



PROJECT REPORTS

**2016**





Copyright © 2017 Global Underwater Explorers. All rights reserved.  
www.gue.com

**Edited by Mario Arena**  
Published in Florida, USA 2017

**Use of photos from this document is not permitted without the explicit consent of the author and/or photographer.**

*Baseline Explorer*, Miami Waterkeeper, Fort Lauderdale, FL, USA - **Photo by Doug Brandon, Amanda White**

Nekton Foundation, Bermuda - **Photo by JP Bresser**

Wrecks off the Coast of North Carolina, USA - **Photo by Kirill Egorov**

Ongoing Baltic Sea Wreck Divers - **Photo by Mattias Vendlegard**

Ålesund, Norway - **Photo by Christian Howe**

Nuttlar, Sauerland, Germany - **Photo by Daniel Schmid**

Mexico Cave Exploration Project - **Photo by Claudio Provenzani**

CMAS/UNESCO Dive for Peace Expedition, North Sea, Danish Exclusive Economic Zone - **Photo by Derk Remmers**

100 Years Kea Shipwrecks Conference Diving Expedition, Kea, Greece - **Photo by Derk Remmers**

Hidden River Project, Reseau de L'Ouyse, Lot, France - **Photo by Niko Gerdau, Maren Isigkeit**

GUE Belgium's 2016 Projects - **Photo by GUE Belgium**

Lampedusa and Mazzara, Sicily, Italy - **Photo by Laura Pasqui**

Ghost Fishing in Lake Constance - **Photo by Peter Gaertner**

Underwater Cave Project, Bonaire, Caribbean - **Photo by JP Bresser**

Cave Project Morpheus, Zagorska Mreznica, Ogulin, Croatia - **Photo by JP Bresser**

North Sardinia, Italy - **Photo by Claudio Provenzani**

Gue Project Rossarol - **Photo by René Lipmann**

Los Angeles, CA, USA - **Photo by Jenny Lynn**

Project Baseline Tank Cave, South Australia, Australia - **Photo by Cameron Russo**

Lipari Island, Italy - **Photo by Claudio Provenzani**

Resurgunce de Fourbanne Exploration Project, Fourbanne, Doubs, France - **Photo by Marco Garitta.**

Graphic Design: Grafica Cossu - [www.graficacossu.it](http://www.graficacossu.it)

# CONTENTS



- 5** *Baseline Explorer*, Miami Waterkeeper, Port Everglades, Fort Lauderdale, FL, USA
- 6** Nekton Foundation, Bermuda
- 7** Wrecks off the Coast of North Carolina, USA
- 8** Sicily, Italy  
Ghost Fishing, Skottevik, Aust-Agder, Norway
- 9** Ongoing Baltic Sea Wreck Divers
- 10** GUE Documentation Contest, Lot, France  
*Mars the Magnificent* Baltic Sea, Sweden  
S.L. *Dowell* Photogrammetry Project Lake Washington Seattle, WA, USA
- 11** Ålesund, Norway
- 12**
- 13** Nuttlar, Sauerland, Germany
- 14** Mexico Cave Exploration Project
- 16** CMAS/UNESCO Dive for Peace Expedition, North Sea, Danish Exclusive Economic Zone
- 17** 100 Years Kea Shipwrecks Conference Diving Expedition, Kea, Greece
- 18** Hidden River Project, Reseau de L'Ouyse, Lot, France
- 20** 2016 Projects GUE Belgium
- 22** Lampedusa and Mazzara, Sicily, Italy  
Ghost Fishing in Lake Constance
- 23** Underwater Cave Project, Bonaire, Caribbean
- 24** Cave Project Morpheus, Zagorska Mreznica, Ogulin, Croatia
- 25** Ghost Fishing & Project Baseline Costa Brava
- 26** Project Baseline Sant Jordi, Spain  
Arihagne Documentation Project
- 27** North Sardinia, Italy
- 28** GUE Project Rossarol, Adriatic Sea, Croatia
- 29** Los Angeles, CA, USA
- 30** Project Baseline Tank Cave, South Australia, Australia  
TSS *Kanowna*, Victoria, Australia
- 31** Lipari Island, Italy
- 32** Winter: Finale Ligure, Italy
- 33** Resurgence de Fourbanne Exploration Project, Fourbanne, Doubs, France
- 34** Portofino Divers





**Press:** Sun Sentinel – Florida, The Guardian, Miami Waterkeeper, Daily Mail – UK, Palm Beach New Times – Florida.

**Project crew:** Todd Kincaid - GUE - Diver/Project Leader; Meredith Tanguay - GUE Diver; Rick Thomas - GUE - Diver; Kathy Dicker - GUE - Diver; Kristie Connolly - GUE - Data Management; Robert Carmichael - BGL - Submersible Pilot / Project Leader; Randy Holt - BGL - Submersible Pilot; Shane Zigler - BGL Submersible Tracking; Kenny Hague - BGL - Submersible Support; Ted Cole - BGL - Deck Support; Austin Adams - BGL - 1st mate; Jeremy Addaway - BGL - Captain; Larry Bennett - BGL - Captain.

Number of Volunteer Divers: 4; Number of Dives: 4;  
Number of Submersible Passengers: 12; Number of Dives: 12;  
Total Number of Transects: 3; Total Transect Distance: 3 km.

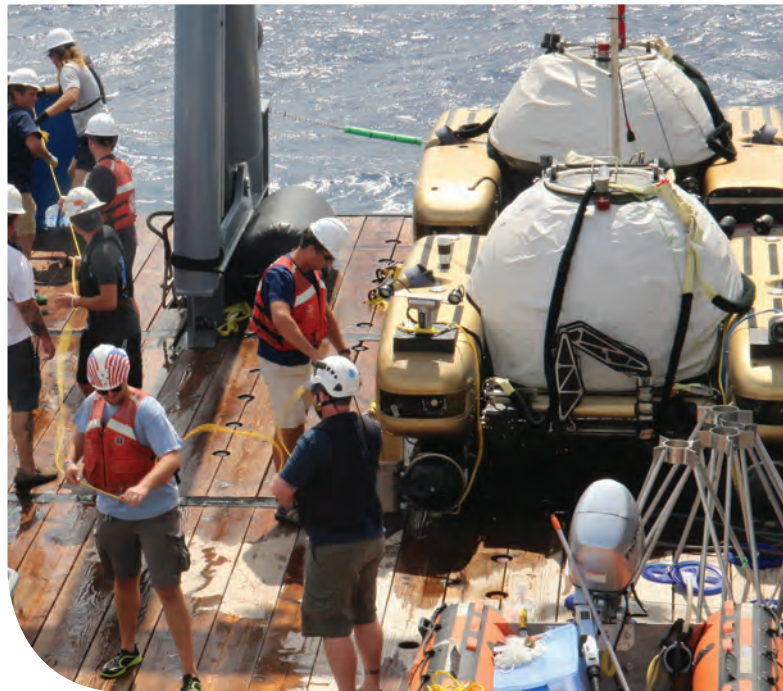
# BASELINE EXPLORER

**Miami Waterkeeper,  
Port Everglades  
Fort Lauderdale, FL, USA**

March 20-22, 2016

**P**roject Baseline partnered with fellow nonprofit group Miami Waterkeeper to contribute to the pre-dredging baseline knowledge of the Port Everglades Channel area. As post-Panamax ships are coming into vogue following the enlargement of the Panama Canal, many U.S. East Coast ports are expanding to accommodate these vessels. Miami Waterkeeper determined that sedimentation from the dredge material and methods impacted endangered elkhorn and other coral species when Port Miami was dredged recently. The same methods used in Miami are currently planned for the Port Everglades dredging project, so documenting any endangered species and establishing a pre-dredge baseline in the possible impact areas is important.

Divers established several baseline stations and recorded multiple fish count videos and video transects covering



3 km, all of which have been made publicly available through the Project Baseline database. Operating from R/V *Baseline Explorer*, divers partnered with manned submersibles to bring scientists, press, and VIPs such as renowned explorer and environmental advocate Philippe Cousteau to witness, document, and bring international awareness to the current state of the reef adjacent to the Port Everglades Channel. Check out Philippe Cousteau's comments on the importance of ocean exploration: <https://youtu.be/WYBV-GW900nU>. The event concluded with an open house on the deck of *Baseline Explorer* to raise public awareness on the planned dredge and share information about the capabilities of the ship, subs, and GUE dive teams. Local GUE divers continue to contribute to these and other South Florida Project Baseline stations.



# NEKTON FOUNDATION, BERMUDA

**July 18 - August 15, 2016**  
**Deep Ocean Survey, Bermuda**

**P**roject Baseline partnered with the Nekton Foundation and with scientists from several universities, including Oxford and Stanford, to execute the first mission of the XL Catlin Deep Ocean Survey. The team explored and documented five sites at depths between 15 and 300 m. Submersibles at 300 m, 200 m, and 150 m and volunteer divers at 90 m, 60 m, 30 m, and 15 m identified around 300 new species of coral, sponges, and algae. The team completed 138 transects covering 22 km and carried journalists and UNESCO representatives to depth to announce the world's first High Seas World Heritage Site, the Sargasso Sea.

**Check out the video on the Nekton team's perspective:** <https://youtu.be/DFsZ-YSqmYo>

Number of Volunteer Divers: 10; Number of Dives: 17;  
Number of Submersible Passengers: 48; Number of Dives: 77;  
Total Number of Baseline Transects: 138;  
Total Transect Distance: 22 km.

