DIVE AGAINST DEBRIS®
DIVER

INSTRUCTOR GUIDE

PADI AWARE FOUNDATION™

Product No. 70280 (Rev. 05/22) Version 2.0

Acknowledgements

The PADI AWARE Foundation acknowledges the entire PADI organization and Seiko for their dedication and support for the Dive Against Debris® program. Thanks to this program, millions of marine debris have been removed from the ocean, and science has advanced its understanding of where and how marine debris accumulate. This program's success highlights the passion PADI Professionals and divers have to get involved, fins on and off, to protect and restore the underwater world through action, advocacy and citizen science. Because only divers can efficiently remove and document seafloor debris, Dive Against Debris is a growing part of the marine debris solution by directly attacking the problem and helping local waste management monitor the effectiveness. With your help and the help of the divers you train, Dive Against Debris will continue to expand its role and truly make a global difference.

PADI AWARE FOUNDATION™

AWARE – Dive Against Debris® Diver Specialty Course Instructor Guide

Published by PADI
30151 Tomas
Rancho Santa Margarita, CA 92688-2125 USA

Product No. 70280 (Rev. 05/22) Version 2.0

TABLE OF CONTENTS

APPENDIX

INTRODUCTION

This section includes suggestions on how to use this guide, an overview of course philosophy and goals, a flow chart to show you how course components and materials work together for success, and ways you can organize and integrate student diver learning.

How to Use this Guide

This guide speaks to you, the PADI Dive Against Debris Instructor. The guide contains three sections: the first contains standards specific to this course; the second contains knowledge development presentations; and the third covers the open water dive. All required standards, learning objectives, activities, and performance requirements specific to the PADI Dive Against Debris Diver course appear in **boldface. The boldface assists you in easily identifying those requirements that you must adhere to when you conduct the course.** Items not in boldface print are recommendations for your information and consideration. General course standards applicable to *all* PADI/AWARE courses are located in the General Standards and Procedures section of your PADI *Instructor Manual.*

Course Philosophy and Goals

Until Dive Against Debris, researchers and managers knew little about the relationship between shoreline and seafloor debris, but this program has changed this understanding. By completing Dive Against Debris surveys, you and your students contribute to critical scientific research that advances the PADI Blueprint for Ocean Action by directly addressing the marine debris problem. The PADI Blueprint for Ocean Action is a ten-year conservation initiative to reach critical goals aligned with the SDG 14 United Nations goals. Specifically, for marine debris, the target is a 50 percent reduction in specified countries.

The course is intended to equip students with the knowledge and skills to complete Dive Against Debris surveys, including the removal of marine debris underwater and reporting the data to the PADI AWARE Foundation for compilation to benefit researchers and scientists. Dive Against Debris surveys and the data submitted are essential to help drive change and informed policy.

Completing regular Dive Against Debris surveys at the same location over time is the best way to build a comprehensive database and identify hotspots where waste management needs to be prioritized. Use this course to build a team of surveyors who regularly complete Dive Against Debris surveys.

Student divers will apply the knowledge they gain by interacting with *Dive Against Debris eLearning* or by attending a course knowledge development session with you. Knowledge development may also be delivered via instructor-led two-way video conferencing.

There is one required training dive followed by a practical application session that covers accurately recording and reporting data. The aim is to create divers who can independently complete the recording and reporting aspects of a survey to increase diver-led ongoing Dive Against Debris survey projects. Conduct additional training dives as required for students to achieve mastery of inwater skills.

Note to Instructor

Dive Against Debris materials refer to "marine debris" and "ocean," however debris in lakes, rivers and streams also poses a serious problem, and Dive Against Debris surveys are both desired and important when conducted in freshwater environments.

Course Flow Options

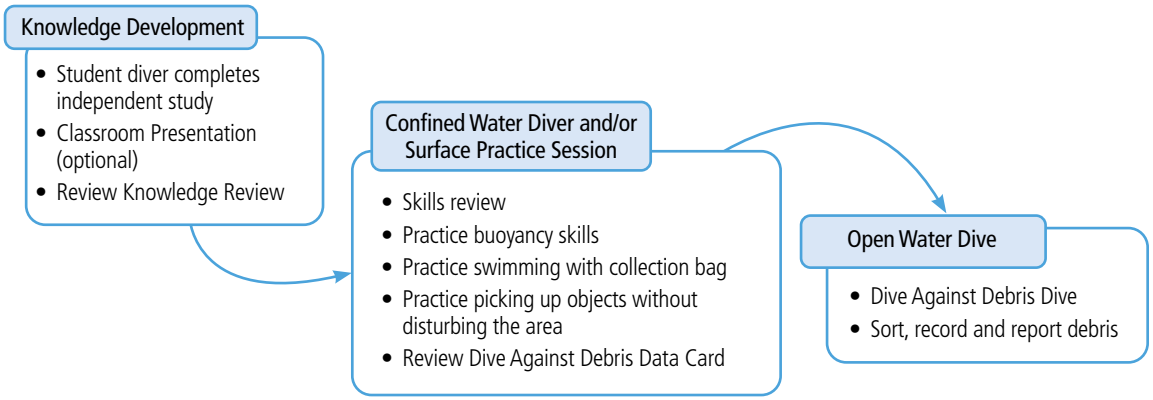
Course Flow Options provides a look at how knowledge development and confined water and/or surface practice sessions support the open water dive. When possible, it's preferable to have student divers complete *Dive Against Debris eLearning,* including the Knowledge Review, before participating in the open water dive. The Knowledge Review is the same as the one that appears in the Appendix of this guide.

A confined water dive is optional, but you may want to have student divers practice buoyancy, collection bag handling and other aspects of safely removing debris. The session pairs well with the PADI Peak Performance Buoyancy specialty course.

You may rearrange skill sequences within the dive and may add more dives as necessary to meet student divers' needs. Organize your course to incorporate environment friendly techniques throughout each dive, student diver learning style, logistical needs, and your sequencing preferences.

Note to Instructor

Be sure to use the PADI AWARE App or online data submission form. Emphasize to students that regardless of group size, *only* a single survey should be submitted.



SECTION ONE

Course Standards

This section includes the course standards, recommendations and suggestions for conducting the Dive Against Debris Diver course.

Standards at a Glance

Topic	Course Standard	
Minimum Instructor Rating	**PADI Dive Against Debris Instructor**	
Prerequisites **Minimum Age**	**PADI (Junior) Open Water Diver, PADI Freediver, or PADI Advanced Mermaid** **10 years**	
Ratios	**Open Water: 8:1**	
Site, Depths and Hours	**Depth:** 18 metres/ 60 feet recommended **Open Water Dives: One dive** Hours Recommended: 8	
Materials	**Instructor:** • **Dive Against Debris Diver Specialty Course Instructor Guide** • Dive Against Debris Lesson Guides • ***Dive Against Debris eLearning*** • **Dive Against Debris Survey Guide** • **Dive Against Debris Data Card** • **PADI AWARE App**	**Student Diver:** • *Dive Against Debris eLearning* • Dive Against Debris Survey Guide • Dive Against Debris Data Card • PADI AWARE App

Instructor Prerequisites

To qualify to teach the PADI Dive Against Debris Diver course, an individual must be a Teaching status PADI Open Water Scuba Instructor, PADI Freediver Instructor or higher. PADI Instructors may apply for the PADI Dive Against Debris Instructor Specialty rating after completing a Specialty Instructor Training course with a PADI Course Director, or by providing proof of experience and applying directly. For further detail, reference the Professional Membership section of your PADI *Instructor Manual*.

Note to Instructor

To conduct this as a scuba specialty, you must hold the Specialty Instructor rating as a scuba instructor and all student divers must be scuba certified. To conduct this as a freediving specialty, you must hold the Specialty Instructor rating as a freediver instructor and all student divers must be freediver or mermaid certified. Dive Against Debris Specialty Instructors who hold the Specialty Instructor rating as a scuba instructor, but who are also PADI Freediver Instructors, may conduct this specialty for freedivers and mermaids.

