

## GOING DIVING

### Lesson Objectives

Following on from the last lesson, this lesson offers practical advice to students on going diving. They will recognise many elements from early practical sessions and the lesson is giving guidance on what to expect on dives

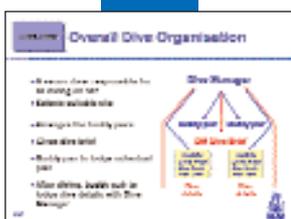
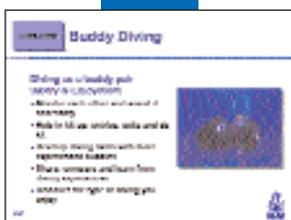
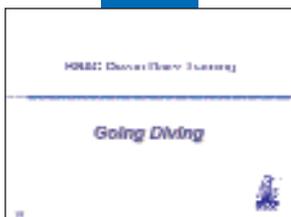
### Achievement Targets

At the end of this lesson students should

- Understand that diving is an adventurous sport and that risks need to be assessed to make it as safe as possible
- Understand the importance of diving as a buddy pair
- Understand that diving is controlled by a Dive Manager
- Understand the importance of the dive plan, brief and buddy check
- Understand what to expect and consider during a dive
- Understand how to use underwater pilotage
- Understand vision underwater

### Following items will be useful as additional Visual Aids

A dive flag, a diving torch



## GOING DIVING

### AIMS

At the end of this lesson, students should understand the practicalities of going diving, to include:

- Buddy diving
- Overall dive organisation on the day
- The role of the Dive Manager
- The dive plan
- Considerations when going on a dive
- Understanding underwater pilotage and vision underwater

## BUDDY DIVING

### Diving as a buddy pair promotes safety and enjoyment

- Monitoring each other throughout the dive means being able to assist if a buddy is unable to resolve a problem safely themselves. (E.g. a fin strap slipping may mean a diver stops, loses buoyancy, kicks up the bottom sediment and becomes disoriented). A buddy's assistance can quickly and easily resolve the problem before it becomes an emergency
- Helping with kitting up, entries, exits and de-kitting - why struggle on your own when your buddy can help?
- Diving with more experienced buddies develops a diver's skill and experience base
- Sharing and comparing a diving experience means divers continue to learn and develop more underwater skills
- Discovering from various dive experiences, the type of diving they really enjoy and wish to pursue further. For example wreck diving or marine life identification and photography

## OVERALL DIVE ORGANISATION

Dive organisation is important for all divers. Outline the procedures that Ocean Divers will encounter when diving with your branch or school but each area is discussed more fully following this slide.

- The Dive Manager is a senior diver on site responsible for making the day happen
- Selects a site suitable for the group of divers involved.
- Arranges who the buddy pairs will be
- Gives a dive brief to all the divers
- Buddy pairs will lodge their individual dive plans with the Dive Manager
- On completing their dive, lodge the dive details with the Dive Manager

## THE DIVE MANAGER'S ROLE

- **Dive Managers are appointed by and responsible to the Branch Diving Officer or Centre's Lead Instructor.**
  - Assessing all risks associated with the dive plan
  - In liaison with the Diving Officer or the Centre's Lead Instructor, the Dive Manager will arrange the buddy pairs based on their knowledge of experience and diver grade
  - They will also agree appropriate dive plans dependent on the divers' experience and grade

- They will also monitor conditions throughout the diving, particularly weather and sea conditions
- **The Dive Manager will give an information and safety brief to all the divers involved on the dive**
  - Site information. The Dive Manager, having assessed the site, will give a description of what to expect underwater and anticipated diving conditions, as well as the best entry and exit points. The selected dive site has to be suitable for the group of divers and their experience level
  - The Dive Manager will point out any hazards either to avoid or be aware of, such as an area where underwater visibility may be reduced if divers touch the bottom, or the importance of keeping diving activities within a restricted area to avoid possible surface traffic
  - The Dive Manager will also arrange who is responsible for surface cover during diving. Quite often an Assistant Dive Manager is allocated to assist the Dive Manager
  - The Dive Manager will also reiterate the standard procedure if divers get separated on a dive. Upon separation, both divers should stop; do a complete turn looking around for their buddy or their bubbles. If the buddy cannot be located then the diver should ascend a little, still looking for bubbles. If none are seen the diver does a controlled ascent to the surface and should signal to the surface cover that they are OK. If both divers do this on separation, they should both surface at more or less the same time. The surface cover will be alerted that there has been a separation if only one diver appears and will be prepared to assist if necessary
- **In continually assessing all the risks, the Dive Manager can terminate any diving at their discretion**

Their decision should be understood and complied with by the divers



## THE DIVE PLAN - SEEDS

Following the Dive Manager's assessment that the dive site is suitable for the dive, the buddy pair should confirm their dive plan with each other. Using SEEDS can help cover all the points of the plan