**Press:** Forbes, The Guardian, Nekton, Sky News, The Telegraph

**Project crew:** Todd Kincaid - GUE - Diver / Project Leader; Meredith Tanguay - GUE - Diver / Dive Logistics Officer; Martin McClellan - GUE - Diver / Dive Logistics Officer; Susan Bird - GUE - Diver; Kevin Dow - GUE - Diver; Graham Blackmore - GUE - Diver; JP Bresser - GUE - Diver / UW Videographer; Su Eun Kim - GUE - Diver; Kyungsoo Kim - GUE - Diver; Kristie Connolly - GUE - Data Management; Amanda White - GUE - Journalist / Media Coordinator; Doug Brandon - GUE - Media Content Creator & Editor; Robert Carmichael - BGL - Submersible Pilot / Project Leader; Randy Holt - BGL - Submersible Pilot; Shane Zigler - BGL Submersible Tracking; Kenny Hague - BGL - Submersible Support; Ted Cole - BGL - Deck Support; Austin Adams - BGL - 1st mate; Jeremy Addaway - BGL - Captain; Larry Bennett - BGL - Captain.



# Wrecks off the Coast of North Carolina, NC, USA

August-September 2016

Project Baseline partnered with NOAA and with scientists from the National Marine Sanctuaries, the Bureau of Ocean Energy Management, and the Office of Ocean Exploration and Research to conduct laser and photogrammetry surveys of wrecks off North Carolina that had sunk in battle during WWII and had not been visited since. Submersibles explored the *U-576* and *SS Bluefields* at about 240 m depth, while divers explored the wreck of the *YP-389* at 90 m depth. Despite bad weather, the mission completed seven surveys and three 3D photogrammetric models. The work completed here will advance NOAA's goal of expanding the marine sanctuary and foster ongoing Project Baseline collaborations.

**Check out this video on teaming with NOAA:**

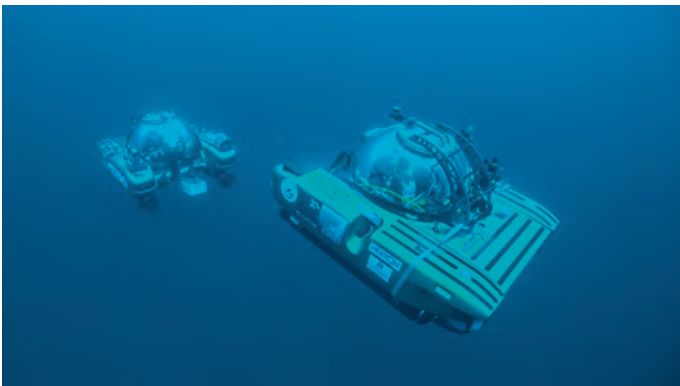
<https://youtu.be/2avxrKasvoQ>



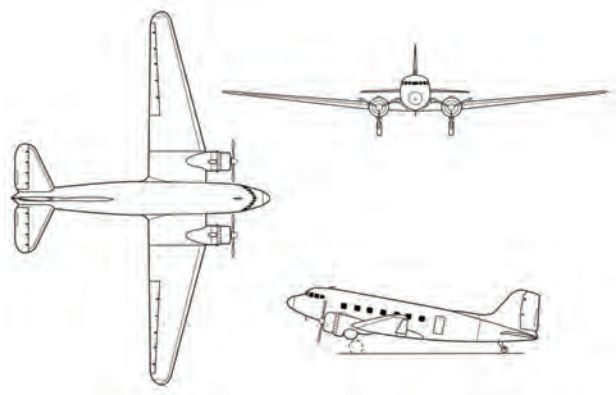
**Press:** NOAA, Washington Post, Charlotte Observer, Coastal Review, Daily Mail - UK

**Project crew:** Todd Kincaid - GUE - Diver / Project Leader; Meredith Tanguay - GUE - Diver / Dive Logistics Officer; JP Bresser - GUE - Diver / UW Videographer; Jarrod Jablonski - GUE - Diver; Richard Lundgren - GUE - Diver; Kirill Egorov - GUE - Diver; Jong Moon Lee - GUE - Diver; Kristie Connolly - GUE - Data Management; Melissa Price - GUE - Data Management; Amanda White - GUE - Journalist / Media Coordinator; Robert Carmichael - BGL - Submersible Pilot / Project Leader; Randy Holt - BGL - Submersible Pilot; Shane Zigler - BGL Submersible Tracking; Kenny Hague - BGL - Submersible Support; Ted Cole - BGL - Deck Support; Austin Adams - BGL - 1st mate; Jeremy Addaway - BGL - Captain; Larry Bennett - BGL - Captain.

Number of Volunteer Divers: 4; Number of Dives: 2;  
Number of Submersible Passengers: 8; Number of Dives: 10; Total Number of Surveys: 7; Completed 3D models: 3.



# A team of GUE divers discovered the wreck of a Douglas C-47 “Skytrain” off the Sicilian coast near Syracuse (Italy).



June 8, 2016 **Sicily, Italy**

A team of GUE divers discovered the wreck of a Douglas C-47 “Skytrain” off the Sicilian coast near Syracuse, Italy. The C-47 was an American military transport aircraft used extensively during World War II to carry paratroopers and tow Waco CG-4 gliders. The newly discovered aircraft was shot down at sea by friendly fire the night of

July 13, 1943, during Operation Fustian, one of the missions connected with the Allied invasion of Sicily. In addition to four members of the US Air Force crew, aboard the aircraft were sixteen British paratroopers who probably jumped in the Drop Zone before the sea landing.

The aircraft was equipped with two Pratt & Whitney R-1830-92 Twin Wasp double star radial engines, which are still in good condition. On the wreck, lying on a sandy bottom at about 69 m, an almost intact parachute and some Sten Mk II guns were found.

The discovery was made by Fabio Portella and Nicola Giusti who are associated with Cape Murro Diving Center. Fabio Deffar, Francesco Bombara, and Antonio Implatini contributed to the discovery as surface assistants.

In the spring and summer of 2017, video and photo documentation, including a 3D rendering, will be conducted in order to evaluate and organize the laying of concrete block barriers on the sea bottom to protect the aircraft from fishing nets.

November 13 –18  
**Skottevik,  
Aust-Agder, Norway**

A team of GUE divers gathered to kick off some ghost fishing efforts on the southern coast of Norway. The group gathered in Skottevik, Norway, to learn net removal techniques and methods for bringing nets, debris, and lobster cages up to the surface. They then practiced and helped clean the waters of the south coast. The team was supported by the dive center A-Dykk in Kristiansand.

## GHOST FISHING

The dive sites visited were diverse, ranging from 15 to 45 m-deep natural sites to wrecks such as the *MS Seattle* at 25 to 71 m, and the *SS Gudrun* in Flekkefjord at a depth of 50 m. The sites were explored using scooters, and any added objects or tools were marked and removed, when possible, in later dives.

**GUE Team:** D. Remmers (Lighting, Pointer), K. Wallasch (Lighting), B. Rose (Lighting), O. Khan (Photography), T. Lundahl (Captain, A-Dykk)





# ONGOING: BALTIC SEA WRECK DIVERS

Åland Islands, Baltic Sea, Finland

The group is composed of Mattias Vendlegård, Fredrik Gestranus, Mattias Sjöström, Conny Alexandersson, and Daniel Kressin. The group has also been supported by other great divers from Sweden and Finland, including Rasmus Ravensborg, Sami Paakkarinen, and Jerry Wilhelmsson, as well as local Åland divers.

The project divers can be seen here:

<https://www.facebook.com/Baltic-Sea-Wreck-Divers-BSWD-441951409310773/?fref=ts>

**B**altic Sea Wreck Divers is a small group dedicated to the research and documentation of the historical wrecks around the Åland Islands in the Baltic Sea. During the 2015 and 2016 seasons, activities have mainly focused on creating a video about the marvelous wrecks of the area. The video is planned for release in 2017. Additional efforts have been devoted to identifying some of the wrecks that we have known about for some time but which remain unidentified. For example, a cargo ship that was nicknamed the “Wreck in the North” for many years has been finally identified as the *SS Erling*, a 900-ton Norwegian freighter which mysteriously sank on October 17, 1895. The discovery of the engine plate revealed the engine number which helped us determine the identity of the wreck.

In 2017, the group plans to shoot and create short (one minute) videos featuring each several spectacular wrecks in the area. Also, we plan to explore and document some promising deeper targets.



September 26 - 30, 2016

# GUE DOCUMENTATION CONTEST LOT, FRANCE

---

Coordinated by GUE Cave Instructor Trainer Andrea Marassich, the third edition of the GUE Documentation Contest was dedicated to the well-known dissolution caves of France, located between the Lot and Dordogne departments.

More than sixty divers documented the Emergence du Ressel, Source de Landenouse, Fontaine St. Georges, Trou Madame, Cunhac, and Marchepied systems.

National teams from seven countries and an array of divers with varying backgrounds in terms of experience and skills participated in the contest. Each team was assigned one of the dive sites one week before the beginning of the contest, and they had complete freedom in organizing their team, roles, objectives, and necessary tools. Each team then chose the best means to present their final results to a prestigious jury.

The Emergence du Ressel, Source de Landenous, and Fontaine St. Georges are quite benign locations, but the challenge was to document these caves with an unconventional and innovative approach even in the face of challenging logistics. Trou Madame, for example, is a sump cave and required a combination of dry caving and diving, while Marchepied is characterized by a long initial restriction.

Cunhac is not frequently visited due to the previous lack of exploration, but contest divers managed to produce the first complete digital survey of the site.

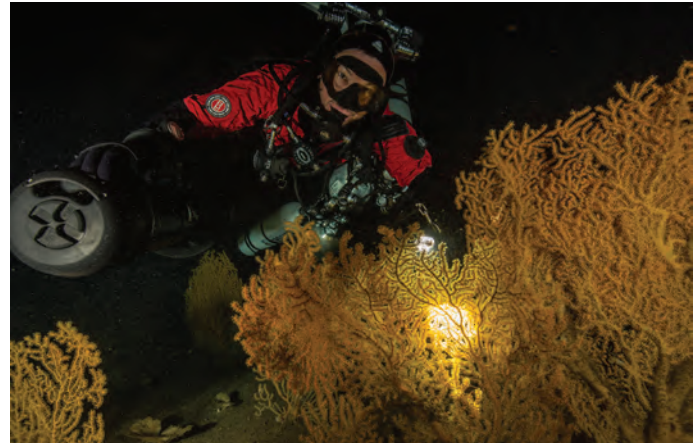
The three jury members were hand picked: Rick Stanton, one of the most famous and active European explorers in the last twenty years and a leading member of the British Cave Diving Group; Pedro Balordi, one of the most well-known and aggressive cave explorers, especially when it comes to multi-sump diving; and André Grimal, the former owner of the first filling station available in the Lot region, an avid cave diver, and longtime supporter.

