Fluorescence Diver Student Manual

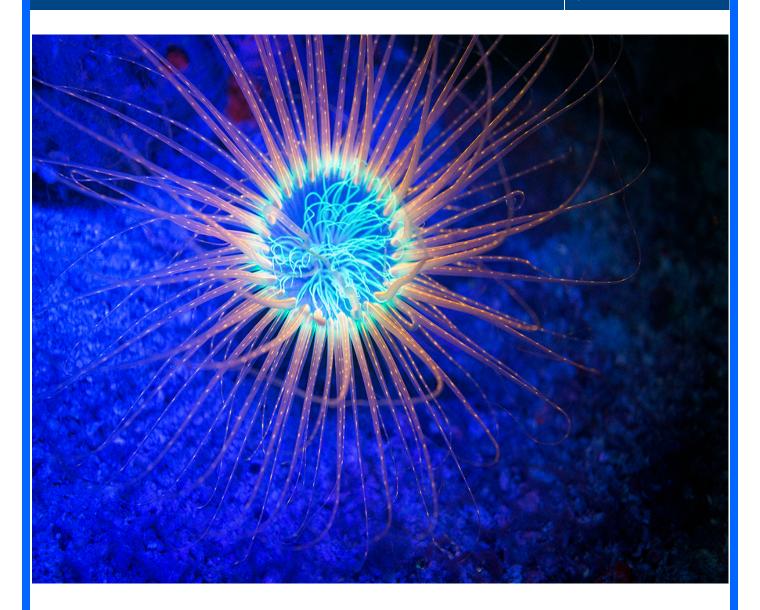


Photo: Anemone - Puerto Galera Philippines © 2016, Lynn Miner

Fluorescence Diver

Version 3.0 March 2016

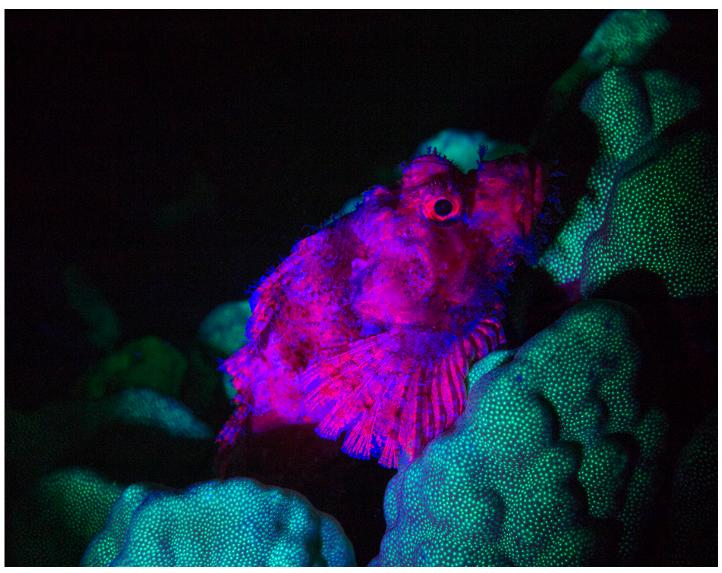


Photo: Scorpion Fish - Red Sea © 2016, Lynn Miner

See The Reef In A New Light @

	Student	
	Address	
	Address	
_		
Instructor		Data

FLUORESCENCE DIVER DISTINCTIVE SPECIALTY STUDENT MANUAL

No part of this manual may be reproduced, sold or distributed in any form without written permission from the author.

Lynn Miner © 2016 2716 Moser Rd.

