

# GUE PROJECT REPORT

## OVERVIEW

Jennifer Thomson  
GUE Next Generation Scholar 2022-23



**PHREATIC**  
CITIZEN SCIENCE AND GROUNDWATER RESEARCH



### MAY 2023 – PROJECT UPDATE BRIEF



**Recreational, Long-term Monitoring Establishment**

Phreatic Organisation, Cala Gonone, Sardinia



# GOALS

## MAIN AIMS:

1. To set up a recreational-level long term monitoring program for Phreatic Organisation and Base1 Sardinia.
2. To produce a short documentary about the behind-the-scenes of scientific projects
3. To establish the first deliverable / outcome for the GUE NextGen Legacy Project

## Background / Importance: (OUR WHY)

1. **Recreational-level long term monitoring** – to eventually build up a data set that allows one to establish baselines of the area, one can see trends and deviations over time, creating a more holistic dataset of the area, and eventually using the data for management: making a Marine Protected Area.
2. **Documentary producing** – to showcase the trials and perseverance that young scientists have when making their own project. This is also the GUE NextGen Legacy Project deliverable for 2022/23.
3. **GUE NextGen Legacy Project** – a way to connect young GUE divers with established scientists, making a community of teammates that will mentor others, and work to establish their own recreational projects too. To inspire others to start projects for the first time. As part of the GUE NextGen scholarship program – each scholar will be tasked with running the group and producing their own deliverable.

## Methods:

1. **Substrate surveys focusing on seagrass** – surveyed using quadrats at specific intervals along a transect. Images taken of the quadrat were used to ascertain % seagrass cover. There were also estimations of seagrass abundance (counting blades in a specific patch) and measuring blade length.
2. **Indicator species ID** – not started yet. We used the survey dives to record potential species that we could study later.
3. **Anthropogenic impacts** – trash clean up dives, to see the debris found in this site.

For content creation, there were daily shot lists to ascertain what to film the next day, with a spare day at the end of the project for collecting any un-documented shots of underwater surveys / B roll. GUE NextGen Legacy Project content was filmed throughout. All timelines, shot lists, and protocols are available via contacting [jenniferethomson97@googlemail.com](mailto:jenniferethomson97@googlemail.com).





# OUTPUTS

## METADATA:

- **LOCATION:** Acqua Dolce site, Cala Gonone, Sardinia, Italy
- **DURATION:** 7 days (3 days dry for dry runs, designing protocols, filming interviews, and 4 days of diving)
- **TEST DIVES:** 3 (testing drysuits, establishing the field site location, method testing)
- **DATA COLLECTION DIVES:** 2 (a complete run through to collect seagrass/benthic specific data, and a dive for trash collection / to identify possible indicator species).

