Overview

The IMRF’s mass rescue operations (MRO) guidance is provided in 30 separate chapters at www.international-maritime-rescue.org. For downloadable documents referenced in this chapter please use the drop-down menus or return to the MRO project main page under ‘Resources’. For a general introduction please see chapter 1, ‘Complex incident planning – the challenge: acknowledging the problem, and mass rescue incident types’.

This chapter discusses:

- the ‘retrieval’ part of ‘rescue’
- the wide range of persons in distress who may have to be retrieved
- sources of guidance on retrieval operations
- the priorities for retrieval in a mass rescue operation

1 Rescue

1.1 The IAMSAR Manual defines ‘rescue’ as the “operation to retrieve persons in distress, provide for their initial medical or other needs and deliver them to a place of safety”. It is useful to consider this in three parts – ‘retrieval’; providing for survivors’ initial needs; and delivery to a ‘place of safety’.

1.2 This chapter considers the question of retrieving people in mass rescue situations. For discussion of survivor support during rescue see chapter 10. For discussion of places of safety see chapter 11.

2 ‘Persons in distress’ – a wide range of challenges

2.1 There are many different situations in which an MRO may be required. When it comes to rescue, however, the cause of the accident or incident is less important than its results. What are the rescue challenges an MRO presents?
2.2 As discussed in chapters 1 & 5, ‘persons in distress’\(^1\) can fall into several categories. They may be:

- still aboard their craft or installation, which is disabled or endangered in some way but not in immediate need of abandonment
- still aboard but needing to be retrieved
- in survival craft of various types (some of which are not designed for easy egress at sea)
- in the water or clinging to flotsam etc
- on land, either because they have reached it from the sea, or because this is a land-based emergency from which they need to be rescued by sea; or
- on structures they have reached as temporary refuges.

2.3 Are people able to remain aboard their craft, installation etc actually in distress; in “grave and imminent danger”? We take a reasonably broad view of this here: what is important is that a mass rescue operation is required: a large number of people need help. If that operation can be conducted by ‘rescuing’ the parent unit too, so much the better – but it is the rescue, by whatever means, of the people at risk that counts, rather than the immediacy of that risk. They are in distress because they cannot help themselves. An MRO is therefore required. (See also chapter 15.)

2.4 There are further possible complications. Those in need of rescue may be:

- trained or untrained in survival techniques
- experienced or inexperienced in maritime matters
- able or unable to understand instructions
- able or unable to assist in their own rescue – they may be of limited physical ability to begin with; they may be injured; they may be old or very young; or they may be hypothermic, or seasick, or terrified.

2.5 Then there are the weather, sea, visibility and temperature conditions to consider. Does the sea state permit retrieval? Can something be done to ease it – creating a lee or a ‘smooth’, or towing survivors to a more sheltered position? Is it foggy, or dark? What are the risks of people succumbing to the cold, or to their injuries or other medical conditions? Can we afford to wait until conditions improve?

2.6 There is an additional, and particularly challenging, difficulty in some cases. People requiring rescue may be trapped aboard the casualty unit by flooding, fire etc. To retrieve people in such circumstances will require specialist knowledge and equipment. We discuss this further in chapter 15.

2.7 To ‘retrieve persons in distress’ is always likely to be a challenge; and those responding to any distress alert have to be ready to deal with any of the situations outlined above. We can simplify the variations a little, for the purposes of planning:

- Can those ‘in distress’ remain aboard their vessel, installation or survival craft, where support can be given to them until they can be transferred to a place of safety\(^2\); for example by towing a disabled vessel to port?

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\(^1\) IAMSAR defines distress as “a situation wherein there is reasonable certainty that a vessel or other craft, including an aircraft or a person, is threatened by grave and imminent danger and requires immediate assistance”.

\(^2\) For support during rescue see chapters 10 & 15, and for transfer to places of safety see chapter 11.
2.8 In an MRO, these challenges are exacerbated by the scale of the operation required – it is one which is outside normal capabilities. There will be major questions of prioritisation to add to the other problems: who should be rescued first, and how can the remainder be kept alive until it is their turn?

2.9 Each of these issues is considered in more detail below and in further guidance referenced.

3 Remaining aboard

3.1 There is sometimes a tendency to regard ‘rescue’ as necessarily retrieving people in distress into other facilities – rescue boats or ships, helicopters etc – before transferring them to a place of safety. But this is not always necessary. Until it becomes untenable, the ‘ship may be the best lifeboat’, as the saying goes – whatever the size of the ‘ship’ in question.