The 2016 GUE Documentation Contest was possible thanks to Olivier Bertieux, who offered full support from his logistics base, including fills and extra equipment, on top of managing permissions with the local municipality and authorities.

Presentations and the final verdict from the jury occurred in the Salle de L'Horloge in the old center of Gramat, located in the middle of the cave region. The results, including high resolution pictures, 3D models, panorama shots, and video footage from the different teams have been uploaded to multiple websites. The Cunhac survey has been added to the website [Plongeesout.com](http://Plongeesout.com).



## August 27 - September 13, 2016, **Ålesund, Norway**



Every year a team of GUE divers travels to Ålesund, Norway to collect marine specimens on behalf of the marine museum Ozeaneum in northern Germany. The Ozeaneum is one of the world's foremost facilities for exposing people to the unique and diverse life in Europe's northern seas. The facility is proud to show the underwater world in its full beauty in its aquariums while creating public interest and awareness, which helps generate support for the conservation of the aquatic realm. Many species displayed here, such as cold water corals and monkfish, are rarely found in other aquariums worldwide. The Ozeaneum benefits from a well-trained GUE team that is capable of collecting marine species, even at great depths.

Since 2007, the Ozeaneum's GUE team travels to Ålesund annually. Collecting specimens is a delicate process and one that requires knowledge of characteristics of a diversity of creatures. The skin of an anglerfish, for example, is so fragile that it would become inflamed if touched. Only the soft surface of special bags can capture it without doing harm to the sensitive fish. The Ozeaneum divers have to be careful when leading the fish into the bags. The Norway redfish, on the other hand, is extremely sensitive to pressure reduction and lives in water depths of 50 m or greater. It is a complicated process to bring it to the surface alive because it needs longer decompression times than humans. Divers catch them with dip nets and start the decompression ascent with them. At twelve meters the fish is put into a net cage, where it's left for extended decompression.

Later, the fish can be pulled to surface, checked for DCS, and wet recompressed again if needed. A special task lies in the collection of cold water corals. These special corals need habitats with strong currents, an ideal temperature of six to eight degrees Celsius, and absolute darkness. Its normal depth range varies between 200 and 1,000 m, but it can be found shallower if conditions are perfect. After many unsuccessful descents to approximately 90 m to search for corals, the team found a beautiful underwater mountain covered with cold water gorgonians. Its base lies at 100 m and it ascends to 85 m with a diameter on top of 30 m, making this an extraordinary site. The divers were able to carefully collect beautiful corals and bring them to the surface. The collected species are displayed in the aquarium to educate the public and help researchers understand processes in the aquatic realm.

In 2016, a wide range of dives were conducted, ranging from shallow down to depths of 90 m. On most of the dives scooters were used, either to search wide areas or to remain stationary in strong tidal currents. The collected specimens were transported to northern Germany in a special cooling truck with water tanks.

**Team:** Henning May (Project and Diving Leader), Christian Howe (Assistant Diving Leader, Photographer), Dr. Timo Moritz (Diver, Ichthyologist), Alexander von den Driesch (Diver, Head of Aquaria), Kevin Kleemann (Diver, Aquarist), Alexander Dressel (Diver, Aquarist), Steffen Berndt (Boat Captain, Technician).

July 2016

# MARS THE MAGNIFICENT BAL TIC SEA, SWEDEN

**F**ourteen international GUE scientific divers participated in the exploration of the *Mars* wreck site. The main goals for this project included photo documentation and further investigations into life—or rather death—onboard. Due to unusual conditions, the visibility was reduced, hampering the ability to reach the photographic goals of the project. Despite the reduced visibility, progress

was made exploring the 22 grids in order to locate and geo-reference human remains, artifacts, and unidentified objects. There were no injuries during the project; all the divers were safe despite challenging conditions.

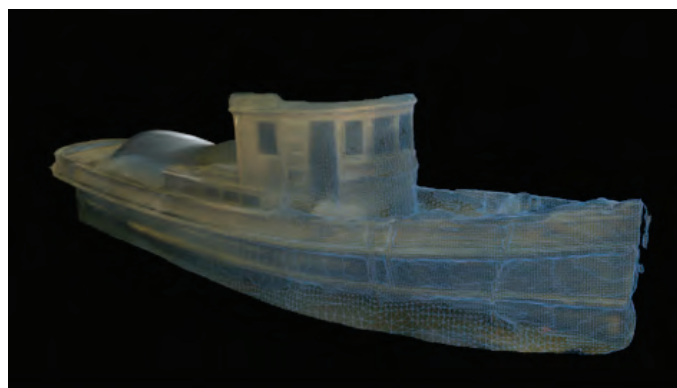
Number of Volunteer Divers: 15;  
Number of Dives: 48

## S.L. DOWELL PHOTOGRAMMETRY PROJECT LAKE WASHINGTON SEATTLE, WA, USA

May 2016 - Present

**I**n 1899, a wooden-hulled steam tug named the *Griffin* was built in Friday Harbor, primarily to haul coal across Lake Washington. Repowered and remodeled in 1912, she was renamed *S.L. Dowell* after her new owner. In October 1922, as the tug towed a raft of coal barges, she hit a snag off Mercer Island and quickly sank. The captain and engineer barely had time to escape to one the barges being towed. Today, the *S.L. Dowell* rests in approximately 190 ft of fresh water several hundred yards off Seattle's Leschi neighborhood, and the wreck is accessible from shore with the use of a scooter.

Seattle has a strong maritime history and is home to the Center for Wooden Boats, a museum specifically dedicated to vessels of the 18th century. The bell of the *S.L. Dowell* is currently in this museum. Our goal was to



give the non-diving public a better view of what the *Dowell* looks like today. With that goal in mind, four members of GUE Seattle have so far conducted six dives, taken over 1,000 images of the wreck, and assembled a 3D model of the wreck using Agisoft Photoscan software. The model is not 100% complete and more photos are required to fill in the details, which will be completed during 2017. Our ultimate goal is to be able to have both a digital and a 3D printed model in The Center for Wooden Boats.

**The current 3D model can be seen here:**

<https://sketchfab.com/models/863902923947403da88d55d0995f23ab>

**2016 Team:** Alex Adolfi, Kathryn Arant, Kees Beemster  
Leverenz, Steve Ratcliffe



## GUE Project Nuttlar

April 7 - 10, 2016  
**Nuttlar, Sauerland,  
Germany**

In 2013, a team of GUE instructors, divers, and friends led by GUE President Jarrod Jablonski started the GUE Project Nuttlar, focused on surveying a slate mine in Nuttlar, Sauerland, mid-Germany. This mine was closed by the company in 1985, and after shutting down the pumps, the mine was partially flooded. Today, the underwater section can be divided into two parts: the so-called "Katze" has good visibility, is easy to access, and the dives are easy in regards to navigation, but the "Kaiser-Wilhelm-Stollen" is a lot more complicated. In parts, the visibility can drop to zero, and it requires long dives in water as low as 8 degrees Celsius. The mine was opened to divers in 2013. Due to the history and the structure of the mine, with diagonal layers of slate in the mountain, there were no maps that divers could easily use to plan their dives in the mine. Therefore, GUE was asked by Matthias Richter, the operator of the dive shop Tauchschule Sorpesee, to conduct a project to create a map that could be used by visiting divers. The project would also explore the not-yet-dived areas at the lower level and document the mine with pictures and video.

During the fourth installment of the project in 2016, the team focused on surveying the more remote areas, completed the exploration of the lower level of the mine (which is not yet open to public diving), and added to the existing



documentation videos. Thanks to the huge amount of data collected, the extended map now covers over 3 km of tunnels and can be downloaded at [www.bergwerktauchen.de/karten](http://www.bergwerktauchen.de/karten). The next part of the project, taking place in spring 2017, aims to further refine the map and conduct photo and video documentation of the remaining unexplored areas of the mine. For further information, please refer to [www.facebook.com/GUEProjectNuttlar](http://www.facebook.com/GUEProjectNuttlar).

**2016 Team:** H. Amecke (survey), A. Bossow (logistics), N. Bossow (survey), P. Brandt (exploration), M. Eickhoff (logistics), N. Gerdau (camera), J. Grubner (survey), I. Homberger (survey), M. Isigkeit (coordinator, videolight), M. Klein (surface manager), S. Matthies (camera), J. Medenwaldt (survey), H. Müller (survey), K. Puchalska (logistics), R. Rosenberger (survey), S. Schlumbohm (exploration), D. Schmid (photographer), M. Schmid (photo team), T. Schnitter (survey manager), G. Steiner (survey)



# ONGOING: MEXICO CAVE EXPLORATION PROJECT

## Quintana Roo, Mexico

---

**A**fter 20 years of cave exploration and study in Mexico one would think the excitement might fade, but on the contrary, 2016 has been as amazing as ever with new discoveries continuing until the final days of December.

### Ox Bel Ha Cave System

Cenote Cooper is an unassuming entrance we discovered early in the year which has proven to be a real gem. The restricted muddy opening leads to an increasingly larger passage culminating in a huge room measuring 150 m wide. It was quickly connected to Ox Bel Ha, adding in 3,577 m of newly explored cave.

### Historic Ox Bel Ha

It has proven quite productive to revisit areas first explored in Ox Bel Ha some 15 years ago. Some of these finds include big saltwater passages at a depth of 21 m and extend for nearly 2,000 m. In the same area a cave pit was discovered and dived to a depth of 52 m.



## Cenote Polaris

Although not yet connected to Ox Bel Ha, this small single entrance cave leads to spectacular decorated tunnels. Side-mount restrictions were pushed and the cave was expanded in both the upstream and downstream directions.