Student Diver Prerequisites

To qualify for the PADI Dive Against Debris course, an individual must be:

1. **Certified as a PADI (Junior) Open Water Diver, PADI Freediver or PADI Advanced Mermaid, or have a qualifying certification from another training organization**
2. **At least 10 years old.**

Supervision and Ratios

Open Water Dive

A Teaching status PADI Dive Against Debris Specialty Instructor must be present and in control of all activities. If a dive is conducted deeper than 18 metres/60 feet, the Specialty Instructor must directly supervise. Otherwise, the Specialty Instructor may indirectly supervise all dives. **The Specialty Instructor must ensure that all performance requirements are met.**

The ratio for open water dives is 8 student divers per instructor (8:1), with 2 additional student divers allowed per certified assistant to a maximum of 10 students.

Note to Instructor

For open water dives that include 10- to 11-year-olds, the maximum ratio is four student divers per instructor (4:1). No more than two of the four divers may be 10 or 11. You may not increase this ratio with the use of certified assistants.

Site, Depths, and Hours

Site

Choose sites with conditions and environments suitable for completing requirements. Consider choosing sites that you can return to regularly because your surveys will have

more value if you collect data from the same site over time. Visit sites known to have marine debris. Practice skills in a confined water session first to better prepare divers to apply skills in open water later.

Depths

18 metres/60 feet recommended

30 metres/100 feet limit maximum

Hours

The Dive Against Debris Specialty course includes one open water dive session followed by recording and reporting of data, which may be conducted in one day. The recommended minimum number of hours is 8.

Materials and Equipment

Instructor

- **Dive Against Debris Diver Specialty Course Instructor Guide**
- ***Dive Against Debris eLearning***
- **Dive Against Debris Survey Guide**
- **Dive Against Debris Data Card**
- **PADI AWARE App**
- Dive Against Debris Lesson Guides
- **Equipment to collect, sort, record, dispose of and report debris, which may include:**
  - Mesh/collection bags
  - Scale
  - Tarp
  - Pencils
  - Camera
  - Proper trash receptacles

Student Diver

- **Standard equipment as listed in the PADI *Instructor Manual,* PADI *Freediver Instructor Guide or* PADI *Mermaid Instructor Guide***
- *Dive Against Debris eLearning*

- Dive Against Debris Survey Guide
- Dive Against Debris Data Card
- PADI AWARE App
- **Equipment to perform survey dive, which may include:**
  - Mesh/collection bag
  - Gloves
  - Dive knife/tool/shears

Assessment Standards

For eLearners, check the diver's eRecord to verify successful completion of *Dive Against Debris eLearning,* including Knowledge Review.

To assess knowledge of divers attending instructor-led presentation, have divers complete the Dive Against Debris Knowledge Review (located in the Appendix of this guide*)* and review missed questions until they demonstrate adequate knowledge.

During open water dive, divers must perform all skills – procedures and motor skills – in a reasonably comfortable, fluid, repeatable manner as would be expected of a diver at this certification level.

Certification Requirements and Procedures

To qualify for certification, student divers must complete all performance requirements for Dive Against Debris Dive. The instructor certifying the student diver must ensure that all certification requirements have been met.

Encourage divers to donate to ocean protection by choosing the PADI AWARE edition of their PADI certification card. Student divers are issued a PADI certification for Dive Against Debris Specialty upon successful completion of the course.

Linking to Other Courses

Divers who successfully complete the Dive Against Debris Dive may receive credit for an Adventure Dive toward the PADI Advanced Open Water Diver or Adventure Diver certifications. The Dive Against Debris Adventure Dive conducted during the PADI Advanced Open Water Diver course may count as the required dive toward this specialty at your discretion.

Divers may credit the specialty certification toward the PADI Master Scuba Diver rating.

SECTION TWO

Knowledge Development

Conduct

Student divers complete independent study by interacting with *Dive Against Debris eLearning,* or by attending a course knowledge development session with you.

For instructor-led presentations, such as when *Dive Against Debris eLearning* does not exist in a language student divers understand, use the following teaching outline, along with the Dive Against Debris Lesson Guides, to cover the knowledge development learning objectives and course content. The Dive Against Debris Diver Knowledge Review (located in this guide's Appendix) must be completed and reviewed before the diver is certified.

The following teaching outline may be also be used to prescriptively address student diver misconceptions or to provide clarification on certain points of interest for students who study independently.

I. Introduction

Note to Instructor

Have staff introduce themselves and provide a bit of background. Have student divers introduce themselves and explain why they are interested in conducting Dive Against Debris surveys.

A. Course Goals

The goals of this program are to:

1. Help you understand the marine debris problem.
2. Equip you with the skills and knowledge to make a meaningful difference in solving the marine debris problem.
3. Teach you how to complete a Dive Against Debris dive and survey, from planning the dive, to collecting debris, to organizing and reporting what you found.
4. Encourage you to monitor local dive sites with Dive Against Debris as a means of supporting essential scientific research that helps prevent rubbish entering the ocean.
5. Show how you can be part of the PADI community's commitment to ridding the oceans of marine debris

B. Course Overview and Schedule

Note to Instructor

Discuss the course sequence, assignments, meeting times, places and other information about all class, practical application sessions and training dive. Build excitement about the course, particularly the training sessions and dives.

C. Costs, Equipment Requirements and Paperwork

Note to Instructor

Explain all costs, equipment requirements and logistical details as necessary. Reconfirm prerequisites if appropriate and ensure all paperwork is completed – see Section One, and Paperwork and Administrative Procedures, General Standards, PADI *Instructor Manual*. Collect outstanding fees.

D. Performance Requirements and Certification

1. To qualify for any PADI certification, you must meet specific performance requirements.
   a. You pay for the course, but must earn the certification.
   b. Performance-based learning is objective – a student either meets a requirement or not; your instructor is not arbitrary in assessing performance.
2. Although you must meet all performance requirements, having difficulty does not mean you will be unsuccessful.
   a. You take a course to learn – making mistakes and needing time to master knowledge and skills is part of learning.
   b. You may pick up some things quickly and others slowly; what matters is that you demonstrate mastery – not how long it takes.
   c. You move on at the pace you learn – you may need extra dives or other practice.
3. Upon successfully completing this course, you'll receive the Dive Against Debris Diver specialty certification.
4. Certification means that you've completed all performance requirements and are trained to:
   a. Complete Dive Against Debris surveys: choose survey locations, plan, organize, make, and log open water Dive Against Debris survey dives, and record and report data. Dives should be made in conditions generally comparable to, or better than, those of your training.
   b. Apply for the Master Scuba Diver rating if you are a PADI Advanced Open Water Diver and a PADI Rescue Diver (or qualifying certification from another training organization) with certification in four other PADI Specialty ratings, and you have 50-logged dives.

E. PADI AWARE Foundation and Dive Against Debris

1. The PADI AWARE Foundation, a 501c3 non-profit organization, involves the world's largest dive community in projects, activities and efforts that protect and conserve underwater environments.
   a. PADI and PADI AWARE's mission is to *drive local action for global ocean conservation.*
2. The Dive Against Debris program was started in 2011. Since then millions of pieces of marine debris have been removed and reported by divers and ocean enthusiasts just like you.
   a. The data collected captures essential information for scientists to estimate debris that has sunk to the seafloor.
   b. It also supports work to find solutions to save vulnerable marine life and ensure the future of a clean and healthy ocean.
   c. It has advanced groundbreaking marine research and helped researchers produce two scientific publications mapping the global state of marine debris.
   d. The program continues to provide country-specific data to help advance local waste management policies, stopping marine debris at its source.

II. The Marine Debris Problem

Learning Objectives

By the end of this section, you should be able to answer the following questions:

1. **What is marine debris?**
2. **How does debris get into the ocean?**
3. **How do chemical and nutrient pollutants damage the ocean?**
4. **How do debris damage marine wildlife, habitats and coastal environments?**

1. What is marine debris?

A. Marine debris is human trash in the ocean.
   1. It is defined as any persistent, manufactured or processed human-made solid material discarded, disposed of or abandoned that is found in the marine and coastal environment.
      a. This particularly includes plastic, which as just discussed don't biodegrade but break down and are mistaken for food.
      b. It is estimated that as much as 250 million metric tons will be in the oceans by 2025.
      c. It's estimated that 80 percent of the physical debris found in the ocean comes from land-based sources.

2. Marine debris includes everyday litter like plastic bags, food wrappers, drink bottles and cigarette butts, to car batteries, kitchen appliances, fishing nets and industrial waste. It consists of items that have been made or used by people and deliberately or accidentally discarded that make their way to the ocean.

