

# EXPLORE



*The 22-23 collection of Global Underwater Explorers featured diving projects*



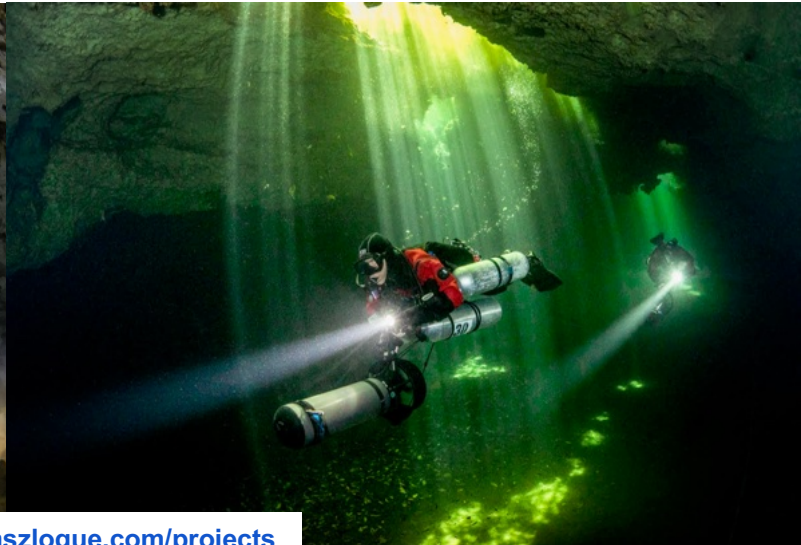
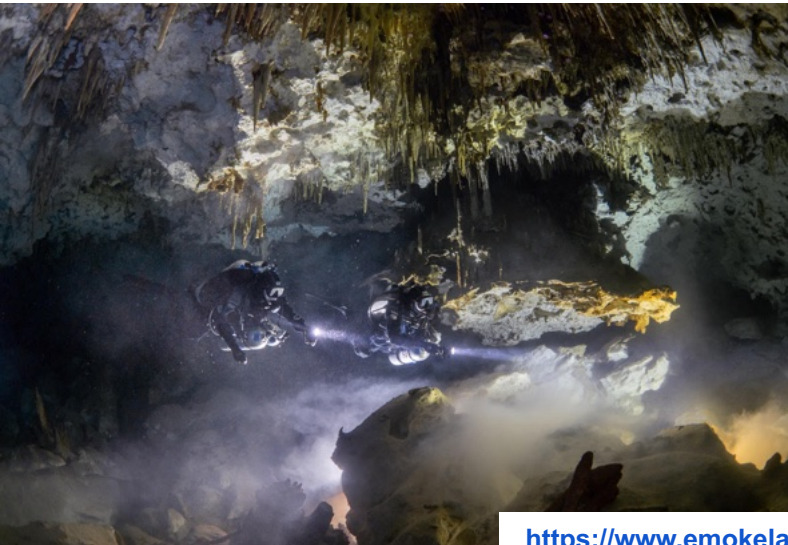
THIS YEAR: project briefs and in-depth features from active projects in Mexico, Italy, Sardinia, Spain, Poland and more

# BEL Exploration Project



## GUE PROJECT BRIEF - 2023

*Our exploration effort is mainly focusing on second largest underwater cave system in the world, on the Ox Bel Ha cave system. The system is located southwest of Tulum in Quintana Roo, Mexico - and extends southwest almost all the way to the Sian Ka'an Biosphere Reserve. The BEL Exploration team is focusing on further extending this giant cave system, with both resurveying / revisiting old guidelines, and pushing into empty areas on the map.*



<https://www.emokelaszlogue.com/projects>

The BEL exploration project was founded in 2020, by Bjarne Knudsen, Eموke Wagner and Laszlo Cseh. “BEL” represents our first initials, and “Bel” in Mayan translates to “path.” It’s very fitting, since the three of us are trying to find new paths in the cave every day. Our first biggest exploration started after the COVID lockdown, when we were able to find more than 20 kilometers of new tunnel, 2 new cenotes and established a connection between the downstream and upstream part of this area – ultimately connecting our line into the historic section of Ox Bel Ha. This finding reinforced us that any corner of this system can hide virgin tunnels.

Exploring in this system helped us to become better cave divers, explorers and educators. The system requires us to experiment with handling a bigger amount of OC equipment, DPVs, and also doing record penetration distances on exploration dives in Mexico. The proximity to the Sian Ka’an Biosphere Reserve further encourages our efforts to find possible connections between these two systems.

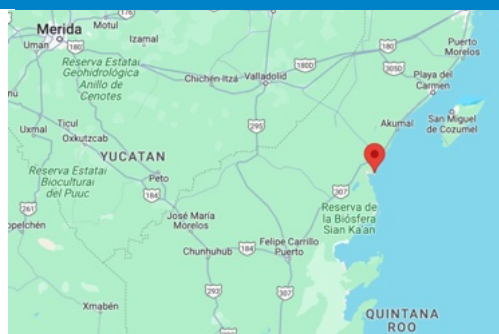
**STATUS: ACTIVE.** We are working on a new section on the upstream part of the system. It requires travel through multiple restrictions and the current end of line is beyond 6km penetration in the overhead.

