



Goal: Clean Seas Florida Keys
Protocols for Underwater Marine Debris Removals
within Florida Keys National Marine Sanctuary



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INTRODUCTION

Welcome to the Goal: Clean Seas Florida Keys program! Marine debris is one of the most widespread and persistent forms of pollution affecting the world's ocean and coastal waters. Goal: Clean Seas Florida Keys is a community-led program, developed in the wake of Hurricane Irma in 2017, to address the threat of marine debris to ecosystems within NOAA's Florida Keys National Marine Sanctuary. Florida Keys National Marine Sanctuary and the National Marine Sanctuary Foundation are working with local tour operators and other businesses to identify and remove marine debris throughout the Florida Keys. In its first year, the Goal: Clean Seas Florida Keys initiative removed more than 10,000 pounds of marine debris from sanctuary waters. Learn more by visiting:

<https://floridakeys.noaa.gov/getinvolved/goal-clean-seas.html>

Before you proceed with a coral reef cleanup, please review the following guidelines and suggestions designed to help you conduct your cleanup with care and proper planning. Reefs with live corals and other invertebrates are delicate living structures and every effort should be made to minimize damage to living tissues or organisms.

Patience is a virtue when it comes to reef cleanups. This effort is labor intensive and requires a great deal of concentration. Be conscious of your body positioning as well as your gear – be sure to secure gauges and second stages so they do not get tangled or cause further damage to the habitat. Do not be tempted to rip or tear, especially with soft corals that often grow around monofilament line, wire leader, and even trap or anchor line. In addition, be aware that you might have an audience as these types of activities draw the attention of the unsuspecting tourist. Take extra care to minimize impacts.

PRE-CLEANUP PREPARATION

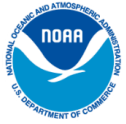
To begin preparing for a coral reef cleanup, you will need to do the following:

1. Determine whether or not your work will require permits. See Permitting Requirements below.
2. Identify a lead for cleanup efforts at your organization. This person



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- should understand local regulations and be able to complete required reporting.
3. Purchase materials needed to support your cleanup efforts. This may include EMT shears or Sea Snips, underwater mesh debris bags, and gloves for clipping monofilament line, wire leader, and polypropylene trap line, and possibly lift bags.
 4. Create a Marine Debris Tracker account and familiarize yourself with the reporting system via the website or app. <https://debristracker.org/>
 5. Conduct a scoping dive and/or trial run. Identify areas with debris that are in need of a cleanup. Identify which removal techniques work best for you. Document the area using photos and video before cleanup occurs.
 6. Collect samples of different types of debris to use in your training program. Samples may include:
 - monofilament fishing line (clean and encrusted with algae)
 - wire leader, lures, hooks, and sinkers
 - Boat and working line (clean and encrusted with algae)
 - lobster or crab trap line (polypropylene) (permit required)
 - lobster or crab trap debris (slats, cement base) (permit required)
 - plastic bags or sheathing (entangles soft corals)
 - lost and abandoned modern anchors or anchor line (be sure not to disturb protected maritime heritage artifacts such as historic anchors)
 7. Acquire as many underwater photographs of the above mentioned types of debris to use during your training program, especially monofilament line and wire leader that are difficult to see under a cover of algae or fire coral.
 8. Obtain photographs or use guide books to teach participants how to recognize coral species common on the reef and encrusting debris (e.g., fire corals, starlet corals). Provide photos of juvenile, newly settled corals (“recruits”) so they can be left undisturbed. Provide comparative photos of reef organisms that can be confused for corals, such as encrusting hydroids and sponges.
 9. Familiarize yourself and participants with what historic artifacts and other maritime heritage resources might look like in the



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cleanup area.

10. Prepare and distribute a press release about your cleanup effort, be sure to mention your permits and sponsors if applicable.
11. You may want to bring a lift bag to assist in the removal of large items such as cement blocks or broken lobster or crab traps. It is essential to make sure that divers are only using tools for which they have been trained.
12. Train all cleanup participants using the presentation provided by Florida Keys National Marine Sanctuary prior to leading any cleanup activities.

PERMITTING REQUIREMENTS

Permits may be required for certain activities within marine protected areas or activities that involve private property, such as traps. As the lead for an underwater cleanup, you are responsible for being aware of and in compliance with these rules and regulations. Below is a summary of activities that may require permits in the Florida Keys. This summary is intended as a guideline, but does not replace legal regulations. You are responsible for complying with all legal regulations surrounding your cleanup activities.

Florida Keys National Marine Sanctuary Permit

Florida Keys National Marine Sanctuary (the sanctuary) supports efforts to remove marine debris as it promotes improved ecology and aesthetics within the sanctuary. It is important to ensure that such debris removal is done in an environmentally-responsible manner and adheres to all applicable laws and rules, including [sanctuary-wide and zone-specific regulations](#).

Shoreline and coastal cleanups: Cleanups that target the shoreline and intertidal areas likely do not require any permits or permissions from the sanctuary:

- Trash and debris removed from above the mean high water line is technically outside of the sanctuary boundary.
- Picking up trash at or below the waterline is not prohibited by the sanctuary; it is only prohibited if the seafloor needs to be altered (by digging, excavating, or



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similar means) to remove the item, or if any other activity prohibited by sanctuary regulations is occurring.

- The majority of Florida Keys shoreline does not fall within sanctuary special management zones, so the removal of non-coral organisms or marine life attached to debris is not prohibited.
- Because of their habitat preferences, corals are not likely to be growing on debris or trash that is located in the intertidal or shallow subtidal zone. However, all debris (but notably concrete pieces or other hard materials, like glass) should be inspected for the possibility of attached coral prior to removal. Debris with attached corals should not be removed.

Reef cleanups: Cleanups that remove debris from hardbottom and coral reef areas may require a permit from the sanctuary:

- Activities within sanctuary zones (e.g., Sanctuary Preservation Areas) very likely require a permit because debris that is removed will often have attached marine life (algae, hydroids, sponges, tunicates, etc.) and most zones have some type of prohibition on removing marine life or may have access restrictions. The removal of monofilament line or rope from coral colonies, either inside or outside of a Sanctuary Preservation Area/Ecological Reserve, would trigger the need for a permit if the corals are being touched or disturbed in any way during the removal process.
- If debris has coral colonies encrusted on it, a permit would be required to remove it (though this is generally not allowed).
- If debris is embedded in the seafloor and removal involves digging or excavating (basically anything beyond just pulling out the debris), a permit would be required.