2. How does debris get into the ocean?

B. Marine debris enters the ocean directly, but studies find that most of it comes from land-based sources through accidents, careless disposal or intentional dumping.
   1. It is now thought that 80 percent of the plastic found in the ocean gets there via about 1000 rivers globally.
   2. Littering is a major source. Trash discarded thousands of kilometres/miles inland reach the ocean when storms wash it into waterways that eventually flow to the sea.
   3. Poorly managed dumps, building projects or industrial disposal centers located near the sea or waterways account for a significant portion of marine debris (as well as sewage and other pollution).
   4. Some debris comes from ocean-based sources, through commercial shipping, and fishing practices, leading to ghost fishing gear and abandoned nets.
   5. Much debris is thought to be intentionally dumped from any of the approximately 90,000 vessels that are at sea at any given time.
   6. It's estimated as much as 70 percent of the trash entering our ocean sinks to the seafloor.

Note to Instructor
If using the Dive Against Debris Lesson Guides, show the graphic "How long does it takes for the typical amount of marine debris to enter the ocean?" About 15 seconds.

3. How do chemical and nutrient pollutants damage the ocean?

C. Chemical marine pollution, or nutrient pollution, is concerning for health, environmental, recreational, and economic reasons.
   1. More than 22 billion tons of chemical and nutrient pollution enter the ocean annually.
   2. This includes, among others, pesticides, herbicides, fertilizers, detergents, oil, industrial chemicals, toxic metals and sewage. At one time, it was thought that diluted and given time, the seas' natural processes break down and eliminate them, but this has proven untrue.
      a. This type of pollution happens when human activities, primarily the use of fertilizer on farms, leads to runoff of chemicals into waterways that eventually flow into the ocean. This can also occur via rivers as well.

   b. About 44 percent of chemical pollutants come in as agricultural and industrial runoff. While about 33 percent of pollutants transfer from the air to the ocean, the rest comes from dumping, dredging and offshore mineral extraction.
3. The increased accumulation of chemicals, like nitrogen and phosphorus, in the coastal ocean, as well as fresh water sources, can increase the potential of algal blooms.
   a. This phenomena can be toxic to wildlife, and equally harmful to humans.
   b. Some blooms render affected seafood organisms (such as oysters) unsafe for consumption, including by people.
   c. Other blooms not only kill fish but also release neurotoxin into the air, which causes breathing difficulties in marine mammals, turtles, birds and humans.
4. The negative effects on health and the environment caused by algal blooms, and chemical marine pollution can hurt local fishing and tourism industries, and make water sources unsafe for recreational use.

4. How do debris damage marine wildlife, habitats and coastal environments?

D. Ugly Journey of Plastic
   1. Many waste products, including plastics, do not biodegrade (break down into basic compounds through natural processes) – instead they break down into smaller pieces that become a danger to marine life.
      a. It's estimated that 94 percent sinks to the seafloor, and the remaining 6 percent covers a substantial amount of the ocean's surface.
   2. Plastics can also break down due to a process called *photodegradation*.
      a. This process is responsible for how plastic can become brittle and fragile.
      b. Tiny pieces of plastic make their way into the ocean and eventually these pieces become smaller and smaller.
   3. Plastics continue to break down into *microplastics*, which are fragments that are microscopic to about 5 mm in size. These enter and pass through the food web (including to humans) and become embedded in tissues with known toxic effects.
      a. This is called *bioaccumulation* a process by which toxins enter the food web by building up in individual organisms. The health effects are only now being uncovered, but in theory may include cancer, lung inflammation, hormonal effects and other damage.

E. Accidental ingestion of marine debris is common in sea birds, sea turtles and other marine animals.
   1. Researchers estimate that annually tens of thousands of marine animals and seabirds die due to marine debris.

2. All sea turtle species, more than half of marine mammal species and about 2/3 of sea bird species are documented as ingesting or entangling in marine debris.
3. Swallowed debris kills by choking the animal, causing digestive obstruction and/or starvation because the animal feels full and stops eating.
4. It is thought that almost all of some species have plastic debris in them. A study of northern fulmar seabirds found dead on beaches found that 95 percent had plastic in their stomachs, swallowing an average of 35 pieces.

F. Biomagnification (similar to bioaccumulation)
   1. Biomagnification occurs when synthetic chemicals, heavy metals and other toxins that don't easily leave tissues are consumed or absorbed by organisms low on the food web.
   2. These toxins pass on and concentrate as species higher on the web eat them, with the concentration increasing with each level higher in the web. This is a direct threat to humans because food fish and other commercial species high on the web pass these pollutants on to us.

G. Marine debris entangles fins, wings and throats, causing strangulation, suffocation and drowning.
   1. One study estimated that 50,000 to 90,000 northern fur seals die this way annually, though the researchers caution they may have underestimated.
   2. Large debris can abrade and kill coral and other species.
   3. Plastic sheets and bags can smother coral, seagrass beds and mangroves.
   4. Loose nets and fishing line can wrap around and cut into corals.
   5. Lost fishing gear can continue to catch organisms, which die and act as bait that attracts and kills more organisms. So-called "ghost gear" can act as a perpetual killing machine for years.

H. Marine debris also affects people directly.
   1. Beaches polluted with debris are not only ugly, but may be unhealthy or hazardous due to some debris types.
      a. This can also affect local economies by reducing tourism.
      b. Debris removal can have a cost that gets passed on to tourists and locals – even though often the debris do not originate locally.
   2. Marine debris is a navigation hazard that causes millions of dollars in vessel and fishing industry damage annually.

I. Marine debris affect underwater beauty.
   1. With the increase of economic and social importance of marine tourism, and particularly recreational diving tourism, a healthy and beautiful underwater world are vital to both tourism and economic incentives to protect the underwater world.

III. Changes and Solutions

Learning Objectives

By the end of this section, you should be able to answer the following questions:

1. **What changes are likely needed to stop the marine debris problem?**
2. **How are divers and Dive Against Debris dives part of making these changes?**

1. What changes are likely needed to stop the marine debris problem?

A. Although marine debris is a big problem, there are changes that can solve it.
   1. Individuals, businesses and governments need to change their behaviors and policies regarding waste disposal. They need to address the fact that waste management far from the ocean affects the ocean.
   2. Physical changes to waste processing locations and sewage systems are important to block debris from reaching waterways and the ocean.
   3. Regulations and incentives that promote recycling and proper disposal can help redirect individual actions and attitudes related to waste disposal, encouraging reuse, recycling, upcycling and similar alternatives to existing disposal methods.
   4. Solving the debris problem relies on:
      a. Removing what is already in the environment
      b. Creating environmentally friendly alternative materials
      c. Reducing unnecessary uses to zero
      d. Proper disposal and recycling of what is left
   5. Make a conscious effort to buy green, buy local and where possible, buy less.
   6. Consider implementing the Five Rs in your day-to-day life: refuse, reduce, reuse, recycle and rot (composting).

2. How are divers and Dive Against Debris dives part of making these changes?

B. Divers and Dive Against Debris are an important part of these changes.
   1. Removing debris helps reduce the threat to marine organisms. Just as every bit going into the sea hurts, every piece you take out helps.
   2. With Dive Against Debris you can:
      a. Make every dive count by removing trash. The dive does not have to be solely a survey dive – you can remove and report debris you find on any dive.
      b. Support the largest underwater citizen science movement on the planet for marine debris.
      c. Advance critical marine research to improve waste management policies.
      d. Generate important ongoing information via regular survey dives at the same location.

e. Because most debris is thought to sink, your actions are one of the primary ways to remove debris from the seafloor.

3. Dive Against Debris data is a unique researcher information source that is already helping guide new policies. It expands understanding of the types of debris, where they come from, how much there is and how it affects the underwater environment.
4. As a Dive Against Debris certified diver, you're part of the Ocean Torchbearer community (more about Torchbearers later.)
   a. Ocean Torchbearers are a global community of people in all countries and cultures speaking up from the preservation and restoration of the oceans.
   b. Torchbearers support PADI AWARE initiatives and programs. As a diver, sharing what you see and know about the underwater world can help educate and influence others. You reach your social network uniquely as a credible source and personal witness about what is wonderful and what is wrong in the ocean.