- **Safety**
  - Both divers are fit to dive
  - The dive is within their capabilities. This is important, as honesty is always the best policy! Although every dive offers a challenge, divers should never feel forced into doing a dive they feel they are not prepared for, or the conditions are too challenging
- **Exercise - the dive objective**

The dive objective is the reason for doing a dive. For example, it may be to improve buoyancy control or simply an exploration dive to see what is underwater in that location

  - Maximum depth and time (using tables or computers) within the Dive Manager's constraints
  - Breathing gas planning, applying the 'Rule of Thirds'
- **Equipment**
  - Ensure that all the equipment is prepared. This is checked for correct operation during the buddy check
- **Discipline**
  - Agree who is the leader of the dive
  - Staying together throughout the dive
  - Reminder of the separation procedure
- **Signals**

- Reconfirm normal diving signals and any special ones agreed between the buddy pair, e.g. 'turn around' signal



## BEFORE THE DIVE

### ● Confirm the plan with the Dive Manager

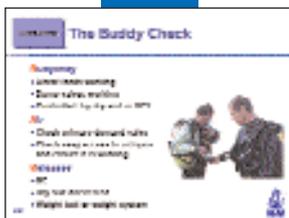
This is important, as each buddy pair's plan may differ depending on what they intend to do during the dive. For example, one pair may plan to surface after 20 minutes and another pair after 25 minutes but both may be inside the maximum time agreed with the Dive Manager. If the buddy pair exceeds the time they have given to the Dive Manager it could indicate the divers have a problem and the Dive Manager will need to action a rescue. It is therefore **very** important that divers do not go beyond the planned dive time, not only for themselves, but also for those acting as surface cover who will be monitoring divers in and out of the water

- Advise the Dive Manager of your cylinder contents and the gas mix it contains (either 21%, 32% or 36% oxygen)

### ● The Buddy Brief - Recap of plan

The buddy dive brief is a recap or checking procedure following the planning and should be done just prior to entering the water. It is important to do as, in many cases, there may a time gap between the planning and actually getting into the water so the brief re-affirms the plan

- Dive objective
- Depth & time
- Breathing gas "check points"
- Signals
- Separation procedure



## THE BUDDY CHECK

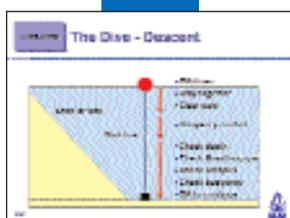
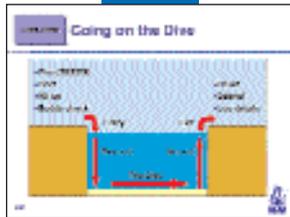
Students should already be familiar with the buddy check but this is to remind them that a buddy pair needs to check their equipment. This is done not only to ensure it is all working correctly, but also to familiarise themselves with each other's equipment. There are various methods used by divers such as 'top to toe' but BAR is commonly used and easy to remember. Good practice is for a diver to check their buddy's kit. They will have then experienced 'hands on' their buddy's equipment before entering the water should assistance or rescue be needed during the dive. This should be done before every dive even if you are familiar with your buddy's kit

### Buoyancy

- Check direct feeds are working for the BC and drysuit if used
- Check dump valves are working for the BC and drysuit if used
- Establish how buoyancy is controlled, as this will need to be considered if assisting or rescuing a diver (Rescue is discussed in the next presentation)

### Breathing gas

- Divers should check their primary demand valve by breathing from it to check the breathing gas is free from odour or taste. They should monitor the contents gauge for any needle movement whilst breathing from the demand valve. Needle movement indicates a fault or the cylinder not being turned fully on.
- The buddy should check the octopus (it is being carried for them) particularly the ease of release and, as with the primary demand valve, check against the contents gauge whilst breathing from it



## Releases

- Check how the releases work on the BC
- If being worn, check dry suit direct feed release
- Check how the weights release and their location. Some BC's have integrated weight systems rather than a separate weightbelt

## GOING ON THE DIVE

- Having planned the dive (SEEDS), briefed and buddy checked, the divers are ready to go diving. The dive can be broken down into the following elements
- Entry
- Descent
- The dive itself
- Ascent
- Exit
- De-kit, debrief (to include the Dive Manager), logging details

## THE DIVE - ENTRIES

Before an entry, divers should ensure that there is air in the BC and demand valve and mask are in place, so that, if the diver falls they can still see and breathe

- **Shore**
  - Wade into water
  - Fins can be fitted prior to or after wading into the water, but both methods will require assistance of the buddy to 'balance' the diver
- **Shore or Large Boat**
  - A stride or forward roll entry can be made

Before entering:

- Ensure there is sufficient depth of water
- Check that there are no divers underneath the entry point
- **Small Boat**
  - Backwards roll entry
  - Before entering check there are no divers underneath the entry point
- **Following Entry**

Whatever entry method is made, divers should signal they are OK to the surface cover following an entry

## THE DIVE - DESCENT

The descent method will depend on the site.