Caveats:

- The removal of derelict traps or trap debris requires specific approval from Florida Fish and Wildlife Conservation Commission (FWC) in addition to any sanctuary required permit or permission.
- Debris removal activities that may disturb, damage, or remove historical resources, such as removing nets from a shipwreck, should not occur without specific guidance from the sanctuary. When removing anchors and other items take care to ensure the item is not a protected historical resource. If unsure please contact floridakeys@noaa.gov for assistance.
- Other local, state, or federal laws or regulations may apply to shoreline or reef cleanup activities. This is a summary of sanctuary rules only.



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Sanctuary permit application process: If a person believes that a prohibited activity(ies) may occur in the course of shoreline or reef cleanups, they are advised to apply for a NOAA Florida Keys National Marine Sanctuary permit. The Office of National Marine Sanctuaries application form can be found electronically [here](#). Also, a hard copy is attached to these protocols.

- The form should be completed with details in the “Methods” section on where the cleanup(s) is proposed to take place, dates, duration, number of participants, fate of all collected debris, and other relevant information.
- If multiple or ongoing events are proposed, these details should include any training materials that are provided and standards that are applied to activities.
- The dive shop or organization owner or manager must be the permit applicant.
- Signed, completed applications should be submitted to the Florida Keys National Marine Sanctuary Permit Coordinator, by email (FKNMSPermits@noaa.gov).
- There is no fee for a sanctuary general permit to support management activities within the sanctuary, such as debris removal.
- Permit processing time averages 90 days for applications that are of high management value such as debris removal. However, processing times may be longer or shorter than this depending on the number of other pending applications the sanctuary is processing.

Florida Fish and Wildlife Conservation Commission Permit

Lost and abandoned spiny lobster, stone crab, and blue crab traps have been identified as a problem in Florida's marine environment by various stakeholder groups, including the commercial fishing industry. Once traps become lost or abandoned, they may spark user conflicts, "ghost fish" (continue to trap and potentially kill marine organisms until traps degrade enough to allow escape), visually pollute, cause damage to sensitive habitats, and also become hazards to navigation.

Volunteer groups may remove derelict traps and trap debris from state and federal waters when they organize a cleanup event and obtain authorization from the Florida Fish and Wildlife Conservation Commission (FWC). These volunteer cleanup events may take place during the open or closed fishing seasons, and must adhere to guidelines established in [Rule 68B-55, Florida Administrative Code](#) (F.A.C.).



Traps are private property and there are severe penalties for tampering with a trap, line, or buoy, or the contents of a trap that does not belong to you. Only people and organizations participating in an organized group event that has authorization from the FWC can remove derelict traps or trap debris from the water. Individuals are not eligible to receive authorization to remove derelict traps or trap debris. Tampering with a trap, trap contents, line, or buoy without written permission from the trap owner is a felony and may result in fines and the revocation of your fishing privileges. For more information, please see the FWC's [frequently asked questions](#) regarding derelict trap and trap debris cleanup events.

If you will be removing any kind of derelict traps or trap debris during your underwater cleanup, you should contact FWC and apply for an authorization.

Steps to apply for an FWC derelict trap and trap debris removal event authorization:

1. Read the rules and regulations before planning an event. This information can be found at <https://myfwc.com/fishing/saltwater/trap-debris/>
2. Identify a focal area where there is a large number of traps that appear to be derelict or abandoned.
3. Select a boat ramp or staging area near your focal area. Contact the property owner for permission to use this area and for permission to place a dumpster on the property.
4. Get input from your community to see if there will be any willing volunteers, including local fishing and boating clubs.
5. Select a date to hold your event and a backup date should you encounter inclement weather. These events can take some time to organize, receive approval, and implement. The best time to hold an event is when the season is closed for the trap fisheries in your area.
 - The stone crab fishery is closed from May 2 to October 14 statewide.
 - The spiny lobster fishery is closed from April 1 to August 5 statewide.
 - However, please note that traps may be placed in the water and baited 10 days prior to the opening of the season.
 - For blue crab seasonal closures, please refer to <https://myfwc.com/fishing/saltwater/recreational/blue-crab/>
6. Contact local waste management contractors or dumpster rental companies to make arrangements for disposal. Traps must be transported to a landfill or waste transfer station on the same day as the event, or may be stored in a secure area until they can be transported to a landfill. Some local agencies or businesses



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- may be willing to donate a dumpster for this type of event.
7. Apply for authorization from the FWC to conduct your event by completing a Derelict Trap and Trap Debris Removal Event application form no later than 30 days prior to your event. This application form is available online [here](#) and upon request to: Cleanuptraps@MyFWC.com. A hard copy of the application is attached to these protocols.
 8. If you have questions about this process, please contact Yvette.Mesa@myfwc.com, (850) 617-6014.
 9. The above requirements apply for derelict trap and trap debris removal in both state and federal waters. FWC Division of Law Enforcement requires notification no later than 24 hours prior to conducting cleanup activities.

NOTE: When removing derelict traps or trap debris under a FWC authorization, it is important to understand the following definitions.

Derelict Trap: A trap is considered to be derelict if:

1. It is in the water during the closed season for that fishery;
2. It is a “fishable trap” in the water during the open season for that fishery that lacks more than two of the following:
 - Buoy
 - Line
 - Current FWC-issued trap tag for commercial spiny lobster, stone crab, and blue crab traps, or current FWC-issued trap tag for recreational stone crab traps, or identification for recreational blue crab traps
 - Current endorsement (unique number)
 - It does not have six intact sides.

Fishable Trap: A fishable trap has six intact sides, and at least two of the following:

- Buoy
- Line
- Current FWC-issued trap tag for commercial spiny lobster, stone crab, and blue crab traps, or current FWC-issued trap tag for recreational stone crab traps, or identification for recreational blue crab traps
- Current endorsement (unique number) on buoy

Trap Debris: any piece of a trap or any combination of trap pieces that do not make up a fishable trap.

Under authorized activities, FWC law enforcement must be contacted and made aware



prior to any trip where permittees plan to remove trap debris. Additionally, data must be recorded from each derelict trap removed and reported to FWC after each removal conducted. This is separate from the reporting outlined below and a reporting form will be provided when you receive your FWC authorization.

