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Report of the 334. Cruise of FRV "Walther Herwig III"
16.06.2010 – 10.07.2010

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**Biological, chemical and radio analytical investigations of fish from the
 Barents sea and waters west of Svalbard**

Summary:

Investigations of the 334th cruise of FFS "Walther Herwig III" focused on aspects of consumer protection of fish as food. Samples of various fish species from different fishing grounds were collected to follow the temporal and spatial trend of inorganic and organic contaminants and to study the actual environmental radioactivity.

In waters west of the Kongsfjord of Svalbard a new monitoring array was established to study the long time development of the biological variations and pollutants in fish assemblages.

In the frame of the activities of the national reference laboratory for nematodes in fish the infestation rate and distribution of nematodes in commercially used fish species were studied.

Narrative of cruise

FFS "Walther Herwig III" (W.H. III) departed Bremerhaven with a delay of 2 days due to technical problems on the 18th of June and scientific investigations started on the 20th of June 2010 in the Skagerrak area.

The progress of the cruise is summarised in table 1.

Date	Area of investigation	Main activity
20.06.2010	Skagerrak	Testing of a Triaxus system
21.06.2010	South-West of Norway	Sampling of saithe, haddock, and various other species
22.006.2010	Bergen Pilot station	Embarkation of a Norwegian scientist from NIFES
25.06.2010	North cap bank	Sampling of fish, vertical hydrographic profiles

26.07.2010	Bear Island	Sampling of fish, vertical hydrographic profiles
27.06.2010	Hopen Island	Sampling of fish, vertical hydrographic profiles
28.06.2010	South-West of Svalbard	Sampling of fish, vertical hydrographic profiles
29.06.2010	West of Svalbard	Establishing of a monitoring array, sampling of fish, vertical hydrographic profiles
30.06.2010	Longyearbyen and west of Svalbard	Disembarkation of a Norwegian scientist from NIFES, sampling of fish
01.07.2010	West of Svalbard	Continuation of the monitoring activities on demersal fish species
01-05.07.2010	Departure from the Svalbard area	
06-07.07.2010	Bergen, N	Embarkation of a scientist from Marine Research Institute, N
08.07.2010	Skagerrak	Test of a multi sampler for a Gloria net

In the evening of July 8th scientific work ended and FFS “Walther Herwig III” returned to Bremerhaven in the night to July 10th 2010.

Preliminary results

All tasks of the cruise could be fulfilled. A total of 23 fishing hauls and 27 hydrographic profiles were made and samples of various species of fish and other marine biota were collected and prepared for later chemical and radioanalytical studies at land based laboratories. Sampling for contaminant studies focused on the edible part of important fish species for the German market such as cod, red fish and Greenland halibut.

Parasitological studies on cod and hake were undertaken in cooperation with the Norwegian National Institute of Nutrition and Seafood Research (NIFES).

A monitoring array was established for studying long time development of demersal fish species west of Svalbard.

A new multi sampler equipment for the pelagic Gloria net was successfully tested.

The Triaxus system was tested.

Scientific crew members

Name	Institution
Dr. Horst Karl (chief scientist)	MRI, HH
Monika Manthey-Karl	MRI, HH
Iris Bagge	MRI, HH
Sven Blechner	MRI, HH
Dr. Ulrich Rieth	vTI, HH
Dr. Heino Fock	vTI, HH
Dr. Matthias Bernreuther (7.-10.7.10)	vTI, HH
Wolfgang Lindemann	vTI, HH
Peter Schael (until 7.07.2010)	vTI, HH

Karin Schiefenhövel	University Bremen
Matthias Schwarz	University Kiel
Markus Busch	University Düsseldorf
Dr. Arne Levsen (22.06-30.06.10)	NIFES, Norwegen
Roar Skeide (7.-10.7.10)	Marine Research Institute, Norway
Hendrik Mathiesen (until 22.06.10)	MacArtney A/S, DK

Hamburg, July 12th, 2010

Dr. Horst Karl, Chief scientist