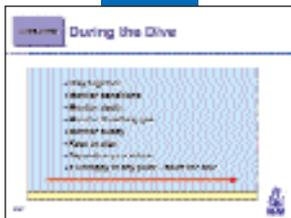
- For a shelving shore entry the slope of the seabed can be followed
- When diving from a boat, a shot line will generally be used as a marker that denotes the dive site below and guide the divers to the site. The shot is a weight with a connecting line between it and a large surface buoy
- Having given an 'OK' to the surface cover following entry into the water, the divers must stay together
- They give the 'OK' and 'down' signals to each when ready to descend
- They should stay together, either side-by-side or face-to-face on the descent. Where visibility is reduced it is better to descend fins first - better they, rather than a diver's head, hit the bottom first
- Remember to clear ears
- Remember that buoyancy will need to be adjusted to control the descent

Once arriving on the bottom, some quick checks need to be made before starting off on the main part of the dive

- Check depth gauges/computers. If one is reading slightly deeper than the other, use that for keeping to the maximum planned depth
- Check breathing gas
- It is a good idea to check your buddy's octopus by releasing and breathing from it
- Trim for neutral buoyancy
- Give 'OK' to proceed with the dive

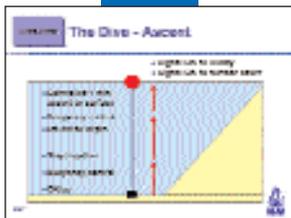
### DURING THE DIVE

- Stay together
- Monitor the conditions, if visibility decreases consider aborting the dive
- Monitor depth, particularly if the dive site shelves or 'steps' away to deeper depths
- Monitor breathing gas in readiness for half way or 'turn around' point
- Monitor buddy with 'OK' signals
- Keep to the plan. It's easy to get distracted by interesting things underwater!
- Remember what to do if separated from buddy.
- If unhappy, uncomfortable or getting cold at any point during the dive, don't 'press on', abort the dive



### THE DIVE - ASCENT

- Give 'OK' and 'Up' signals when ready to ascend
- Follow the sea bed contours, a shotline or other visual references. Control ascent rate by controlling buoyancy. Monitor ascent rate either by using the depth gauge or computer, or against the ascent rate of the small (approx. 1cm dia.) bubbles. While monitoring ascent rate, be careful not to become so pre-occupied with it that you ignore the buddy and risk separation
- Stay together
- Slow down for the 6m check depth and maintain good buoyancy control
- Slow controlled ascent taking 1 minute to the surface
- Once back on the surface, signal 'OK' to buddy and 'OK' to surface cover



### THE DIVE - EXITS

When exiting the water in full kit, divers should ensure there is gas in the BC and that their demand valve and mask are in place - if the diver falls they will float and can still see and breathe!

- **Shore**
  - Wade out of the water
  - Fins can be removed prior to, or after, wading out, but both methods will require the assistance of the buddy to 'balance' the diver.
- **Shore or Large Boat**
  - Exit by steps or ladder. Fins will need to be removed before climbing steps, but most boat ladders can be climbed with fins on
  - As generally these are deep water exits, reiterate the importance of keeping the mask and demand valve in place and having gas in the BC. Always stay clear of divers on a ladder in case they should fall off





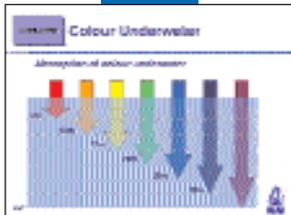


## VISION UNDERWATER

- Divers talk about "vis" and this refers to how far they can see horizontally when diving (generally expressed in metres). Divers cannot see as far underwater as they can on land, as available light and particles in the water will restrict their vision

- **Focusing of the eye in air and underwater**

Divers often come back from dives remarking on the size of marine life they have seen! From an earlier session students will remember that divers need air in a mask to allow the eyes to focus underwater. Light rays passing from air into water are bent and this causes objects to appear about 25% larger and closer to the viewer



## COLOUR UNDERWATER

- **Absorption of colour underwater**

White light, such as sunlight, is made up of the colour spectrum, red, orange, yellow, green, blue, indigo and violet. Water absorbs the individual colours and the deeper a diver goes the surroundings become bluer. In natural light, marine life that is red will appear blue at depth. Only by using artificial light, a diver's torch, will the true colours be revealed. Water 'turbidity', due to suspended particles (such as silt and plankton), reduces underwater visibility and reduces light levels by preventing light penetration from the surface



## SUMMARY

This lesson has looked at assessing the risks of diving to make it as safe as possible through:

- The importance of buddy diving
- Understanding dive organisation
- Understanding the role of the Dive Manager
- The importance of preparing the dive plan together with pre-dive checks
- Diving the plan
- Understanding about pilotage and vision underwater

