

**DIVING PROGRAM**  
**DISCOVERY BAY MARINE LABORATORY, UNIV. WEST INDIES (UWI)**  
**(JANUARY 2020)**

**SCOPE OF PROGRAMME**

The purpose of this document is to provide standards and procedures that are minimum requirements for safety during the performance of diving and hyperbaric work undertaken at the Discovery Bay Marine Laboratory.

It is the policy of the Laboratory that all SCUBA diving carried out under the auspices of the laboratory shall be in accordance with the following regulations.

For the purpose of this programme these standards apply to all UWI employees, associates, students, visiting researchers, other students or anyone else who may from time to time use the facilities of the Laboratory. These standards apply to all aquatic and hyperbaric activities which the University of the West Indies controls due to ownership of equipment, location, or sponsorship.

When in doubt regarding general diving procedures reference should be made to the AAUS Standards for Scientific Diving (2018).

**DIVING SAFETY OFFICER**

The Director of the Laboratory has overall responsibility for the safety of its operations. However, it is the Diving Safety Officer (DSO) who:

1. Shall be responsible for maintaining the following procedures and shall advise and supervise participating persons accordingly.
2. Shall establish policy, procedures and standards as required by new developments in diving and hyperbaric technology.
3. Shall issue and revoke DBML diving approval

4. Shall restrict or suspend DBML sponsored diving and hyperbaric activities which are considered in his judgement unsafe or which fail to comply with the following standards.
5. Shall supervise, or designate a qualified person to supervise, all diving and hyperbaric chamber activities.
6. Shall maintain DBML diving records of current and past divers.
7. Shall have the authority to prohibit the use of any personal diving equipment which he considers inadequate or unsafe.

### **DIVING CERTIFICATION**

1. All persons diving under the auspices of the DBML must have “DBML diving approval” documented by the DSO.
2. To obtain UWI-DBML Diving Approval, each diver must:
  - (a) show a certification card from a recognized certifying agency (e.g. NAUI, PADI, NASDS, YMCA, BSAC)
  - (b) show a dive log or record of past experience.
  - (c) submit a completed “fit to dive” medical certificate from a physician establishing fitness to dive. This certificate must be dated within the recommended period for individual divers: i.e., within 1-5 years based on age of diver.  
Not all physicians are fully aware of the peculiarities of many physiological conditions as they influence or are affected by diving activities. Final acceptance of any medical certificate submitted will therefore be at the discretion of the DSO.
  - (d) submit proof of appropriate medical/diving insurance applicable to scuba diving activities (or letter of reciprocity from divers institution).
  - (e) sign a waiver, release and indemnity agreement.

(f) sign an acknowledgement that he/she has read and agrees to abide by the Laboratory's Diving Program.

In addition, the prospective diver must:

(g) meet minimum equipment & skill standards, which will be demonstrated in a check-out dive. Skill evaluation will cover at least the following areas and each skill must be completed satisfactorily.

These skills will include -

- pre-dive equipment assembly checks & post-dive disassembly
- deep water entry
- mask removal, clearing, replacement
- buoyancy control at surface and at depth (fin pivot & hovering)
- regulator recovery and clearing
- use of alternate air source/buddy breathing while stationary and travelling
- buddy checks & monitoring throughout the dive
- use & interpretation of signals
- correct surfacing procedure
- use of dive tables/computers.

3. Divers suffering from severe colds, sinus infections, ear problems, lung congestion, alcoholic intoxication (e.g. hangover), adverse effects of drugs or medications, fatigue or major illnesses will not be allowed to participate in diving operations.

4. Depth certification will be assigned using the following guidelines:

(a) 40 ft. maximum - normally issued to a diver with less than 15 dives.

(b) 60 ft. maximum - normally issued to a diver with more than 15 but less than 25 dives, who has already carried out several dives at or near to 60 ft.

(c) 100 ft. maximum - normally issued to a diver with more than 25 dives, who has already carried out several dives at or near to 100 ft.

