Report of the training course on
"The use of surveillance systems for marine pollution detection and assessment"

hosted by EMSA, 11-12 September 2014
under the CTG MPPR framework

Background information

As agreed during the 8th CTG MPPR meeting, EMSA organised a training course on "The use of surveillance systems for marine pollution detection and assessment" in 2014. This was the fourth such training held to date under the CTG MPPR work programme. The training programme, target group and speakers were similar to the previous courses held in 2011 and 2013.

The course was well attended by 46 participants from 21 European countries. While the focus of the course remained on operational aspects of surveillance and its primary target participant group was aerial operators with limited to medium experience, information on legal elements of the use of surveillance systems for marine pollution detection were also covered, and the course was also attended by a few junior investigators and prosecutors.

Summary

Opening of the training

On behalf of the CTG MPPR and EMSA, Mr Marc Journel thanked the presenters for committing their time and expertise to support the training course, some of them for the fourth time, and welcomed the participants. Mr. Journel provided a brief summary of the previous courses (2011 and 2013) and emphasized that feedback from participants is important in order to evaluate the need for further trainings.

Legal aspects (1): Overview of international legislation
Captain Jean Emmanuel Perrin, of the Préfecture maritime de l'Atlantique presented an overview of the international legislation applicable to prevent marine pollution. He pointed out that although the body of relevant legislation is not easy to understand, there is a linking philosophy behind. From the perspective of the course, he emphasized that it is important that operational activities can be used to help uphold the law. He introduced the relevant parts of MARPOL and UNCLOS, and drew attention to the importance of cooperation for effective law enforcement.

Overview of the Regional Agreement Handbooks
Mr Christian Cosse of French Customs started with a brief history of airborne oil pollution surveillance, then went on to present the main relevant documents for air operators: the Bonn Agreement Aerial Operations Handbook and Standard Pollution Reporting Log; the Bonn Agreement Photo Atlas; and chapter 7 of the HELCOM Response Manual. During the discussion afterwards, it was clear that many countries which are not part of the Bonn Agreement or HELCOM use the same reporting forms.

Introduction to marine pollution

Anne Le Roux from CEDRE gave a general introduction to marine pollution listing the various sources and causes of pollution. The volume of oil entering the marine environment from accidental spills has reduced considerably, but operational discharges from vessels still represent a significant percentage. The different types of pollution as listed in the various annexes of MARPOL were introduced. Ms Le Roux described the different types of oil and chemicals and their behaviour at sea. The presentation finished with a brief description of the generation of oily waste on board ships and the typical volumes produced.

Characterising oil at sea and assessing volumes

Mr. Bent Jørgensen of the Royal Danish Air Force explained how to characterise oil at sea by presenting various illustrated examples and explaining the reasons why objects appearing in the photographs were likely to be one product or another. Participants were asked to discriminate between oil (veg. and mineral) and other phenomena at the sea surface such as current shear, algae, etc.
The second part of the presentation described the methods for assessing volumes of oil, and in particular the use of the Bonn Agreement Oil Appearance Code (BAOAC). Practical exercises on assessing volumes followed.

Airborne surveillance techniques

Mr Björn Erlandsson, from the Swedish Coast Guard, presented airborne surveillance techniques for pollution detection and monitoring. He provided the participants with a detailed description of existing remote sensing equipment and their capabilities, and discussed the role of handheld cameras and sampling buoys. Mr Erlandsson then provided information on how to conduct a patrol flight using the different sensors in combination.

Combining different information sources: building a stronger case together with the command centre (1): criminal investigation

Mr Ron Faber gave an overview of conducting criminal investigations from the perspective of a maritime police force. He described how the process occurs in the Netherlands, with the interaction of the different authorities involved. The actions to be taken when starting a criminal investigation – including collection of evidence from different sources and making a legal request – were described, and a number of concrete examples were given.

Combining different information sources: building a stronger case together with the command centre (2): EU information systems

Mr Marc Journel, from EMSA, explained how the combined use of EU information systems (CleanSeaNet, SafeSeaNet and Thetis) can contribute to build a stronger case. Mr Journel concluded his presentation by presenting a real case involving the whole chain: detection in CleanSeaNet, identification using SafeSeaNet information, reporting in Thetis, and imposition of a fine after an inspection in the next port of call.

Legal aspects (2): Legal issues related to the use of surveillance material as evidence

Captain Jean Emmanuel Perrin, of the Préfecture maritime de l'Atlantique presented various considerations to take into account when bringing a criminal case. This ranged from deciding when a case should be pursued, what evidence and further information may be required, the particularities of different sorts of evidence (e.g. photographs, samples, audiovisual), and what to bear in mind when called as a witness during a trial.

