, and in that order)
- If observed, try to get a picture of the polar cod in the surface (but during full moon. We might expect them not to come this far up, but to stay deeper)
- Check that the winch has been maintained – during the last day, the winch had too little power to lift the MPS.