Certification to a given depth allows a person to lead dives within that depth-range, thus assuming responsibility for the safety of his/her companion(s).

Approval will only be granted when the DSO is satisfied that a person has the experience and competence to lead dives and handle simple emergencies at that depth.

5. Further increases in DBML depth certification will be given using the following considerations as guidelines:

(a) A diver holding a 40 foot certification may be qualified to a depth of 60 feet upon completion of a minimum of 12 dives or 7 hours underwater (whichever comes first) between 41 and 60 feet.

(b) A diver holding a 60 foot certification may be certified to 100 feet upon completion of a minimum of 12 dives or 5 hours (whichever comes first) between the depths of 61 and 100 feet.

6. (a) Divers with a total of less than 8 dives will not normally be allowed to dive without in-water supervision from a more experienced diver designated by the Diving Safety Officer.

(b) No diver may exceed the depth specified on his/her DBML Certification unless accompanied by an instructor/DSO to the training depth or deeper.

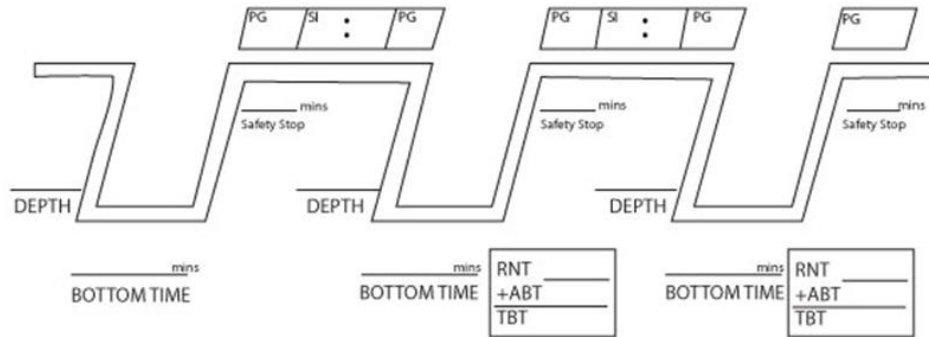
(c) Divers with 100 ft. certification may not take a diver with 40 ft. depth limit deeper than 60 ft.

## **THE DIVE LEADER**

- One individual will be designated as the Lead Diver for each dive. This person shall be present at the dive location throughout the diving operation.
- The dive leader will be responsible for planning dives in accordance with prescribed procedures. He/she must coordinate with other known activities in the area that may interfere with diving operations.
- This individual is responsible for ensuring all dive team members possess current certification and are qualified for the type of diving operation.

- They must ensure safety and emergency equipment is in working order and is present at the dive site.
- In the event of unsafe or unfavourable conditions, the dive leader is responsible for suspending the diving operation.
- The Dive Leader is also responsible for filling out the dive roster BEFORE leaving each site
- Any physical problems or adverse physiological effects, including symptoms of pressure-related injuries must be reported by the dive leader to the DSO.

Anticipated dive profiles may be summarised in the following diagram:



## DECOMPRESSION DIVING

All dives at DBML should be decompression dives. Special permission will be needed for dives requiring in-water decompression

1. For any dive in excess of 40 ft. depth, irrespective of the length of the 'bottom time', divers will carry out a safety decompression stop of 3 min. @ 20 ft. before surfacing slowly at a rate not exceeding 20 ft. per minute.
2. Every dive is considered to be a 'decompression event' however, any dive in which the diver may not return DIRECTLY to the surface but MUST stop at a prescribed depth or depths in accordance with is considered a 'decompression dive'.

Decompression dives may not be undertaken without signed approval from the DSO. Forms available for this purpose may be obtained from the DSO and must be submitted 24 hours in advance for approval.

## **DEEP DIVING**

Dives in excess of 100 ft. may not be undertaken without signed approval from the DSO. Forms available for this purpose may be obtained from the DSO and must be submitted more than 24 hours before the proposed dive, for approval by the DSO.