3.2 In normal SAR operations in which the vessel or other unit in distress is still habitable, or when people have successfully transferred to survival craft, whether to retrieve people into rescue facilities is a matter of judgement by the rescuers and the people in distress themselves – particularly the commander of the unit in distress. Various factors need to be taken into account, including the state of the craft (now, and as the situation develops); how easy it is to tow it with the distressed people in it to a place of safety; what their condition is; how easy it is to support them where they are while the rescue proceeds, and so on.

3.3 MROs are “characterised by the need for immediate response to large numbers of persons in distress, such that the capabilities normally available to the SAR authorities are inadequate”. This obviously complicates the rescue question further. Even if the normal response might be to take everyone off the unit in distress, the ‘capability gap’ means that, in an MRO, there are insufficient SAR units available to do it. Leaving people aboard, and supporting them there, is one possible solution to the problem.

3.4 For further consideration of how to provide on-board support as a possible alternative to evacuation, see chapter 15.

4 Retrieval

4.1 In some circumstances leaving people aboard their parent vessel, survival craft etc will not be an option. They will have to be transferred to rescue facilities at sea – a process sometimes called ‘recovery’; the ‘retrieval’ part of the IMO’s definition of rescue.

4.2 The principal difficulties in recovery operations are sea state, and hence the relative movement of the recovery object (the vessel in distress, the survival craft, the person in the water, etc) and the rescue unit, and the sizes of the two units. Much relative movement will make transfer into the rescue unit difficult; and if one unit is much smaller than the other, people will have to climb or be lifted or lowered.

4.3 Recovery of people by units specifically equipped and trained for rescue, and accustomed to carrying it out in a variety of conditions, is normally the best solution. This is what rescue units do, and no more
need be said here: each organisation will have its own carefully worked-out procedures. General guidance is contained in the IAMSAR Manual: particularly Volume II, Chapter 6.\textsuperscript{3}

4.4 However, in MROs, by definition, there will be insufficient specialist SAR units available. If people have to be recovered, extra resources will be required. These will usually be ships and other vessels in the area of the incident; and their equipment, training and experience is likely to be limited. General advice may be found in IAMSAR Volume II Chapter 6.15 and in Volume III.\textsuperscript{4}

4.5 The SOLAS Convention requires, under regulation V/33, that the masters of ships should provide assistance to people in distress at sea.\textsuperscript{5} Since 1 July 2014 ships on international voyages are required, under SOLAS regulation III/17-1, to have plans and procedures for recovery of persons from the water. IMO Resolution MSC.346(91) invites SOLAS Contracting Governments to decide the extent to which this requirement should also apply to ships not on international voyages and other shipping to which SOLAS Chapter III does not apply. This all means that most ships should have at least planned to recover people, and therefore that they should be able to help fill the capability gap.

4.6 The IMO has developed guidance on how to apply regulation III/17-1. It may be found in MSC Circular 1447, ‘Guidelines for the development of plans and procedures for recovery of persons from the water’. Note that this Circular and the regulation it supports only apply to recovery from the water, not from survival or other craft, although this distinction may not be particularly significant in practice.

4.7 Broader guidance on recovery techniques, including from survival craft etc, is available from the IMO in MSC Circular 1182, Rev.1 – the text of which is also published in the IMO’s Pocket Guide to Recovery Techniques – and in IAMSAR Volume III. MSC Circular 1182 and the Pocket Guide also provide guidance on what to do to assist people in distress at sea when their recovery is not, or not yet, possible.

4.8 IMO’s MSC Circular 1185, Rev.1, ‘Guide for Cold Water Survival’, includes guidance on rescuing people from the water and from survival craft, including their subsequent treatment. The text of this Circular is also published as the IMO’s Pocket Guide for Cold Water Survival.

5 Priorities

5.1 The aim of rescue is, of course, to save life – and this aim applies in mass rescue operations as in any other. In MROs, however, there is the capability gap.

5.2 Ways of filling that gap are discussed elsewhere in the IMRF’s MRO guidance: see chapters 4, 13, 14 & 15. But the problem can also give rise to questions of prioritisation; and determining life-saving priorities can sometimes be extremely difficult. In the worst-case scenario the rescuer might be faced with the question: ‘There are too many people here. We cannot save them all. Which do we choose?’

\textsuperscript{3} Advice and assistance can also be obtained from the IMRF: contact info@imrf.org.uk.

