

RescOp

Development of Rescue Operations in The Gulf of Finland 03/2011-03/2014



This Project is co-funded by the European Union, the Russian Federation and the Republic of Finland

The Gulf of Finland has extraordinary environmental conditions and increasing traffic as well as winter conditions making it vulnerable for accidents.

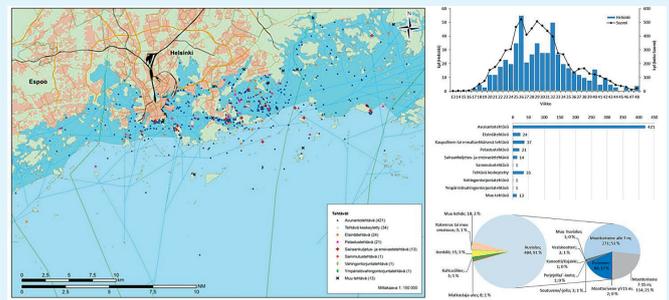
Improving maritime safety is important to protect the environment, ensure efficient and economic maritime transport and develop maritime tourism and yachting. Research on risk management, improvement of crew competence, development of voluntary search and rescue (SAR) services and training of rescue and oil combating volunteers as well as strengthening the co-operation between these various operators are essential building blocks on the way to enhanced safety at sea.

The RescOp project with its joint efforts of Finnish, Russian and Estonian experts have been part of a larger pursuit to enhance overall safety in the Baltic Sea by having international, mutually accepted standards of operation. RescOp project began in March 2011 and it ended in March 2014.

WP I - Risk Assessment and Management for Maritime SAR and Oil Spill Response

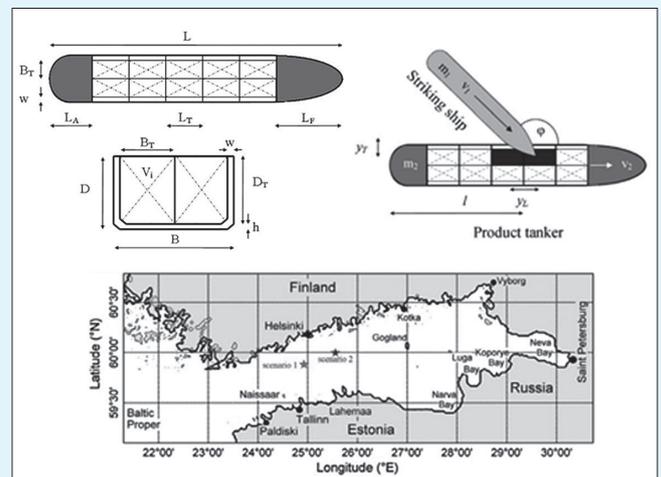
The first work package produced assessments and methodologies for managing the risk of navigation incidents, as well as tools and models for risk assessment in both open water and ice conditions.

Concerning Search and Rescue (SAR) response by volunteer rescue organizations to incidents involving recreational boating, various advanced were made. One significant, practical result is the development of an atlas for SAR missions in the Finnish waters, in which an unprecedented aggregation of data provided by the rescue authorities was gathered and analysed. Maps and analyses were created on a local, regional and national level, providing risk-informed decision support for strategic and local planning, see Figure 1.



Visualization and analysis of navigation incidents involving recreational vessels.

Further work regarding risk assessment includes a study of the inter-relations between navigation incident characteristics, environmental conditions and SAR response, as well as a study evaluating the current Finnish response effectiveness in the Gulf of Finland using state-of-the-art geospatial analysis tools. In terms of risk management, a simulation tool for analyzing rescue fleet performance was developed and applied to both Finnish and Russian waters, and an interactive tool was developed

