

Dive Against Debris®

Survey Guide





Dive Against Debris® Survey Guide

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Acknowledgments

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 its effectiveness. With your help, Dive Against Debris will continue to expand its role and truly make a global difference.

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



572DT (Rev. 06/22) Version 3.0

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PADI's Blueprint for Ocean Action

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 blueprint to achieve critical conservation goals – focusing on a Decade of Ocean Action.


SEEK ADVENTURE.
SAVE THE OCEAN.™



Over the next 10 years, the PADI Decade of Ocean Action will work to:

Rid the Oceans of Marine Debris




Reduce marine debris by 50% in targeted countries through partnerships and the PADI AWARE Community Grant Program.

Multiply Marine Protected Areas (MPAs)



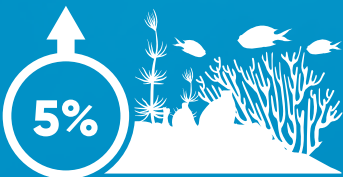
Protect 30% of the ocean through partner collaboration and Adopt The Blue Program.

Protect Endangered and Vulnerable Marine Species



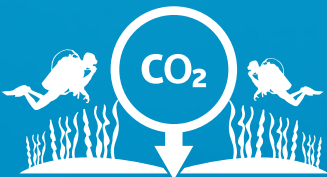
Reduce the number of sharks and rays threatened with extinction by 25%.

Accelerate Coral Reef Recovery and Restoration




Restore 5% of coral reef habitats through citizen science programs and project funding for key coral reef habitats.

Reduce and Offset the Dive Industry's Carbon Footprint




Achieve net-zero across the PADI organization and protect and restore blue carbon habitats.

DONATE NOW:



TAKE ACTION:



Divers are the ocean's underwater ambassadors. You see first-hand many of the issues challenging ocean health and are driven to protect the aquatic realm. Functioning and thriving marine ecosystems are vital not only for divers, but also for the health, hopes and livelihoods of millions of people worldwide.

PADI's mission is to fuel this passion and create a billion Ocean Torchbearers who explore and protect the ocean.

Be part of the solution by joining forces with the global network of ocean advocates taking action above and below the surface for a healthier people and planet.

Join the Movement



PADI®

**SEEK ADVENTURE.
SAVE THE OCEAN.™**

Time to Dive Against Debris

Plan Your Dive – Dive Your Plan

It's a golden rule of diving to plan your dive and dive your plan! Remember that removing debris is a secondary dive objective – **the primary objective is for everyone to always return safely.**

This section reviews how to prepare and complete your Dive Against Debris survey. The next section goes over how to report your data.

Choose Your Survey Site

Considerations for choosing your survey site include:

- Choose a site you can return to regularly
- Choose a site within the dive skills and experience of all participants
- Know where your dive site is – get the GPS coordinates
- The maximum reportable size is 13,600 m²/146,388 ft² – 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.
- You may survey freshwater lakes and rivers
- Be sure to get permission to dive and remove marine debris from the land-owner or other authorities, such as when planning to dive in a marine protected area or marine park.

To join an existing Dive Against Debris survey search the PADI AWARE Action Map:

www.padi.com/aware/dive-against-debris

or contact your local PADI Dive Center or Resort.

Gather Your Gear

The right gear will help make your dive easier and more enjoyable.

For the dive:

- Mesh collection bag
- Dive tool/knife/dive shears
- Heavy-duty gloves
- Underwater camera
- Sharps container
- Slate and pencil
- GPS/mobile device

Long-term Surveys Give the Best Results

Your survey dives will contribute more valuable data if you repeatedly collect debris from the same site over time. Regular surveys:

- Build a more convincing argument for change.
- Help identify local seasonal trends, such as those caused by weather patterns or an increase in tourism.

There are no requirements for how often you should repeat your survey because all data on underwater marine debris is of value. However to maximize your results, consider monthly surveys at the same location, or as a minimum try to conduct a survey at the same location for each season of the year.

Remember – if you collect marine debris during any dive you can report it through Dive Against Debris.

Make every dive count!

For recording and reporting:

- GPS/mobile device
- Dive Against Debris Data Card and Survey Guide
- Scale
- Tarpaulin
- Appropriate waste containers
- PADI AWARE App

Collecting Tips

Beyond following safe diving practices and staying well within time and depth limits, as you've learned as a certified diver, be sure to:

- Work with your buddy and maintain good communication.
- Place debris in your mesh bag and carry the bag by hand – do not attach it. You want to be able to drop it in an emergency.
- Keep your fins high and control your buoyancy to avoid accidental contact with aquatic organisms.
- Do not overfill your bag. End the dive when your bag reaches its weight limit (4 kg/7 lbs).
- Only remove heavy items if trained to properly use a lift bag.
- Be cautious when choosing to remove sharp items and use a strong container with a secure lid to safely store sharp objects.
- If conducting survey dives as a freediver or mermaid diver, tow a float suitable for placing debris in.
- Take photos of debris damaging the environment, entangling organisms, that you can't identify or that you don't remove.
- Try to cover the same area each time when conducting a new survey at the same location.