IV. Planning and Conducting Dive Against Debris Dives

Learning Objectives

By the end of this section, you should be able to answer the following questions:

1. **What are the important attributes of a Dive Against Debris dive?**
2. **What considerations do you have while conducting a Dive Against Debris dive?**
3. **What hazards specific to cleanups are considerations while conducting a Dive Against Debris dive?**
4. **What debris should not be removed from underwater?**

1. What are the important attributes of a Dive Against Debris dive?

A. Planning and Conducting Dive Against Debris Dives
   1. Dive Against Debris dives are like any other dives in that you plan them and follow your plan.
      a. The dive may be planned as one dedicated to debris removal, or for another purpose with the plan including removing debris in the process.
      b. We'll look primarily at dedicated Dive Against Debris dives, but much of what you learn applies to any dive during which you remove debris.
   2. Plan the risk management aspects of the dive first, as you would any dive.
      a. Removing debris is a secondary objective – the primary objective is for everyone to always return safely.
      b. Staying well within depth, time, body warmth and other limits is always the priority.

3. When choosing a dive site, keep these points in mind:
    a. You can collect debris from any site, but the most useful data come from going to the same site regularly over time. This helps identify trends (e.g. weather patterns, tourist seasons, etc.), which can make policy revisions more precise.
    b. There is no minimum or maximum frequency, but monthly or bimonthly is usually optimum. During the same seasons annually is useful, too.
    c. Choose a site you can return to regularly and that is well within your and your buddies' skill and experience levels.
    d. The maximum reportable size is 13,600 m^2/146,388 ft^2 – about the area of two football fields. If multiple teams clean up a larger area, the teams should divide into two or more areas and submit individual reports for each area.(more about reporting in the next section).
4. Dive Against Debris dives in freshwater lakes and rivers are important, too. Use the same considerations for planning a dive in freshwater as you would in saltwater.
5. If needed, be sure to get permission for the dive. This may be necessary from landowners, harbor masters and similar authorities.
    a. With the intent of protecting habitats or historical resources, even marine protected areas may have restrictions on removing things without permission.
6. Know where your dive site is. Ideally, get the GPS coordinates (particularly important for sites well away from shore) with your mobile device or a GPS unit, though you may be able to use Apple Maps, Google Maps or similar software to locate it. This is important for research purposes.
7. You can also participate in an already existing Dive Against Debris project. Contact your local PADI Dive Center or Resort, and/or go to www.padiaware.org/DiveAgainstDebris to find about any in your area, or where you'll be traveling.

2. What considerations do you have while conducting a Dive Against Debris dive?

B. Considerations when making Dive Against Debris dives include:
1. As mentioned, safe diving practices come first. Plan the dive as you would for any other at the site.
2. Follow safe diving practices conservatively and stay within your and your buddies' experience and training limits. Stay well within time and depth limits, review communications and buddy separation procedures and so on as you've learned a certified diver.
3. Remember that the primary objective of every dive is to come back from it safely. Removing debris is never more important than this.

4. Keep in mind that as you go deeper, breathing resistance increases and it is easier to overexert. Be conservative. Leave large amounts or large objects in very deep water for qualified commercial divers.
5. Be properly weighted and streamlined with secure gear. You'll be picking up debris near the bottom, so paying attention to these is important to avoid stirring up silt or damaging aquatic life.
6. Use dive flags/markers as appropriate and required to reduce boat hazard, and to mark the cleanup area.
7. With a large number of divers participating in a survey, it may be appropriate to have standby divers ready to assist should the need arise.

C. You will need or want some specialized equipment.
   1. Mesh bag – used to carry debris while easily draining water.
   2. Dive tool/knife/dive shears (scissors) – used to cut entangled debris for removal; may also be useful for gently probing potentially hazardous debris hands free – e.g. a partially buried glass bottle
   3. Heavy-duty gloves for protection – kitchen or garden gloves can work if dive gloves are not available; check if gloves are permitted. Even if they are not usually, exceptions may be made for cleanups.
   4. Underwater camera – not required but helpful if available.
   5. Sharps container – for items that can cut or puncture like broken glass, sharp edged metal, medical needles, etc.
   6. Slate and pencil – besides usual use, for noting anything specific that you will want to report later
   7. GPS/mobile device – as previously mentioned, use this to get the coordinates for the dive site.

D. Collecting tips
   1. Buddy teams (2-3 divers) work together during the dive.
   2. Place debris in a mesh bag. Once there is debris in the bag, so it can be released easily in an emergency, it should be carried by hand and not attached to the diver.
   3. When nearing the bottom to remove debris, keep your fins high and control your buoyancy. It is usually best to rise clear of the bottom before bagging it to avoid accidental contact while doing so.
   4. Do not overfill the bag. You should not need to use your BCD to offset its weight. Fortunately, much debris is relatively lightweight in water. But, if necessary end the dive when the bag reaches this limit.
   5. When conducting survey dives as a freediver or mermaid diver, it is recommended that you tow a float suitable for placing debris in.
   6. Take photos of debris damaging the environment, entangling organisms, that you can't identify or that you don't remove (more on this shortly).

7. There is no set area for removing debris, but try to cover the same area each time. You do not need to swim in a formal search pattern (though you might, if you are looking for a specific item), but try to generally follow the same course each time.

3. What hazards specific to cleanups are considerations while conducting a Dive Against Debris dive?

E. Some types of debris should not be removed. These include:
   1. Anything that may be hazardous when doing so.
   2. Sharp items that you can't safely handle. Handle sharp objects carefully and use a strong container with a secure lid. Be very careful removing anything sharp, particularly medical items like syringes, needles, scalpels, etc., as well as rusty metal. If you can't remove such an item safely, leave it.
   3. Weapons, ammunition or explosives. Note the location and inform authorities about these.
   4. Anything that may contain or leak toxic chemicals. Note the location and inform authorities about these.
   5. Debris that is too heavy to swim with. Within limits, some of these may be removed by divers qualified to use lift bags. Otherwise, note the location and inform authorities. Freedivers and mermaid divers should only remove items that they can easily swim to the surface.
   6. Rope, fishing line and nets. Entanglement can be extremely hazardous, so remove these only if you are sure can do so without undue risk. Large nets in particular can be hazardous, so stay well away from these.

4. What debris should not be removed from underwater?

F. Harmless debris that has become part of the environment.
   1. Steel, glass and aluminum do little harm to the environment. Leave these if removing them would harm the environment.
      a. Think about removing harmful debris (e.g. plastics, fish traps, packaging material) even if it might do short term damage. Use your best judgment to determine if a short-term disruption is more than offset by the long-term removal.
   2. You should always double check the debris because you never know whose home you may be trying to remove. Marine animals can quickly make homes out of marine debris. Don't rush while collecting items.
   3. Partially overgrown line and light nets. Removing these (after assessing that you can do so safely) can be difficult especially if wrapped around growing corals. Using scissors (disturbs organisms less than sawing with a knife) and being cautious, remove small accessible parts in sections and leave the overgrown parts in place.

G. Commercial fishing gear.
   1. Local regulations may prohibit interfering with commercial traps and other gear.
   2. Some regulations may allow removing abandoned/lost commercial gear but require reporting it.
   3. Be aware of local regulations that may apply.

H. Possible cultural artifacts.
   1. If you come across anything that may have historical or archaeological significance, do not disturb it.
   2. Note the location and report it to authorities.

I. Anything that may be related to a crime or a severe accident – note the location and report it to authorities.

V. Recording and Reporting Debris

Learning Objectives

By the end of this section, you should be able to answer the following questions:

1. **What is a marine debris survey?**
2. **Where must recorded and reported debris be found?**
3. **What equipment do you need for recording and reporting findings for a Dive Against Debris dive?**
4. **What are the five steps for recording and reporting findings for a Dive Against Debris dive?**
5. **What are two ways you can submit Dive Against Debris data and how do you accomplish each?**
6. **What types of photos help explain your data?**

1. What is a marine debris survey?

A. Understanding the survey
   1. Marine debris surveys provide data that document the types and amount of marine debris items found on the seafloor.
   2. Dive Against Debris surveys not only help keep your favorite dive sites and local marine environment free of debris, the data submitted also contributes to the largest global underwater database.
   3. Debris pieces are weighed to help quantify the size and volume of items collected. For example, visualize a kilogram/pound of metal versus a kilogram/pound of plastic water bottles. The metal may be a small handful while the plastic would likely be a large pile.
   4. Removing debris has a short-term impact to the environment, but reporting what you found has a long-term benefit. Your data tell the true story.