### HOW TO BE PART OF THIS PROJECT

- This project is for GUE divers only. Min. certification level: **GUE Cave DPV.**
- (GUE Cave Sidemount or GUE Cave Survey certification is a plus)

### SPONSORS / PARTNERS

- Halcyon Dive Systems
- Cuzel filling station



### LOCATION

Ox Bel Ha Cave System, Cenote Yax Chen  
20.129141, -87.467680

### CONTACT

- Emőke Wagner
- GUE Instructor - #20747
- Contact: [emoke@gue.com](mailto:emoke@gue.com) or [laszlo@gue.com](mailto:laszlo@gue.com)

# Estremenho Karst Massif



## GUÉ PROJECT BRIEF - 2023

The Estremenho Karst Massif constitutes the main karst area in Portugal. It is situated 100km North of Lisbon and hosts many springs and sinkholes that make the delight of any cave diver and dry caver. SPE, the Portuguese Speleological Society, has been exploring and studying this complex cave system for over 70 years. We have been fortunate enough to integrate SPE's Cave Diving section since 2007. The PNB EKM (Project Baseline Estremenho Karst Massif) project covers exploration, survey, and documentation of a large system of caves.



<https://spe.pt/espeleologia/exploracao-subaquatica-espeleologia>

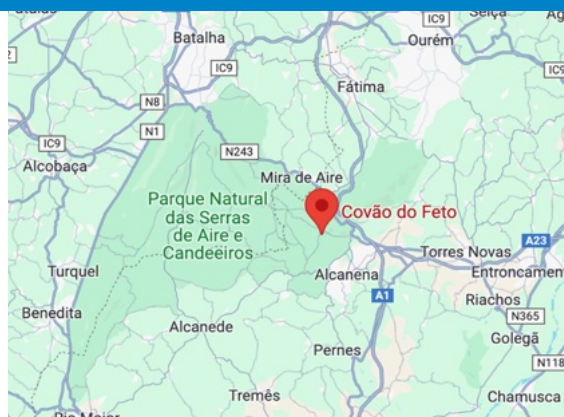
The geology and hydrology of the EKM is complex and SPE has been documenting these caves for many years. Water generally flows from north to south, passing through 2 large scale polje and ending in 3 main springs in the southern border of the massif: Alviela, Almonda and Vila Morreira. Upstream of the polje, near the village of Mira de Aire is the Moinhos Velhos cave, the most extensive cave in Portugal and the epicentre of the water flow of this extended water system.

One of the system-wide activities which is ongoing is the collection of water temperature data from various locations in different caves. This entails deployment of temperature loggers, and their recovery for data download every year. The geologists have been intrigued by widely differing temperature variations with changes in water level through the dry and wet seasons in the different caves.

**STATUS: ACTIVE.** This project is ongoing and long-term. A 2-week project meeting is planned every mid-September. Divers can join for as many days as their schedule allows.

### HOW TO BE PART OF THIS PROJECT / CONTACT

- This project is open to all GUE cave trained divers, from GUE Cave 1 to CCR/RB80, DPV and Sidemount levels.
- Contact [Ricardo@GUE.com](mailto:Ricardo@GUE.com) for more information.
- Participants need to be members of SPE.pt.
- Some of the caves are easily accessible and provide diving opportunities for all levels of divers; others require extensive dry caving using SRT (Single Rope Technique)



### LOCATION

- Covão do Feto, Portugal

### SPONSORS / PARTNERS

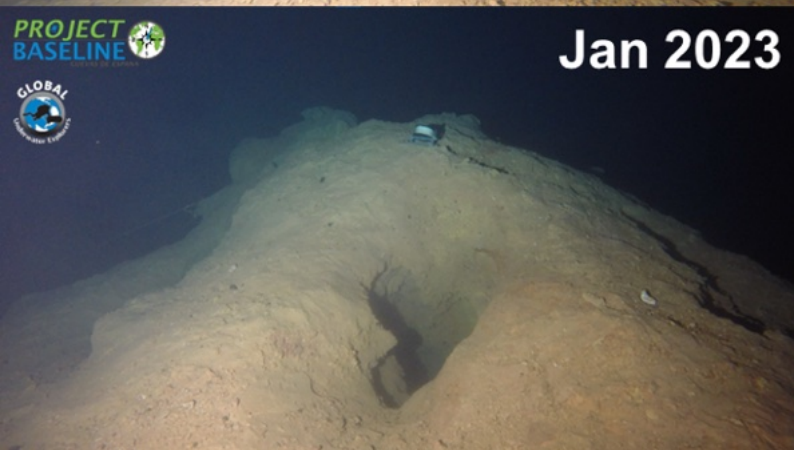
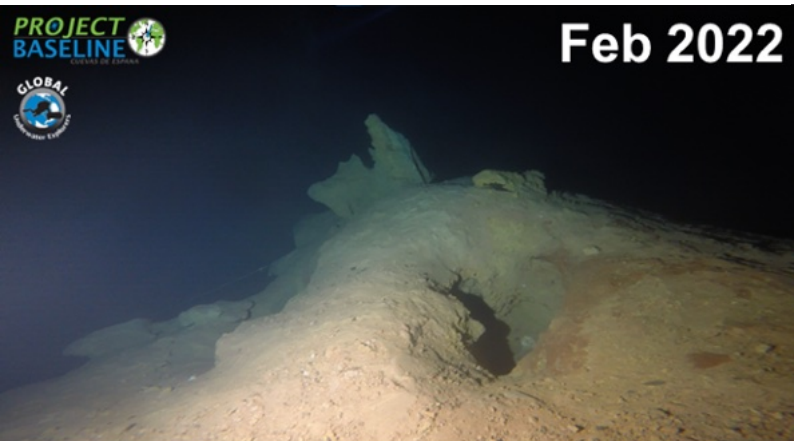
- Project Baseline
- SPE [www.SPE.pt](http://www.SPE.pt)
- GUE Premium Facility [www.IslasHormigas.com](http://www.IslasHormigas.com)
- CPAS [www.CPAS.pt](http://www.CPAS.pt)