Recreational Diver Selection

Scuba divers that are not employees of the permittee for Goal: Clean Seas Florida Keys may participate in these experiences as long as a trained Goal: Clean Seas professional is in the water with divers and no recreational divers are asked to participate in anything that exceeds their diving credentials and training. Be selective when soliciting divers for underwater cleanups. The more experienced the diver, the better. Less experienced divers, novice divers, or snorkelers need not be excluded. However, limit their responsibilities underwater to smaller tasks such as carrying the debris bag and packing it with materials removed by more experienced divers. Snorkelers can help by spotting debris, transporting debris bags to the boat, and assisting in lifting large items onto the boat. All participants should be trained using the presentation provided by the sanctuary prior to participating in any in-water cleanup activities.

Prerequisites for reef cleanup divers (those who are to clip monofilament line and remove other debris directly from the reef):

- Must be an experienced and certified scuba diver
- Divers should only participate within the boundaries of their dive training
- Must have excellent buoyancy control
- Must receive mandatory training prior to the cleanup
- Must understand regulations and considerations for debris removal in sanctuary waters

Recreational Diver Preparation

All divers should receive training prior to participating in an underwater cleanup dive. This can be accomplished using the required training presentation provided by Florida Keys National Marine Sanctuary.

It is important to use good judgment when deciding what to remove and what to leave. If any debris has become overgrown with marine life, it becomes part of the reef and



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should be left behind. Do not remove an object if it cannot be done without further damaging marine life or jeopardizing your safety. When in doubt, leave it behind. Items with coral growth or that could be maritime heritage resources should not be removed. You can find a flow chart that guides you through the decision making process [here](#) as well as in the appendix.

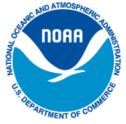
NOTE: We recommend discouraging the use of dive knives by recreational divers as they can cause more harm than good in a coral reef habitat. Sharp shears or snips are better suited to marine debris removal.

DURING A CLEANUP EVENT

- Ensure proper notification of law enforcement prior to the event.
- Make sure the FWC authorization and sanctuary permit is onboard all participating vessels.
- Assess conditions to make sure it will be productive and safe to conduct a cleanup dive that day.
- One or more trained dive professionals must dive with guests who are conducting cleanups under Goal: Clean Seas Florida Keys permits (at least one trained staff member per 8 divers is recommended).
- Photo or video document as much of your cleanup as you can. Consider designating an underwater photographer. Check with local media that are often interested in community volunteer projects. Acknowledge permits in any media stories or social media posts.
- Tally debris collected and submit the data to Marine Debris Tracker.
- Properly dispose of debris.

For more detailed information see the Goal: Clean Seas Florida Keys Cleanup Dive Instructions in appendix.

**** IMPORTANT: It is essential that divers only participate in removals within the boundaries of their dive training.****



Artifact or Marine Debris?

Evidence of our human history lies on the sanctuary's seafloor in the form of historical resources - objects made or modified by humans that provide clues about the past. Think of historical resources like pages from a vast history book, together the sites and artifacts reveal a story that may be recorded nowhere else. Historical resources are non-renewable; what we protect now is all that will ever be available to tell our shared story.

As someone helping to make Florida Keys National Marine Sanctuary a better place, your actions are greatly appreciated. Please ensure that our history is not thrown away in the process. An estimated 2,000 shipwrecks are believed to have occurred in the sanctuary; as a result, historical resources are everywhere.

Artifacts may include ceramic, glass, metal, and organic items that may or may not be partially buried or have marine life encrustation. If the object is located near a shipwreck or other historic site (ex. lighthouse) and is anything other than plastic or derelict fishing gear, leave it alone. Historical resources are often, but not always, covered by marine encrustation. Some objects made from glass or ceramic may look almost new. During marine debris cleanups, divers often find anchors tangled in the reef. It is ok to recover modern anchors, especially those with anchor line attached, but divers should leave old anchors in place as they are historical resources. Older anchors are usually encrusted with a white or reddish-brown, concrete-like layer and may have marine organisms living on them.

In general, if you think you have found an interesting object that you would want to keep, or you are unsure whether it is marine debris or a historical resource, do not remove it. Take several photographs while leaving it undisturbed, and provide photos and coordinates to Florida Keys National Marine Sanctuary staff for review. See *Protecting Historical Resources During Marine Debris Removal* in the Appendix to learn more. You can use the *Marine Debris Removal Flowchart* located in the appendix to assist you in identifying if an item should be removed or left in place.

Assessing Coral Health

Background - Corals and Thermal Stress



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We must protect and preserve habitats and ecosystems that we depend on. The community of the Florida Keys depends on a healthy reef ecosystem to support our livelihoods, which provide a diverse and beautiful place for people to explore.

Animals breathe oxygen and exhale carbon dioxide. Plants take in carbon dioxide and release oxygen back into the air. It's a symbiotic life process. But what happens when too much carbon dioxide is produced? When we burn fossil fuels like coal, oil and methane to power our homes and for gas in our cars, a byproduct is the production of carbon dioxide that gets released into the atmosphere. We call this **rampant** carbon dioxide because there's too much of it (as opposed to the **regular** carbon dioxide produced by respiration).

This rampant carbon dioxide builds up in the atmosphere and acts like a **heat-trapping blanket**, warming the Earth and ocean. The atmosphere is like a blanket that surrounds the Earth. When we burn fossil fuels like coal and methane for energy, we add carbon dioxide to this blanket making it thicker. The thicker a blanket gets, the more heat it traps underneath. The blanket effect leads to warming, which disrupts the climate.