2. Where must recorded and reported debris be found?

B. From the seafloor

1. It's important that your reported debris come from the sea floor. This is crucial for later data analysis.
2. Of course you should remove debris floating on the surface or in the water column, but do not include it with the underwater debris in weighing, sorting or reporting.
3. If diving as a freediver or mermaid, limit your dives to a depth well within your experience and abilities so you can look for and remove debris from the bottom. Make sure the debris is not too heavy to comfortably bring up (0.5-1 kg/1-2 lbs or less).

3. What equipment do you need for recording and reporting findings for a Dive Against Debris dive?

C. Equipment

1. Before starting, besides the equipment previously mentioned, you'll want or need:
   a. Dive Against Debris Data Card – You'll find this under Resources for this eLearning program and also on the PADI AWARE website, under Resources as part of the Dive Against Debris Survey Toolkit.
   b. Dive Against Debris Survey Guide – Use this guide to help review the survey process. You'll find this under Resources for this eLearning program and also on the PADI AWARE website, under Resources as part of the Dive Against Debris Survey Toolkit.
   c. Scale – a fishing scale or a kitchen scale will work. You may estimate the weight, but a scale is more accurate.
   d. Tarpaulin – used while sorting what you collected, for easy clean up afterward. It also reduces accidentally losing what you found back into the water.
   e. Appropriate waste containers – for properly disposal of debris after recording and reporting it.
   f. Mobile device – Using the PADI AWARE App is the easiest way to submit your report. If it's not available in a language you understand, you can access the internet and report using the online data submission form.

4. What are the five steps for recording and reporting findings for a Dive Against Debris dive?

D. There are five steps to recording and reporting:

1. Weigh
2. Sort

3. Record
4. Dispose
5. Report

E. Step One: Weigh your debris
   1. While still bagged, weigh what you removed.
      a. If your mesh bag weight makes up a significant portion of the weight (may be the case with light debris). Subtract its weight to get the true weight.
   2. Record the weight.
      a. You may use kilograms or pounds.
      b. You may measure the weight precisely with a scale, or estimate it.
   3. Remember that you can remove debris floating on the surface or in the water column from the sea of course, but do not include it with the underwater debris in weighing, sorting or reporting.

F. Step Two: Sort
   1. Empty bags on your tarp and sort the debris by material category (see the Dive Against Debris Data Card).
      a. Plastic
      b. Glass and ceramic
      c. Metal
      d. Rubber
      e. Wood
      f. Cloth/fabric
      g. Paper/cardboard
      h. Mixed materials
         i. brick, cinderblocks, cement pieces
         ii. clothing not made of cloth
         iii. computer equipment and electronic devices (not batteries)
         iv. fireworks
         v. shoes (flipflops, sneakers, leather)
         vi. tampons/feminine hygiene products
         vii. non plastic/non electronic toys
         viii. Other – any item not found above (for example, anchors).
   2. Sort out of the wind to avoid anything from blowing into the water.
   3. Important considerations for sorting debris.
      a. Assign roles to participants for sorting before the dive
      b. If you have nondiving participants, consider including their help for sorting the debris into categories.

G. Step Three: Record
   1. Go through each pile and record every item you found on the Dive Against Debris Data Card.
   2. Each item counts as one, regardless of size.
   3. Tally items under the material construction categories.
      a. For example, for a plastic fork, look under the Plastic Materials category to find cups, plates, forks, knives, spoons and tally this in box as 1.
      b. If have another one, or a plastic spoon or knife, that would be the second tally.
      c. Continue through all the debris this way using a tally system that works for you.
   4. Count miscellaneous pieces as fragments – see the end of category for the fragment box.
   5. Some items may be too small and numerous to count (mostly those smaller than 2.5 cm/1 in). For example, you could have a pile of hard plastic bits that are the pieces of larger disintegrated pieces. Handle these this way:
      a. Divide them into roughly equal hand-sized piles on your tarp.
      b. Count the pieces in one pile.
      c. Multiply that by the number of piles and record that under "fragments" for the appropriate material.
   6. When you're done recording, if there are multiple buddy teams, in each category, combine all counts for all the divers involved in the cleanup – whether there are two or 200.
   7. Besides the debris counts, you will need to record other information:
      a. Location – Record the nearest town (if applicable), state/province and country.
      b. GPS – Set your GPS to WGS84 Map Datum and take readings in decimal degrees. (Note: WGS84 is the most common and usually the default. The majority of mobile devices with GPS use WGS84).
         i. For boat dives, take this moored at or directly over the cleanup site.
         ii. For shore dives, consider the GPS in the water, by standing on the shore as close to the site as possible.
         iii. If you don't have a GPS device, you can locate the site on the PADI AWARE Dive Against Debris Map. Drag and zoom to find your location, then click on the survey site. This records your GPS data – this method works best for sites near landmarks. (Again, ensure your GPS marker is in the water on the map).
   8. Number of participants – Record only the number of divers who were picking up debris. Count divers, not teams. Others involved, those doing surface cleanups, standby divers, etc., should not be counted.

9. Survey duration – This is the average time spent by all teams actually recovering debris. Do not include surface swims, descents/ascents, nondiver participation nor sorting/recording.
    a. Freedivers and mermaid divers should estimate and total the time spent on the bottom for each descent; this can be done by noting times on a slate kept on the debris float. Another way to record time is with a digital watch set for stopwatch. Upon reaching the bottom, start the timer and stop when you start up. Do this for each freedive, but don't reset the timer between them. The time shown at the end of your session will be your accumulated time on the bottom. Some freediving computers may have a similar function.
    b. Example 1: You and your buddy work together to remove underwater marine debris for 43 minutes. There are no other divers on your survey
        i. Duration = 43 minutes
    c. Example 2: Three buddy teams with two divers in Team A and B and three divers in Team C remove underwater marine debris for the following durations:
        i. Buddy Team A = 42 minutes
        ii. Buddy Team B = 48 minutes
        iii. Buddy Team C = 51 minutes
        iv. Combined time = 141 minutes
        v. 141 minutes ÷ 3 buddy teams = 47 minutes mean
        vi. Duration = 47 minutes
10. Wave conditions – Report the conditions when you were collecting debris

Condition	Height
Calm (glassy to rippled)	0-0.1 metres/0-4 inches
Smooth (wavelets)	0.1-0.5 metres/4-19 inches
Slight	0.5-1.25 metres/19 inches- 4 feet
Moderate to rough	greater than 1.25 metres/4 feet

11. Weather conditions for previous week – Report strong winds, storms, heavy rain or any weather event that may have moved debris onto or away from your site.
12. Area surveyed – Estimate the square metres/feet that you cleaned up. A tool, like daftlogic.com used with Google Maps, may be helpful. If this isn't feasible, roughly estimate the length and width of a rectangular area that covers your survey area, then multiple these. (length x width = area in square units)
13. Depth range – Report the maximum and minimum depths from which you removed debris, which may be less than the maximum dive depth.

   a. Important: For scientific data accuracy, recorded and reported debris must be found on the bottom deeper than 1 metre/3 feet. Of course, remove any debris found shallower than 1 metre/3 feet, but do not include these in the debris you record and report. This has to do with keeping the data consistent for science application.
   b. Freedivers and mermaids may need to wear depth devices (depth gauge, computer) to check while retrieving debris.
14. Bottom composition – Record the seafloor for most of the area: sand, silt, gravel, rock, coral, seagrass or other (please describe).
15. Ecosystem – Describe the ecosystem: coral reef, rocky reef, kelp, mangrove, seagrass, other (please describe).
   a. The difference between bottom composition and ecosystem depends on what the bottom is like and where you pick up debris.
   b. For example, if you're on a coral reef and spend most of your time over the sand between coral heads, report a bottom composition of sand and an ecosystem as coral reef.
   c. If you spent most of your time over the coral, then you would report both as coral reef.
16. Entangled animals – Note any entangled animals and the type of debris involved. If possible:
   a. Note the species name, but the common name will do.
   b. Photograph the animal to include with the report.
   c. Note the animal's status – deceased, injured, or released unharmed
   d. Write comments to explain the situation
17. Most unusual item found – This is a subjective call, but can be useful for several reasons. Items with limited origins can help identify debris flow patterns. Interesting items can help generate media coverage for the event.
18. Items of concern – List the top three debris items you consider a problem in your location and explain why.