The total exploration for the year in Ox Bel Ha accounts for 10,300 m.

## New Cenotes

While filming a BBC segment highlighting our use of satellite imagery for finding new cenotes, we actually discovered two new cenotes – with the film crew in tow. Initial exploration of these sites is expected to take place in the spring of 2017.

## Sac Aktun Cave System

The original cave in this system, Aktun Hu, was first explored by PET (Proyecto Exploracion Tulum) but was later connected to the larger Sac Aktun system.

In this area, a detailed mapping project led to some new discoveries, sparking a desire to invest more dives in this beautiful cave. We found ourselves exploring shallow, highly decorated freshwater tunnels with great visibility – an uncharacteristic environment for MCEP explorers. It really felt like we were being rewarded for the many years in the halocline and percolation of Ox Bel Ha and the Sian Kaan caves.

To date, we have added more than 9,864 m to Sistema Sac Aktun and discovered two new cenotes. We predict that this will soon become the world's longest underwater cave.

## Camilo Cave System

Additional efforts have been made within the Camilo Cave System, including first visiting the farthest reaches of the cave and more recently, beginning to extend the known length of this challenging cave.

## 2016 Exploration Team Members

Dr. Panos Alexakos, Steve Cox, Fred Devos, Dr. David Doolette, David Dusek, Mark Garland, Osama Gobara, Chris Le Maillot, Gideon Liew, Andrea Marassich, Casey McKinlay, Sam Meacham, Alison Perkins, David Rhea, John Rose, Cameron Russo, Blake Wilson.

## Science Projects

In 2016, GUE-trained divers volunteered to help scientists further their understanding of the aquifer in the region. Sediment traps were collected and replaced; salinity, temperature, and depth loggers were downloaded; sediment cores were extracted; calcite was measured, mapped, and documented; and mammal camera traps were downloaded. And a lot of fun was had in the process.

**May 16-20 Participants:** Alison Perkins, Cameron Russo, Chris Le Maillot, Federico de Gado, Anya, Michael, Russell Hughes, Fred Devos, Hildegard Wiggerhorn, Shawn Kovacs, Shawn Collins, and Dr. Eduard Reinhardt.

**December 5-9 Participants:** Hege Marie Rossow, Steve Blanchard, Chantelle Blanchard, Jennifer Bush, Michael Pinault, Sven Nelles, Britta Hennes, Kees Beemster Levensz, Rainer Wolke, Dave Staring, Sigurd Bowitz, Angelika Volberg, Marc Wolters, Manuela Schoch, Peter Gaertner, Pim Jonker, Anuschka Oversteegen, Dr. Eduard Reinhardt.

## MCEP and CINDAQ

Through these discoveries and studies MCEP divers continue to further the efforts of the Mexican nonprofit organization CINDAQ (Centro Investigador de Sistemas Acuifero de Quintana Roo) in the study and conservation of the area's aquifer and related features.



August 27 – September 6  
**CMAS/UNESCO Dive for Peace Expedition  
Danish Exclusive Economic Zone, North Sea**



**A** Team of GUE Divers served as the official underwater videography and photography team for the first CMAS-organized expedition to the wrecks of the Battle of Jutland. The trip was conducted under the wing of the UNESCO.

The Battle of Jutland raged for 36 hours from May 31 to June 1, 1916. The battle, which is still the largest naval battle of all time, involved a total of 152 British and German warships and nearly 100,000 sailors, of which 8,645 died during the battle. The expedition, which took place in the centennial year of the battle, served a dual purpose: data collection on the state of the wrecks and a solemn memorial to the sailors who lost their lives. The expedition set out to determine the current condition of the wrecks compared to dives conducted in 2009 and 2014. Additionally, a group of physicians monitored the team extensively after each dive as part of a study on venous gas embolism in divers.

The expedition, starting from the Port of Thyboron in Denmark, was conducted with the support vessel *Cdt. Fourcault*, a 64 m-long ship equipped with three RIBs, a helicopter, and a multiplace decompression chamber, as well as state-of-the-art multibeam and sidescan sonars.

Of the 25 warships that sank in the area, the team documented six wrecks with video and photography. The team's historian gathered information on the condition of each wreck from the divers to produce detailed drawings of each ship. The divers took measurements of interesting parts of the remains of the ships to aid in this effort. The evaluation of the results is just beginning, but it is expected to lead to several publications including a piece in *National Geographic*, scientific articles, and maybe even a book.

The wrecks lay 40 to 60 m deep, so typical bottom times were 60 - 80 minutes for a 180-minute total dive time. Visibility varied from 1 to 20 m. The weather cooperated, so the teams were able to dive every day of the expedition.



**GUE Team:** D. Remmers (Videographer, Photographer), J. Medenwaldt (Lighting).

For the Expedition: Dr. Tamas Balogh (Historian), Stef Teuven (Expedition Leader), Pim de Rhooes (Captain).

**Preliminary Results:** <http://www.cmas.org/news/cmas-dive-for-peace-expedition-jutland-2016>,  
<https://www.youtube.com/watch?v=GqcDiedQ-s>  
<https://www.youtube.com/watch?v=E2898JPer9E>  
<http://www.cmas.org/photos-and-videos/cmas-dive-for-peace-expedition-jutland-2016-160922180901>



September 26 – October 2  
**100 Years Kea Shipwrecks  
Conference Diving Expedition  
Kea, Greece**

---



**A** team of GUE divers was tasked with the underwater videography and photography for the official dives conducted at the wrecks of Kea as part of the conference “100 Years Kea Shipwrecks.”

In 1916, World War I was raging and the German U-boat *U-73*, under the command of Kpl. Gustav Siess, deployed mines in the Strait of Kea, a busy shipping lane, to interfere with Allied traffic. On November 14, the French troop transport ship *Burdigala* (ex-*Kaiser Friedrich*) hit one of these mines and subsequently sank. On November 21, the British hospital ship HMHS *Britannic*, the sister ship to the RMS *Titanic*, hit another mine and also sank. It was the biggest ship sunk in WWI.

One hundred years later, the Friends of Kea Society organized a worldwide conference focused on these wrecks with speakers including Richie Kohler, Simon Mills, Dimitris Galon, and Mark Chirnside, among many others. As part of the conference, a dive team consisting of GUE divers was asked to lay down three commemorative marble stones, one on each wreck and one in memory of Carl Spencer, who tragically lost his life diving the *Britannic*. Moreover, underwater video was shot and used in a 50-minute documentary film by the Turkish TV station IZ TV. Photos were taken and used for the press coverage of the event.

Due to bad weather conditions, the wreck of *Patris*, a paddle steamer sunk in 1868, was documented in photos and film in addition to the dives on the *Burdigala* and *Britannic*.

The *Patris* is broken in two pieces, lying from 30 m to 52 m, with the main part in navigational position.

The *Burdigala* lays almost completely intact and upright at a depth of 75 m, while the *Britannic* rests on the seabed at a depth of 120 m on her starboard side.



**GUE Team:** D. Remmers (Videographer), M. Grbac (Lighting),  
D. Galon (Photography), N. Vardakas, G. Vandoros, L. Bishop



September 18 – 23, 2016  
**Hidden River Project**  
**Reseau de L'Ouyse, Lot, France**



Since 2009, a team of GUE instructors and experienced divers has been exploring and surveying the so-called “Reseau de L'Ouyse,” which includes the cave diving sites Résurgence de Cabouy and Gouffre de Pou Meysen in the department of Lot in France. This year the team planned an exploration dive in the third sump of the cave. Over the past four years, the team developed the necessary skills, experience, and equipment to safely cross the first two sumps (2,600 m distance, maximum depth 31 m) and establish a bivouac for multiple days for up to 10 people in the massive air bell between the second and the third sump of the cave. A cave radio system was installed to allow communication with the support teams outside. The team developed and practiced special emergency support

equipment and procedures in preparation for the project. A support team between sump 1 and sump 2 helped to move the necessary equipment for the exploration dive. At the end of sump 2, the bivouac team moved the equipment about 400 m further through the dry passage between sump 2 and sump 3. A cable car was installed to help move the exploration equipment into the water at sump 3. Two divers conducted a dive to a depth of 100 m and a total distance of 3,730 m in sump 3 using RB80 rebreathers. After a dive time of 5 hours, the two divers surfaced safely and the bivouac team moved the equipment back through the dry part to the end of sump 2. In addition to diving and surveying sump 3, more survey data of the dry passage between sump 2 and sump 3 was collected. After almost 60 hours in the dark and wet, the bivouac team surfaced safely again into the daylight. Meanwhile, the survey data has been processed and published. Photos of this year's project have been published as well, and a video is currently in the making. In 2017, the team of the Hidden River Project will continue to document and explore the Reseau de L'Ouyse.

**The Hidden River Project 2016 Team:** H. Amecke, D. Beiert, S. Bertelmann, M. Eickhoff, N. Gerdau, O. Gobora, I. Homberger, M. Isigkeit, J. Medenwaldt, B. Nischler, N. Nischler, K. Puchalska, U. Roschanski, S. Schlumbohm, G. Schmidt, T. Schnitter, J. Schwerdtfeger





# GUE BELGIUM'S 2016 PROJECTS

## Ongoing: Project Baseline **Put van Ekeren**

---

Throughout the year, Belgian GUE divers monitored the Put van Ekeren at Domain Muisbroek in Antwerp, Belgium. This artificial freshwater lake is a famous dive site with beautiful flora and fauna. The goal for the team was to monitor the water temperature and horizontal visibility on different depths (e.g., 3 m, 6 m, 9 m, 12 m, 15 m) monthly. After collection, the measurements are transferred to our database and shared with the ecological departments of the Universities of Ghent and Antwerp to be used to predict water quality. The data are cross-checked four times a year with the chemical analyses of water samples. In 2016, the team joined a citizen science project initiated by NETLAKE (Networking Lake Observatories in Europe). The project involves two surveys. The first is to use a “tea bag” (or “T bag”) index to measure decomposition rates in our lake (see [www.decolab.org/tbi/](http://www.decolab.org/tbi/) for more information). T bags are deployed in the shallow areas at the edge of the lake (the littoral zone)

and in deeper water, for comparison. The second survey involves sampling lakes for the presence of microplastics. Participants in this project have also taken temperature measurements at the littoral and deep water sites using ibuttons, as well as other measurements of trophic status where possible (e.g., Secchi, Forel-Ule index, macrophyte leaf width). The latest results can be found here: <https://nioo.knaw.nl/en/netlake-citizen-science>. Project divers took video and photos over the year to help share these results with the general public. It was a productive year in which GUE divers also improved their project skills.