Remember that you can 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.

What to Leave Behind

Marine life soon grows on discarded items and animals often make homes in pieces of marine debris. You need to decide whether to remove an item or leave it in place. Sometimes it's worth a small short-term disturbance to remove potentially harmful marine debris, but other times it may be better to leave the item on the bottom.

If you are unsure, leave it in place.

Consider Safety

- Do not touch or remove weapons or ammunition – mark the location and inform authorities.
- Do not remove anything that may be related to a crime or a severe accident – mark the location and inform authorities.
- Take great care with or leave in place rusty items that may be surprisingly sharp.
- Leave items that may contain or leak chemicals that could be harmful if they come in contact with your skin or equipment – mark the location and inform the authorities. Examples include vehicle and boat batteries; oil, fuel and chemical containers; paint cans; fuel filters and; electronic equipment.

Organisms Attached

- Glass bottles and steel cans do not cause much harm to the environment so leave them in place if removal will disturb marine life. Remove them if they have a label and are clearly new.
- If eggs are attached to an item mark the location and return to remove it once the eggs have hatched
- Removing non-natural items that could harm marine animals as they break down into smaller pieces, for example, hard plastics, fish traps and packaging material. Use your judgment of what action will cause the least harm.

Fishing Nets, Fishing Line and Rope

- Do not attempt to remove nets, line and rope unless you are sure it is safe. If they are wrapped around a reef or have corals growing over them, the best approach may be to selectively remove accessible parts and leave the sections that have become overgrown.

Commercial Fishing Gear

- Local regulations may prohibit interfering with commercial traps and other gear. Some regulations may allow removing abandoned/lost commercial gear but require reporting it.



Possible Cultural Artifacts

- Do not disturb anything that may have historical or archaeological significance.
- Report possible artefacts to local archaeological organizations, such as museums, local government organizations, or your local PADI Dive Center.

Make Your Survey Count

Five Steps



1. Weigh



2. Sort



3. Record



4. Dispose



5. Report

Work with your dive buddies to make recording and reporting your debris quick and easy.



Step 1: Weigh

Weigh all your marine debris while still in the mesh bags. 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.

- Fishing or kitchen scales work well for weighing debris
- You can estimate weight if you do not have a scale
- Record weight in kilograms or pounds

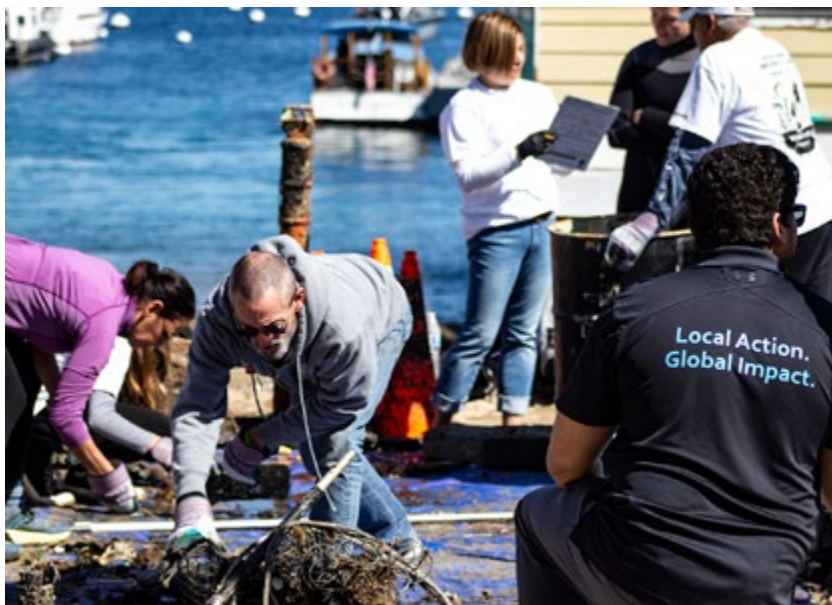


Step 2: Sort

Empty your mesh bags and sort your debris into piles under the nine categories listed on the Dive Against Debris Data Card – grouped by material of construction:

- Plastic
- Glass and ceramic
- Metal
- Rubber
- Wood
- Cloth/fabric
- Paper/cardboard
- Mixed materials
- Other debris Items that can't be placed in another category

Sort your debris out of the wind to avoid rubbish being blown back into the water. Emptying your mesh bags onto a tarpaulin will help keep your debris items together.





Step 3: Record

Work through each pile to record every item you found onto the Dive Against Debris Data Card.