\textsuperscript{4} Volume II Chapter 6.15.23-26 and Volume III Sections 6 & 13-16 in particular.

\textsuperscript{5} SOLAS Chapter V applies to “all ships on all voyages” except government ships or ships navigating solely on the Great Lakes of North America. However, excluded vessels are encouraged to “act in a manner consistent” with this chapter. Regulation V/33 may therefore be said to apply to almost all vessels at sea, of whatever size or type and whatever their trade or other occupation.
5.3 The fundamental aim of the IMRF’s MRO project is to make this question unnecessary. With the right preparation, lateral thinking and — always — luck, we should be able to save everybody. But this is not to say that we will not have to prioritise during the rescue: we almost always will.

5.4 The SAR response will often be dependent on the decisions of the commander of the unit in distress, who will also be assessing the priorities. If there is a chance — but not a certainty — that the unit will survive, what is the balance of risks of evacuation against keeping everyone aboard? And if evacuation, or partial evacuation, is required, who should go first?6

5.5 In other circumstances, SAR responders, led by the SAR Mission Coordinator (SMC) and the On Scene Coordinator (OSC), will have to prioritise similar risks. In a normal case it might be best to evacuate a craft into designated SAR units at sea — but in an MRO there will be insufficient SAR unit capacity. The priority then might be to keep the craft tenable, whether it is the casualty vessel or a survival craft of some sort. (See chapters 15, 19 & 20.)

5.6 If an evacuation is or becomes necessary, who should leave first? It might be said that the injured or infirm should take priority. But why? If it takes less time to recover more able-bodied people, it can be argued that they should be the priority, on the greatest-good-for-the-greatest-number principle. There may be other options for the hard-to-handle cases — helicopters, for example, which, while very unlikely to be the first choice to manage the entire rescue on their own, may be better suited to take away the less able survivors. (See chapter 23.)

5.7 Where a commander of the unit in distress is still able to function and communicate with the OSC and/or the SMC, the priorities should be discussed. Knowing that there are insufficient SAR units available to recover everyone, or that winch-fitted helicopters are en route, may enable the commander to reprioritise. S/he may have no choice, of course: but, as ever, reliable information is key to good decision-making.

5.8 If people can be left where they are — on the parent vessel, in survival craft etc — and brought to safety that way, this should be the preferred option, for it helps solve the mass rescue problem. However, those in authority must keep the situation under close scrutiny and remain ready to commence evacuation and recovery at sea if it becomes necessary.

5.9 When evacuation is, or becomes, necessary, it should ideally be orderly — although this will not always be the case. Rescuers may find themselves faced with having to recover people from the water as well as from survival craft etc. In these circumstances another prioritisation process is required.

5.10 People in the water should always be prioritised over people out of it, even if the latter are not in proper survival craft. Survival times in water are significantly shorter than in air in the same ambient conditions. People without lifejackets or other buoyancy aids should be prioritised over people who have them and are using them more or less correctly, keeping their heads above water. People making no noise and unresponsive when questioned should be prioritised over people shouting for help: they are probably closer to drowning. Detailed discussion of the effect of environmental and other factors on available rescue time may be found in IAMSAR Volume II Chapter 3.8.8.

5.11 People who are very young or old, injured or otherwise disabled or in mental distress should generally be prioritised; although rescuers may benefit from recovering some apparently capable survivors first, to

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6 This question sometimes gives rise to innovative solutions. At least one cruise company plans to ensure that trained crew members will be the first away, so that they can establish reception facilities, or help establish them, for passengers being brought to safety behind them.
help with further recoveries and/or to tend their companions as they are brought aboard. Remember that people already picked up will need support while others are still being retrieved. For the same reason, capable people should also be among the last to be picked up, as they will be needed to help the less able prepare for recovery.

5.12 Rescuers should also be aware of the dangers of ‘circum-rescue collapse’. Some 20% of those who die as a result of immersion in cold water do so just before, during, or shortly after their retrieval.

5.13 After rescuers are as sure as circumstances permit that everyone has been recovered from the water, they should turn to those survivors who are out of it. The principles discussed above again apply, with people on makeshift rafts etc taking precedence over those in purpose-built survival craft.

5.14 We must also consider the issue of retrieving the clearly and the apparently dead. Both should be retrieved if possible, with the apparently dead being the priority. Remember that someone found floating face down in the water is not necessarily dead — but they soon will be if not recovered and treated. In an MRO, initial triage may have to be very rapid and hard-headed. An unresponsive person with their airway above water may be on the point of drowning: their recovery should take precedence over that of somebody who apparently already has drowned. But the latter should also be picked up and, even if no other treatment can be given immediately, placed in the recovery position. They too may survive.