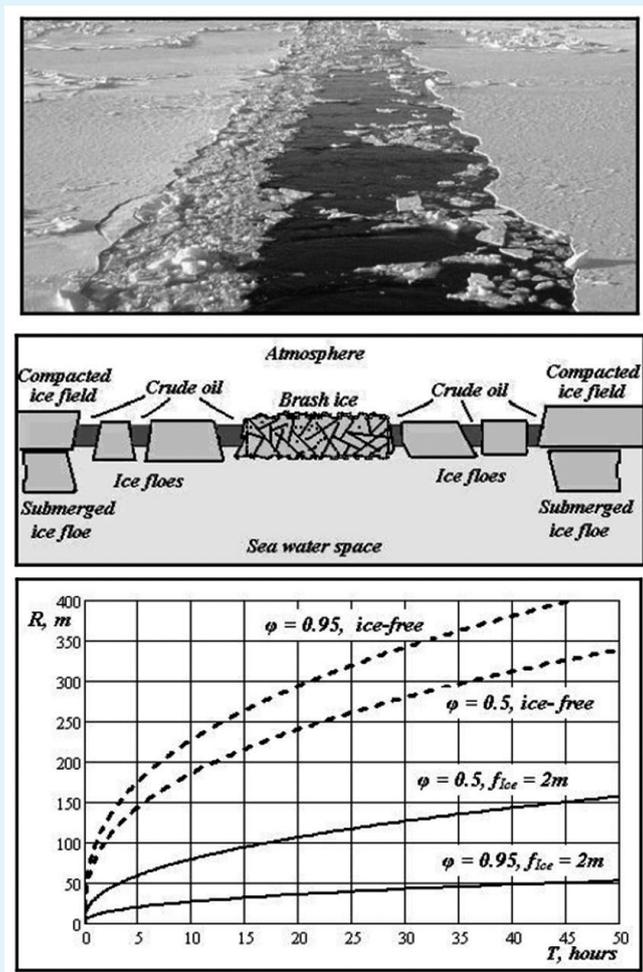


Main tanker layout characteristics, collision impact scenario and sample accident locations

to support future strategic fleet planning.

The assessment of maritime transportation spill risks in the Gulf of Finland has mainly scientific implications, in providing evidence for theoretical discussions regarding the reliability and validity of risk assessment. Some highly advanced approaches to navigation spatial risk assessment were considered and found too unreliable for practical application. However, advances were made with regard to risk assessment models, both for SAR response in case of large-scale accidents, as well as for probabilistic modelling of the extent of an oil spill in collision accidents.

Advances were also made in modelling the accident potential of ships navigating in hazardous sea ice conditions, by considering the interaction between oncoming and overtaking vessels in an ice channel and by simulating the oil spreading in an ice channel, which is important for spill response planning and activities. This is illustrated in Figure 3.



View of navigable ice channel, model of oil spreading within channel and forecast of oil pollution

WP 2 - Competence of crews navigating in the Gulf of Finland



To ensure safe and efficient traffic management, VTS provides various services:

- Information Service (INS) - is a service to ensure that essential information becomes available in time for on board navigational decision-making;
- Traffic organization service (TOS) - is a service to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the declared VTS area;
- Navigational Assistance Service (NAS) - is a service that provides essential and timely navigational information to assist in the on board navigational decision-making process and to monitor its effects.

Therefore, VTS Operator training is an important part of the entire system. The Gulf of Finland is a congested area with limited depths, which makes the advantages of co-operation between Russia and Finland obvious. Joint, simulator-assisted exercises between the Russian and Finnish VTS operators were one of the RescOp project goals. Joint exercises provide:

- A real life, practically oriented learning environment
- Real human interactions
- Language training

The VTS simulator of Makarov Training Centre was connected to the VTS simulator in Kotka, the joint exercise was tested and it proved to be an efficient tool for training. To ensure a holistic approach, the main stakeholders engaging in shipping in the Gulf of Finland should be involved in the training as well:

- BRIDGE TEAM – pre-planned route information
- VTS TEAM – cooperation advantage
- PORT TEAM – information integrity
- COAST GUARD AND NAVY TEAM – SAR real-time planning

What's ahead?

