

# Oil spill response in winter (ice) conditions

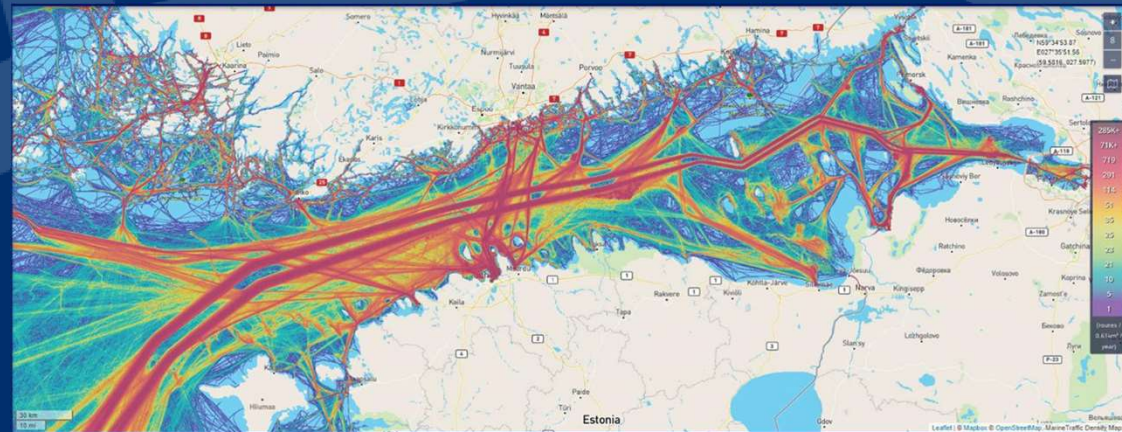


Director of maritime safety / HQ of The Finnish Border Guard  
COMMANDER Mikko Simola  
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# Baltic Sea as an operational environment

- Enhanced surveillance of EEZ by The FBG
- Enhanced surveillance of maritime border at the eastern Gulf of Finland

- Finland has 46 000 kilometers coastline, vast archipelagos (97 000 islands) and heavy sea traffic on the sea area.
- At any given moment about 2000 vessels sail in the Baltic Sea and 25% of them have oil or chemical cargo.
- Finnish waters have ice cover annually.
- Limited daylight in winter months.



# Oil transportations on the Gulf of Finland area

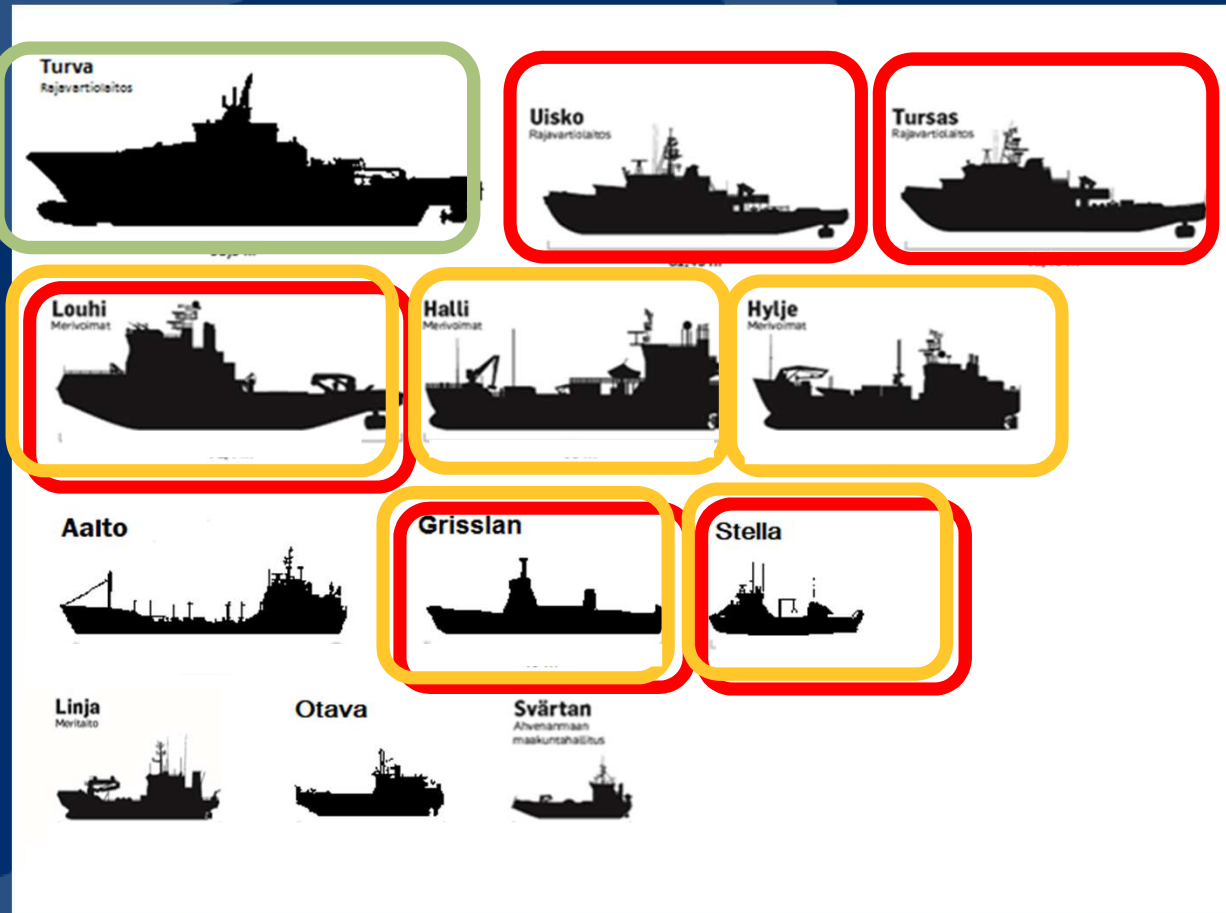
- Continuous monitoring by The Finnish Border Guard since spring 2022
  - Vessel, year of built, flag state, owner, insurances, double hull, ice class
- Changes in flag states, unclarities in ownership, older vessels than before
- Experience of crew of the vessels in operating on the Baltic Sea unknown
- Waiting area in the middle of GoF on EE EEZ
- Volume of oil transportation on same level than prior to the sanctions
- Examples of some new flag states on GoF: Gabon, Djibouti, Palau, Belize
- Some close call situations of shadow fleet tankers

