Muck Diving
Distinctive
Specialty Course
Instructor Outline

Dedicated to my very dear friend Bob Halstead

Sometimes, the trash and muck can be its own subject: Here a tiny blenny hides inside the tip of a former tube of toothpaste [http://www.divephotoguide.com/underwater-photography-techniques/article/muck-diving-photography/]

This course provides the training required to allow divers to competently and safely dive in “Muck” adventure diving situations

1. Course Objectives and Standards

A. Course Goals

The goals of the Muck Dive course are to:

a) Introduce the student to the muck diving aquatic environment

b) Review relevant dive sites

c) Identify aquatic life in mucky environments

d) Identify hazards

e) Prepare for Muck diving

B. Muck Dive Course Requirements

1. Minimum prerequisite certification: PADI Open Water Diver (or equivalent)

2. Minimum age of 15

3. Student to Instructor ratio: 8:1

4. Maximum depth 18 meters [30m if certified as PADI Advanced Open Water or Adventure diver with deep diving experience (or equivalent)]

5. Two (2) Open water dives

6. Minimum course duration is dependent on class size. As a guideline – a nominal duration for a class size of eight (8) students would be two (2) hours for theory; eight hours for practical exercises.

7. Minimum Instructor rating: Open Water Scuba Instructor and Specialty Instructor in the Distinctive specialty of Muck Diver

C. Student and Instructor Equipment Requirements

(i) Equipment requirements

1. Student equipment

a. All standard diving equipment

b. Slate

c. Camera

2. Instructor equipment

a. All standard diving equipment

b. SMB

c. Slate

d. Camera

e. Student Record File

f. Class Roster

(ii) References

a. What the Muck is Muck Diving? http://www.sportdiver.com/photos/photo-tips-what-muck-muck-diving

b. Muck Diving http://muck-diving.divescover.com

c. Halstead, R. (1999, April). Muck Dives and Critter Magic. *Sport Diving Magazine, MACRO*. pp2-15.

(iii) Recognition materials

a. PIC envelopes (or PICs on-line)

b. Specialty Diver Certificates

D. Knowledge Development Topics

The following is an actual presentation outline. Directions to, or comments for the instructor are enclosed in [brackets]

Introductions, welcome to the course and course overview:
a. Introduce yourself and your assistants
b. Student introductions
c. Course goals

2. Course overview
a. Classroom presentations. [Note to instructor: Academic information will be via a short classroom discussion but essentially covered on-site at the dive site location/s. Other academic background will be reviewed through reading web-based text. Give the dates and locations of venue.]
b. Open water training dives.
c. Performance assessment. [Note to instructor: You are to ensure that all performance requirements have been met. Skills performed onsite are to be directly observed. Academic assessment may be accomplished through discussions with students and oral quizzes. Tell the class how their performance will be evaluated.]
d. Certification: Upon successful completion of the course, you will be awarded the PADI Distinctive Specialty Diver Certification as Muck Diver.
e. Class requirements: Course costs [Explain all course costs], Equipment needs, and materials used during the course and attendance requirements.
f. Administration: Collect course fees, enrolment forms, [Continuing

Education Administrative Document or Standard Safe Diving Practices Statement of Understanding, PADI Medical Statement, Liability Release and Express Assumption of Risk].

3. *Why Muck diving?*

Muck diving has become one of the most popular choices for underwater photographers. It's not the scenery that draws us, but the super abundance of subjects http://www.sportdiver.com/photos/photo-tips-what-muck-muck-diving#page-3

The "muck" substrate can be the habitat for unusual, exotic and juvenile organisms that make their homes in the sediment and "trash" that compose a muck dive. The sediment and detritus environment has a different ecology to the reef. Creatures like colorful nudibranchs, anglerfish, shrimp, blue-ringed octopus, and rare pygmy seahorses may be more common, more easily found, or restricted to a sedimentary substrate.

https://en.wikipedia.org/wiki/Muck_diving

(a) *History*

The term muck diving was first used by Bob Halstead to describe diving off the beaches made up of black sand in Milne Bay, Papua New Guinea. Since then it has been appropriated by many who like flopping about in areas such as mud flats and tidal estuaries.

(b) Where practiced

The most popular region for muck diving is Southeast Asia, where there are allegedly more marine species than anywhere else in the world. Places like Mabul and Kapalai in Sabah, Malaysia, Anilao and Dauin in

the Philippines, Lembeh Straits in Manado,[2] Indonesia and Bali are the most popular because of the amazing creatures found in the muck. Other sedimentary bottom habitats may also provide interesting ecologies https://en.wikipedia.org/wiki/Muck_diving

However, many places that are less than tropical can afford remarkable adventure "muck" dives in areas where, typically, the tidal flow sweeps in its marine life at high tide every day. This offers a spectacular carnival of animals and fish life appearing twice a day especially in dive sites situated close to mangrove swamps/orchards in estuaries or areas often fondly referred to as "mud flats".

4. *Equipment to use*

Not much different than what you would usually use but not a bad idea to cover up well in at least a stinger suit even if the water is tropical and usually comfortable. The reason for this is that more often than not you will have a camera in your hand and close-up to the amazing array of bugs and beetles glued to their holes in the bottom or close to some other form of shelter for themselves. This means that you will be getting close to either animals or objects that may sting, cut or bruise you. Some form of insulation for this would recommended.

It will also be likely that if taking photos, ability at taking close-ups would be a good skill to develop. Recommended here is the PADI Digital Underwater Photography course and getting a decent camera with appropriate accessories!