**Site Manager:** Ben van Asselt; **Video:** Erik De Groef, Ben van Asselt; **Photo:** Geert Allaert, Jonas Patteet, Laurent Miroult; **Project Divers:** Koenraad van Schuylenbergh, Kim Eeckhout, Peter Cosemans

## Ongoing: **Ghost Fishing Ecoduikers**

**D**uring the summer season, Belgian GUE divers joined the Ghost Fishing project Ecoduikers in the North Sea. The North Sea wrecks are beautifully overgrown and a habitat for many species of fish, crabs, and lobsters; however, old fishing nets, hooks, and lead are left behind on the wrecks. They pose a threat to the underwater fauna and the environment since fish and crabs can suffocate in abandoned nets and hooks.

The volunteer GUE divers removed residual nets and lead and created public awareness by taking video and photo during the project dives. In 2016, we cleaned four wrecks, removing a total of 420 kg of nets.



**Site Manager:** Roel van Bouwel, Ben van Asselt; **Video:** Ben van Asselt, Peter Zaat; **Photo:** Laurent Miroult;  
**Project Divers:** GUE-BE Members



## Ongoing: Project Baseline **Bergse Diepsluis**

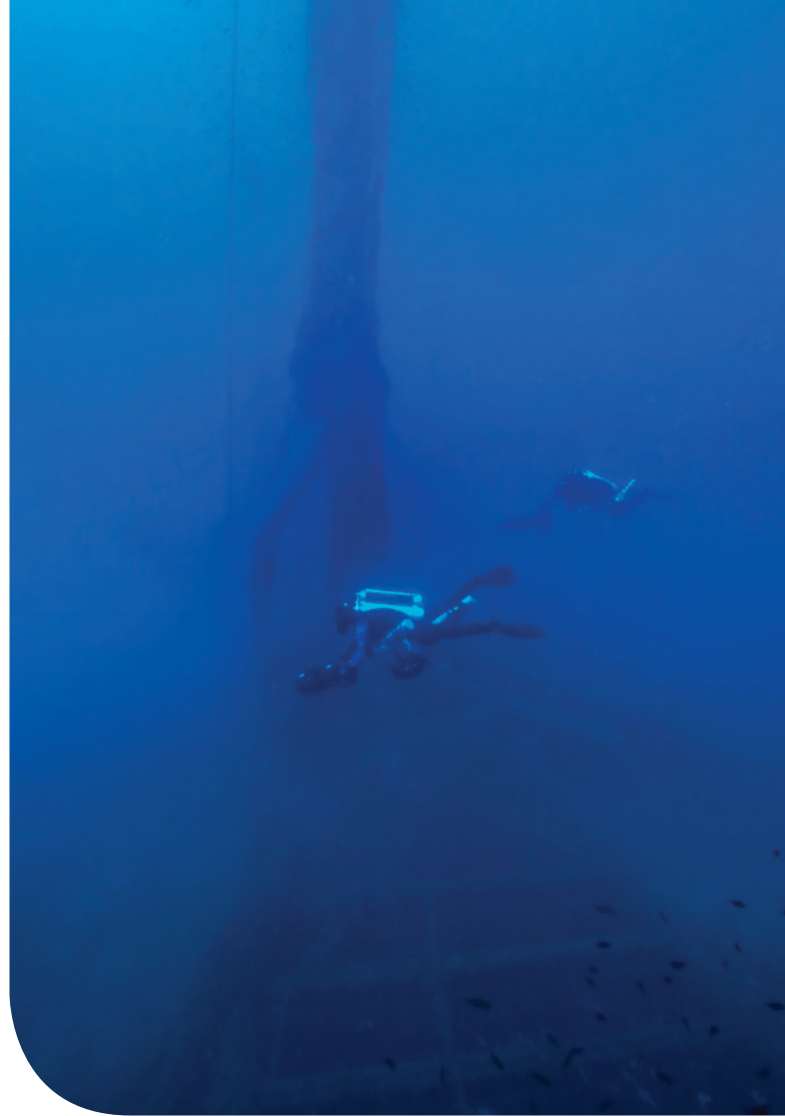
**A** new Project Baseline dive site has been established at the Dutch nature reserve Oosterschelde. The goal is to measure temperature and horizontal visibility at one spot, and then use that information as a baseline for future study and data collection. During the year the team focused on data collection and on general publicity. The team created an online database that can be used by the project divers to register their measurements online with their mobile device.

**Site Manager:** Rene van der Laan; **Video:** Erik De Groef, Ben van Asselt, Rene van der Laan;  
**Photo:** Ria van der Laan; **Project Divers:** Olf Smet-sers, Peter Zaat, Ted Huikeshoven.

August 2016

## Lampedusa and Mazzara, Sicily, Italy

During an expedition at sea on board a fishing vessel, a GUE team including Mario Arena and Peter Brandt found the wreck of the *SS Preussen*, sunk by Allied bombers on July 19, 1941. The spectacular wreck, in 128 m of water, has cargo holds still full of military supplies destined for the Africa Korps task force, which was fighting in North Africa. During the same expedition the team located and documented two other unidentified wrecks: a small freighter, around 1,000 g.r.t. at 125 m depth, and the remains of a wooden motorsailer, probably sunk during World War II, at 45 m depth. The team joined a TDI exploration team (A. Ferrucci, M. Piccolo, R. Cingillo) for another high seas wreck hunt effort starting from Mazzara del Vallo, Sicily. During this expedition the team found, identified, and documented the wrecks of the 6,300-ton *MS Marco Foscarini* and of the military transport MZ 711.



## Ongoing: GHOST FISHING



## LAKE CONSTANCE, GERMANY

The northwestern part of Lake Constance is well-known for breathtaking submerged walls that can reach to 100 m deep. Right at these walls, large groups of Arctic char (*Salvelinus alpinus*) gather every December to deposit their eggs. This impressive fish can grow up to 60 cm, survive to be 40 years old, and are not afraid to attack divers approaching them. Unfortunately, lost nets from fisherman sink to the bottom of the lake, creating a deadly threat to these impressive fish. In fact, every year many divers see plenty of the sad remains of Arctic char entangled in lost fishing gear.

Twenty divers joined together for five dives to collect and recover five ghost nets down to a depth of 60 m. The team's activities were planned in a way that allowed divers of every experience level to contribute to the operation. Along with the nets, other aquatic debris, like old car batteries, was collected. Local water protection police and fishing authorities were informed and participated in the project. So far, all five known nets have been completely recovered. A search for more ghost nets along the lake's 3 km coastline is planned for the coming year.



# UNDERWATER CAVE PROJECT BONAIRE, CARIBBEAN

December 2016

**A** team of Global Underwater Explorers divers from the island of Bonaire and the Netherlands, with support from BuddyDive TeK, went out in to the bush to check conditions and document one of the many underwater caves on the island. There are more than 300 known dry and underwater caves on this island, which is part of the Netherlands.

Prior exploration efforts conducted in the late 1980s and 1990s were limited to only a few underwater caves. Very little, if any, imagery or survey data was collected or shared. The location and conditions of the underwater caves remain mostly unknown, with only a few locals knowing specific locations.

These caves are not easily or freely accessible. We located the small entrance to our cave only after a 40-minute hike through the bush. Slick with green algae and with a temperature around 30 degrees Celsius, the water was not particularly inviting. A few dives were conducted to scout conditions and shoot some images, with spectacular results.



**Gue Team:** JP Bresser, German Arango, Lars Bosman, Augusto Montbrun, A-M Bresser, Jaime Alexander Meneses, Michiel Schmitz

The goal of the GUE team is to set up a continuing project surveying, mapping, and documenting the many known and undiscovered caves on the island, sharing a wealth of data with local communities and the government to build awareness and protect these fragile environments.

# CAVE PROJECT MORPHEUS

## ZAGORSKA MREZNICA, OGULIN, CROATIA



September 2016

Coordinated by Maurizio Grbac of the GUE Instructor Development Center Krnica Diving, Project Morpheus took its first steps in 2013 with a series of scout trips and dives which showed the great potential for cave exploration in this part of Europe. Most of the caves visited are in fact drinking-quality-water springs, and their micro-environments are exposed to a modern way of living, raising concerns about the preservation of the uniqueness of these springs.

In the beginning, Cave Project Morpheus focused on the exploration of the flooded caves and springs along the beautiful river Cetina, in the Dalmatian hinterland. The goal was specifically to map and explore Vukovica Vrelo and Glavas Springs and to explore other promising leads in the area.

A huge amount of video material and solid survey data, along with nice photos, have been produced. This documentation and information has been brought to local communities in order to build awareness of the need to preserve these environments from human pollution.

During these activities another spring was identified in Peruca Lake, the fantastic Radonino Vrelo. A great number of GUE explorers from all around Europe joined forces for this project, and the results are impressive.

In the following years, the project shifted focus from the Cetina region to Starigrad Paklenica with the exploration of Vrulja Spring, a freshwater spring on the bottom of the sea. Again, the exploration and documentation results have been impressive. Other caves, including Majored Vrilo, Sinjac, and Bakovac, have been explored by the project's team of GUE divers in northern Croatia.

In 2016, the project explored and documented the spring of Zagorska Mreznica in the Ogulin area. An international team led by GUE Instructor Trainer J.P. Bresser brought outstanding results including 3D mapping, photogrammetry, and videos.

Cave Project Morpheus will continue in 2017.