For all decompression or deep dives:

1. A tank and octopus regulator must be hung on the decompression line during all decompression dives as an emergency alternate air source.
2. A set of appropriate decompression tables must accompany each buddy pair.
3. A portable Oxygen supply must be in the boat.

## **NIGHT DIVING**

All night dives including dusk and dawn dives must have the signed approval of the DSO. This detail can be included on the dive booking forms available from the DSO and must be submitted more than 24 hours before the proposed dive, for approval by the DSO.

## **REPETITIVE DIVES**

1. If a diver has a residual nitrogen load from a previous dive then reverse profile dives (ie. shallow then deep) will not be allowed.
2. Divers needing to carry out more than 3 dives per day (or very long shallow dives) must consult with the DSO and should be prepared to arrange their schedule so that this does not occur on more than 3 consecutive days.

## **DIVE LOGS**

**Dive logs** for divers (or groups of divers) must be maintained by the boat Capt. / Diving Officer and must be kept up to date. This record will be kept on file by DBML staff.

## **BUDDY SYSTEM**

No person shall snorkel dive or use SCUBA unless he or she is accompanied within a double arms length of their Buddy. All divers not using a boat should place their name, dive location and time of dives on the snorkelling board.

There shall be no solo swimming 150m beyond the dock area (e.g. The Blue Hole).

## **SCUBA TANK FILLS**

Filling of non-UWI dive tanks will only be performed under the following conditions:

- a) Tanks that are owned and/or in the care of a reputable company/organization, and not privately owned other than by DBML staff. Divers using the tanks must be capable of producing valid diving certification.
- b) Tanks must be within test date (5 years or less) and stamped to clearly show date of last inspection
- c) A waiver for damage/loss during tank filling or use must be signed by the tank owner/agents.

## **EXPLORATORY DIVING**

Any dive equipment belonging to UWI DBML will not normally be available for use outside of DBML geographical/functional research areas, unless accompanied by a UWI DBML diving staff member. Persons wishing to dive in other parts of Jamaica using ANY equipment supplied by the DBML may only do so with the approval of the DSO. Forms available for this purpose may be obtained from the DSO and must be submitted 48 hours in advance for approval.

Information needed for this form will include:

1. intended location of use
2. divers involved and their respective qualifications
3. dive profile
4. equipment needed

5. arrangements for first aid and transportation to the hyperbaric chamber in the event of an accident

### **FLYING AFTER DIVING**

SCUBA divers who stay strictly within the "no-decompression" limits (depth/time) of the PADI (Professional Association of Divers and Instructors) Diving Tables & Procedures must have a surface interval of not less than 24 hours before flying.

A 36 hr. surface interval must elapse between dives requiring in-water decompression stops and your proposed flight time.

For no-decompression dives, it is recommended that for the 24 to 48 hour period before a flight a diver's maximum depth should not exceed 60 ft.

### **DRUGS & DIVING**

Scuba diving and the use of recreational or mood altering drugs are mutually exclusive activities. The use of these drugs is illegal in Jamaica and will NOT be tolerated at DBML.

The mere suspicion of use is enough to ensure suspension from diving activities by the DSO/Director.

Consumption of alcohol in the 24 hrs. prior to diving increases susceptibility to both decompression sickness and nitrogen narcosis. It should therefore be kept to a minimum. None should be consumed during the day until your day's dives are finished.

### **DIVING INSURANCE**

It is required that all divers have personal/institutional health insurance that covers diving-related accidents. Registered UWI students are the exception as they are covered by our UWI insurance provisions.



A letter of reciprocity from overseas universities, stating staff or students are covered by their insurance policies, is also acceptable.