Collection of evidence: aerial surveillance and other tools

Ms Kati Tahvonen of SYKE introduced the types of evidence that should be collected by crew members and actions to be taken at the command centre to collect vessel information. Ms Tahvonen then focussed her presentation on methods of collecting evidence from aircraft, including a typical flight pattern, different means of documenting while flying, and interview questions. Ms Tahvonen then detailed the reporting procedures: filling the standard pollution reporting form, taking notes, making written statements, filling sampling logs, and filing

post-flight evidence. The session concluded with small group discussions about the practices in place in each of the countries.

<u>Use of aircraft and satellite in support of oil response operations</u>
Ms Anne Le Roux of CEDRE presented the use of aircraft and satellite in support of oil response operations. She emphasised that this support is of paramount importance for response operations in particular for updating information used as input into drift modelling tools, mapping oil spills at sea, and guiding response assets (oil recovery, dispersant).
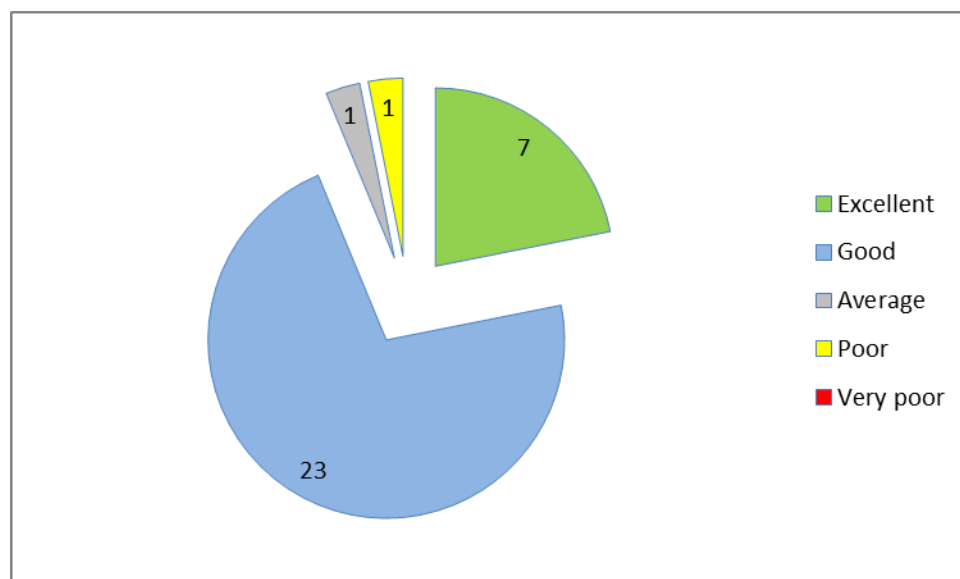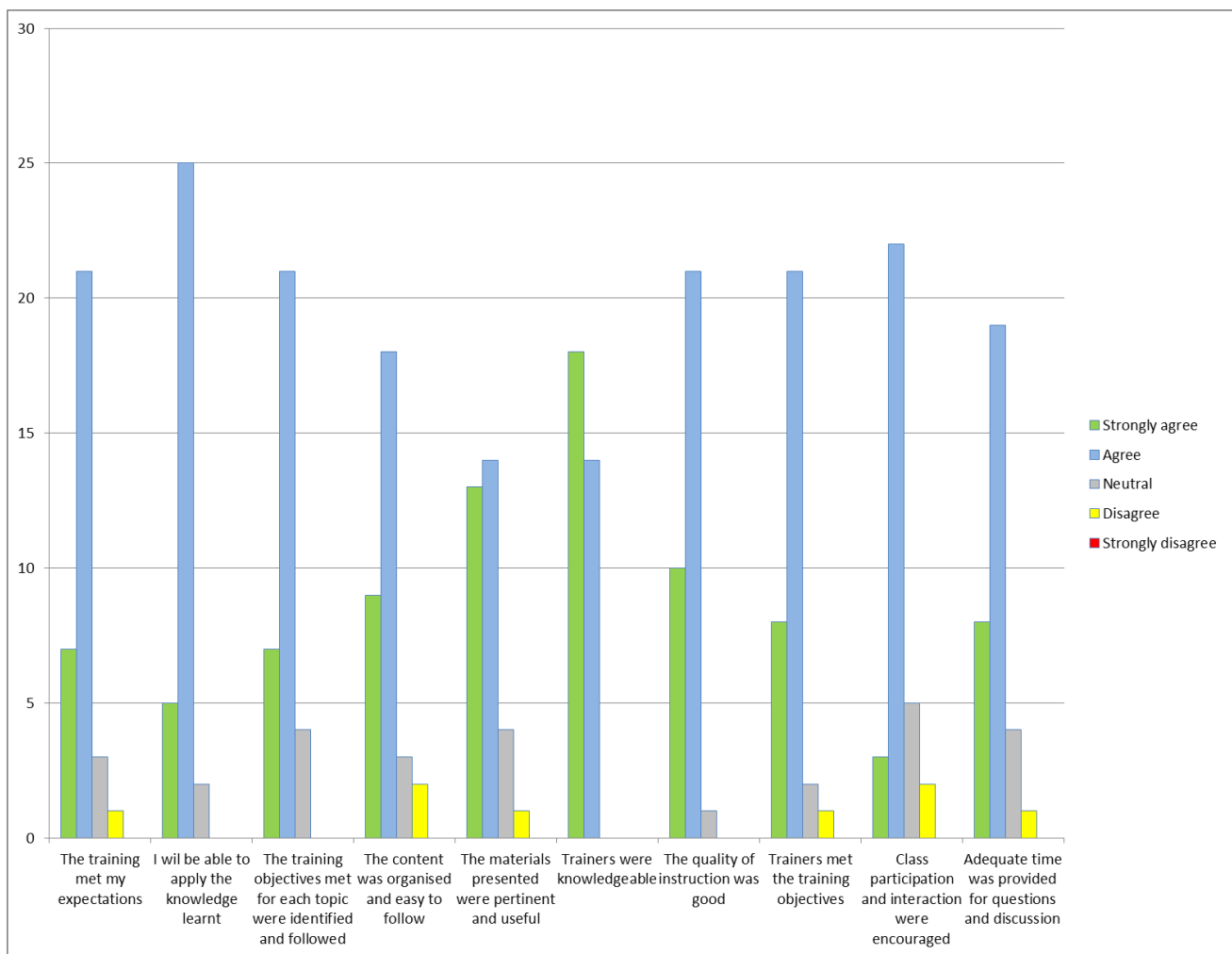
Feedback from the participants

