

# Shoreline Cold Weather Oil Spill Response

in Finland

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Finland's northern location presents operational and logistical challenges to effective oil spill response operation in the wintertime. The northern parts of the Baltic Sea are covered by ice almost every winter.



- ✓ **Objective:** to improve cold weather response capability on the coast of the Gulf of Finland, Baltic Sea
- ✓ **Focus:** spill response tactics and logistics on snow- and ice-covered shorelines and near shore waters
- ✓ **Outcome:** shoreline cold weather response manual for regional oil combating authorities

Also the special characteristics of the Baltic Sea restrict the applicability of response options. Due to the sensitive ecology of the sea, the Baltic Marine Environment Protection Commission HELCOM recommends non-use of dispersants or sinking agents. The mechanical recovery is considered to be a primary response method also in cold conditions.



Ability to respond to oil spills at low temperatures and in seasonally ice-covered waters is a subject of several programs and research projects. The national oil spill response authority Finnish Environmental Institute (SYKE) conducts the development of at-sea cold weather response capability. The Regional Rescue Services (RRS) are responsible for near shore spill response and shoreline cleanup operations. To improve their cold weather response capability the RRS initiated a joint project to develop a shoreline cold weather response plan. This project called WinterSOKO (A32372) started in 2013 and will be accomplished in October 2014.

WinterSOKO focuses on the response options applicable in cold conditions and the spill response logistics on snow- and ice-covered shorelines and near shore waters. The plan includes logistical models relating to spill response logistics and transportation of oily wastes. These logistical models are tested in regional exercises and trainings. Also the exercises to evaluate the effectiveness of this winterization process will be incorporated into the training programs of each rescue service participating the project.

## WinterSOKO project discusses

- ✓ Response technologies and strategies applicable in cold conditions
- ✓ Spill response logistic support
- ✓ Waste logistics & treatment
- ✓ Safety issues

## Waste Flow Charts and Logistics

SOKO spill response logistic support is based on the GIS data. The shoreline of the Gulf of Finland is divided into designated shoreline segments. Logistics is outlined for each segment: links in the transportation chain, like buffer storage points, are selected ahead and documented in the GIS system. Waste flow charts are created to support waste separation and selection of an optimal transportation mode for each waste fraction. In wintertime the transportation might be hindered by ice, frost heave and/or snow. The optimal combination of marine and land based logistical support is a key factor as the cold weather response requires a holistic management of multiple response strategies with variable conditions in the spill site.



Waste flow chart and the transportation chain for the oily wastes through the selected transport and storage points from the spill site to the final disposal. Waste fractions are identified using color codes.



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