## **EQUIPMENT**

1. Persons wishing to dive must supply all the necessary equipment except for lead weights, tanks & backpacks.
2. DBML has a limited amount of equipment to rent in case of personal equipment malfunction.
3. The use of any piece of equipment is subject to approval by the DSO.
4. Divers flag -A diver's flag will be displayed on all boats carrying divers and on a surface marker buoy (SMB) of shore divers. Other boats will stay 100 feet away from the flag carried by the divers/boat and divers will remain reasonably close to the flag so that coxswains and Lab staff can easily determine the divers' position.
5. Floatation while on a boat - All divers must wear a reliable life vest or buoyancy compensator with an alternate inflation mechanism while a passenger on the boat  
For snorkelers, a floatation device must be worn at all times when in the water - a wet suit is considered to be a floatation device for the purpose of snorkelling.
6. Regulators - All regulators will be equipped with functional submersible pressure gauge. Octopus second stages are strongly recommended.
7. Watch and Depth Gauges - All divers are required to wear accurate watches and gauges. Depth gauges are liable to test by the DO. Inaccurate gauges may not be used.
8. All lab gear taken into the sea will be washed in fresh water immediately following the dive.
9. Air Cylinders - All SCUBA tanks will bear a valid test date. Any tank out of date or having air leaks or worn O-rings should be brought to the attention of the DSO.  
At least 400 psi must be left in the cylinder at the end of the dive.

Tanks must be washed in fresh water after each use. Do not leave tanks in the sun or standing up unattended.

10.. Personal gear should be cleaned, dried on the appropriate racks ( not in direct sunlight) and put away in the designated storage area. Space is provided to stow gear; use it

11. Air Compressors - The compressors are maintained by the DSO and operated by him or persons appointed by him ONLY.

12. Lab tools are not to be taken underwater, unless given permission from the DSO and provisions are

13. Dive Tables to be used at the Laboratory will be those recommended by the American Academy of Underwater Scientists (AAUS). Specific approval to the contrary will require approval from the DSO.

14. Diving Gloves will not be used by divers or snorkelers while engaging in any aquatic activity. Specific approval to the contrary will require approval from the DSO.

15. Lab lead weights are not to be used as part of experimental equipment i.e., they only belong in the `store' or on your weight belt.

16. Lab. Boats – only DBML staff will be allowed to operate these vessels.

17. Hyperbaric Chamber - The chamber is used for medical, research, and training purposes. It is maintained by the DSO and operated by him or persons appointed by him.

## **DIVING ACCIDENTS**

If there is even the suspicion of a problem the DSO should be contacted IMMEDIATELY.

The use and operation of the Hyperbaric chamber will be governed by the DBML Hyperbaric Facility Standard Safety and Operation Procedures (SSOP) manual

## **DIVE BOOKING**

All dives at the Discovery Bay Marine Lab, have to be booked. The dive booking form provided requires;

- Date and time of dive trip
- Purpose of dive trip
- Names of Divers on trip
- Emergency and/safety equipment
- Dive plan (depth and time)
- Number of tanks required




All booked dives have to be approved by the Diving Safety Officer (DSO) after which they are assigned a unique authorization number. The authorization number is necessary for dispatch of the dive trip by security, and for the on boat dive log.

## **RESPONSIBILITY AND DISCIPLINE**



The laboratory, through the preceding regulations, does its best to provide a safe framework for aquatic operations. But each individual diver or boat operator has a responsibility to himself, his companions and the institution to observe, and act in the spirit of these regulations.

ANY PERSON WHO CONTRAVENES THEM OR ANY OTHER RULING WHICH MAY BE INSTITUTED FROM TIME TO TIME, WILL HAVE THEIR DIVING PRIVILEGES WITHDRAWN AT THE DISCRETION OF THE DIVING SAFETY OFFICER, THE ACADEMIC COORDINATOR OR THE DIRECTOR OF THE LABORATORY.