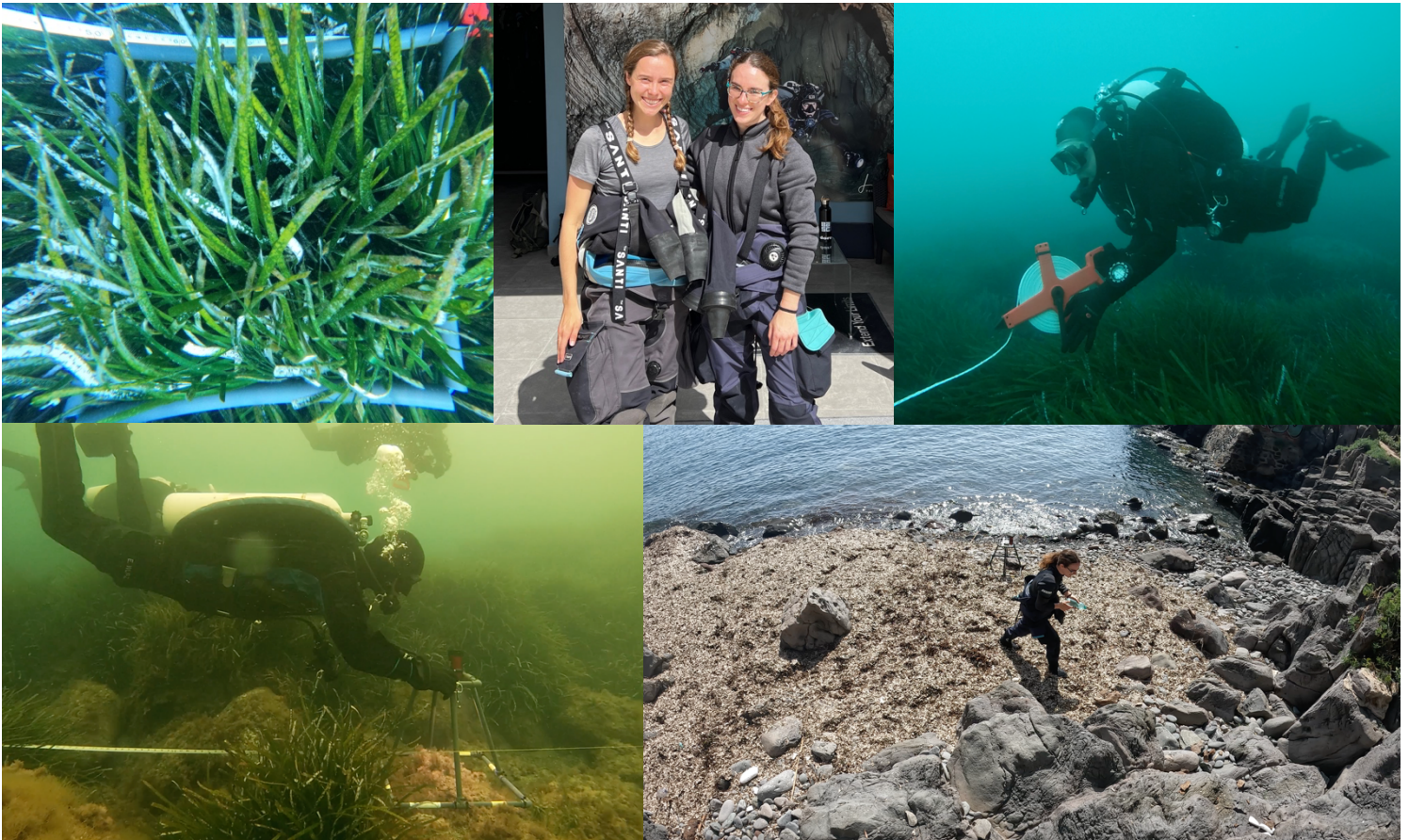
## Scientific method refinement:

The scientific methods and protocols were refined over several days of dry-runs, testing in the field, and debriefs where we tweaked certain protocols, the ways in which to measure seagrass (length / abundance) and our transect length.

When surveying the substrate type, we realised that the seagrass was too long for the photo-quadrants to be used efficiently (as the blades completely obscured the camera and hence the benthic habitats). So, counting squares and GoPro cameras were later used, to take photos from a higher position.

## Results from social media / other outputs:

- **Instagram** - GUE takeover – achieved, see the @GUEhq Instagram.
- **Documentary** - coming soon!
- **Science** - project development (field drills, testing and protocols) – complete! As only 1-2 dives were focused on the data collection specifically, nothing has been analysed. Once more data points are collected, results will be shown at a later date.
- **GUE NextGen Legacy Project** - collaboration between young scientists – achieved.
- **Skills learnt** - problem solving, producing shots / surveys, and team management.





# FUTURE

## Future considerations:

Time was the most limiting factor here, along with the weather. As we spent most of the days testing methods, choosing the site and establishing protocols, few data points were taken. However, this was something that we knew would occur already – with the focus being the project set up, NextGen legacy, and reproducing some dive surveys shots for documentary purposes. Storms - with large-scale stick debris and poor visibility – also hampered some shots and surveys; however, it made for interesting story-telling and problem-solving!

## Next steps: What needs to happen now?

Simply - to go back and collect more data! As the site, protocols and design has been discussed in more detail, more time can be spent collecting data points over a longer time scale to start to see baselines and trends. Indicator species will need to be chosen.

In the future, this recreational project can be used as a way for divers to hone their survey skills (whilst adding to the data set) in a less stressful environment, before conducting cave or tech surveys. This can be in the form of “project skill catch-up days” or longer courses, before any GUE events, science weeks, or surveys from Phreatic / other organisations.

**To access the long-term data set:** Project development ideas, protocols, shot lists and results are available via contacting Base 1 or email [jenniferethomson97@googlemail.com](mailto:jenniferethomson97@googlemail.com).

## THANK YOU TO:

- **Participant Divers (scientists and media):** Jenn Thomson, Elizabeth Kroger, Jordan Allured, Joey Collaris, Erik Wurz, Lier Yeo, Nico Lurot
- **Organisations:** [Global Underwater Explorers](#), [Base 1 Sardinia](#) (Andrea Marassich, Olga Martinelli, Dorota Czerny), [Phreatic Organisation](#), and [Halcyon Dive Systems](#)