Chewelah, WA 99109

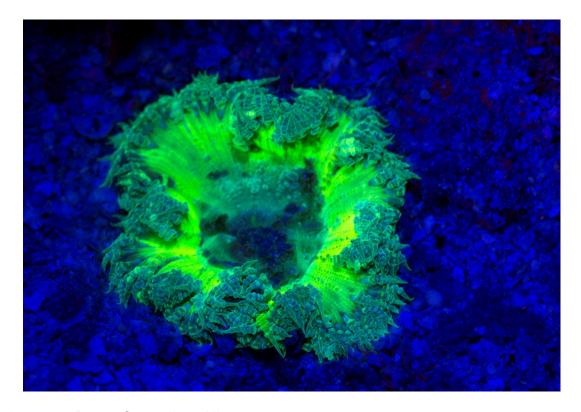


Photo: Anemone - Roatan © 2016, Lynn Miner

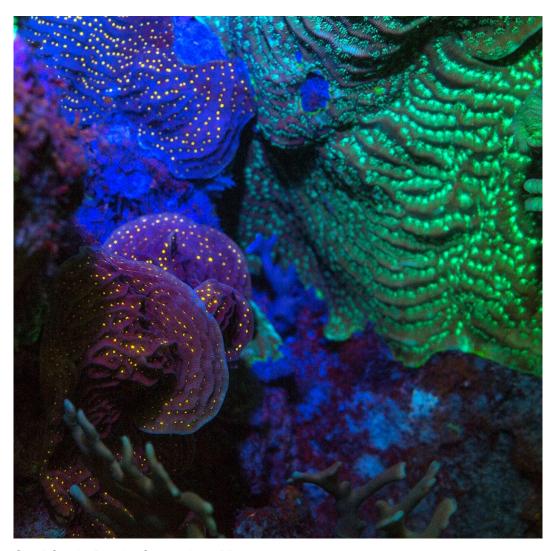


Photo: Scroll Coral - Bonaire © 2016, Lynn Miner

Acknowledgements

Photos, Illustrations, Design: Lynn Miner © 2016 www.FireDiveGear.com

Development, Consultation, Review

Lynn Miner Physicist

SSI Instructor Trainer
PADI Master Instructor
DAN Instructor Trainer
HSA Course Director

Philippe Yersin

PADI Course Director
HSA Course Director
DAN Instructor Trainer
SDI/TDI Instructor Trainer

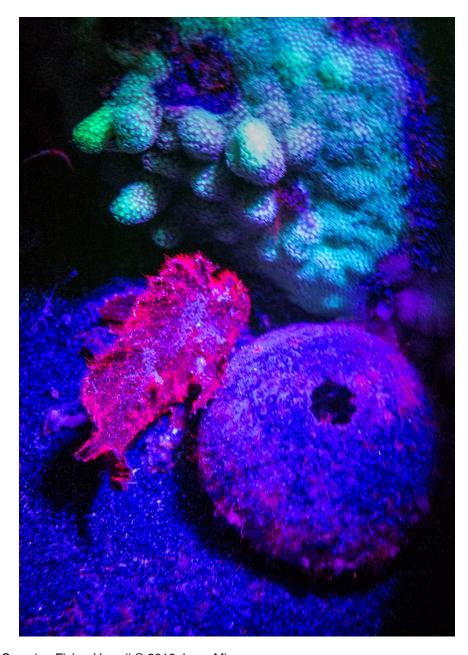


Photo: Leaf Scorpion Fish – Hawaii © 2016, Lynn Miner

Release of Liability/Assumption of Risk/Non-agency Acknowledgement Form

Please read carefully and fill in all blanks before signing.

