



First Meeting

Project ER90 HAZLESS

HAZARDOUS CHEMICALS IN THE EASTERN GULF OF FINLAND- CONCENTRATIONS AND IMPACT ASSESSMENT

21–22 December 2020

Universitetskaya embankment 1, St. Petersburg, Russia (Web-conference format)

AGENDA

21 December 2020

10:00-12:00 Discussion 1 (Ivan Kuprijanov, Nadezhda Berezina)

T1 (April 2019 – March 2021): **Field studies in 2019 and 2020. Regions of sampling, analysed substances and matrices. Compilation of database. Mapping.**

Ivan Kuprijanov, Germo Väli, Natalia Kolesova (TTU): Activities and achievements of the 2019-2020 field surveys and bioassay of sediment in Estonian part of the study area.

Numerical modelling of hazardous substances accumulation.

Nadezhda Berezina, Andrey Sharov, Alexey Maximov, Yulia Gubelit, Zoya Zhakovskaya (ZIN RAS, SRCES RAS) Field surveys of 2019 and 2020: Hazardous substances in sediment and biota and bioassay of sediment from the Russian part of the Gulf of Finland.

Alexey Maximov, Iya Tsyplyukina, Nadezhda Berezina (ZIN RAS): Status of macrozoobenthos in the Gulf of Finland and assessment of sediment quality based on benthic indices.

Ekaterina Chernova, Zoya Zhakovskaya (SRCES RAS): Occurrences of pharmaceutical residues in the Gulf of Finland

Anastasia Egorova & Larissa Metelkova (SRCES RAS): Determination of alkyl phenols and alkyl phenol ethoxylates in sediments of eGoF

Yulia Gubelit, Tatiana Shigaeva, Yulia Polyak, Valentina Kudryavtseva (ZIN RAS; SRCES RAS): Macroalgae and heavy metals in algal biomass, sediments and water in the coastal zone of the eGoF

Summary and discussion on T1, Publication of results

12:00-12:30 Break





12:30-14:30 Discussion 2 (Andrey Sharov, Kai Kunis-Beres)

T2 (April 2019 – March 2021): **Biological effects – laboratory exposure studies (test objects, HS): effects on survival, malformed embryos, heart rhythm, metabolic activity, health indices**

Kai Kunis-Beres, Ivan Kuprijanov (TTU) Ecotoxicological study: experimental exposure of amphipods to sediments spiked with TBT.

Nadezhda Berezina, Andrey Sharov, Alexey Morozov, Viktoria Urchenko, Svetlana Sladkova, Ekaterina Chernova (ZIN RAS, SRCES RAS, IBIW RAS) Physiological and biochemical biomarkers in amphipods, gastropod and bivalve mollusks exposed to diclofenac.

Andrey Sharov, Sergey Kholodkevich, Anastasia Egorova, Natalia Sukhikh. Cardiac activity of bivalve mollusks and good endpoint to measure toxic effect of alkylphenols (4-t-OP): preliminary results.

Nadezhda Berezina, Yulia Gubelit, Andrey Sharov, Svetlana Sladkova, Alexey Maximov, Sergey Kholodkevich (ZIN RAS, SRCES RAS) Preliminary results on toxic effects of TBT spiked sediment exposure on benthic organisms metabolic rates (oxygen consumption, phosphorus excretion) and cardiac activity (*Limecola*, *Monoporeia* and *Mytilus* case study).

Summary and discussion on T2, Next activity plan, Publication of results

22 December 2020

10:00–13:00 Discussion 3 (Nadezhda Berezina, Natalia Kolesova)

T3 (April 2020 – June 2021): **Field studies of transplanted organisms, selection of organisms. Selection and development of indicators.**

Yulia Polyak, Andrey Sharov, Nadezhda Berezina, Anna Demchuk, Yulia Gubelit (SRCES RAS, ZIN RAS) Hydrocarbon-oxidizing bacteria in the digestive system of aquatic animals as an indicator of coastal pollution of the eastern GoF.

Kai Kunis-Beres, Ivan Kuprijanov, Natalia Kolesova (TTU) Pilot study on hydrocarbon-oxidizing bacteria in the digestive system of benthic animals from probable PAH contaminated and reference areas.





Natalia Kolesova, Ivan Kuprijanov (TTU) Embryo malformation studies from Estonian part of the study area.

Kari K. Lehtonen (SYKE) Some considerations on the use of biomarkers in monitoring and assessment in the Gulf of Finland.

Svetlana Sladkova (SRCES RAS) Using of oxygen uptake rate in the benthic invertebrates for assessment of habitat quality.

Nadezhda Berezina, Andrey Sharov, Yulia Polyak, Alexey Maximov, Vasily Petukhov (ZIN RAS, SRCES RAS) Preliminary results of field experiments with transplanted unionids and dreissenids in the northern GoF.

Sergey Kholodkevich, Tatiana Kuznetsova (SRCES RAS) Bioindication of the ecological state (health) of the eastern Gulf of Finland (2019) coastal waters based on the use of automated bioelectronic systems.

Tatiana Kuznetsova (SRCES RAS) Searching reference sites and reference physiological parameters in assessing ecological state of the eGoF.

Summary and discussion on T2, Next activity plan, Publication of results.

Communication plan

Other questions

Meeting summary