**For additional information please refer to**

**<https://www.facebook.com/CaveProjectMorpheus>**



### 2016 Participants:

JP & A-M Bresser, Johan Frisk, Viktor Edlund, Roger Hovind, Mia Buchs, Christoph Buhler, Jeroen Wilms, Pirkko Kekalainen, Mattijs de Valk, Max Rieff, Pike, Dijana Stupar, Maurizio Grbac, Zarko Krelja



# GHOST FISHING & PROJECT BASELINE COSTA BRAVA

January 22-24

## Blanes Ghost Fishing Project, Barcelona, Spain

October 31 - November 2

## Calpe Ghost Fishing Project, Alicante, Spain

In 2014, a local section of the global Ghost Fishing project was formed when a team of GUE divers initiated a series of actions off the Spanish coast to clean fishing gear abandoned on the seabed. In the course of 2016, several actions have been carried out, most of them at the group's headquarters in Tossa de Mar, but two operations should be highlighted due to the logistics and the amount of nets extracted.

Early in the year, a project was conducted in Blanes, Barcelona with a couple of local biologists, two boats, two teams of three divers each, and several students from the local school as surface support. More than 100 kg of nets were extracted from a depth of 20 m.

Towards the end of the year, a project was conducted along with two diving centers and various marine conservation organizations in Calpe, Alicante. It was well-received in the media and by the local community. More than 200 kg of nets were extracted between 15 and 25 m.

Once the nets are extracted, the objective is to recycle or reuse 100% of them. We are currently close to that number; lead from the nets is melted and used as for weights, while the remainder of the nets are either recycled or used to create jewelry, which when sold raise funds for the project.

Between late 2015 and 2016, two permanent buoys were fixed in the Gulf of Roses at the Saint Prosper wreck at 45 m.

Drop lines lead to Project Baseline stations for data capture. This provides a secured descent line to the crane bridge and bow areas and notifies navigators of the buoys' purpose for a scientific project. The objective in this wreck is twofold: to document the state before and after the cleaning of nets and the cleaning itself, as well as the monitoring and diffusion of how the extraction of the nets has impacted the fauna and flora.

In 2017, additional cleanings will be conducted in nearby locations including a new point at 40 m in Blanes, and in Calpe to retrieve nets we were unable to extract. The group also plans to start accurate documentation of the *Saint Prosper* wreck and complete the cleaning of the crane bridge.

For more information, please visit:  
<https://www.facebook.com/PGF.CBV>  
and <https://www.facebook.com/PB.CBV/>

### 2016 Team:

C. Renooij (Manager), M. Balletbo (Operator), R. Alvarez (Coordinator), M. Casellas (Support), N. Mesanza (Operator), T. Lorenzini (Camera), E.A. Curzel (Operator), A. Litago (Support), Xavier (Surface Support), I. Amezketa (Logistics), Kas (Surface Support), D. Roda (Initiator), X. Galobart (Operator), G. Santcliment (Support), D. Crespo (Operator), Carlo (Camera), Carol (Skipper), J. Mora (Skipper), Jonathan (Surface Support), C.C. Nudo (Logistics Manager), M. van Ipanema (Video Manager), I. Algora (Buceo Hispania Skipper), Chico (Buceo Hispania Surface Support), V. Gutiérrez (Dive and Dive Camera), R. van Baalen (Dive and Dive Explorer), S. Bressanello (Dive and Dive Skipper), J. del Olmo (Permissions), Ras Hafeez (Initiator), R. Barreno (Press Assistance), J.K. Font (Press Assistance), Peter Müller Uttenreuth Deutschland (Sponsor), Niels from BnBMoraira (Logistics), E. Bonet from Wreckdiver.fr (Logistics)

# PROJECT BASELINE SANT JORDI

## Spain

In early 2016 a team of GUE divers started the Project Sant Jordi, part of the Project Baseline initiative. The Project focuses on the conservation of two very different communities of marine species in the gulf of Sant Jordi (St. George) between Cap Salou and the Ebro Delta, in Spain.

The first species studied is the population of the endemic Mediterranean phanerogam, *Posidonia oceanica*, and its related species. The activity includes mapping, cartography, and species survey (long-term objectives include seasonal cover, growth and flower presence, and inter-annual variations).

This project is suitable for all diver levels since it takes place in relatively shallow depth and easily accessible sites. The project also studied the soft coral community of gorgonians; the main architect species in this community is *Paramuricea clavata*. This project includes community survey (growth and cover). Due to the depth involved (45 m and deeper) and the relative difficulty of access, this area of the project is reserved to Tech 1 and 2 divers.

The project team is still looking for Tech 1 and 2 divers to join the team and assist with the survey. We can be contacted on [naturtek4@gmail.com](mailto:naturtek4@gmail.com) or @NaturTekDiving at Facebook.

## ARIHAGNE DOCUMENTATION PROJECT

May 2, 2016  
Tossa de Mar, Spain

In early 2016, a group of GUE divers and enthusiasts initiated the Arihagne Documentation Project with the aim of obtaining an accurate map of Tossa de Mar, Gerona, in northern Spain. The area's scuba diving community began about forty years ago. Since then, the number of divers has grown significantly; there are now eight schools and the area is a starting point for beginning divers from all over Spain.

The area can be divided into two sectors:

- 1) Sector A: Asunción, found to the east-southeast of the region, has a reef that extends from the entrance for approximately 300 m at 20 – 25 m deep. The morphology of this area can make navigation difficult.
- 2) Sector B: Bauma, located to the south-southeast, is the deepest part of the area, dropping 35 m deep in the most remote area, which is about 600 m from the entrance. Reefs running almost parallel around the island can complicate navigation, particularly for inexperienced divers.

Over the years several maps have been made with more or less successful approximations, but none are precise, and that causes confusion.

The assumption that these maps are correct along with the peculiarities of the bottom – changing and sometimes disorienting – often necessitates dive guides and frequently results in lost divers.

At the beginning of 2016, at KrakenDive Dive Center, those very issues served as the impetus for the generation of an accurate map. Not only would the map be useful for guest divers, it would help train the dive school students by teaching them documentation, photography, videography, and how to be aware in the environment.

From May 2 to 6, 2016, a Documentation Diver course was conducted by JP Bresser and Domingos Cruz. This course provided the tools and knowledge necessary to carry out the project. In the course of 2016, various data were collected, expanding the edge of sector A to about 40% coverage. The collaboration of students, both new and advanced, is an essential pillar of the project. An approximation of the shape can be seen at <https://www.scribblemaps.com/maps/view/Menuve/Menu>.

In the spring of 2017, all of sector A will be complete. The project will move on to the acquisition of photographs to obtain a photomosaic of the area and details of points of interest in 3D with photogrammetry techniques.

**For more information, please visit:**

<https://www.facebook.com/ProjectArihagne/>

**2016 Team:** E. Bonet (Survey), I. Amezketa (Camera), M. Casellas (Survey), R. Alvarez (Manager), M. Balletbo (Survey), A. Litago (Support), F. Puyol (Camera), N. Mesanza (Logistics)



June 27 - July 4, 2016  
**North Sardinia, Italy**

For the second year in a row, a team of GUE instructors and experienced divers documented the deep historical wrecks of Bonifacio Strait and the Arcipelago of La Maddalena in North Sardinia.

The team documented the following wrecks: the MS *Nautilus*, an Italian oil tanker torpedoed in October 1942 and now lies on her left side in 85 m; the LE *Cassini*, a French minelayer sunk by a mine in 1917, whose remains now rest at 75 m depth; the HMS *Cromarty*, a British minesweeper sunk during minesweeping operations, that now lies 85 m deep; and the HMS *Felixstowe*, which also sank in 1943 during minesweeping operations, and now lies 75 m deep.

Special attention has been dedicated to the wreck of the Italian destroyer RN *Da Noli*. She sank on September 9, 1943 after hitting a mine and lost most of her crew of 240. The impressive wreck lies at a depth of 110 m in the Bonifacio Strait. During one dive, the divers buried a commemorative plaque on the bottom near the wreck. The plaque was offered by the municipality of Noli in the Liguria Region of Italy, the town from which the name of the ship comes. Noli also donated the battle flag to the ship in 1931.

More than 80 deep dives were conducted during this year's expedition, thanks to the perfect logistics, capable and friendly staff, and excellent boats of the ORSO Diving Center of Poltu Quatu, which managed to withstand the invasion and support the intense operation.

The results of this documentation effort have been compiled in a comprehensive report including historical documents, videos, pictures, and detailed reports of the status of the

wrecks. The report will be given to local authorities and will help promote the conservation of these well-preserved and fascinating wrecks. A show dedicated to the impressive history of the RN *Da Noli* is planned for the month of August 2017 in Noli. A decent amount of quality photo and video documentation has been produced, but there is still some room for completion and refinement. Another week of diving activity dedicated to completing the documentation of the *Da Noli* is planned for the end of June 2017.

**Team:** M. Arena (Coordinator, Pointer/Lighting), M. Colman (Camera, Pointer), C. Provenzani (Photographer), E. Romano (Photo Team), F. De Gado (Photo Team), P. Brandt (Camera), M. Trappeniers (Pointer/Lighting), J. Pateet (Pointer/Lighting), P. Gaertner (Photographer), M. Schoch (Photo Team), R. Rampazzo (Camera), S. Rinaldi (Pointer/Lighting), G. Blackmore (Photographer), R. Picciol (Pointer/Lighting), L. Palezza (Camera), L. Pasqui (Photographer), M. Cottafava (Photo Team), C. Azzali (Boat Captain), L. Magliacca (Boat Captain), C. Boi (Crew), P. Azzali (Organization), E. Toscano (External Photos), N. Arena (External Photos)





## July 17 – July 23, 2016 **GUE Project *Rossarol* Adriatic Sea, Croatia**

---

The *Cesare Rossarol* was an 85 m-long light cruiser of the Italian Royal Navy, Marina Militare, launched in 1914 from the yard of Gio. Ansaldo & C. in Genoa, Italy during the arms race preceding the escalation of World War I. Equipped with eight pieces of different-caliber guns, she had the ability to launch torpedoes while cruising, and had an installation to lay mines.