Non-Agency Disclosure and Acknowledgment Agreement

I understand and agree that PADI Members ("Members"), including store/resort associated with the program in which I am participating, are licensed to use various PADI Trademarks and to conduct PADI training, but are not agents, employees of franchisees of PADI Americas, Inc, or its parent, subsidiary and affiliated corporations ("PADI"). I further understand that Member business activities are independent, and are neither owned nor operated by PADI, and that while PADI establishes the standards for PADI diver training programs, it is not responsible for, nor does it have the right to control, the operation of the Members' business activities and the day-to-day conduct of PADI programs and supervision of divers by the Members or their associated staff. I further understand and agree on behalf of myself, my heirs and my estate that in the event of an injury or death during this activity, neither I nor my estate shall seek to hold PADI liable for the actions, inactions or negligence of and/or the instructors and divemasters associated with the activity. Liability Release and Assumption of Risk Agreement
I, participant name, hereby affirm that I am aware that skin and scuba diving have inherent risks which may result in serious injury or death.
I understand that diving with compressed air involves certain inherent risks; including but not limited to decompression sickness, embolismor other hyperbaric/air expansion injury that require treatment in a recompression chamber. I further understand that the open water diving trips which are necessary for training and for certification may be conducted at a site that is remote, either by time or distance or both, from such a recompression chamber. I still choose to proceed with such instructional dives in spite of the possible absence of a recompression chamber in proximity to the dive site.
I understand and agree that neither my instructor(s), tructor(s), the facility through which I receive my instruction, nor PADI Americas, Inc., nor its affiliate and subsidiary corporations, nor any of their respective employees, officers, agents, contractors or assigns (herein after referred to as "Released Parties") may be held liable or responsible in anyway for any injury, death or other damages to me, my family, estate, heirs or assigns that may occur as a result of my participation in this diving program or as a result of the negligence of any party, including the Released Parties, whether passive or active.
In consideration of being allowed to participate in this course (and optional Adventure Dive), hereinafter referred to as "program," I hereby personally assume all risks of this program, whether foreseen or unforeseen, that may befall me while I am a participant in this program including, but not limited to, the academics, confined water and/or open water activities.
I further release, exempt and hold harmless said program and Released Parties from any claim or lawsuit by me, my family, estate, heirs or assigns, arising out of my enrollment and participation in this program including both claims arising during the program or after I receive my certification.
I also understand that skin diving and scuba diving are physically strenuous activities and that I will be exerting myself during this program, and that if I am injured as a result of heart attack, panic, hyperventilation, drowning or any other cause, that I expressly assume the risk of said injuries and that I will not hold the Released Parties responsible for the same.
I further state that I am of lawful age and legally competent to sign this liability release, or that I have acquired the written consent of my parent or guardian. I understand the terms herein are contractual and not a mere recital, and that I have signed this Agreement of my own free act and with the knowledge that I hereby agree to waive my legal rights. I further agree that if any provision of this Agreement is found to be unenforceable or invalid, that provision shall be severed from this Agreement. The remainder of this Agreement will then be construed as though the unenforceable provision had never been contained herein.
I understand and agree that I am not only giving up my right to sue the Released Parties but also any rights my heirs, assigns, or beneficiaries may have to sue the Released Parties resulting from my death. I further represent I have the authority to do so and that my heirs, assigns, or beneficiaries will be estopped from claiming otherwise because of my representations to the Released Parties.
I, participant name , BY THIS INSTRUMENT AGREE TO EXEMPT AND RELEASE MY INSTRUCTORS,
, AND PADI AMERICAS, INC. AND ALL RELATED ENTITIES AS DEFINED
ABOVE, FROM ALL LIABILITY OR RESPONSIBILITY WHATSOEVER FOR PERSONAL INJURY, PROPERTY DAMAGE OR WRONGFUL DEATH HOWEVER CAUSED INCLUDING BUT NOT LIMITED TO THE NEGLIGENCE OF THE RELEASED PARTIES, WHETHER PASSIVE OR ACTIVE.
I HAVE FULLY INFORMED MYSELF AND MY HEIRS OF THE CONTENTS OF THIS NON-AGENCY DISCLOSURE AND ACKNOWLDGEMENT AGREEMENT AND LIABILITY RELEASE AND ASSUMPTION OF RISK AGREEMENT BY READING BOTH BEFORE SIGNING BELOW ON BEHALF OF MYSELF AND MY HEIRS.
Participant Signature Date (Day/Month/Year)
Signature of Parent of Guardian (where applicable) Date (Day/Month/Year)

Contents

Liability Release and Assumption of Risk Agreement	
The AWARE Diver's Creed	8
INTRODUCTION	9
Course Philosophy and Goals	9
Certification	10
Course Prerequisites	10
PADI	11
Course Structure	11
Course Standards	12
Recommended Student Diver Prerequisites	12
KNOWLEDGE DEVELOPMENT	13
Learning Objectives	14
Course Goals	15
Course Overview	15
ONE	16
Why fluorescence diving?	16
What you might expect to see:	18
What is the physics of fluorescence?	19
THREE	31
What is the biology of fluorescence?	31
FOUR	41
Fluorescence Diving Equipment	41
Safety Note	43
FIVE	46

