



Baltic Marine Environment Protection Commission

Expert Group on Monitoring of Radioactive Substances
in the Baltic Sea

MORS EG 11-2021

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Background

This document contains information of the German Baltic Sea monitoring of radionuclides in seawater, marine sediment and marine suspended matter in 2018, 2019, and 2021.

Action

The Meeting is invited to take note of the information.

German MORS monitoring in 2018, 2019, and 2021

Programme and methods

The monitoring has been carried out in the Western Baltic Sea according to HELCOM Recommendation 26/3 in March 2021. The programme consisted of 29 water and 13 sediment stations in the German Exclusive Economic Zone (EEZ). In 2020, no monitoring could have been carried out due to corona pandemic.

Both surface and subsurface samples were taken on 28 stations for ^{137}Cs analysis and on four stations for ^{90}Sr and tritium analysis, respectively.

One surface sample for ^{137}Cs was taken on another station and surface samples for ^{90}Sr and tritium analysis were taken on eight stations.

On the sediment stations, sediment was taken with a Twin-Gemini-Corer, a small box corer, or a cheeks corer. The sediment cores taken with either the Twin-Gemini-Corer or the small box corer were cut in 2 cm slices and the slices of two cores were combined to one sample to obtain enough material for analysis.

The sediment sample obtained by the cheeks corer consisted of surface sediment only due to the characteristics of this device.

The sediment samples were measured by gamma spectrometry after freeze-drying and homogenization.

The suspended matter samples were collected on eight stations in a volume of 13 m³ of seawater by continuous flow centrifuge. The samples were measured by gamma spectrometry after freeze-drying and homogenization.

Seawater results

^{137}Cs

The samples for ^{137}Cs in surface and subsurface seawater in 2019 are evaluated completely but the plausibility checks are still pending.

The samples for ^{137}Cs in surface and subsurface seawater were taken in 2021 but could not be measured completely up to now.

The activity concentrations of ^{137}Cs in the year 2018 have already been reported within MORS EG 10-2020 (see Doc. 3-2).

^{90}Sr

The samples for ^{90}Sr in surface and subsurface water in 2018 and 2019 are analysed completely but the plausibility checks are still pending.

The samples for ^{90}Sr in surface and subsurface water were taken in 2021 but could not be analysed completely up to now.

^3H

The samples for ^3H in surface and subsurface seawater in 2019 are analysed completely but the plausibility checks are still pending.

The samples for ^3H in surface and subsurface seawater were taken in 2021 but could not be analysed up to now.

The activity concentrations of tritium in the year 2018 have already been reported within MORS EG 9-2019 (see Doc. 3-1).

Sediment results

Sediment was sampled on 13 stations in 2018 and 2019, respectively. The plausibility checks of all values of 2018 and 2019 are still pending. The sediment samples of 2021 could not be measured completely up to now.

Suspended matter results

The suspended matter samples collected in 2021 are evaluated completely but the plausibility checks are still pending.