# PB - Cuevas de España

## GUE PROJECT BRIEF - 2023

Spain hosts many famous and beautiful caves that can be dived at all levels. This project has two main objectives:

- (1) document and track changes to the cave environment over time.
- (2) survey and publish maps of the caves in an open-source initiative.

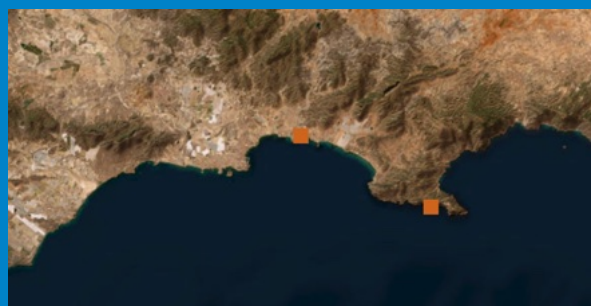


- LOCATION**
- Cueva del Agua (Murcia), CT12 (Murcia). New 2023 projects located in: Moraig (Valencia), Atlantida (Lanzarote), and Fuentona (Soria)
- SPONSORS / PARTNERS**
- GUE Premium Facility [www.islasmormigas.com](http://www.islasmormigas.com)
  - Divergente <https://www.divergentebuceo.com/>
  - Scubanana <https://scubanana.es/>

Those that dive caves will recognise that caves change over time, Over time, we recognise that changes in the morphology, water quality, temperature, and many other dimensions of the cave environment. If we do not document these changes in a systematic and objective fashion, we lose valuable information that can help protect and conserve these delicate environments. This project aims to identify sites in different caves that can be susceptible to changes, and to track this data over time – this is done with the help of Project Baseline.

This project also targets the survey of the caves, with the aim of exposing cave divers to the tasks, tools and the procedures required to survey caves, and to publish all collected data in an open-source scheme. Thus, all divers can freely add to (and edit) the existing map.

**STATUS: ACTIVE.** This project is ongoing and long-term. Multiple project initiatives are organised throughout the year. Contact [Ricardo@GUE.com](mailto:Ricardo@GUE.com) for more information.



### HOW TO BE PART OF THIS PROJECT / CONTACT

- This project is open to all GUE cave trained divers, from GUE Cave 1 to CCR/RB80, DPV and Sidemount levels. Contact [Ricardo@GUE.com](mailto:Ricardo@GUE.com).

# PB - Islas Hormigas

## GUE PROJECT BRIEF - 2023

*Islas Hormigas is the name of the marine reserve in Cabo de Palos, Spain. It is rated as one of the top diving destinations on the Mediterranean for the quantity and diversity of sea life and the excellent diving conditions (good viz and warm water). There are reefs and wrecks at all depths. This project is integrated with PB (ProjectBaseline.org) and collects data from several fixed stations. One of the main objectives of the project is to develop a complete 3D model of one of the reefs, Bajo de Fuera (probably one of the most beautiful and interesting locations on the Med), incorporating the many wrecks that lie between 30m/100ft and 70m/230ft depth.*



[www.IslasHormigas.com](http://www.IslasHormigas.com)

One of the most exciting objectives of this project is to develop a complete 3D model of the Bajo de Fuera dive site and all the wrecks that lie around it. It is a pinnacle that starts at 70m/230ft and rises to 3m/10ft below the surface. There are multiple wrecks and artefacts scattered all over the pinnacle, but especially below 30m/100ft.

The project makes use of line laying, surveying with MNemo tools, photo and video for photogrammetry, 3D modelling with Agisoft and integration/modelling with Blender.org tool. In addition, PB Islas Hormigas collects data from the Naranjito wreck that lies between 27m/90ft and 42m/140ft. There are also numerous project and training opportunities in the shallower reefs closer to the shore.

**STATUS: ACTIVE.** This project is ongoing and 2 project weeks are scheduled each year, normally April/May and September/October. Additional dives are conducted throughout the year.