- Each debris item counts as one, regardless of size
- Miscellaneous pieces of marine debris should be counted as fragments – see the end of each material category on the data card
- To count many small pieces (2.5 cm/1 inch and smaller) – see Too Small to Count
- Combine all diver's findings from the same survey dive on one data card

Other Survey Information

Complete the remainder of the Data Card to record important information about your survey.

Survey Site Location

Information to verify your survey site should be accurately positioned on the map:

- Nearest road name (if applicable)
- City/Town
- State/Province
- Country

Survey Site GPS Coordinates

Accurate GPS information is essential. You can report your Survey Site GPS Coordinates without a GPS unit by using the point-and-click map found on the PADI AWARE app:

- Drag the map to find your country
- Zoom in on your location
- Locate your survey site and click on the map

To use a GPS unit, set your GPS unit to WGS84 Map Datum and take readings in decimal degrees.

Survey Duration

Survey duration is the average time spent by all buddy teams while underwater removing marine debris.

- Record duration in minutes (i.e. 45 minutes, 90 minutes)
- Do not include time for surface swims and ascents/descents
- Do not include time for nondiving participants or for sorting and recording your debris

Too Small to Count?

Sometimes you may remove a large amount of similar small pieces of debris. For example, a mound of plastic pellets dumped in to the ocean or a hard plastic item that has disintegrated into tiny bits. In these cases there may be too many pieces to count, so how do you record this find?

Place them on a tarpaulin out of the wind and sort them into roughly equal sized piles. Then count the number of pieces in one pile and multiply this by the number of piles to reach the total. Record these small pieces as "fragments" under the relevant material of construction.



Number of Participants

- Only count divers collecting rubbish underwater
- Count individual divers, not buddy teams
- Do not include surface-only participants

Wave Conditions

Report wave conditions on the day of your survey:

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

Area Surveyed

- Report area in square metres or square feet
- Use a point-and-click tool over a Google Map, such as www.daftlogic.com/projects-google-maps-area-calculator-tool.htm
- Or, estimate a simple square or rectangle shape and calculate area by multiplying length by breadth

Bottom Composition

Describe the seafloor over which you spent most of your survey:

- Sand
- Silt
- Gravel
- Rock
- Coral
- Seagrass
- Other (please describe)

Ecosystem

Describe the ecosystem in which the survey took place:

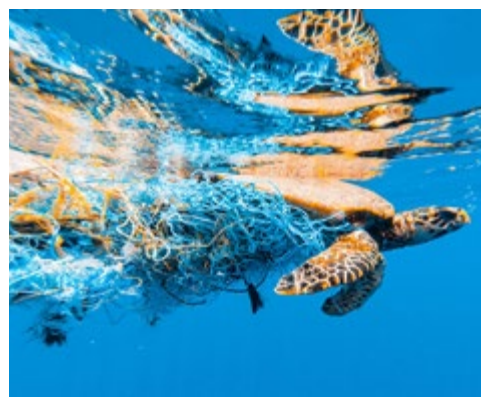
- Coral reef
- Rocky reef
- Kelp
- Mangroves
- Seagrass
- Other (please describe)



Entangled Animals

Report entangled animals and the type of marine debris involved.

- Note the species name, but the common name will do.
- Photograph the animal to include with the report.
- Note the animal's status – deceased, injured, or released unharmed
- Write comments to explain the situation



Survey Depth Range

- Report the maximum and minimum depths from which you removed debris.
- Debris must be found on the bottom deeper than 1 metre/3 feet.

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.

Items of Local Concern

List the top three debris items you consider a problem in your location and explain why.

Most Unusual Item Found and Additional Information

Briefly describe events that could have contributed to the debris found, and provide a link to news stories if available: Hurricanes, building demolition, festivals or street celebrations, fireworks display, etc.



Step 4: Dispose

Please dispose of all debris properly so it can't return to the ocean.

- Sort for recycling as available in your area
- Small amounts can be placed in public waste bins
- Some local government authorities will collect your rubbish if you make arrangements before your survey
- Take it to the local waste collection site



Step 5: Report

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.

Take Pictures to Tell the Story

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 scope and scale of the problem.

Two Types

1 – Photos that help explain your data

- Types of debris you saw – if possible, provide a reference for scale such as a ruler or snorkel.
- Debris damaging the environment
- Entangled animals
- Items you can't identify
- Items you did not remove

2 – Photos that tell your story

- Group shots – all your buddies together with the trash you removed
- Divers in action
- Divers counting and recording debris
- Surface shot of all the rubbish you removed

Use photos to increase publicity about your actions, thank participants and recruit volunteers. Upload photos to your My Ocean blog about your survey. Your images can be used to highlight underwater issues to the general public. Consider sharing them on other social media sites or use them to illustrate a story for your local news media. For social media, consider tagging @padiaware and also follow PADI's social channels.

Use these hashtags for social media sites:

#DiveAgainstDebris

#AWAREImpact

#EveryDiveASurveyDive

#PADIWARE

#PADI

#Seiko