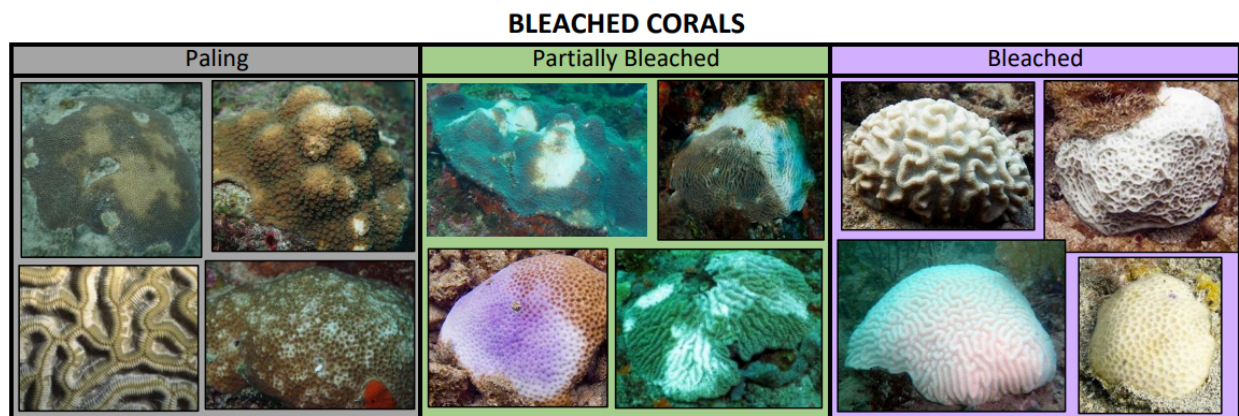
For corals, long periods of warmer ocean water can lead to coral bleaching. Corals get their color and most of their food from an algal partner that lives in their tissues. When the water temperature gets too hot, this algal partner produces toxins which can harm the coral. Corals expel the algae from their tissues, causing the corals to turn white and lose an important food source. When coral bleaching happens for an extended period of time, corals can get sick or die. It's time to rethink the use of fossil fuels in order to protect these ecosystems.

Guidelines for Marine Debris Cleanups During Heatwaves

We need your help to protect our fragile coral reef. The following guidelines have been developed in response to the heatwave events and are intended to minimize any additional stress to coral reefs in Florida Keys National Marine Sanctuary. *Goal: Clean Seas Florida Keys permit holders are required to follow these guidelines when conducting marine debris cleanups.*

Assess coral health prior to starting any cleanup activities. If corals are showing any signs of paling or bleaching only dive professionals who have been trained in Goal: Clean Seas Florida Keys protocols should conduct cleanups on those corals. Dive professionals should take great care to minimize impact and stress to corals during removals. If you feel removing the debris will cause damage to the coral please leave it in place and document it for future removals.

Recreational divers can participate in the cleanups but should not remove debris from corals showing any signs of paling or bleaching. Instead, they can focus on identifying debris locations, photographing debris or bleaching and/or removing debris from sand channels or other areas away from corals experiencing heat stress.



Credit: Florida Department of Environmental Protection, SEAFAN

- Paling: Coral tissue has either just begun to lose its zooxanthellae or is recovering from bleaching. Tissue appears lighter in color than typically observed.
- Partial Bleaching: Patches of fully bleached or white tissue.
- Bleached: Colony appears totally white. Some corals fluoresce when they lose their zooxanthellae but are functionally bleached.

What should you do if a reef is showing signs of bleaching?

- Recreational divers can photograph the reef and report conditions via SEAFAN.
 - Call the SEAFAN hotline at 866-770-SEFL (7335) or
 - [Submit a Report Online](#)
- Divers and snorkelers who have completed the BleachWatch training (online or in person) can submit bleaching reports through the BleachWatch system.
 - We strongly encourage you and your staff to complete the following BleachWatch training by MOTE. This citizen science training is extremely valuable to monitoring the health of our reefs before, during and after a bleaching event. www.mote.org/bleachwatch
 - [Submit a Report Online](#)



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- Photograph and document coordinates of debris that is not removed and note types of debris, entanglement and other details that will help support future removal missions. Submit this data to marlies.tumolo@noaa.gov and cbenson@marinesanctuary.org.

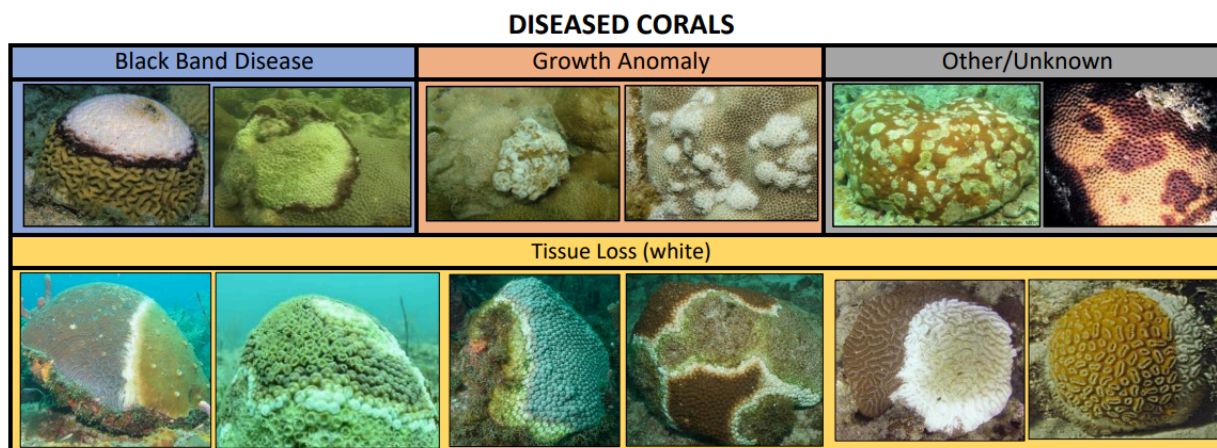
Background - Corals and Coral Disease

Coral diseases are generally spurred by biological stresses (bacteria, fungi, viruses) and nonbiological stresses (increased sea surface temperature, human impacts, pollutants).

Coral diseases are not unprecedented, but the frequency of coral diseases has significantly increased over the last century. Many scientists believe this is due to deteriorating water quality associated with pollutants and sea surface temperatures. The exact causes of coral diseases are unknown; however, the effects have been well documented. Unfortunately, coral disease is often fatal.

Guidelines for Marine Debris Cleanups During Disease Events

Do not remove debris from coral experiencing an active disease outbreak. Coral disease can be spread from one coral to another via touch and touching multiple coral heads in the process of debris removal could increase the spread of disease. If you notice that a coral is diseased please photograph the coral and submit a report via SEAFAN or BleachWatch (trained participants only).