### HOW TO BE PART OF THIS PROJECT

- This project is open to all GUE trained divers, starting from GUE Recreational 1.
- Normal project teams include GUE Fundamentals divers, Tech 1 and Tech 2 OC divers
- There is also RB80 and CCR divers.
- This is a unique opportunity to get exposure to project diving in all dimensions and depth ranges and experiences.



### LOCATION

- Cabo de Palos, Murcia, Spain

### SPONSORS / PARTNERS

- GUE Premium Facility  
[www.IslasHormigas.com](http://www.IslasHormigas.com)

### CONTACT

- Email [islahormigas-@IslasHormigas.com](mailto:islahormigas@IslasHormigas.com) for more information.

# Benthic Mission 2023



## PROJECT BASELINE UK

<https://projectbaselineuk.org/the-benthic-mission-2023/>



### Overview

In June 2023 Project Baseline UK divers came together in Eyemouth for a third year running. The event saw the PBUK team again collaborate with the Blue Marine Foundation to improve the collective understanding of the pressures faced by the marine habitats around the Berwickshire coast. This time around PBUK was lucky to also be supported by Sea Changers and the Matthew Good Foundation.

The aims of this third mission were more ambitious than previous years. With 2 boats and 18 divers descending on Eyemouth from around the world, including Europe and the USA, the team were able to collect more data than ever before. The 3 main efforts in 2023 were; kelp video surveys, sea mussel distribution surveys, and sediment collection in support of micro-plastics research.

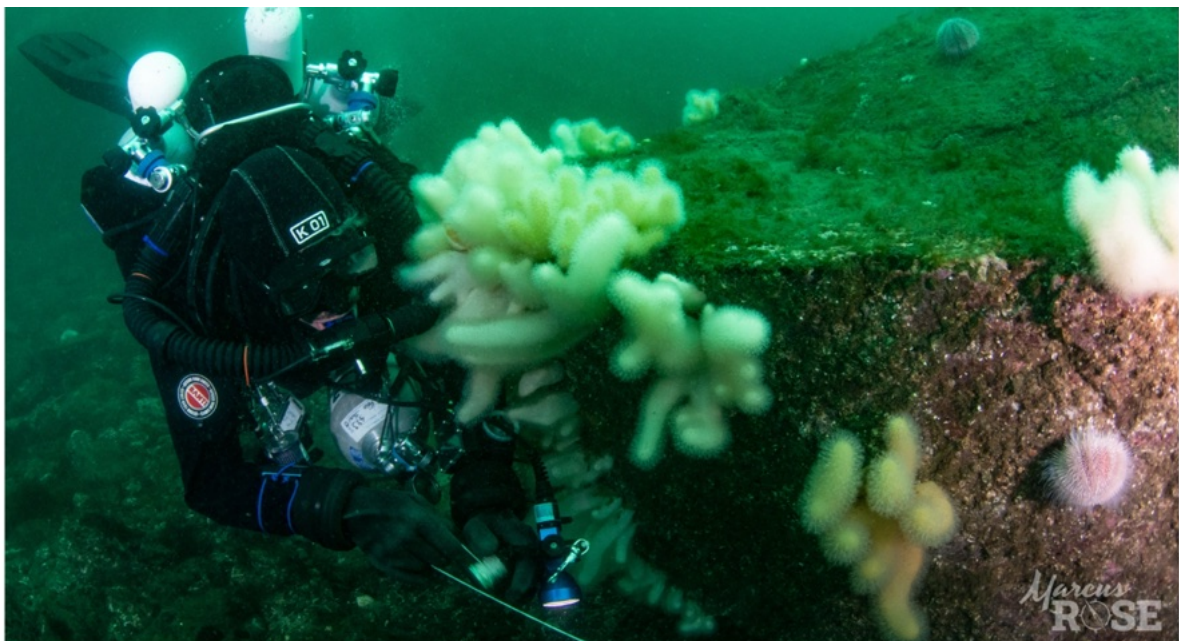


Divers prepare for video transect

### Surveys

There were 3 main techniques used to collect data in support of the project objectives. To survey the kelp forests around the Berwickshire coast divers used a tape measure to lay a 10m transect. They then used 25cm by 25cm quadrants at 1.5m intervals to take video transects of both the kelp itself and the benthic species around the base of the kelp. Team work was essential for success in these surveys. The video diver was reliant on the team members to lay the quadrants, manipulate the kelp, and record basic dive information to support post dive data analysis.

The horse mussel surveys were more challenging than the kelp data collection owing to the uncertainty surrounding their location. Divers were operating in deeper water and had less time owing to both the depth and currents. Using previously recorded sightings of the horse mussels to target the searches, divers used a mixture of drift diving, finning, and DPVs, to survey relatively large areas of the seabed. The divers attempted to record video of the seabed to allow post dive analysis, but also noted down any sightings they made during the dive. Whilst sightings were relatively rare, good numbers of mussels were recorded over the last couple of days of the project. It will be interesting to see what the MSc research tells us about the horse mussels in the area.



The micro-plastics project aims to assess the variance of micro-plastics in the waters surrounding Eyemouth. This involved collecting sediment from locations at set distances from Eyemouth in both a northerly and southerly direction. Divers collected both sediment and surface water to allow a comparison to be made during analysis. Whilst a relatively straightforward collection technique, the challenge faced by the divers was the depth of water. The sites varied from 32m to nearly 70m.



