

Cruise report from Skagerrak 11-16 July 2018

Scientific lead

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Cruise plan

The cruise was planned as a continuation of the cruise aborted in June 2017 due to bad weather and missing ROV. The RV IMOR was planned to depart from Horten (Norway) Saturday 7th July and end the survey no later than Tuesday 17th July. The plan was a seven days cruise with three spare days for bad weather.

The plan was to start with video inspection of three wrecks and surrounding ammunition by using the ROV with camera. The second priority was to collect sediment samples in squares at different distances from one wreck by using the novel “multi-increment sampler”. The individual cores should be sliced in 0-1 cm, 1-3 cm and 3-6 cm depths. All slices from the same depth from all cores taken in the same square should be mixed to one common sample on board (i.e. one common sample for each depth). The reason was that such mixed samples would be better suited than spot samples for taking decisions on possible remedial actions in areas with very inhomogeneous concentrations of chemical compounds in the sediment.

For reasons unknown to the scientific lead, the start was delayed with departure from Horten harbour on Wednesday 11th July.

Cruise execution

Water started to leak into the ROV during the first dive and the ROV-investigation was aborted without any recordings from the wrecks. It turned out that RV IMOR only had an experimental ROV on board which had not been tested in deep water before. This was unknown to FFI, which is the Group activity 3.2 leader. It was not possible to repair the ROV on board RV IMOR.

A first dive with the multi-increment sediment sampler was made in position 58° 16.13750 N, 009° 41.05050 E close to wreck no 13. Eight separate cores were successfully collected within a circle with radius 10 m. Each core was sliced according to the plan and mixed to one common sample for each depth. During this dive, it was discovered that water had entered the electronics and it was decided to replace all silicon seals with a more flexible type before the next dive would be attempted.

After changing the silicon seals on the sediment sampler, a new dive was started. It turned out that the signal cable started to twist around the wire used to lift the sampler and broke several times. This could not be repaired on board and it was decided to abort the cruise.

Conclusion

The cruise in Skagerrak in July 2018 was aborted with only one successful multi-increment sediment collection. The dive was executed close to wreck no 13 and contains mixed samples made up from eight different subsamples collected within a circle with radius 10 m. The results from chemical analysis of the mixed samples will be compared with results from spot-samples taken close to the same positions during cruises conducted by FFI in 2002 and 2015.