- New type of communications skills - cooperation of VTS in cross-borders areas should be included in regular training



- Scenarios should be further developed in close cooperation between the Russian and Finnish VTS service providers to reflect real life
- Involvement of Estonian VTS (tri-lateral cooperation)
- New exercises more interactive, more interesting for trainees as they are communicating with real people, and as a result such training is much more efficient

WP 3 - Developing Voluntary Maritime Rescue Service

Improved safety and security levels in the Gulf of Finland achieved by offering better rescue coverage and service



Voluntary maritime rescue service often supplements the official Search and Rescue organizations maintained by the national authorities. It is an especially important service for leisure boaters; for example their minor problems, such as an engine breakdown, are very often handled by volunteers. In the Gulf of Finland, boating is an increasing trend. Thus, it is important to ensure that rescue services also respond to this growing trend. Voluntary maritime search and rescue service has existed in Finland for over 100 years. The Estonian Maritime Rescue Organization was established in 2010, and after three EU-funded projects there are already 13 voluntary rescue stations in the Estonian waters. The Russian Voluntary

Maritime Rescue Society “Kronstadt” (RVMRS) was founded in 2008, but the action was rather small-scale before the RescOp project. They only had one pleasure boat for training and two instructors. The main aim of the WP 3 in the project was to increase the operational level significantly. Also, improved cooperation between Russian, Estonian and Finnish rescuers was an important goal for the project.

An internationally accepted training programme adjusted for the needs of Russian volunteers

Based on a review of voluntary maritime rescue training systems in the Nordic countries, the Finnish system was chosen as a model for Russian volunteers. This system is based on the training standards of International Maritime Rescue Federation. First, the Finnish manuals were translated into Russian and during the process the content has been modified to better match Russian needs. The Russian training manual was published in an electronic format at the end of the project.

Enhancing the capabilities of the newly established voluntary rescue service to the operational level



The practical goals for RVMRS were to get more trained volunteers and instructors, create a training system and develop the society in order to be a part of the official Russian maritime rescue system in the future. This means, for example: certified crew members, a rescue vessel and rescue station, as well as an organized and well-functioning society. Eight courses were arranged for 16 Russian instructors during the project. The courses were mainly organized in Finland and the instructors were both from Finland and Estonia. The Russian instructors further organized training for the volunteers in Kronstadt, and after the project, they have 70 trained voluntary maritime rescuers in Russia. Several exercises were also arranged during the project. International cooperation between Finnish and Russian maritime rescuers was practiced in two exercises. The project culminated in a large exercise arranged in Kotka, Finland in September 2013. The exercise was at the same time “a final test” for

RVMRS: they independently manned one rescue vessel in the exercise.

Defining suitable vessel for training

The type of a rescue vessel suitable for the demanding conditions of the Eastern part of the Gulf of Finland



and the needs of Kronstadt's volunteers was determined during the project. Investment for the vessel was not included in the RescOp project, but a vessel that meets the required specifications was found in Finland; the Finnish Lifeboat Institute was selling their two older rescue vessels. After separate financing was found, just before Christmas 2013, they got their "new" vessel. The RescOp project offered a significant boost for the Russian Voluntary Maritime Rescue Society. The Society now has capacity to assist boaters in trouble in Russian waters of the Eastern Gulf of Finland. There are already new plans for expanding the service to several other areas.

WP 4 - Preparation of environmental volunteers

In 2009, the Committee for Nature Use, Environmental Protection and Ecological Safety, City of St. Petersburg, initiated the activity of ecological volunteers' preparation. When the project began it became well-known in St. Petersburg and a lot of young people wanted to join the "Ecological Volunteers' Movement". Several St. Petersburg universities decided to cooperate with the Committee in this field.

In order to organize this Movement, the Committee for Nature Use, Environmental Protection and Ecological



Safety, City of St. Petersburg, together with the RescOp project, decided to develop a Programme of theoretical education for ecological volunteers involved in oil spill response on the shoreline. It was needed to ensure the uniformity of the theoretical education course in the universities.

After the theoretical course was completed, the practical education of students was needed in order to show them how they could help in case of an oil spill on the shoreline. The SUE "PILARN" was responsible for this education.

The last stage of the ecological volunteers' preparation was practical training on the shoreline of the Finnish Gulf. The students were shown the complete organization of oil spill response activities. They also worked on the shoreline.

At the end of this preparation project, certificates were presented to the volunteers. With this document, they can take part in an oil spill response operation in St. Petersburg in the area of responsibility of the Committee for Nature Use.

The educational film "Ecological Volunteers Training" was created during the RescOp project as well. It can be used as the theoretical part of response training. During the realization of the project, a total of 255 ecological volunteers were trained instead of the 120 persons that had been planned before the project began.