## Outreach Event

During one of the evenings of the project week the divers came together for a night of presentations to share the efforts of other Project Baseline projects. This year the team were really lucky to welcome overseas team members. Ricardo from Spain, Erik from the Netherlands, and Todd / Kristie / Ginnie from the US.



Over the course of the evening the team heard about Ricardo's project efforts in Spain, both in the ocean and the surrounding caves. They also heard about the origins of Project Baseline from Todd Kincaid, who talked about his experiences protecting the freshwater springs in Florida. We hope to hear from Erik about his scientific diving work next year.



The dive team, with Lauren and Katie, students from Edinburgh University, Jenny from Plymouth University, and Joe from BLUE

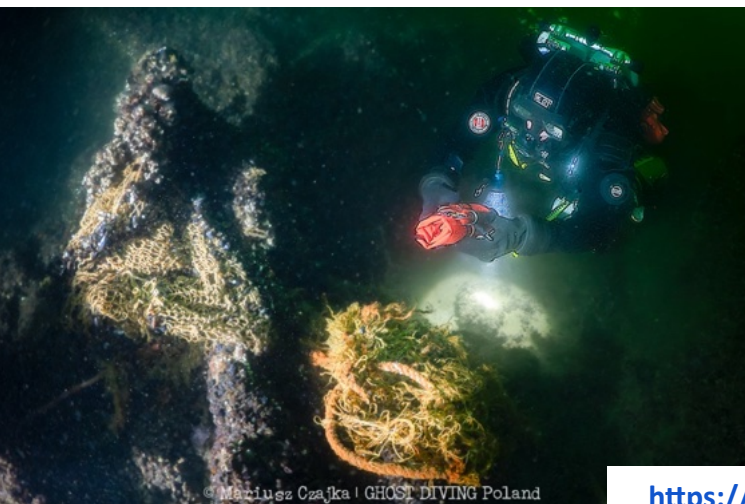
2023 was the biggest mission delivered by PBUK to date. The number of divers nearly doubled, from 9 in 2022 to 18 in 2023. The team also operated 2 boats in support of 3 separate MSc programmes. It was great to see so many divers return for their second or third year running. It really is the PBUK community that makes these projects so successful, rewarding, and most importantly, enjoyable. Here's looking forward to more in 2024!



# Ghost diving Poland

## GUE PROJECT BRIEF - 2023

A conservation project that is aiming to clean up the Baltic Sea from ghost fishing nets.

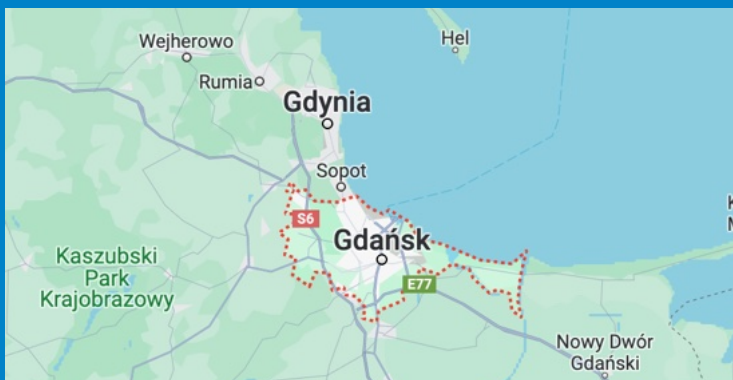


<https://ghostdiving.pl/>

The Polish Baltic Sea is full of amazing underwater wrecks. Unfortunately, most of these wrecks are literally covered by deadly ghost nets. Ghost nets significantly harm the already threatened marine ecosystem of the Baltic Sea. Since 2019, a group of Polish GUE divers are trying to clean the Baltic from ghost nets. In doing so, they aim to educate society about the problem of marine pollution, and the possible solutions that can help our beautiful sea.

### STATUS: ACTIVE.

We are running on average one clean-up per month



#### HOW TO BE PART OF THIS PROJECT

- Contact: [kontakt@ghostdiving.pl](mailto:kontakt@ghostdiving.pl) directly for more information and how to get involved