Dive Skills and Activities You Will Learn in This Course	46
SIX	5C
Fluorescence Dive Equipment Maintenance	5C
SEVEN	51
Knowledge Review	51
APPENDIX	53
General Open Water Considerations	53
Performance Requirements	53
The Responsible Diver Code	54
Dive Planning Checklist	60
Dive One	61
Dive Two	62
PADI Specialty Training Record: Fluorescence Diver	64

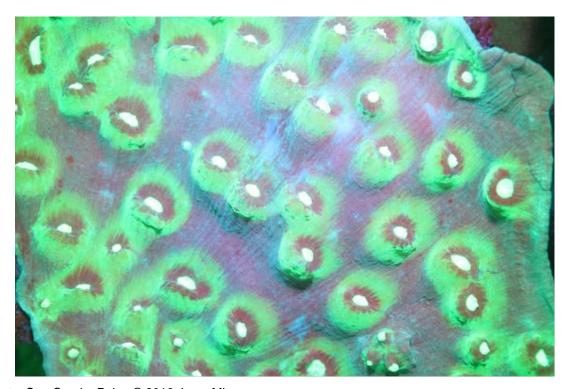


Photo: Star Coral – Palau © 2016, Lynn Miner



Photo: Rose Coral - Palau © 2016, Lynn Miner

The AWARE Diver's Creed

Take nothing but pictures

Keep only memories

Leave nothing but bubbles

Author Unknown

INTRODUCTION

Course Philosophy and Goals

This specialty is an introduction to Fluorescence (Fluo) Diving, to familiarize divers with the skills, knowledge, planning, organization, procedures, techniques, problems, hazards and enjoyment of Fluo diving. It's intended to serve as a safe and supervised introduction to Fluo diving. This training will emphasize safety and fun. Fluo diving is and has been a night activity where it usually reveals the most spectacular experience but it can also be done in the daytime under the right conditions. We will make clear when we are referring to night fluo diving or day fluo diving.

As an open water diver you have already experienced the excitement of the diving sport. Perhaps you have already had a night dive or two. Was it natural curiosity? Was it getting a new look at the familiar? Could it be the vibrant changing colors of aquatic life at night? Or, is it just because you can, that fluo diving has become so popular? Whatever the motivation to dive at night – you've found the environment is quite different than during the daytime.

This course is going to put an entirely new texture to your diving experience. You will see creatures in an entirely different way. You will even see creatures that without the techniques and equipment you will learn about in this course are virtually invisible under regular white light conditions be it daytime or nighttime.

The purpose of the PADI Fluorescence Diver Distinctive Specialty Course is to provide a safe introduction under professional supervision into diving with blue light torches (flashlights) and mask barrier filters to experience the effect of fluorescence in marine life.



Photo: Starlet Coral - Bonaire © 2016, Lynn Miner

We will emphasize correct procedures of buoyancy control, navigation and communication skills and usage of underwater lights (with blue light source / LED). We will re-emphasize use of the Buddy-System as well as procedures to follow in case of losing orientation and emergency procedures.

You'll gain knowledge of marine species excited by blue light and the causes / implications of this excitation, the relationship between recreational diving, reef health and protection and introduce you – the student - to the PADI Project AWARE program.

Certification

Upon completion of the program you will be certified with a PADI Fluorescence Diver Distinctive Specialty. Additionally, this course can count toward the prestigious Master Diver Certification.

Course Prerequisites

By the start of the course, you must be:

- 1. Certified as a PADI Open Water Diver or have a qualifying certification from another training organization.
- 2. Have a minimum of 2 logged night dives (recommended).
- 3. Be at least 12 years old.



Photo: Anemone - Palau © 2016, Lynn Miner