→ **Increased risk for an accident with environmental consequences especially during winter time / in ice conditions**

- Cameroon flag, 26 years old
- Drifted 2 days on a busy maritime lane
- Operated also on the GoF



# Finnish ORV fleet



-  Large brush
-  Oil recovery bucket
-  Sternmax

# Brush collector - FBG vessels Tursas and Uisko



# Brush collectors, FI Navy vessel Louhi



# Oil recovery bucket (width 900 mm- 3000 mm)



# Oil recovery bucket can be operated also in open water as well as on shore

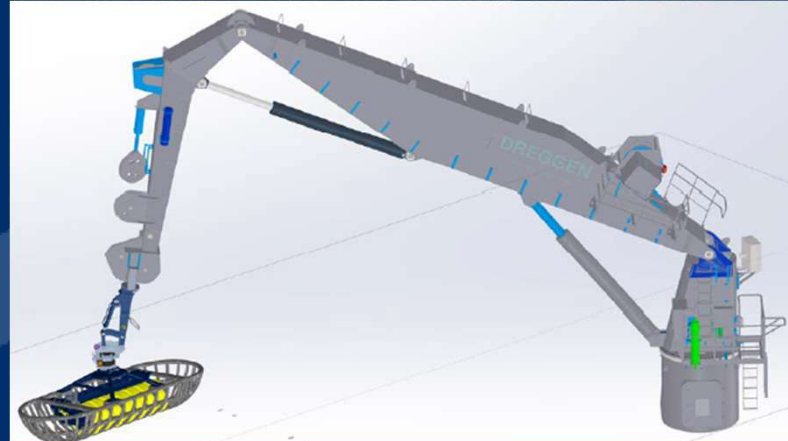




# Oil in ice equipment of cooperation partners

## - Some examples 1 / 2

- KBV 181 with Lamor Sternmax
- Same design but a bit wider model will be delivered to FI OPV Turva
- EMSA's EAS depot in Porvoo FI has a Lamor Arctic skimmer



# Icebreaker Ahto with Lamor Sternmax oil collector – Example 2 / 2



# Response experiences: Oil in ice

- Brush technology suitable for collecting oil in ice
- Operating of oil recovery equipment in ice conditions takes time
- On the other hand, some positive factors:
  - 1) ice prevents drifting of oil;
  - 2) in ice conditions oil layer thickness does not decrease as quickly as in open water.
- Oil under ice is difficult to locate
- Radar-based remote sensing sensors cannot detect oil in ice
- Only few hours daylight time limits recovery time in winter

# Practical response experiences: Oil in ice

- Large amount of ice is a challenge in traditional response method
- Containers / platforms where oily ice is collected must not leak



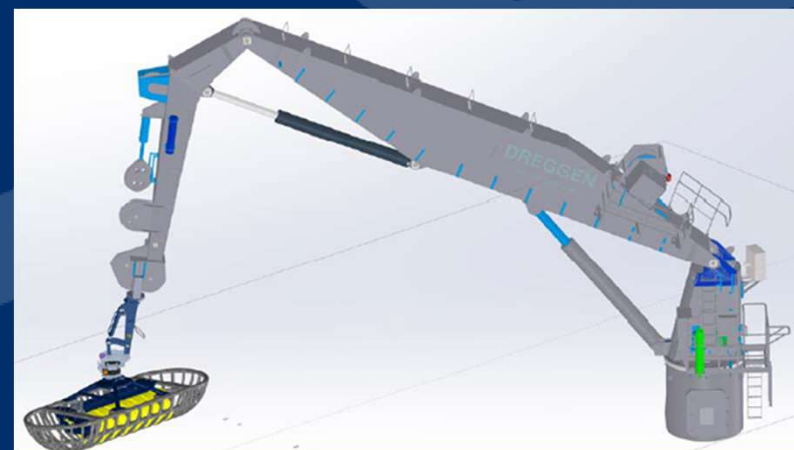
*Photo: Kustbevakningen*

# Further development needs and plans

- Technology and equipment for locating oil in ice and in darkness
- The FBG will conduct test of LSFO recovery in ice conditions
  - In FI and via IMAROS 2 project
  - information as basis for developing new skimmer types
- New Offshore Patrol Vessels of The FBG will be equipped with oil in ice recovery equipment

# Two new multipurpose Offshore Patrol Vessels for The FBG in 2025 - 2026

- New OPVs will be equipped with Sternmax or equivalent oil in ice recovery equipment



**Thank you for your interest**