#### LOCATION

- Port of Gdansk

#### PARTNERS

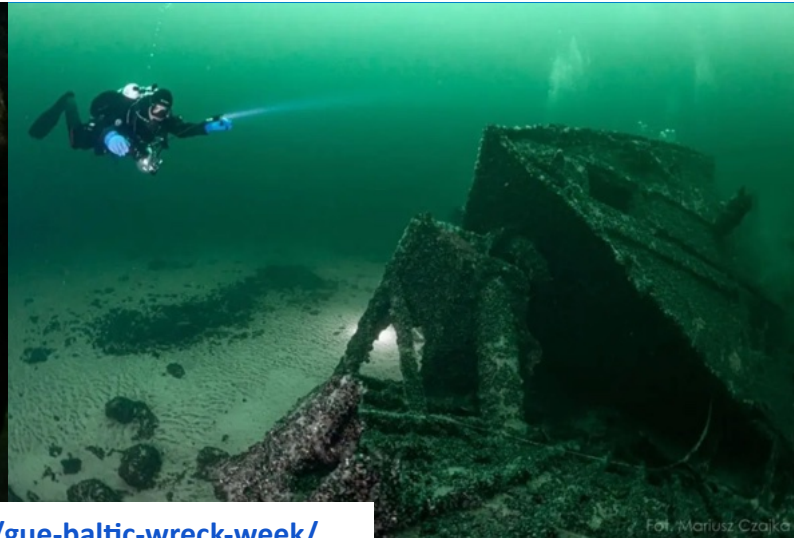
- Ghost fishing



# Baltic Wreck Week

## GUE PROJECT BRIEF - 2023

*Over the years, the Polish Coastline has witnessed many ships sinking due to: military operations, collisions and storms. It is estimated that there are from 8000 to 100 000 shipwrecks spread in the Baltic Sea. Many of them are poorly documented. Many of them are still to be discovered... Thanks to the unique water properties [low salinity], the old wooden shipwrecks that sunk hundreds of years ago are still in excellent condition. The history and beauty of the Baltic Wrecks can be shared at the GUE Recreational Level over a week of diving.*



<https://batdiving.com/gue-baltic-wreck-week/>

Something that at the first glance looks like a rock, can surprise you with plenty of details and historical artefacts. We would like to shed more light on these stunning dive sites, unknown to most of the divers around the World. The Baltic Sea is a demanding environment for divers. Nevertheless, the dives in our waters are very rewarding and exciting.

Our sea provides all divers with an excellent opportunity to reinforce their diving skills in the scope of teamwork, navigation, communication and more. During this week, recreational divers can have fun whilst reinforcing their skills. Another objective will be to collect images and detailed descriptions of the points of interest for the local dive sites.

**STATUS: ACTIVE.**

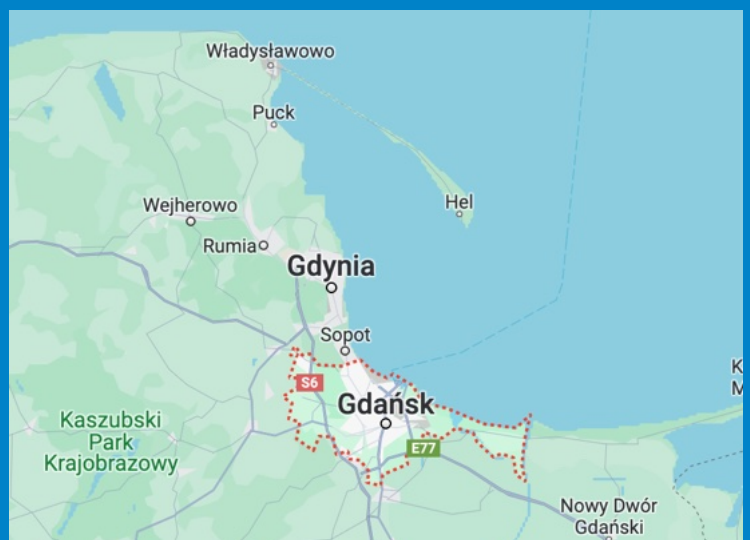
**First edition: August 10<sup>th</sup> – 15<sup>th</sup>, 2023**

### HOW TO BE PART OF THIS PROJECT

- Contact Bartek Trzcinski directly for more information and how to get involved: [bat@gue.com](mailto:bat@gue.com)
- Minimum certification: **GUE REC1** or equivalent.
- Drysuit diving experience is highly recommended.

### LOCATION

- Port of Gdańsk / Wladyslawowo



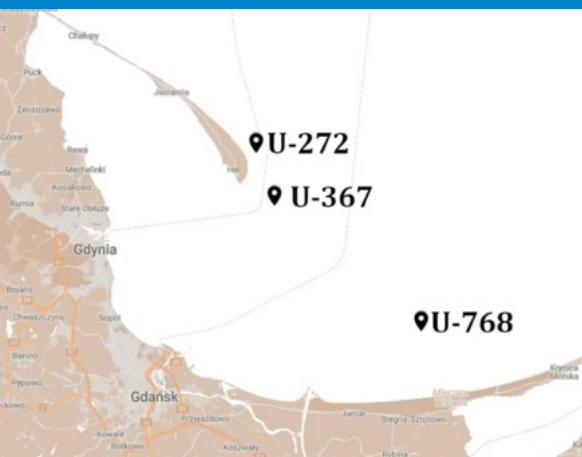
# U Boat Hunt - Project

## GUE PROJECT BRIEF - 2023

Over 20 U-Boats sunk or got lost along the present Polish coastline. U-Boat Hunt 2023 was an initiative of the GUE diving community from Poland. Here, divers were invited to help document, preserve, and better understand the history of these iconic wrecks.



<https://batdiving.com/u-boat-hunt/>



Although there are at least three documented wrecks of German U-Boats within one hour from the port of Gdansk, they are not very common among local divers. The reason for that might be: depth, conditions (currents, temperature, visibility), ghost nets present on the wrecks, unknown points of interest and more. We would like to shed more light on these gems of naval history and invite you to visit our unique dive sites.