Credit: Florida Department of Environmental Protection, SEAFAN

Neoprene gear, such as wetsuits, booties, and gloves, and the internal bladder of buoyancy compensation devices (BCDs) can harbor and proliferate pathogenic bacteria



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and other microorganisms by remaining damp and trapping water. These pathogens can also adhere to other dive and snorkel gear, especially when the diver directly contacts the bottom and touches corals and other benthic organisms. Pathogens on dive gear may survive for extended periods and can be transferred among reefs on subsequent dives, and, potentially, transmitted to reefs internationally, unless your gear is disinfected.

Dive and snorkel gear can contribute to the overall transmission of pathogenic bacteria among reefs. Just like handwashing is a common practice to prevent the spread of disease among humans, disinfecting gear and following other best practices is recommended to prevent the accidental transmission of coral disease between reefs. Divers and snorkelers can reduce their likelihood of encountering and transferring pathogenic bacteria through proper buoyancy and by avoiding touching marine organisms. As a precautionary approach, they can further minimize transmission of pathogens by sanitizing dive equipment between dives and before and after each dive excursion, especially when traveling between countries or between infected and uninfected locations.

General Guidelines for Disinfection

- ✓ Inspect dive gear and equipment and remove debris
- ✓ Move from “cleanest” site first to “dirtiest” last
- ✓ Decontaminate dive gear at end of day
- ✓ Decontaminate dive gear between sites, countries, & sensitive areas
- ✓ Properly dispose of disinfectant & rinse waste into sink, tub, or shower

DO

- ✗ Don't leave debris on dive gear
- ✗ Don't move from a diseased to a healthy site
- ✗ Don't forget to disinfect gear between sites, countries, sensitive areas, & end of day
- ✗ Don't dispose of disinfectant & rinse waste into ocean or storm drain

DON'T

What should you do if a reef is showing signs of disease?



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- Recreational divers can photograph the reef and report conditions via SEAFAN.
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- Divers and snorkelers who have completed the BleachWatch training (online or in person) can submit bleaching reports through the BleachWatch system.
 - We strongly encourage you and your staff to complete the following BleachWatch training by MOTE. This citizen science training is extremely valuable to monitoring the health of our reefs before, during and after a bleaching event. www.mote.org/bleachwatch
 - [Submit a Report Online](#)
- Photograph and document coordinates of debris that is not removed and note types of debris, entanglement and other details that will help support future removal missions. Submit this data to marlies.tumolo@noaa.gov and cbenson@marinesanctuary.org.

Coral Bleaching and Disease Resources

- [BleachWatch Training](#)
- [Coral Cheat Sheet](#)
- [Bleaching ID Guide](#)
- [Coral Bleaching Examples](#)
- [Coral Bleaching and Disease Factsheet](#)
- [General Guidelines for Gear Disinfecting](#)
- [Detailed Decontamination Guidelines](#)
- [Florida's Coral Reef Coral Disease Outbreak: Citizen Participation](#)

REPORTING

Permit Reporting

Each permit will have its own reporting requirements. Please make sure you are familiar with these and are reporting accordingly.

When possible, collect photos and videos of the damage that debris has done to marine ecosystems (before and after removal photos are good for this). This data can be used to inform resource managers as they decide how to protect fragile ecosystems. Please submit photos or videos to Florida Keys National Marine Sanctuary by emailing Marlies Tumolo (marlies.tumolo@noaa.gov). Include a signed Copyright License Agreement (in appendix).



Marine Debris Tracker

Document what is collected during your underwater cleanup. All debris removed from cleanup dives should be reported to **Marine Debris Tracker**:
<https://debristracker.org/>

When reporting your information, please select the list: Goal: Clean Seas Florida Keys. This will allow for proper tracking of debris removed from Florida Keys National Marine Sanctuary as a part of the Goal: Clean Seas Florida Keys program.

You can download the free Marine Debris Tracker app from [Google Play](#) or [iTunes](#), and track debris on the go with your phone or tablet

DISPOSAL

Many public works departments are supportive of marine debris removal efforts. As you plan removal events, contact your local solid waste department to see if it will provide a dumpster. This may include a small fee.

Monroe County welcomes groups that want to do community cleanups of areas that big equipment could not reach following Hurricane Irma. Monroe County also supports marine debris cleanup efforts.

If you are planning a community cleanup in unincorporated Monroe County and need Monroe County Public Works' support for pickup of the collected debris or disposal at a county transfer station, please contact Monroe County Solid Waste at least one week in advance of the cleanup at (305) 292-4536 to schedule.

FUNDING

The National Marine Sanctuary Foundation partners with the sanctuary to provide funding opportunities for Goal: Clean Seas Florida Keys participants. The purpose of this funding assistance application is to engage Blue Star Diving recognized operators in locating and removing underwater marine debris and aid in restoration efforts in the Florida Keys National Marine Sanctuary.

To be eligible for this funding opportunity you must be a current Blue Star Diving operator. The Foundation will award contracts to Blue Star Diving operators to locate



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and remove marine debris including derelict traps and trap debris, fishing gear, and other large debris items from target areas within the sanctuary. After contracts are awarded, funding will be reimbursed upon receipt of invoices to the Foundation and when proof of work, permit compliance, and Blue Star Program requirements are shown.

Please contact Cortney Benson at the Foundation regarding any request for further funding information: cbenson@marinesanctuary.org

**** For any questions regarding information in this document please contact Marlies Tumolo at Florida Keys National Marine Sanctuary: marlies.tumolo@noaa.gov ****

Many organizations and individuals participated in the Florida Keys National Marine Sanctuary Advisory Council working group to develop these protocols. Thanks to the Florida Keys National Marine Sanctuary Advisory Council marine debris working group members, NOAA Marine Debris Program, National Marine Sanctuary Foundation, Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, Artificial Reefs International, CRB Geological & Environmental Services Inc., Florida Keys Commercial Fishermen's Association, Florida Keys Dive Center, Florida Park Service, Florida Sea Grant, History of Diving Museum, MOTE Marine Lab, National Association of Underwater Instructors, Project Aware Foundation, Rainbow Reef Dive Center and REEF Environmental Education Foundation.

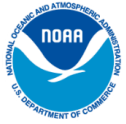


Goal: Clean Seas Florida Keys—Graphic design by Christina Stefan

APPENDIX

The following materials will support you in your marine debris removal efforts.