# DIVER REGISTRATION FORM

 University of the West Indies Discovery Bay Marine Laboratory Visiting Diver Registration			
Last Name:	DOE		
First Name:	JOHN		
Middle Initial:	K		
Email Address:	john.doe@gmail.com		
Telephone:	(876) 123-4567		
Institution:	UWI		
Position:	STUDENT		
Station:	DBML		
Date of Birth:	13 / 7 / 1994 <small>(DD) (MM) (YY)</small>		
Emergency Contact:	JANE DOE		
Contact's Number:	(876) 891-0111		
Approx. # of Dives:	15		
<b>DIVING CERTIFICATIONS (List most recent first)</b>			
Cert. Org.	Level	Cert. Date <small>(DD/MM/YY)</small>	Cert. Number
PADI	Advanced Open Water Diver	10-Jun-16	16060Z6773
PADI	Open Water Diver	06-Jan-14	14010E9692
SAMPLE			
<b>DIVING-RELATED CERTIFICATIONS eg. CPR, etc (List most recent first)</b>			
Cert. Org.	Level	Cert. Date <small>(DD/MM/YY)</small>	Cert. Number
PADI	Emergency Responder - CPR/AED/First Aid - Infant/Child/Adult	06-Feb-13	13030R2139
<b>Diving Insurance:</b>			
Policy #	DAN World		
Expiry Date:	w18514		
Contact Number:	31-Jan-2018		
	1 (919) 684-9111		
John Doe _____ Signature		08-Feb-17 _____ Date	
<b>Important Notes:</b> The accuracy of the information given is the responsibility of the diver. Copies of certifications must be submitted with this form. This information will be updated at least once per year or if the Diver requests changes to be made.			

# DIVE BOOKING FORM

 <b>UWI</b>	<b>University of the West Indies</b> <b>Discovery Bay Marine Laboratory</b> <b>DIVE BOOKING FORM</b>															
(to be completed by Dive Leader and submitted at least 48hrs. before planned dive (s))																
<b>(ONLY COMPLETE SECTIONS IN GREY HIGHLIGHT)</b>																
<b>Date of Dive (s):</b> <b>Time of Departure:</b> <b>Time of Return:</b> <b>Purpose:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">5</td> <td style="width: 10%;">10</td> <td style="width: 10%;">2018</td> <td rowspan="3" style="font-size: small;">*complete a separate form for each day</td> </tr> <tr> <td>7</td> <td>0</td> <td>am</td> </tr> <tr> <td>11</td> <td>0</td> <td>noon</td> </tr> <tr> <td colspan="2">Reef Assessment</td> <td colspan="2"></td> </tr> </table>	5	10	2018	*complete a separate form for each day	7	0	am	11	0	noon	Reef Assessment				If you require assistance with this form please call Oneil Holder (401-3922) or Camilo Trench (418-5000)
5	10	2018	*complete a separate form for each day													
7	0	am														
11	0	noon														
Reef Assessment																
<b>DIVERS (List Dive Leader First)</b>																
#	Name	Cert. Org.	Level													
1	Mary Poppins	PADI	Rescue Diver	List all Safety and Emergency Equipment SMB Dive computer												
2	Robert Marley	SEI	Open Water Plus													
3																
4																
5																
6																
7																
8																
Use an additional form to add more divers (if needed)																
<b>(ONLY COMPLETE SECTIONS IN GREY HIGHLIGHT)</b>																
<b>DIVE PLAN:</b> Dive Tables being used (PADI, BSAC, computer, etc):																
	Gorgo City	SI	Gorgo City	SI	Dive Site											
		HR 40		HR MIN PG	PG											
25 ft	Dive 1	3 mins	25 ft	Dive 2	3 mins											
	60 mins		60 mins	fsw	Dive 3											
				BT	SS											
	# of Tanks needed: 4	RNT+ABT=	RNT+ABT=	TBT												
Send form electronically to: <a href="mailto:camilo.trench@uwimona.edu.jm">camilo.trench@uwimona.edu.jm</a>																
Dive Plan OK?			Dive Leader OK?		(Do not write below)											
Approval:			Auth. #:		Notes:											
Date			Date													
KEY: PG: Pressure Group fsw: depth (feet of seawater) BT: Bottom time SS: safety stop	SI: surface interval RNT: Residual Nitrogen Time ABT: Actual Bottom Time TBT: Total Bottom Time															