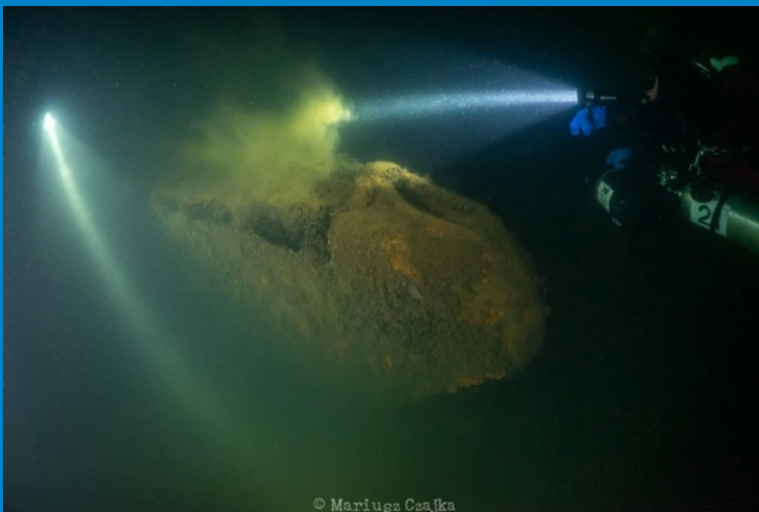
**STATUS: ACTIVE.** First edition will take place in 2023, July 6-10th.

### HOW TO BE PART OF THIS PROJECT

- Contact Bartek Trzcinski directly for more information and how to get involved: [bat@gue.com](mailto:bat@gue.com)
- Minimum certification: **GUE T1**

### LOCATION

- Gdansk, Poland



© Mariuga Czajka

# LivingSeas Coral Project

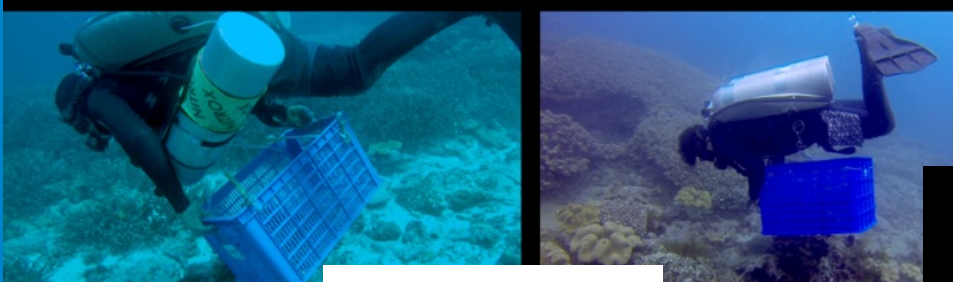
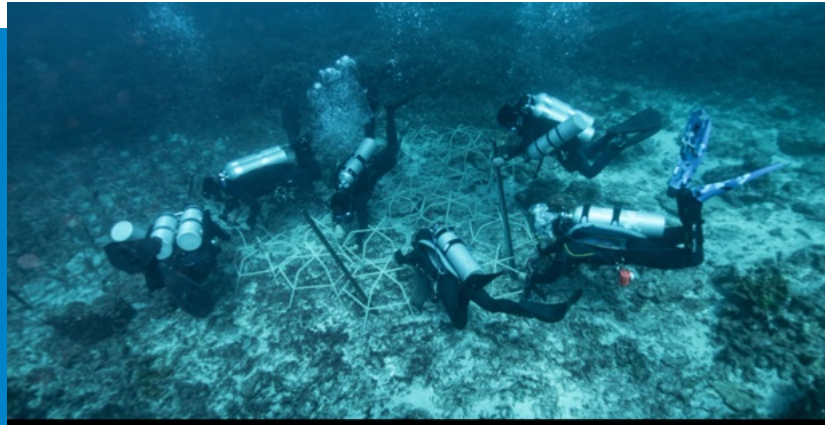


## GUE PROJECT BRIEF - 2023

*LivingSea's vision is to rebuild a thriving coral reef habitat around Bali. They also aim to inspire the local community which – not only appreciates the marine ecosystem - but can maintain it through reef rehabilitation work and sustainable waste management practices.*

We want to change people's way of living to a more eco-conscious approach. To care more about the environment, the ocean, and act accordingly. At LivingSeas, we have developed a coral conservation program that has proven effective for growing corals.

Ultimately, our long-term goals are to rehabilitate a large patch of dead reef in both the Mimpang and Baung Penyu sites. We aim to involve volunteer divers - as a way to leave a visceral and emotional impact on them - by having them create their own reef.





We will also impart to divers the proper skills to control their position and movements when diving, so they will not impact any existing reef in future dive trips that they attend. LivingSeas is dedicated to this goal, and is actively seeking to grow our sites exponentially. This will require a large team of volunteers and funding to cover the targeted area of reef.


[www.livingseas.asia](http://www.livingseas.asia)


**STATUS: ACTIVE.** This project welcomes all diving levels and is run by former GUE instructors. Contact [leon@livingseas.asia](mailto:leon@livingseas.asia) directly for more information and how to get involved.