- Reef Cleanup Tips for Participants
 - We suggest that you provide these cleanup tips to volunteer divers and snorkelers prior to their participation in a reef cleanup and ask each participant to sign.
- Marine Debris Removal Flowchart
 - Flowchart to assist participants in identifying if an item should be removed or left in place.
- Goal: Clean Seas Florida Keys Cleanup Dive Instructions
 - Checklist document outlining steps start to finish for a Goal: Clean Seas Florida Keys cleanups dive.
- Protecting Historical Resources During Marine Debris Removal
 - Important information on how to identify historical resources and protect them during your cleanup dive.



Coral Reef Cleanup Tips for Participants

Corals are living animals! Hundreds of thousands of coral polyps grow together to build a coral colony. Polyps are delicate animals with a thin layer of tissue. When the hands of divers and snorkelers accidentally touch these little animals, the delicate tissue protecting them from sickness can be damaged. Coral reefs grow slowly and the reef you see today took thousands of years to grow. While you're cleaning the reef today, take care not to hurt the corals that build this community. Listed below are basic techniques that will make your reef cleanup safe for you and the corals.

Please be aware that this type of activity should only be conducted by certified divers. Snorkelers can participate in many other ways – locating debris through scoping, data collection, hauling debris, recording diving times, and on beach or shoreline cleanups, etc.

1. Attend an orientation and training session before your cleanup to familiarize you with the types of debris you can expect to find and to learn correct reef cleanup procedures.
2. PATIENCE is the key to a reef-friendly cleanup. Plan your dive and your strategy, make sure everyone in the group has a buddy and is aware of the plan. Make sure not rip, tear, or jerk at debris. Take your time and GENTLY remove items such as plastic bags, monofilament, and trap line. If you are struggling or unsure, ask the instructor or trained dive staff in your group for assistance.
3. You will not be able to cover a large area of the reef. This activity is labor intensive and time consuming. It is more important that you work slowly and carefully to remove debris, than to rush and inadvertently damage living coral.
4. Avoid touching the coral. The mucous membranes of the polyps can be damaged by human touch, making them more susceptible to disease.
5. While cleaning the reef in a stationary location, maintain a body position such that your legs are higher than your head and hands. Your body should be oriented at a 45 degree angle to your work area. Make sure to wear gloves and to secure your gauges and second stage so they do not come in contact with the reef. Maintain your buddy team. If a person is working their buddy should always be watching them to ensure their safety and avoid entanglement hazards.