5.15 Some people will be clearly dead when found, usually because of visible injuries sustained. While the living and those who may still be alive must be recovered first, bodies should be picked up too, if practicable. The main reasons for this are that:

- the person’s family and friends are also victims of the incident, and they will be helped, to some degree, by having their loved one’s body returned to them
- everyone involved in the incident needs to be accounted for
- a body left in the sea is likely to attract the attention of other rescuers subsequently: investigating it will waste their time, and may put them at extra risk
- accident investigators and other authorities will prefer to have bodies recovered to help them fulfil their own responsibilities.

5.16 Bodies should be placed on the rescue unit out of sight of survivors if practicable.

5.17 It may be impracticable for bodies to be recovered, usually because attempting to do so would place the rescue unit’s crew at unacceptable risk. This is a decision for the rescue unit’s commander. If it is so decided, the OSC and SMC must be informed of the fact, including the number of bodies concerned, their location, and the reason why recovery was not attempted or completed.

5.18 IMO’s MSC Circular 1185, Rev.1, ‘Guide for Cold Water Survival’, includes guidance on treating the apparently dead. Advice on ‘handling of deceased persons’ may be found in IAMSAR Volume II Chapter 6.19 and Volume III.

5.19 A suggested retrieval priority list is given below, as an aid to planning and training. The next stage of the rescue operation is considered in chapter 10. The difficult question of accounting for everyone involved is considered in chapter 9.
6 A priority list

6.1 One way to fill the capability gap in MROs is to leave people aboard their vessel, survival craft etc and support them there until the vessel is towed to port or other means of retrieving them are arranged. This is recommended if achievable. The risks inherent in this course of action must be analysed in comparison with the alternative, recovery at sea, both at the outset and throughout the rescue operation. Circumstances may change, and the option of evacuation and recovery must be maintained.

6.2 If people must be recovered into rescue facilities (including vessels of opportunity) at sea, the following is a suggested priority list. Note that this list is a suggestion only, designed to assist in planning and training. Local conditions or other circumstances of the case may require it to be altered.

1) People in the water
   a. without functioning buoyancy aids
      .1 people who are conscious but unresponsive
      .2 people who are unconscious / apparently dead – but keep a close watch on the categories below for deterioration, which may be very rapid
      .3 people who are responsive but less able (because of injury, age, cold, mental distress etc)
      .4 people who are responsive and able
   b. with functioning buoyancy aids keeping the airway above water
      .5 a few people who are responsive and able, to assist with further recovery and in tending other survivors brought aboard
      .6 people who are unresponsive
      .7 people who are responsive but less able
      .8 the remaining people who are responsive and able

2) People out of the water, on makeshift rafts, wreckage etc
   .1 a few people who are responsive and able, to assist
   .2 people who are unresponsive
   .3 people who are responsive but less able
   .4 the remaining people who are responsive and able

3) People in survival craft: priority order as at 2 above

4) The clearly dead.

7 Summary
   o ‘Retrieval’ is the first part of ‘rescue’ as defined in IAMSAR.
   o ‘Persons in distress’ may be
- still aboard their parent unit, and may be able to stay there or may require taking off, now or as the incident develops
- in survival craft
- in the water, or clinging to wreckage or other floating objects
- on land or on a fixed installation.
  - They may or may not be able to assist in their own rescue.
  - Leaving people aboard their parent unit or survival craft may be an alternative to recovering them at sea.
  - Retrieval can be a very difficult operation, which should be prepared and trained for: the guidance material in the IAMSAR Manual and the other publications noted above is recommended.
  - Retrieval possibilities and priorities should be carefully considered and agreed, at the planning stage and at the time of the incident.

8 Further reading

8.1 For further guidance on recovery, the documents cited in this chapter are recommended; especially IAMSAR Volume II Chapter 3.8.8 and Chapter 6, and Volume III; SOLAS III/17-1 and V/33; MSC Circulars 1447, 1182/Rev.1 and 1185/Rev.1; and IMO’s Pocket Guide to Recovery Techniques and Pocket Guide for Cold Water Survival.

8.2 Further discussion of the MRO use of surface units is in chapter 22, and on using vessels of opportunity in particular in chapter 13. Guidance on the use of aircraft is in chapter 23. Guidance on on-board support is in chapter 15.