H. Step Four: Dispose
   1. After recording, dispose of the debris properly so it doesn't return to the sea.
   2. Take advantage of recycling – you've already sorted the debris, so recyclables should be ready or near ready.
   3. Small amounts can usually be placed in public waste cans.
   4. Local government may remove debris for you, particularly after a large event. Make arrangements in advance, and contain the debris appropriately.
   5. Failing all else, take the debris to a local waste collection site.

6. Be familiar with local laws governing debris disposal. Many local governments have special procedures for disposing of items that contain potentially hazardous materials such as fluorescent light tubes, chemical light sticks, and containers with oil, chemicals, fuel or paint. Contact local authorities for advice on disposing of these items.

5. What are two ways you can submit Dive Against Debris data and how do you accomplish each?

I. Step Five: Report
   1. Important: There should be only one report for a Dive Against Debris dive, regardless of how many divers were involved or how much debris found. Do not duplicate reported data.
   2. Reporting your data is easy using the PADI AWARE app, or the online data submission form found on your MyOcean profile. Submitting photos is recommended for both methods.
   3. To use the PADI AWARE app:
      a. Start by downloading it to your mobile device and then open it.
      b. Create or log in to your MyOcean account.
      c. Click on the yellow plus sign on the bottom right.
      d. Agree to the Dive Against Debris statement.
      e. Using what you've recorded on your Data Card, start filling in information as prompted throughout all eight pages.
      f. Submit your data by clicking on the button on the bottom.
      g. Your survey will move into the "pending" area awaiting review.
   4. Using MyOcean to report data:
      a. Log in to your MyOcean account.
      b. Choose Report Debris from the left menu.
      c. Fill in the data as prompted using what you've recorded on your Data card.
      d. Submit when complete.
   5. Note that if your survey information falls outside any of the parameters on the app or MyOcean form, please leave a comment in the "Additional Information" section with a detailed explanation. This will help avoid confusion during PADI AWARE's quality review process of the data.
      a. If submitting the report as a freediver or mermaid, please note this under Additional Information.
   6. You should also report clean sites when you don't find debris.
      a. This is important to submit because these data can help identify when new problems arise, show weather/seasonal patterns and may also help

determine the effectiveness of new policies and methods for reducing local debris.

b. Select the "Our Dive Against Debris Dive Site Was Free Of Debris" option when you submit your data.

7. Each Dive Against Debris Survey goes through a quality review process. The submission process provides prompts to help avoid problems that make a report unusable or require adjustment before it can be used. Here are the 10 top problems that occur:
   a. Survey date is after the submission date
   b. More than 30 participants (Explain in "Additional Information" section)
   c. More than 200 kg/400 lbs debris (Explain in "Additional Information" section)
   d. Latitude/longitude (GPS Marker) is on land, and not in the water
   e. Latitude/longitude don't match country
   f. Survey duration shorter than 20 minutes or longer than 90 minutes
   g. Survey depth range omitted
   h. Minimum depth is less than 1 m/3 ft and/or is not possible at the site (important to use actual minimum)
   i. Area surveyed larger than 13,600 metres^2/146,388 feet^2 (instead should have more than one report)
   j. Weight not listed (measured or estimated)

6. What types of photos help explain your data?

J. Two Types of Photos

1. Taking photos is not a survey requirement, but photos are great for convincing nondivers and decision makers that marine debris is a real problem. Your photos can illustrate impacts to marine wildlife and environments and help build a library of images that show people the scale of the problem.
2. Photos that help explain your data
   a. Take photos of the types of debris you saw. You can attach these photos when you submit your data.
   b. If possible, provide a reference for scale such as a ruler or snorkel.
   c. Examples may include:
      i. Marine debris damaging the environment
      ii. Entangled animals
      iii. Items you can't identify
      iv. Items you did not remove

3. Photos that tell your story
    a. Take photos to increase publicity about your actions, to thank participants and to recruit volunteers.
    b. Upload these photos to your MyOcean blog about your survey, share them on your social media accounts, or use them to illustrate a story in your local newspaper.
    c. Examples may include:
        i. Group shots of all divers together with the trash removed
        ii. Divers in action
        iii. Divers counting and recording debris
        iv. All the rubbish you removed

VI. Staying Connected

Learning Objectives

By the end of this section, you should be able to answer the following questions:

1. **What is PADI's Blueprint for Ocean Action and how do you join the global community of Ocean Torchbearers?**
2. **How can you share your conservation stories?**
3. **What are the benefits of being a Dive Against Debris certified diver?**

1. What is PADI's Blueprint for Ocean Action and how do you join the global community of Ocean Torchbearers?

A. PADI's Blueprint for Ocean Action
    1. In 2016, the United Nations developed 17 Sustainable Development Goals (SDGs) with SDG14 – Life Below Water focused on saving the ocean. To implement action toward saving our ocean, the PADI organization and the PADI AWARE Foundation worked together to create a 2020 blueprint to achieve critical conservation goals – focusing on a Decade of Ocean Action.
    2. PADI's Blueprint for Ocean Action calls for us to work together to:
        a. Rid the oceans of marine debris, reducing marine debris by 50% in targeted countries through strategic partnerships and the PADI AWARE Community Grant Program.
        b. Multiply the number of Marine Protected Areas (MPAs), protecting 30% of the ocean through partner collaboration and expansion of the Adopt the Blue™ program.
        c. Protect endangered and vulnerable marine species, protecting 20 vulnerable shark and ray species by deploying in-country conservation campaigns.

   d. Accelerate coral reef recovery and restoration, restoring 5% of coral reef habitats through citizen science programs and project funding for key coral reef habitats.
   e. Reduce and offset the carbon footprint of the diving industry, achieving carbon neutrality across the PADI organization's supply chain and mobilizing Ocean Torchbearers to restore, protect and fund seagrass habitats to offset carbon.
3. Divers are the ocean's underwater ambassadors. You see firsthand many of the issues challenging ocean health and are driven to protect the aquatic realm.
   a. PADI's mission is to fuel this passion and create a billion Ocean Torchbearers who explore and protect the ocean.
   b. Functioning and thriving marine ecosystems are vital not only for divers, but also for the health, hopes and livelihoods of millions of people worldwide.
   c. If you haven't already officially become an Ocean Torchbearer, once you've completed your Dive Against Debris specialty.

2. How can you share your conservation stories?

B. Tell Your Story

1. Taking great images of your conservation action is one of the best ways to share your story and inspire others to make a difference.
2. Here are some platforms to share your photos, stories, and content.
   a. Social media – Use your local social platforms to inspire change.
   b. PADI Conservation Activities Locator – Find conservation events near you.
   c. Blogs and similar online story-sharing sites – Write stories about your actions.
   d. Local news outlets – Get the community involved and spread the news.
3. For social media, consider tagging @padiaware and also follow PADI's social channels. Consider using these hashtags for social media sites:
   a. #DiveAgainstDebris
   b. #AWAREImpact
   c. #EveryDiveASurveyDive
   d. #PADIAWARE
   e. #PADI
   f. #Seiko

3. What are the benefits of being a Dive Against Debris certified diver?

C. Help in the following ways:

1. Conduct Dive Against Debris dives to support citizen science action and critical scientific research.
2. Share your passion for conservation actions at any dive site you explore.
3. Log your dives in a new, fun conservation-based way by submitting marine debris data.
4. Directly support PADI's Blueprint for Ocean Action.
5. Become an Ocean Torchbearer and get information about conservation events.
6. Host your own cleanup events. To learn more about how to organize a clean up near you, contact your local PADI Dive Center /Resort or email Information@padiaware.org

SECTION THREE

Open Water Dive

Conduct

There are no required confined water sessions for the Dive Against Debris Diver course, however, you may want to develop, refresh and/or assess student diver abilities. For example, you may have student divers practice buoyancy skills and techniques for underwater marine debris removal in a confined water session prior to the training dive. The confined water session may also include a skills review.