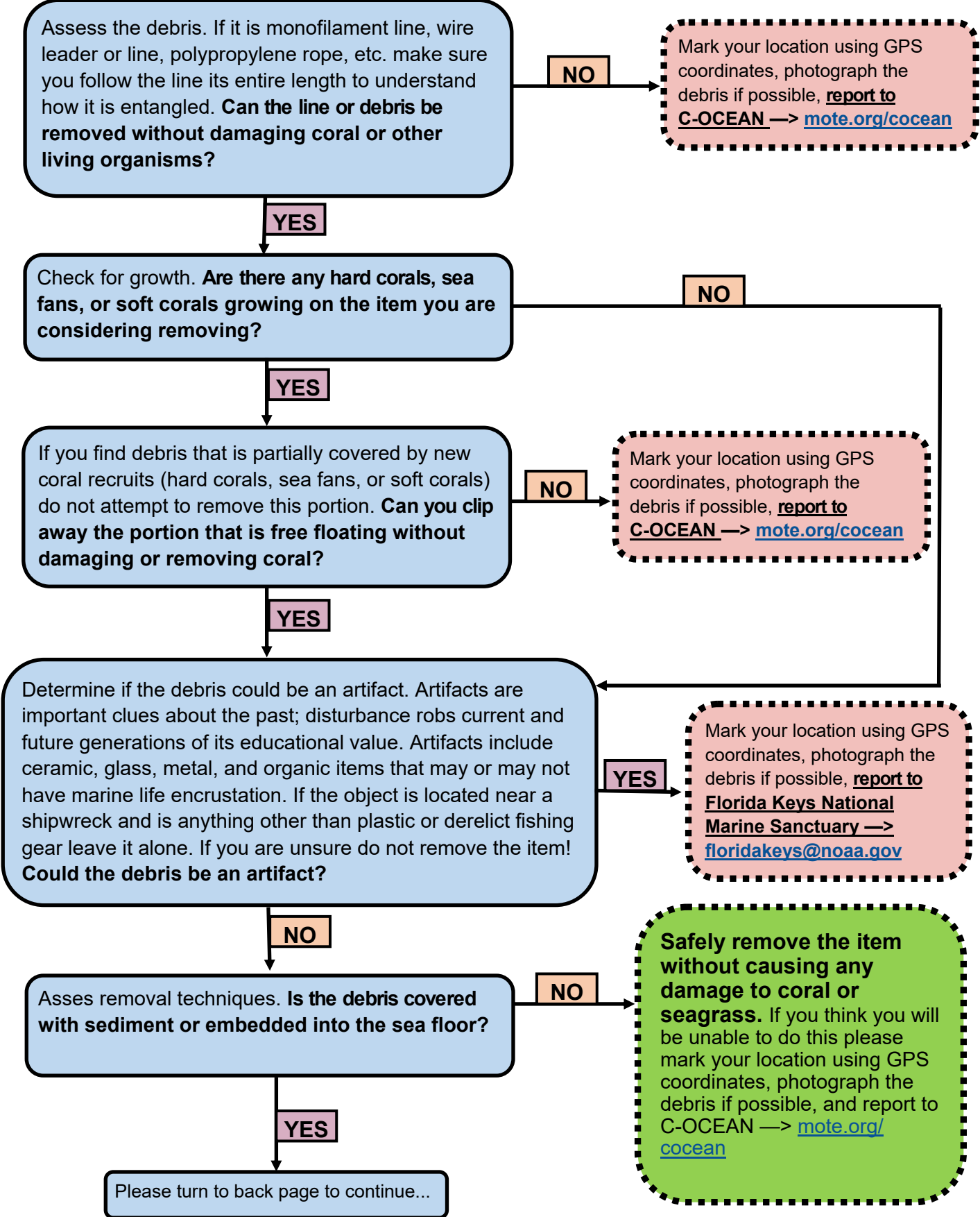
FLORIDA KEYS NATIONAL MARINE SANCTUARY

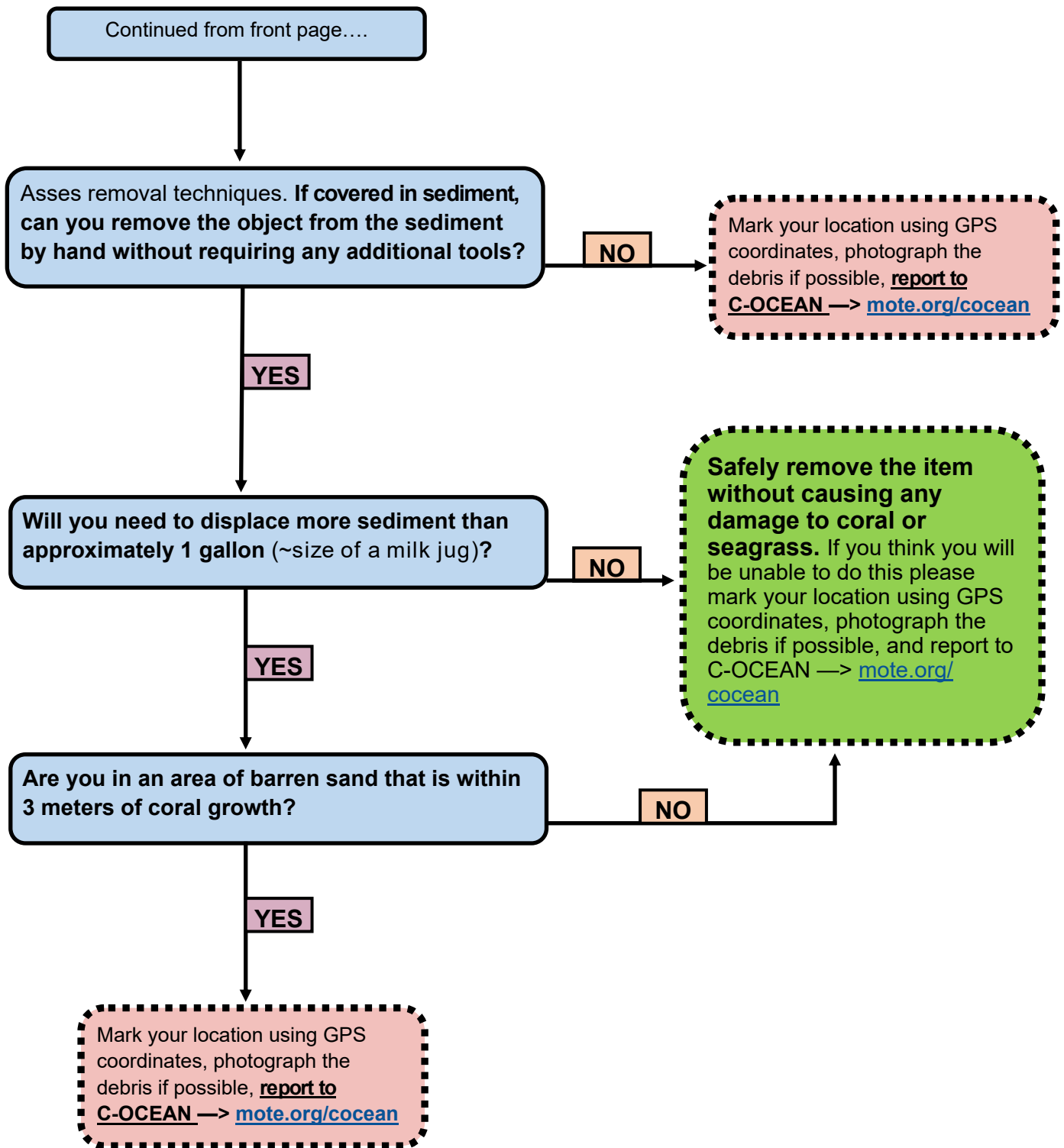
6. Avoid standing on the bottom, resting your knees on the bottom, or kicking up sediments with your fins. Maintain proper buoyancy practices throughout the dive. If you must stand or kneel, find a clean, sandy area away from coral.
7. If you find debris that is partially covered by new coral do not attempt to remove this portion. Clip away the portion that is free floating with a minimum of encrusting organisms.
8. Do not pull off monofilament line, anchor line, or nets. Cut into smaller pieces using the wire cutters/Sea Snips.
9. Do not remove items that are embedded in sediment in the seafloor. If the item is easily removed with little disturbance it may be removed. However, no items should be dug out of the ocean floor or cause major disturbances in the sediment. If this is anticipated the item should be left.
10. Do not collect anything that is too large/heavy/deep or that will jeopardize your safety. Only use tools that are within your recreational dive training.
11. Be careful with sharp objects (fishing hooks, broken glass). If you are unable to remove hooks, focus on removing fishing line because hooks will rust/decompose in the water.
12. Do not disturb, damage, or remove historical resources as they are protected within the sanctuary. Particularly with anchors, glass, ceramics, nails and copper sheathing take care to ensure you are not removing artifacts. If in doubt consult with your dive guide.
13. Special rules apply to the removal of derelict traps and trap debris. Consult with your dive guide to ensure these items can be removed.

I agree to follow the reef cleanup tips listed above to minimize negative impacts to the important ecosystems in Florida Keys National Marine Sanctuary.

Participant Signature/Date:

Marine Debris Removal Decision Making Flow Chart






** Please refer to Underwater Marine Debris Clean Up Protocols with any questions or for additional information. **

Goal: Clean Seas Florida Keys Cleanup Dive Instructions

(The following checklist will help you implement your Goal: Clean Seas Florida Keys dives and ensure you are meeting all key program requirements.)

- Call FWC LE South regional contact (561) 357-4200 no later than 24 hours prior to conducting your first cleanup activity. They will request the following information:
 - Approximate dive site area:
 - Vessel Name:
 - Registration #:
 - # of POB (people on board):
 - Departure time:
 - Return time:
 - Emergency contact on board:

Permit #... NONE it is an authorization letter: If FWC asks for one say there isn't and if they need they can contact Yvette Mesa for further details at (850) 617-6014. Let them know you have a two-year permit and will be in the approximate area listed above at any point during that time. If they request a call back, follow through with one.