**BALI • JAKARTA • SINGAPORE**

 +65 9641 6580

 [leon@livingseas.asia](mailto:leon@livingseas.asia)

 [www.livingseas.asia](http://www.livingseas.asia)

 [livingseas.asia](https://www.instagram.com/livingseas.asia)

# CAVES IN BRAZIL

– So much to explore, too little time

By Sergio Schirato x GUE BRAZIL  
collaborations // Photos Kirill Egorov

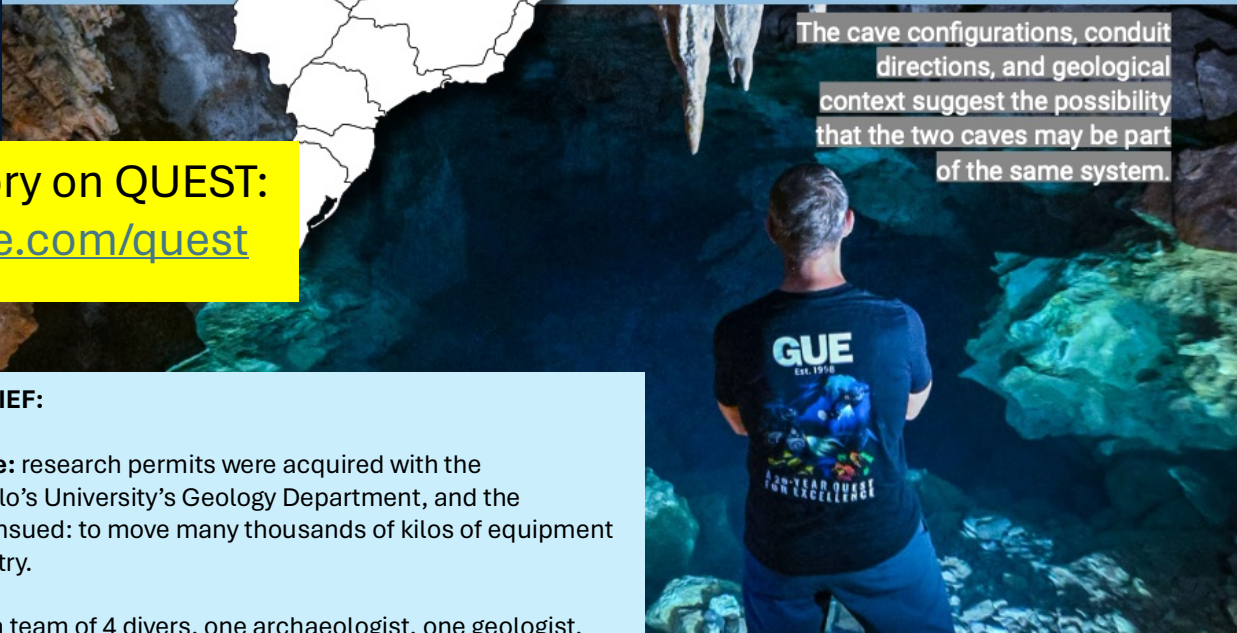


## FACT FILE // THE REGION

### BRAZIL



Nobres is located in the state of Mato Grosso, the mid-western area of Brazil, in the transition between two biomes, the Amazon rainforest and the Brazilian savanna ("cerrado"). The area offers all sorts of options for nature lovers, from crystal clear rivers to beautifully sculpted limestone mountains. Nature is exuberant, making the place a great destination for wildlife observation. It is located approximately three hours from the closest airport, which is in the city of Cuiabá.



The cave configurations, conduit directions, and geological context suggest the possibility that the two caves may be part of the same system.

Read the full story on QUEST:  
<https://www.gue.com/quest>

### PROJECT SUMMARY BRIEF:

**The 2022 planning stage:** research permits were acquired with the collaboration of São Paulo's University's Geology Department, and the logistical preparations ensued: to move many thousands of kilos of equipment halfway across the country.

**The May 2023 journey:** a team of 4 divers, one archaeologist, one geologist, one filmmaker, two support members, and one local guide made the journey to Mato Grosso (for some, a drive of 2200 kilometers). The goal, to explore the caves located in the Gruta Azul State Park – mainly 'Dolina do Pai João' and 'Dolina do João Terêncio'.

**The first dives:** The first day of diving was used to bring the equipment closer to the entrance of the cave, and effort that required a dozen people to make multiple trips from the farm, where the trucks with the local gear were parked. Dives were long, followed by many hours of decompression. Most of the equipment was left at the cave entrance, making the trek back much easier. Although we are still in the early stages of exploration, it is speculated that; due to the configuration of the two caves, they could be part of the same system (even though they are separated by a distance of 7 kilometers) of the same system. Additional exploration is needed to confirm or deny this connection.

### CONTINGENCY:

Later that night, we realised that survey data from Pai João was missing, and adjusted the plan to return the next day. The plan was simple: carry the equipment through the jungle as fast as we could, lower the gear down with ropes, dive, retrieve everything and be back at the farm before sunset. This time limit was imposed because we got lost enough times even during the day.