5. Hazards

Probably the greatest concerns are as just mentioned, but in muddy areas there is a tendency for stingrays to come for lunch. Just use common

sense and get out of their way and they won't give you a lashing! In places like the Far North of Queensland it is also a smart idea to make sure you aren't muscling in on a crocodile's territory. They have been known to borrow bits from invading humans.

Apart from these words of wisdom, it is still necessary to plan your dive, and dive your plan. But usually, most muck dives give us the advantage of such shallow diving that it virtually negates the need to look at our RDPs other than using them for beer mats.

6. Planning and organizing dives

This should be performed no differently than normal. But be especially aware how close you will be to the environment and how it is too easy to get sidetracked taking photos and/or videos and not keeping an eye on your buddy.

Buoyancy control is a very important issue for the photographer/videographer with care to be taken in streamlining equipment. Care should also be taken in particular of feet (fins) and hand placement to avoid damaging sensitive organisms (or getting injured one's self from contact with such invertebrates as fire coral or hydroids).

Attending a Peak Performance Buoyancy workshop is recommended to improve this ability.

7. Open Water Dives

1. Open Water Training Dive One

Learning Objectives.
By the end of this dive, you will be able to:
• *Demonstrate appropriate streamlining of dive equipment.*
• *Perform an appropriate entry.*
• *Correct weighting and adjust buoyancy as required at depth.*
• *Use slates for sketching or take close-up photographs of site inhabitants.*
• *Perform an ascent rate of no more than 18 metres/minute or as indicated by the divers' computer.*
• *Perform a 3-minute safety stop at 5 metres (if necessary!)*

a. Briefing
• Evaluate conditions
• Facilities at dive site
• Entry technique to be used-location
• Exit technique to be used-location
• Bottom composition, expected features and points of interest
• Depth range
• Planned air supply limit
• Review communication
• What to do if separated from class/buddy
• What to do if an emergency arises
• Buddy assignments

b. Plan Dive

• Assign depth; have students determine theoretical depth (if dive site at altitude and/or using enriched air) and no-decompression limit [Instructor note: you should check these]
• Record no-decompression limit, maximum actual depth and maximum theoretical depth on slates
• Review depth gauges and instrumentation; each student should know how to account for behaviour of his/her instrument while diving
• Assign maximum planned dive time

c. Predive

• Prepare personal equipment including cameras and accessories and all extra emergency equipment
• Don equipment
• Predive safety check
• Proper entry
• Weight adjustment for neutral buoyancy
• Maintain buddy contact

d. Open Water Training Dive One

• Descend in buddy teams
• Use cameras to produce diver and other requisite subject photos (if desired) and go slow!
• Ascent not to exceed 18 metres/minute with a three-minute safety stop at depth of 5 metres.

e. Post dive

• Proper exit
• Remove and stow equipment
• Rinse cameras

f. Debrief

• Assess performance, make suggestions, give positive reinforcement
• Students calculate their ending pressure groups—review for correct calculation
• Log dive (Instructor signs log)

2. Open Water Training Dive Two

Learning Objectives.

By the end of this dive, you will be able to:

- *Demonstrate appropriate streamlining of dive equipment.*
- *Correct weighting and adjust buoyancy as required at depth*
- *Use camera to produce close-up (or other) shots of site inhabitants*
- *Perform an ascent rate of no more than 18 metres/minute or as indicated by the divers' computer.*
- *Perform a 3-minute safety stop at 5 metres.*

a. Briefing

- Evaluate conditions
- Facilities at dive site
- Entry technique to be used-location
- Exit technique to be used-location
- Bottom composition, expected features and points of interest
- Depth range
- Planned air supply limit
- Review communication
- What to do if separated from class/buddy
- What to do if an emergency arises
- Buddy assignments

b. Plan Dive

[Instructor note: Have students plan this dive in buddy teams for your assessment and approval]

- Ensure that students record no-decompression limit, maximum actual depth and maximum theoretical depth on slates (if dive site

at altitude and/or using enriched air).

c. Predive

• Prepare personal equipment including action camera and requisite accessories
• Don equipment
• Predive safety check
• Proper entry
• Weight adjustment for neutral buoyancy
• Maintain buddy contact

d. Open Water Training Dive Two

• Descend in buddy teams
• Take photographs of marine life of interest
• Ascent not to exceed 18 metres/minute with a three-minute stop at a depth of 5 metres.

e. Post dive

• Proper exit
• Remove and stow equipment
• Rinse cameras

f. Debrief

• Assess performance, make suggestions, give positive reinforcement
• Students calculate their ending pressure groups—review for correct calculation
• Log dive (Instructor signs log)
• Complete certification paperwork

8. KNOWLEDGE REVIEW

1. Describe how a Muck Diver should avoid damaging sensitive aquatic organisms

2. What are two of the greatest concerns when Muck Diving?

3. What are two advantages of Muck Diving?

4. What is the recommended action of a Muck Diver?

5. Describe a typical Muck Dive

I have had explained to me and I understand the questions I missed.

Student Signature _____ Date _____

9. ANSWER KEY KNOWLEDGE REVIEW

1. Describe how a Muck Diver should avoid damaging sensitive aquatic organisms

Good buoyancy control and wearing appropriate insulation

2. What are two of the greatest concerns when Muck Diving?

Disturbance of the environment and damage to sensitive aquatic organisms and those animals in the environment that could cause damage to the diver (such as stingrays and crocodiles)

3. What are two advantages of Muck Diving?

Animal and fish life rarely seen and, more often than not, shallow dives not requiring too much concern about decompression issues

4. What is the recommended action of a Muck Diver?

Go slow and take your time looking for those small, rare and often hard to see creatures!

5. Describe a typical Muck Dive

Muddy, mucky bottom needing slow and careful progress with a camera with close-up lens in my hand!