- Make sure the FWC authorization and FKNMS permit are onboard all participating vessels, it is required.
- Ensure that a staff member who has completed proper online G:CS training will be diving.
- Assess conditions to make sure it will be productive and safe to conduct a dive that day.
- Ensure all divers participating are trained using the following presentation
 -  2024 G:CS recreational diver training presentation.pptx
- On boat / dock before boat: Give Blue Star and cleanup specific dive briefing and plan the dive accordingly (ie. Create groups that have a mixture of more experienced divers with less experienced divers).
- Perform Goal: Clean Seas Florida Keys dive
- Call FWC upon return (if requested) (305) 470-6863
- Report all cleanup data to Marine Debris Tracker www.debristracker.org
- IMPORTANT:** Report trap debris to Yvette Mesa by filling out the trap debris form (one form per trap): [FWC trap debris removal form](#)

For funded operators (No later than 30 days after the dive):

- Fill out the [Goal: Clean Seas Invoice template](#) (This form must be filled out to receive reimbursement)
- Submit the invoice to the Foundation through BILL.com (or via e-mail):
 - To submit an invoice and receive payment through direct deposit, you must create an account with BILL.com and email the invoice as an attachment to marinesanctuarybills@bill.com and cc cbenson@marinesanctuary.org.
 - After emailing your initial invoice, the Foundation's finance department will send you information to create an account in our BILL.com financial system.
 - If you do not set up a bill.com account, you will receive payment via check.
- Social media posts and other media communications must state cleanups were performed under permits from Florida Keys National Marine Sanctuary and Florida Fish and Wildlife Conservation Commission and were funded either by or in part by the National Marine Sanctuary Foundation (Make sure if photos or videos are taken people are following the guidelines in the [Goal: Clean Seas Florida Keys protocols](#) . Add one of the following statements to photos and videos shared on media platforms:
 - Funded by the foundation: "Support for this [program/event/project/publication/etc] was provided by a [grant/contract/sponsorship] from the National Marine Sanctuary Foundation. All activities conducted were done so under the proper permits."
 - For instances in which the Foundation is not the sole supporter: "Support for this [program/event/project/publication/etc] was provided in part by a [grant/contract/sponsorship] from the National Marine Sanctuary Foundation. All activities conducted were done so under the proper permits"

If you have any further questions, send them to Cortney Benson;cbenson@marinesanctuary.org

Maritime Heritage



Photo: Matt Lawrence, NOAA

A diver scouting for marine debris.

What should I do if I find an historical resource?

- Enjoy viewing it. It may have last been used by another person hundreds of years ago.
- Don't pick-up, move, hand fan, or poke at it.
- Take a photo or make a sketch.
- Note its location in reference to a mooring buoy or other prominent landmark, better yet write-down its coordinates from a GPS.
- Alert your clean-up coordinator or sanctuary staff by sending an email to FloridaKeys@noaa.gov with the information you collected.

Protecting Historical Resources During Marine Debris Removals

Help protect our maritime heritage

Evidence of our human history lies on the sanctuary's seafloor in the form of historical resources - objects made or modified by humans that provide clues about the past. Think of historical resources like pages from a vast history book that reveal a story when examined with nearby artifacts. Historical resources are non-renewable; what we protect now is all that will ever be available to tell our shared story.

As someone helping to make Florida Keys National Marine Sanctuary a better place, your actions are greatly appreciated. Please also ensure that our history is not thrown away in the process. An estimated 2,000 shipwrecks are believed to have occurred in the sanctuary; as a result, historical resources are everywhere.

Historical resources are protected by state and federal laws intended to preserve America's history.

How do I know if something is a historical resource?

Historical resources come in many different shapes, sizes, and materials and can sometimes be difficult to recognize. They range from large iron shipwrecks, sunken aircraft, and the remains of reef markers to small nails, ballast stones and fragments of bottles or pottery.

While a shipwreck is easily recognized as an historical resource, small pieces of metal, stone, glass, and ceramics are equally important and can assist in dating and



Photo: NOAA

The above historical resources (pieces of copper sheathing and a copper spike with a pencil for size reference) were recovered during a clean-up dive. The diver thought they were interesting and failed to apply the guidance he received before the dive. Copper sheathing was first used in the late 18th century to protect wooden ship hulls from wood-boring organisms. It is an important clue for dating shipwrecks.



The above items are all historical resources and should not be moved or removed during marine debris cleanup. Photos left to right: FL BAR, Mel Fisher Maritime Heritage Society and NOAA.

interpreting an archaeological site. Historical resources are often, but not always, covered by marine encrustation. In general, if you think you have found an interesting object that you would want to keep, or you are unsure whether it is marine debris or a historical resource, do not remove it.

Cleanups should focus on harmful marine debris such as derelict fishing gear and plastic. Some derelict fishing gear requires permits to remove. Unlike glass, ceramic, or metal, plastic breaks down into small pieces that are then eaten by marine animals. This

is harmful to the animals and ultimately to people who may then eat the fish in the future.

Historical resources may be buried in sediment. If you find an unknown object partly projecting from the sea floor, do not hand fan or move the sediment to get a better look. This causes increased deterioration of the historical resources and is also prohibited under sanctuary regulations.

Lost Anchors

During marine debris cleanups, divers often find anchors tangled in the reef. It is ok to

recover modern anchors, especially those with anchor line attached, but divers should leave old anchors in place as they are historical resources. Older anchors are usually encrusted with a white or reddish-brown, concrete-like layer and may have marine organisms living on them. See the examples below for what should be left in place vs. recovered.

For more information contact

Florida Keys National Marine Sanctuary archaeologist Matthew Lawrence at: Matthew.Lawrence@noaa.gov or (305) 434-9383



Photo: NOAA

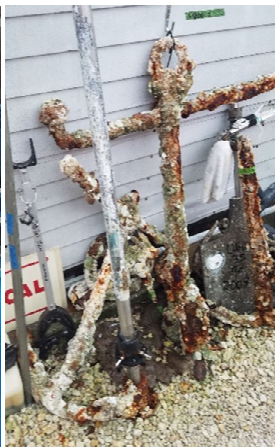


Photo: NOAA



Photo: NOAA



Photo: NOAA

These anchors and artifacts are historical resources and not marine debris.

Commonly used modern anchors, like the examples above, can be considered marine debris.