On November 16, 1918, the *Rossarol* departed Pula, Croatia for the city of Rijeka with a crew of 109 sailors, a full load of ammunition, and an important mission. Despite the crew's vigilance, the ship ran into a mine just after noon. The explosion caused the ship to break into two parts and destroyed the mid-section of the ship. Almost all of the crew was killed. Now, the bow and stern section lay approximately 300 m apart on the bottom of the Adriatic Sea at 50 m depth.

After a dive on the stern section of the wreck in 2013, a group of divers decided to start a project to conduct an in-depth documentation of the wreck aimed at monitoring its condition and promoting the preservation of this impressive historical site. Two sessions of the project, one in 2014 and another in 2016, have been carried out by GUE divers from seven countries, with GUE Dive Center Krnica Dive offering support by assisting with logistics. While the 2014 session focused on the stern section and middle debris wreck field site, the 2016 edition focused on surveying the bow section.

The team managed to collect overall measurements on the bow section. They also documented the current condition of the wreck and discovered an accelerated deterioration of the hull with multiple steel plates falling off the ship's construction.

The number of fallen plates has been counted and recorded in sketches. Also, a connection was made with the survey line from the stern section, making it possible to survey the large debris field in between the two parts of the wreck. A video survey of the area around and inside the bow section of the wreck can be found on the GUE Project *Rossarol* Facebook page.

In 2018, we will honor the 100-year anniversary of the sinking, and the team is planning another project week during which more data will be collected in order to complete the survey.

**Activities and updates on this project can be followed on Facebook: <https://www.facebook.com/rossarol>**



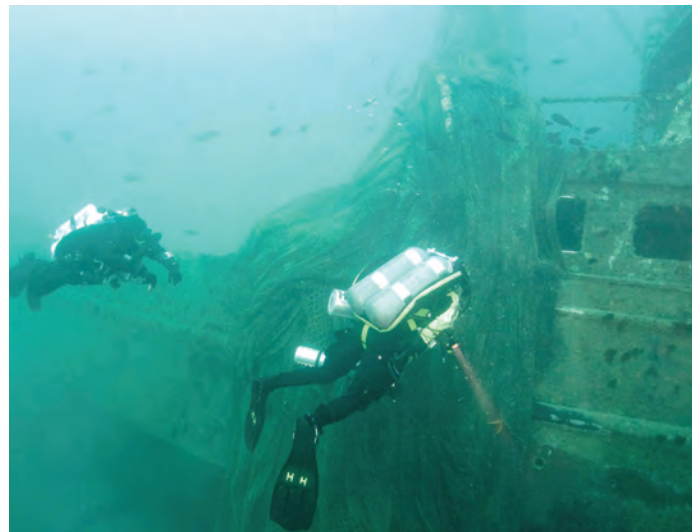
**2016 Team:** Berry van Leeuwen (Survey), Eunwoo Kim (Survey), Felix St-Jean (Survey), Igor Siryk (Survey), Jeroen Veltrop (Project Coordinator), Joseph Chroust (Survey), Luca Palezza (Video and Editing), Peter Zaal (Survey), Maurizio Gbrac (Logistics), Michael Batey (Survey)

## Ongoing: Los Angeles, CA, USA

**G**host Fishing ([www.facebook.com/ghostfishing](http://www.facebook.com/ghostfishing) and [www.ghostfishing.org](http://www.ghostfishing.org)) was founded by Pascal van Erp and Cas Renooij, two GUE technical divers from the Netherlands. It has grown into an international group of specially-trained volunteer scuba divers ridding our world's oceans of abandoned or lost commercial fishing gear, namely, fishing nets. These nets will continue to trap, kill, smother, and harm marine life for decades or even centuries. Ghost Fishing is a GUE affiliate group with active projects in over 15 countries. The US Coordinator is Heather Hamza, based out of Los Angeles, California. Our volunteer divers (and most of our topside support) are members of Los Angeles Underwater Explorers (LAUE). We also get significant participation from San Diego Underwater Explorers (SDUE). There is a pool of approximately 50 people from which each project pulls. All of our dives are documented with photography and/or video to demonstrate how harmful these nets are, as well as the transformation of a killing field into a vibrant, healthy reef once the nets have been removed.

In southern California, many target sites (mostly shipwrecks) have been snagged with commercial fishing nets. The majority of these sites are in the technical range and these are ongoing projects. Because there is no shortage of work for us to do, we try to rotate sites. This helps maintain interest in the project, as well as allowing us to keep tabs on multiple shipwrecks (approximately 7-10 at this time).

We are involved in other Ghost Fishing activities besides deep ocean clean-ups. Karim and Heather have done presentations, tabling events, publications, interviews, and even been on TV shows. "What do you do with the nets?" is a common question, and 2016 has delivered a few options. For a long time we recycled with Aquafil, but this had proven to be geographically undesirable, as their plant is located in Slovenia. We have donated several batches of nets to local artists, a museum, and a recycling company in New Jersey that will be doing test runs on the nets.



Perhaps most importantly, we have opened up communication with one of our senators regarding early mandatory reporting of lost commercial fishing nets.

Funding is an ongoing problem. The group receives some private donations and a lot of gear sponsorship from Halcyon, Eezycut, DUI, Ursuit, and Hollywood Divers. It is also working on a partnership with Sol Reliable, a solar energy company that is owned and run by a longtime volunteer and GUE JJ-CCR diver, Nir Maimon.

This work would absolutely not be possible without each and every one of our volunteers, topside and below. We are extremely fortunate to have such a huge contingent of hard-working GUE divers who are so passionate about helping the one thing that has given us so much pleasure: the ocean.

# PROJECT BASELINE TANK CAVE SOUTH AUSTRALIA, AUSTRALIA



In 2014, a team of GUE divers from Australia and New Zealand started Project Baseline Tank Cave, which focused on collecting data in one of Australia's premier cave systems. Owned by the Cave Divers Association of Australia, Tank Cave is situated just outside Mount Gambier in South Australia, approximately 450 km from both Melbourne and Adelaide. In 2016, divers continued to photograph the system and scouted the new area and features to monitor.

Diver impacts appear to be the main source of damage in the system, with fin and tank scrapes and drag marks through the clay bottom being the most prevalent. This year we discovered our first major impact at a station, when we found one of our monitored clay blocks severely damaged.

Monitoring continues and in 2017, we hope to publish in the CDAA magazine to help drive awareness of impacts within the local cave diving community. **For further information or to get involved, contact [ryan@gue.com](mailto:ryan@gue.com).**

## TSS KANOWNNA VICTORIA, AUSTRALIA

March 8 - 14, 2017

The TSS *Kanownna*, an Australian steamer built in 1902 weighing 6,993 tons and measuring 126 m long, initially operated as a passenger and cargo ship between Sydney and Perth. In 1914, she was requisitioned by the Australian military to transport 1,000 soldiers to German New Guinea and Egypt before landing in England, where she was modified for use as a hospital ship. In October 1918, after the war's end, the hospital ship was sent to collect 900 British and Commonwealth prisoners-of-war that had been interred in Turkey.

In 1920, she resumed service as a passenger and cargo ship. On February 18, 1929, *Kanownna* ran into rocks while on a voyage between Sydney and Melbourne. A court of inquiry found the ship's master at fault for the loss, as he did not slow his ship or exercise due caution in the foggy conditions. *Kanownna* was discovered in 2005, located 50 km (31 mi) into Bass Strait. Submerged in approximately 80 m of water, the *Kanownna* is one of Victoria's largest shipwrecks.

From March 8 to 14, 2017, twelve GUE divers from Australia will combine their resources and skills in 3D imagery, photogrammetry, and videography to document the ship for the first time. Bass Strait is renowned as one of the most dangerous and unpredictable waterways in the world, and this, in conjunction with the remote location of the ship, are the primary challenges of the project.



## Lipari Island, Italy

April - October, 2016

For the third consecutive year, GUE has been operating in the Aeolian Archipelago in support of the Soprintendenza del Mare's archaeological research. This year's project, coordinated by GUE instructors Mario Arena and Chicco Spaggiari, focused on the documentation and survey of the submerged archaeological area of Capistello Bay, on the island of Lipari. During six-week project, GUE divers carried out a variety of tasks to create an archaeological map featuring all the artifacts laying on the bottom of the bay between 50 and 120 m depth.

Since the beginning of the seafaring age, Capistello Bay offered shelter from northwesterly storms to the ships crossing the Tyrrhenian Sea. At the center of the submerged archaeological area the remains of a 3rd Century B.C. Greek merchant ship lies at some 60 m depth, with its cargo of amphorae and black ceramics scattered on the slope down to about 90 m. In the area surrounding the wreck, extending for some 200 m x 200 m, the GUE team

has found an incredible number (in excess of 50) Greek and Roman anchors, along with medieval and modern age anchors and other artifacts. Virtually every dive on the site reveals new discoveries. Under the scientific direction of archaeologist Roberto La Rocca, GUE divers are building a network of geo-referenced points in respect to which each artifact is surveyed and then documented with 3D photogrammetry. Over the six weeks, 35 GUE tech and surface divers accomplished more than 150 man-dives, half of which had a run time in excess of 4 hours. The survey is planned to be completed in September 2017 after another four weeks of operations.