Besides retrieving debris, on the training dive students demonstrate that they can complete a Dive Against Debris survey, from planning the dive to execution, to recording and reporting data. The goal is that divers leave with the skills, knowledge and experience to complete Dive Against Debris dives and report the data without further supervision.

The information you need to conduct Dive Against Debris surveys is found in the Dive Against Debris Survey Guide. Use this as your primary resource during training and when running survey dives.

You may add training dives for additional experience as needed for student divers to demonstrate mastery. However, **student divers must demonstrate mastery of all performance objectives for the dive prior to to certification.**

General Considerations

1. Only one dive is required for certification as a Dive Against Debris Diver.
2. **All dives must be planned as no stop (no decompression) dives.** Divers may use enriched air to extend no stop time or add conservatism if they are certified as PADI Enriched Air Divers (or have a qualifying certification).
3. Recommended depth is 18 metres/60 feet or shallower, with a **maximum depth of 30 metres/100 feet.**
4. Involve student divers in all dive planning activities. Lead a discussion on choosing an ideal survey site and effective methods for removing underwater debris from the site given the number of buddy teams available.
5. Conduct a thorough briefing. Review information from the Dive Against Debris Survey Guide and add additional information as required to conduct the dive appropriately following safe diving practices in your location.
6. If available, have staff help with logistics. As appropriate, assign standby divers to be ready to provide assistance.

7. Stress the importance of diver safety over debris removal. Remind divers that the primary objective is for everyone to return from the dive safely.
8. Show student divers samples of appropriate photos of debris (underwater and surface) for data collection, as well as of the event for sharing on social media.
9. After the dive, involve all students in sorting and recording the debris and confirm participation, understanding and mastery of the steps by each student. Besides the debris data, have the group work together to gather all the information the report will require.
10. Finish by demonstrating how to submit data using the PADI AWARE app or the online data submission form. This is a group effort because only one submission should be made. If necessary, demonstrate how to set up a MyOcean profile for data reporting.

Dive Against Debris Dive

Performance Requirements

By the end of the open water dive, student divers should be able to:

1. **Within a buddy team, plan and execute a dive (or dive session if freediving/mermaid diving) to remove debris from underwater.**
2. **As appropriate during the dive, demonstrate appropriate judgment as to whether to remove or leave underwater debris.**
3. **While making a dive to remove debris, follow accepted general safe diving practices, and safe diving procedures and considerations appropriate to debris removal.**
4. **While removing debris, maintain adequate buoyancy control, streamlining and body position to prevent affecting the environment negatively.**
5. **Post dive working in a group (buddy team or multiple buddy teams) complete the five steps of recording and reporting Dive Against Debris data.**
6. As part of a buddy team and/or the group, take photos for data reporting and sharing the event on social media as appropriate.

I. Dive Standards

A. Environment: Open water

B. Maximum Depth: 30 metres/100 feet (18 metres/60 feet recommended)

II. Suggested Sequence

A. Briefing

1. Evaluate dive site conditions.
2. Identify facilities at the dive site.
3. Explain interesting and helpful facts about the dive site, including bottom topography, bottom composition, depth range and points of interest (use a dive site map if appropriate).

4. Describe entry and exit techniques for the dive site.
5. Have buddy teams plan their turn pressure, ascent pressure and reserve pressure for the dive based on gas supply limits.
6. Have buddy teams establish maximum depths and bottom times, and plan contingency profiles for longer and deeper dives than planned.
7. Review the dive sequence and performance requirements.
8. Review communication and other emergency protocols as required by local regulations.

B. Predive Procedures

1. Have divers prepare all standard and specialized equipment.
2. Confirm appropriate equipment (gloves if allowed, mesh bag, etc.)
3. Put on all equipment.
4. Review check-out/in procedure with surface support staff (as required).

C. Dive Against Debris Dive

1. Predive check
   a. Buddies conduct a predive safety check.
   b. Watch for and correct errors as appropriate.
2. Entry
   a. Buoyancy check and proper weighting
3. Descent – if on scuba
4. Teams remove underwater debris and place in mesh bags, or float if freediving/mermaid diving.
   a. Divers prioritize safe diving procedures.
   b. Diver demonstrate appropriate judgment about whether to remove debris.
5. Demonstrate buoyancy control, streamlining and positioning that avoids negative environmental effects.
6. If equipped with an underwater camera, take appropriate photos to document debris found, not removed, entangled animals, etc.
7. Ascent – if on scuba
   a. Divers ascend at a maximum rate not exceeding 18 metres/60 feet per minute or according to dive computer.
   b. Perform a safety stop at 5 metres/15 feet for three minutes.
8. Exit
   a. Divers establish positive buoyancy at the surface.
   b. Divers exit the water appropriately for the environment, with assistance as necessary.

D. Post-dive Procedures

1. Check in with surface support staff (as required).
2. Divers stow dive equipment as appropriate.

E. Debriefing

1. Provide positive reinforcement and assess performance.
2. Have student divers critique themselves on their performance. Add your observations as appropriate.
3. Log the dive (instructor signs logbook/approves digital log).

F. Recording and Reporting

1. Guide students in weighing, sorting, recording and disposing of debris.
2. Supervise reporting data (single submission but entire class participates and observes) using most appropriate of two methods. Discuss photos to include or not include with data.
3. Encourage students to upload photos/information about the survey dive to MyOcean and other social media.

APPENDIX

Dive Against Debris Diver

Knowledge Review

Complete this knowledge review to hand in to your instructor for review. If there's something you don't understand, review the related material. If you still don't understand, have your instructor explain it to you.

1. Which of the following are examples of common marine debris? (Choose all that apply.)
   - ☐ Plastic bags
   - ☐ Bleached coral
   - ☐ Car battery
   - ☐ Soda can
   - ☐ Fishing line

2. Marine debris affect organisms multiple ways including entanglement, being swallowed, blocking sunlight, suffocating and poisoning them.
   - ☐ True
   - ☐ False

3. Which of the following are thought to be primary changes that can solve the marine debris problem? (Choose all that apply.)
   - ☐ Individual, business and government changes in waste disposal policies and behaviors.
   - ☐ Changes to waste processing sites and sewage systems to block debris from reaching waterways and the ocean.
   - ☐ Increased incentives and regulations that promote proper disposal and recycling.

4. Divers making Dive Against Debris dives help with the debris problem by (Choose all that apply.)
   - ☐ removing debris from the environment.
   - ☐ gathering data that can help guide new policies.
   - ☐ raising public awareness as part of the Ocean Torchbearer community.

5. The primary objective of a Dive Against Debris dive is to remove and accurately document as much debris as possible.
   - ☐ True
   - ☐ False

6. Most marine debris reaches the ocean indirectly from land-based sources rather than being discarded directly into the ocean.
   - ☐ True
   - ☐ False

7. Considerations when planning a Dive Against Debris dive may include: (Choose all that apply.)
   - ☐ conservative diving within your/your buddy's experience and training limits.
   - ☐ diving properly weighted and hand carrying debris bags.
   - ☐ using proper search patterns.
   - ☐ handling sharp objects carefully; leaving it alone if you can't remove it safely.
   - ☐ having permission, using dive flags and/or meeting other regulations or requirements.

8. Which of the following are usually needed on Dive Against Debris dives? (Choose all that apply.)
   - ☐ Mesh bag
   - ☐ Ankle weights
   - ☐ GPS or GPS capable mobile device
   - ☐ Dive tool or knife or shears
   - ☐ Mushroom float anchor
   - ☐ Heavy-duty gloves
   - ☐ Slate/wetbook and pencil

9. You and your buddy are swimming midwater and find a plastic bag drifting past in the water column. You should collect it
   - ☐ and report it as found at your present depth.
   - ☐ and report it as the depth of the bottom below.
   - ☐ but not include it in your report.

10. Which of the following should generally not be removed when collecting debris? (Choose all that apply.)
    - ☐ Anything that may be hazardous doing so
    - ☐ Glass bottles
    - ☐ Cultural artifacts
    - ☐ Weapons or anything possibly related to a crime or serious accident
    - ☐ Coral encrusted aluminum can with seahorses living on it
    - ☐ Commercial fishing gear
    - ☐ Bicycle tire

11. You are on a single survey dive with three other dive buddies on your team. Every member of this dive group should submit a Dive Against Debris survey.
    - ☐ True
    - ☐ False

12. When reporting a GPS location for your survey dive, you should enter GPS coordinates or drop the map pin on the map
    - ☐ as close to the PADI Dive Center as a possible.
    - ☐ at your shoreline entry point, or harbor used by the dive boat.
    - ☐ in the water where the survey dive was conducted.
    - ☐ closest major town or city.