Participants were asked to evaluate the training. 32 of the 46 participants filled in the evaluation forms provided by EMSA. Overall, the course evaluation has been very positive. Of the 32 evaluation questionnaires returned, 30 participants rated the overall training as 'excellent' or 'good'. However, the level of satisfaction seemed to decline slightly in relation to the previous year, possibly due to the larger group size and more formal location setting, as suggested in the comments received.

The tables and graphs below present detailed and overall evaluation results.

Detailed results

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The training met my expectations	7	21	3	1	
I will be able to apply the knowledge learnt	5	25	2		
The training objectives met for each topic were identified and followed	7	21	4		
The content was organised and easy to follow	9	18	3	2	
The materials presented were pertinent and useful	13	14	4	1	
Trainers were knowledgeable	18	14			
The quality of instruction was good	10	21	1		
Trainers met the training objectives	8	21	2	1	
Class participation and interaction were encouraged	3	22	5	2	
Adequate time was provided for questions and discussion	8	19	4	1	

Bar chart (Y-axis: 0–30)

Legend: Strongly agree, Agree, Neutral, Disagree, Strongly disagree

Categories (X-axis):
- The training met my expectations
- I wil be able to apply the knowledge learnt
- The training objectives for each topic were identified and followed
- The content was organised and easy to follow
- The materials presented were pertinent and useful
- Trainers were knowledgeable
- The quality of instruction was good
- Trainers met the training objectives
- Class participation and interaction were encouraged
- Adequate time was provided for questions and discussion

Pie chart

Legend: Excellent, Good, Average, Poor, Very poor

Values: 7, 23, 1, 1

Suggestions received from participants

Feedback from the participants, both verbally during the course and in emails sent afterwards, indicate that at least some of the participants are considering developing similar courses to deliver to colleagues in their home countries. A number of participants were there for a second time, for this reason, and the dissemination of training material after the course is therefore particularly important. The 'networking' aspect was particularly valued, and many participants mentioned the value of exchanging information with counterparts from other countries.

Some elements for improvement which were raised in the feedback forms included:
- Encouraging more class participation and interaction
- Providing more practical exercises
- Reducing repetition between the different presentations
- Establishing a more structured basis on which participants can exchange information about practices in their home countries
- Providing the training to smaller groups in a more informal environment (a couple of participants provided feedback that the large number of participants and the formal layout of the room provided a barrier to interaction).