

## USE OF SURFACE MARKER BUOY (SMB)

### Lesson Objectives

This lesson introduces and gives practice in the use of the Surface Marker Buoy

### Achievement Targets

At the end of this lesson students should:

- Be competent and confident in their ability to use a SMB during all phases of a dive
- Be competent and confident in their understanding of the impact of their surroundings on the use of the SMB

## Lesson Contents

Although essential equipment for drift diving, until students have developed the necessary awareness and skills in the use of the SMB, they should not use them in moving water. For this first use, therefore, a dive site with no current is required.

### 1. Briefing

Include all the elements of a SEEDS brief but with particular emphasis of those aspects relevant to the use of an SMB. Relate the exercise to real diving by reminding students of the circumstances where use of an SMB is advisable. As this lesson involves the use of lines underwater, ensure that all students are equipped with an adequate and easily accessible knife or other line cutting tool.

### 2. Dry practice of SMB operation

This is, in effect, an extension of the dive briefing. Explain the operation and use of the SMB and it's reel, and allow the students to practice it's operation. Explain, and demonstrate where appropriate, the practicalities of using the SMB reel:

- during descent - held at arms length to deploy line clear of body, controlling buoyancy
- at dive depth - appropriate tension to avoid 'tugging' from surface waves on the buoy and to counter effect of wind on the buoy, not too much slack that the line snags, adjustments with changes in depth
- avoiding entanglement - monitoring the surroundings (above and/or down current) for potential snags
- avoiding separation in low visibility - reel out extra line to act as 'buddy line', buddy holds onto line within range of visibility, buddy holds line to avoid snagging on self or own equipment
- during ascent - reel line in to match rate of ascent, use line as visual indicator of ascent rate, controlling buoyancy

**Report dive plan to Dive Manager.**

### 3. Kit up and buddy check

After normal buddy check, identify suitable locations on the students' equipment to which the SMB lanyard can be secured during their practice, and from which it can, if necessary, be quickly released under tension. Also check that the knife is carried where it is easily and quickly accessible.

### 4. Entry

Entry as appropriate for local conditions.

### 5. SMB use during exploratory dive to 15 - 20m

For each element, after an instructor demonstration, students should be allowed adequate time to practice to achieve the necessary performance standard. Rushed training usually results in problems using SMBs on subsequent dives and future avoidance of their use in circumstances where they are really needed.

- Descent
 

Hold reel at arms length, release catch, vent from buoyancy device to initiate descent. Maintained reel at arms length to keep line clear of body, control buoyancy using other hand. If descent interrupted (sticky ears etc), lock reel to prevent excess line in the water until descent re-commenced. If descending down shot or other line, keep reel clear on opposite side of body, monitor deployment of buoy line and maintain sufficient tension to avoid tangling with shot or anchor line
- During dive
 

On reaching bottom, adjust line tension, lock reel, hold reel or allow reel to be towed behind on lanyard as conditions allow. Relocate released reel by locating lanyard attachment to divers equipment, sliding hand along lanyard while sweeping hand out clear of body to reel. Adjust line length/tension as required for changes in depth
- Monitor overhead for potential snag hazards
 

Develop awareness of surroundings by looking all around, including upwards. Periodically visually check line for excess slack and direction
- Use of buoy line as a buddy line
 

Reel out sufficient excess line for buddy to hold just within range of visibility. Buddy holds line to keep it clear of self or own equipment
- Vertical ascent
 

When used for real, SMBs will often be used for drift diving. Under these circumstances ascents are normally direct to the surface. This element should simulate these conditions as closely as possible by making a direct ascent to the surface

Any slack on line taken up, ascent then initiated by finning upwards as normal. Buoyancy controlled as normal ascent, line reeled in to maintain slight tension on line throughout ascent (Note: buoyancy control takes priority), line used as visual reference to monitor ascent rate, buddy contact maintained

At the end of this exercise the students should be fully **competent and confident** in their abilities to use a SMB and in their understanding of the impact of its use on their surroundings.

## 6. Exit

As appropriate to local conditions.

**Report back to Dive Manager.**

## 7. Debrief

Review the students' performance, highlighting areas of good performance and offering constructive criticism where necessary. Remind students that, like all other skills that are not regularly used, the skills they have just developed will deteriorate. Periodic practice will maintain the skills and enable their use when necessary. This will enable students to get more enjoyment out of their dives.

### Adapting this Lesson

The content of this lesson is not dependant upon equipment or previous training and hence the lesson content is applicable to all students.

### Skill Performance Standards

At the end of this lesson, the students should be sufficiently **competent and confident** to be able to achieve the following skill performance standard, without supervision, in the water conditions experienced:

*SMB use* - line deployment managed to remain clear of body, equipment and, where necessary, any fixed line during descent. At dive depth line adjusted to provide appropriate amount of slack, length adjusted to match variations in depth. Awareness of potential impact of surroundings, particularly above, on buoy line demonstrated. During ascent appropriate amount of tension maintained on buoy line to surface directly under buoy.