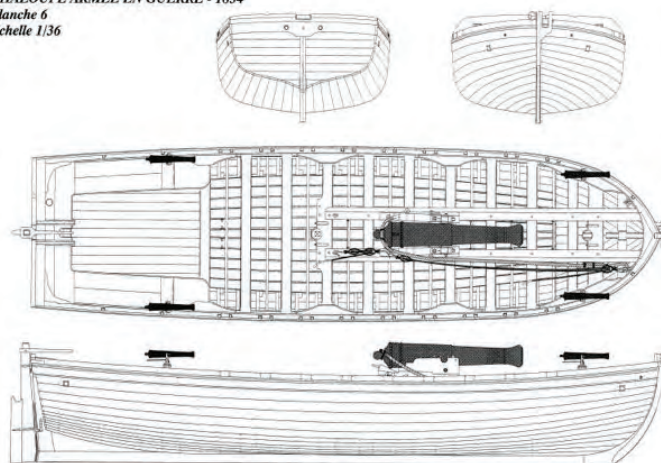
### GUE Team:

Mario Arena, Chicco Spaggiari, Piero Labò, Peter Gaertner, Manu Schoch, Peter Brandt, Dmitry Esakov, Jin Hui, "Navy" Wei Cui, Sheila Rinaldi, Romano Rampazzo, Dale Clark, Ryan Booker, Elena Romano, Claudio Provenzani, Federico De Gado, John Kendall, Gideon Liew, Mattias Vendlegard, Graham Blackmore, Luca Palezza, Marco Colman, Su Eun Kim, Kyungsoo Kim, Jong Moon Lee, Andrea Farnesi, Olindo Cren, Nicola Cestaro, Geert Alaert, Josef Chroust, Brian Schreuders, Jeroen Wilms, Jeroen Steinberg, Marlon Mendoca Dias

# WINTER: FINALE LIGURE, ITALY



CHALOUPE ARMEE EN GUERRE - 1834  
Planche 6  
Echelle 1/36



**G**UE instructors Marco Colman and Mario Arena coordinated a team of GUE divers to initiate an archaeological and historical investigation into two small bronze cannons found a few years ago by Marco and another diver. Thanks to some lucky intuition and the passionate help of historian Alessandro Garulla and archaeologist Simon Luca Trigona, the team solved the mystery of the two small guns partially buried in the mud.

The site where the cannons were found turned out to be the remains of a French armed launch or sloop sunk during the Battle of Genoa of 1795, a battle fought between the Revolutionary French Navy and the British Royal Navy. The remains of the vessel are mostly buried under the sediment of the sea bottom. While investigating the site, the team discovered several rifles and a pistol whose markings confirmed suppositions and provided an unequivocal identification. The team documented the site with video and photogrammetry.

Further actions on this site, including the excavation and recovery of the wreck, are currently under evaluation by authorities. Any action poses potential problems and complications, ranging from the legal implications of working at these depths to the high costs involved in proper preservation and conservation. Given the relevance of the battle, the discovery raised a lot of interest in the media.

**Team:** Marco Colman (Team Leader), Mario Arena (Diver and Historical Researcher), Luca Palezza (Diver and Video Operator), Graham Blackmore (Diver and Photographer), Fabio Alfieri (Diver), Federico De Gado (Diver), Fabrizio Cremonesi (Diver), Danilo Giusto (Captain), Stefano Berlingeri (Crew)





# RESURGUNCE DE FOURBANNE EXPLORATION PROJECT FOURBANNE, DOUBS, FRANCE



Resurgence de Fourbanne lies at the edge of the little village of Fourbanne in the Doubs region in northeast France. Although the cave is locally known and mentioned on websites like Plongeesout and Cave Conditions, it is not a frequently-dived cave. This is due to the fact that conditions are often bad (e.g., current, low visibility, lots of sediment) and it is situated on private land, which requires divers to obtain permission before they dive.

Between 1989 and 1996, French cave explorer Jean-François Loeillot and his friend Cyril Faivre explored and surveyed in great detail the cave's first sump. They hoped to make a connection with the En Versenne system, the end of which is located 4 km to the northeast. Loeillot and Faivre suspended their efforts at En Versenne – a mostly dry cave, but with several sumps - due to the difficult task of carrying equipment through the kilometers of cave in the underground downstream river. Not only did the physical exertion involved in reaching the sump limit their dive capabilities, the visibility proved to be less than ideal.

However, old color tests indicated a connection with the Fourbanne spring, and so they began exploring En Versenne on the side closest to the cave, this time working upstream. In 1996, after they created a detailed map of the first sump (300 m long) and discovered and dived a portion of the second sump, they stopped exploring. Progress had been slower than they expected when starting out; frequent bad diving conditions, the small dive team, and the physical challenges of the cave (restrictions, a lot of sediment and percolation, and broken line after the strong floods) all contributed to the team not accomplishing all the goals they set.

In autumn 2014, when diving in the Doubs region, our team learned of the Fourbanne cave, and decided to pay a visit to the cave and its owner. He was friendly and said the cave was open for divers again as of that month, after having been closed to diving for several years. Unfortunately, conditions were so bad on our first four visits, we were unable to dive the cave until summer 2015. We immediately fell in love with this cave on the first dive.

When circumstances are suitable for entry, the cave is a beauty. After that first dive, we began digging into the history of the cave, finally deciding to continue the survey where it had ended in the 90s.

During 2015, we became familiar with the cave up to the end of the old line, when circumstances permitted. In 2016, we surveyed from the end of sump 1 up to the end of the old line in sump 2, as no topographic data existed to the end of line. We also added 700 m of new line and surveyed a bit over half of the new line we laid. On our next trip we will survey the rest of the new line and look for a further continuation in hopes of achieving our end goal: make the connection to En Versenne. Our contact with the landowner is good, and through him we also had contact, through mail, with Loeillot. He was surprised that a Dutch group is continuing with the exploration, but he is also enthusiastic about our endeavors. We learned from the owner that in between his activities and ours, a Swiss team had started surveying sump 2 (in 2010) but had stopped their activities after having surveyed the first 150 m and having laid 470 m of line into the sump.

Visit the project's website to view video of the cave. It is not high quality as it is GoPro footage mostly taken while we conducted tasks and, as mentioned, visibility is not great (although on these shots visibility was well above average). However, it gives a good impression of the cave and includes maps.

We intend to create a Facebook page called Fourbanne Exploration Project where we will post information.

**Core Team:** Marlon Mendonça Dias, Arno Mol, Ferry Schram, Richard Groot

**Several divers have joined our trips to help:**

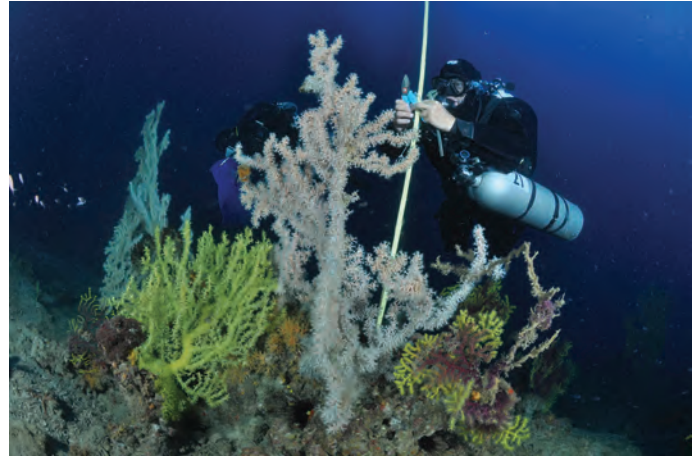
Heleen Grauw, Jeroen Wilms, Cas Renooij, Niels Doorduyn, Dennis Blom, Sander Evering.

**For more information about the Fourbanne Exploration Project** you can contact Marlon at [diasmarlon@hotmail.com](mailto:diasmarlon@hotmail.com).

**Project-NFCD:** [www.project-nfcd.org](http://www.project-nfcd.org)

# PORTOFINO DIVERS

---



The new European Integrated Maritime Policy includes a focus on environmental concerns, including the Marine Strategy Framework Directive. The new directive calls on EU Member States to ensure the “good environmental status” (GES) of Europe’s marine regions and sub-regions, focusing on eleven indicators.

Ensuring good environmental status involves protecting marine ecosystems. When GES is not present, actions must be taken to restore pristine conditions. The EU project “Marine Ecosystem Restoration in changing European Seas” (MERCES) is a very ambitious answer to this requirement. Its main objectives are:

- 1) To test both new and existing restoration practices and tools in different marine ecosystems and habitats
- 2) To provide best practice protocols and new policy guidelines
- 3) To advise the administration and both private and public stakeholders on practical steps that can be taken towards the restoration of marine environments.

The Polytechnic University of Marche (Ancona, Italy) is in charge of coordinating the 28 partners of the project (<http://www.merces-project.eu/>).

One of the most important populations of *Corallium rubrum* in the entire Mediterranean Sea is located at Portofino Promontory. In the past, this species has been strongly impacted by harvesting but nowadays, thanks to presence of the Marine Protected Area (MPA), the population is recovering very quickly.

However, the increase in density and the size of colonies is occurring only in shallow populations. Deep populations are no larger or healthier than before the MPA was created. The MERCES project studies why this is so that steps can be taken to restore deep populations. To accomplish this goal, a group of GUE divers lead by Professor Carlo Cerrano have studied different breeding techniques over the years (more information available at [mesomed.portofinodivers.com](http://mesomed.portofinodivers.com)).

Additionally, several species of sponges on the Promontory have decreasing or disappearing populations. The causes of their decline include thermal stress triggered by global warming and mechanical stress (artisanal and recreational fishing, anchorage). The species that will be considered for restoration include the bath sponge, *Spongia officinalis*, and the elephant ear sponge, *Spongia lamella*. The restoration will be performed at different depth ranges depending on the ecology of the species.

The main stakeholders that will be involved in these conservation efforts are recreational divers. Portofino Divers dive center supports the actions scheduled in the MPA of Portofino by fostering the collaboration between its well-trained patrons and the field activities of the MERCES project. This also guarantees, importantly, that monitoring of the restored areas will continue after the end of the project.



Copyright © 2017 Global Underwater Explorers. All rights reserved.  
[www.gue.com](http://www.gue.com)

**Edited by Mario Arena**  
Published in Florida, USA 2017

---

**This publication was made possible through the generous support of  
Halcyon Dive Systems.**

Graphic Design: Grafica Cossu - [www.graficacossu.it](http://www.graficacossu.it)



**Halcyon Dive Systems**  
**The Ultimate Exploration Equipment**