13. On a given report, Survey Duration is the average time spent by all buddy teams while removing debris underwater at the same site.
    - ☐ True
    - ☐ False

14. Which of the following factors do you consider when sorting marine debris? (Choose all that apply.)
    - ☐ How many pieces of marine debris there are.
    - ☐ The category of each piece of debris.
    - ☐ The total weight of debris from the dive.
    - ☐ Proper gear for sorting.

15. During a Dive Against Debris dive you find no debris, so there is no need to file a report.
    - ☐ True
    - ☐ False

16. You and your buddy, and two other buddy teams spend 33 minutes, 43 minutes and 56 minutes respectively actually recovering debris (descent, ascent and safety stop times not included). What would be the average time you report?
    - ☐ 33 minutes
    - ☐ 44 minutes
    - ☐ 56 minutes
    - ☐ 132 minutes

17. As an Ocean Torchbearer, you can help with the marine debris problem and other marine issues by sharing your experiences and actions as a credible witness to nondivers.
    - ☐ True
    - ☐ False

Student Diver Statement:

I've reviewed the questions and answers, and any I answered incorrectly or incompletely I have had explained to me and/or reviewed the material, so that I now understand what I missed.

Student Name _____

Signature _____ Date _____

Dive Against Debris Diver

Knowledge Review Answer Key

Note to Instructor

To assess knowledge, review the Knowledge Review student divers completed. Prescriptively review answers to questions student divers may have missed, or have answered incorrectly or incompletely. Ensure student divers understand what they have missed.

1. Which of the following are examples of common marine debris? (Choose all that apply.)
   - ■ Plastic bags
   - ☐ Bleached coral
   - ■ Car battery
   - ■ Soda can
   - ■ Fishing line

2. Marine debris affect organisms multiple ways including entanglement, being swallowed, blocking sunlight, suffocating and poisoning them.
   - ■ True
   - ☐ False

3. Which of the following are thought to be primary changes that can solve the marine debris problem? (Choose all that apply.)
   - ■ Individual, business and government changes in waste disposal policies and behaviors.
   - ■ Changes to waste processing sites and sewage systems to block debris from reaching waterways and the ocean.
   - ■ Increased incentives and regulations that promote proper disposal and recycling.

4. Divers making Dive Against Debris dives help with the debris problem by (Choose all that apply.)
   - ■ removing debris from the environment.
   - ■ gathering data that can help guide new policies.
   - ■ raising public awareness as part of the Ocean Torchbearer community.

5. The primary objective of a Dive Against Debris dive is to remove and accurately document as much debris as possible.
   - ☐ True
   - ■ False

6. Most marine debris reaches the ocean indirectly from land-based sources rather being discarded directly into the ocean.
   - ■ True
   - ☐ False

7. Considerations when planning a Dive Against Debris dive may include: (Choose all that apply.)
   - ■ conservative diving within your/your buddy's experience and training limits.
   - ■ diving properly weighted and hand carrying debris bags.
   - ☐ using proper search patterns.
   - ■ handling sharp objects carefully; leaving it alone if you can't remove it safely.
   - ■ having permission, using dive flags and/or meeting other regulations or requirements.

8. Which of the following are usually needed on Dive Against Debris dives? (Choose all that apply.)
   - ■ Mesh bag
   - ☐ Ankle weights
   - ■ GPS or GPS capable mobile device
   - ■ Dive tool or knife or shears
   - ☐ Mushroom float anchor
   - ■ Heavy-duty gloves
   - ■ Slate/wetbook and pencil

9. You and your buddy are swimming midwater and find a plastic bag drifting past in the water column. You should collect it
   - ☐ and report it as found at your present depth.
   - ☐ and report it as the depth of the bottom below.
   - ■ but not include it in your report.

10. Which of the following should generally not be removed when collecting debris? (Choose all that apply.)
    - ■ Anything that may be hazardous doing so
    - ☐ Glass bottles
    - ■ Cultural artifacts
    - ■ Weapons or anything possibly related to a crime or serious accident
    - ■ Coral encrusted aluminum can with seahorses living on it
    - ■ Commercial fishing gear
    - ☐ Bicycle tire

11. You are on a single survey dive with three other dive buddies on your team. Every member of this dive group should submit a Dive Against Debris survey.
    - ☐ True
    - ■ False

12. When reporting a GPS location for your survey dive, you should enter GPS coordinates or drop the map pin on the map
    - ☐ as close to the PADI Dive Center as a possible.
    - ☐ at your shoreline entry point, or harbor used by the dive boat.
    - ■ in the water where the survey dive was conducted.
    - ☐ closest major town or city.

13. On a given report, Survey Duration is the average time spent by all buddy teams while removing debris underwater at the same site.
    - ■ True
    - ☐ False

14. Which of the following factors do you consider when sorting marine debris? (Choose all that apply.)
    - ■ How many pieces of marine debris there are.
    - ■ The category of each piece of debris.
    - ■ The total weight of debris from the dive.
    - ■ Proper gear for sorting.

15. During a Dive Against Debris dive you find no debris, so there is no need to file a report.
    - ☐ True
    - ■ False

16. You and your buddy, and two other buddy teams spend 33 minutes, 43 minutes and 56 minutes respectively actually recovering debris (descent, ascent and safety stop times not included). What would be the average time you report?
    - ☐ 33 minutes
    - ■ 44 minutes
    - ☐ 56 minutes
    - ☐ 132 minutes

17. As an Ocean Torchbearer, you can help with the marine debris problem and other marine issues by sharing your experiences and actions as a credible witness to nondivers.
    - ■ True
    - ☐ False

PADI Specialty Training Record

Dive Against Debris® Diver

Instructor Statement

I verify that this student has satisfactorily completed all knowledge development training sessions and/or any confined water training sessions as outlined in the PADI Dive Against Debris Diver Specialty Course Instructor Guide. I am a renewed, Teaching status PADI Instructor in this specialty.

Instructor Name _____ PADI # _____

Instructor Signature _____ Completion Date _____

Dive

I verify that this student has satisfactorily completed Dive 1 as outlined in the PADI Dive Against Debris Diver Specialty Course Instructor Guide including:

- Planning dive and gearing up
- Using judgment when removing debris
- Following safe diving practices and procedures for removing debris
- Maintaining buoyancy control and good body position
- Completing five steps for recording and reporting debris

I am a renewed, Teaching status PADI Instructor in this specialty.

Instructor Name _____ PADI # _____

Instructor Signature _____ Completion Date _____

Student Diver Statement

I verify that I have completed all performance requirements for this PADI Dive Against Debris Diver specialty course. I am adequately prepared to dive in areas and under conditions similar to those in which I was trained. I agree to abide by PADI Standard Safe Diving Practices.

Student Name _____

Student Signature _____ Completion Date _____

PADI Adventure Dive Training Record

Adventure Dive: Dive Against Debris®

Skills Overview

- Knowledge Review
- Briefing
- Gearing Up
- Entry
- Using judgment when removing debris
- Following safe diving practices and procedures for removing debris
- Maintaining buoyancy control and good body position
- Completing five steps for recording and reporting debris
- Debrief
- Log Dive – Complete Training Record

Instructor Statement

I verify that this student has satisfactorily completed the Knowledge Review and Performance Requirements for this PADI Adventure Dive. I am a renewed, Teaching status PADI Instructor for the current year.

Instructor Name _____ PADI # _____

Instructor Signature _____ Completion Date _____

Instructor Contact Information (Please Print)

Instructor Mailing Address _____

City _____ State/Province _____

Country_____ Zip/Postal Code _____

Phone _____ Email _____

Student Diver Statement

I verify that I have completed all of the Performance Requirements for this Adventure Dive. I realize that there is more to learn about Dive Against Debris diving. I also agree to abide by PADI Standard Safe Diving Practices.

Student Name _____

Student Signature _____ Completion Date _____