

## Hampshire Diving Report 2022

A total of 80 dives were made across four dates from 29/05/22 to 28/8/22. Unfortunately for weather reasons two days were lost.

40 dives were focused on seagrass beds and 33 dives explored areas with a mix of animals and seaweeds. The remainder were on the wreck of the Fenna.

All of these dives were conducted from Wight Spirit and sincere thanks are given to skipper Dave Wendes for an excellent and safe season.

This report covers what was achieved, along with the context of Hampshire Seasearch's objectives. There are no summary statistics because the Marine Recorder database has not yet been finalised.

## Objectives

Objectives have been set that will have continuity for the next few years. A start was made during 2023 and the following objectives were used to target the dives achieved during the year.

### Seaweed

1. Further develop the focus of volunteers on seaweeds through:
  - i. More training (dedicated seaweed identification courses).
  - ii. More dives explicitly targeted at seaweeds and supported by more comprehensive pre-dive briefings.
- b. To collect more narrowly targeted data, monitoring trends in:
  - i. Diversity
  - ii. Abundance
  - iii. Non-native species
  - iv. Rare species - it will be particularly helpful to follow the apparent trend of rare species progressing eastward.
- c. To investigate the apparent anomaly of rapidly reducing seaweed abundance with depth; adding diversity data and assessing stress factors.
  - i. Brief for focus on seaweeds and record % of taxa that are seaweeds for each depth.
  - ii. Add to the record of observations the presence of potential stress factors.
  - iii. Target sites that have change in depth 10m to 30m.
  - iv. Focus on a critical depth, say 20m and:
    - Compare chalk and non-chalk for same depth, % of taxa.
    - Compare different energy sites, % of taxa.

### Chalk Habitat

Create more detailed records:

1. Geological characteristics of the chalk, such as hardness or softness and porosity;

2. Structural complexity of the chalk, eg where elevated from the surrounding seabed, with crevices and fissures developing in the bedrock, creating a greater surface area for epifauna to attach to and crevices for mobile species to take shelter in;
3. Biotopes present, combined with a list of commonly occurring and notable species;
4. The energy and exposure of the various habitats.

### Photogrammetry

Investigate the use of 3D models to improve the accuracy of:

1. Habitat recording
2. Species recording
3. Human activity impacts.

### Seagrass

1. **Volume**  
Quantification of sparse patches in the Seagrass beds and exploration of the extent to which these open areas relate to human activity, such as anchoring.
2. **Health**
  - a. Sample early , middle and end of season.
  - b. Use photographs to be more precise about the extent of blackening.
3. **Biodiversity**
  - a. Seeds, flowers and seedlings were observed in Osborne and near Yarmouth but not at Thorness Bay; investigate whether this is systematic
  - b. Again – early, middle and end season; brief for focus on seeds, flowers and seedlings in Osborne or Yarmouth.

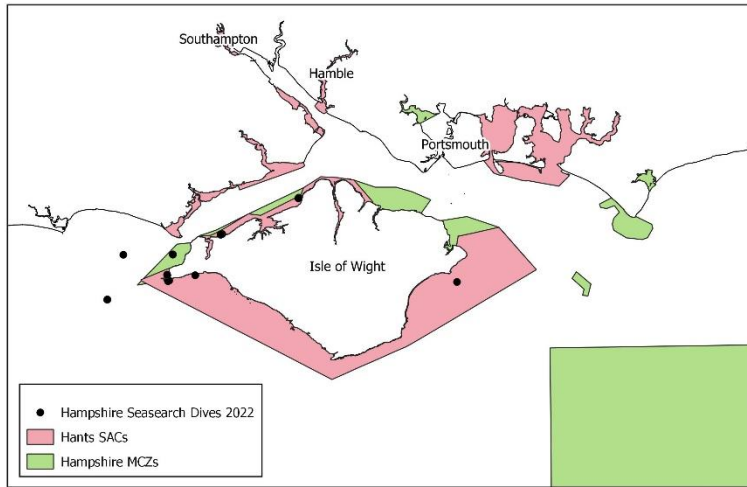
## Dive sites surveyed 2022

### Survey Locations

|            |                                 |                |                 |
|------------|---------------------------------|----------------|-----------------|
| 29/05/2022 | East Yarmouth Seagrass          | 50Deg 42.590'N | 001Deg 28.846'W |
| 29/05/2022 | Tennyson Down                   | 50Deg 39.963'N | 001Deg 31.596'W |
| 11/06/2022 | HMS Pomone                      | 50Deg 39.996'N | 001Deg 34.362'W |
| 11/06/2022 | Pomone Reef                     | 50Deg 40.009'N | 001Deg 34.437'W |
| 11/06/2022 | Thorness Bay #1                 | 50Deg 44.834'N | 001Deg 21.135'W |
| 11/06/2022 | Thorness Bay #2                 | 50Deg 44.895'N | 001Deg 21.064'W |
| 06/08/2022 | Outer Tinker                    | 50Deg 41.303'N | 001Deg 33.835'W |
| 06/08/2022 | Old Pepper Rock                 | 50Deg 39.635'N | 001Deg 34.221'W |
| 06/08/2022 | Rock Awash W of Old Pepper Rock | 50Deg 39.595'N | 001Deg 34.341'W |
| 20/08/2022 | Fenna                           | 50Deg 38.440'N | 001Deg 40.470'W |
| 20/08/2022 | Yarmouth Seagrass               | 50Deg 42.553'N | 001Deg 29.000'W |



*Skipper Dave Wendes and Hampshire Seasearch Volunteers on Wight Spirit*





## Seaweed Volunteer Focus

For many dives it was possible to compare notes immediately afterwards, learning from experienced Seasearchers whilst memories were fresh. This proved to be a very popular addition to the activities. This idea will be extended next year with video conference briefings before dives.



*Volunteers post dive form completion and learning*



*Volunteers examining seaweed samples during surface interval*



*Volunteers learning from seaweed samples*



## New and Significant Records

1. A possible record was made for the rare green seaweed *Flabella petiolate* on chalk bedrock at Pomone Reef, Alum Bay.
2. The Fenna is a small wooded wreck with a cargo of glass and “railway lines”, sitting on a seabed of flint pebbles and gravel with very sparse fauna, at a depth of around 22m.



*Stacked glass with sponge crust on Fenna wreck*



*Stacked glass with faunal crust on Fenna wreck*

The first Hampshire record for the Norway Bullhead *Micrenophrys lilljeborgii* was made on the wreck of the Fenna. There are occasional scattered records of this species all round Britain and Ireland as well as the Channel Islands and Brittany. Current records on the National Biodiversity Web site (<https://nbnatlas.org/>) greatly underestimate the extent of its distribution. It is probably often mis-identified as a juvenile Long-spined Seascorpion (*Taurulus bubalis*). The small spines on the sides of this fish and its overall rather prickly look are distinctive.

3.



Norway Bullhead on Fenna

4. The data from all sites will be examined to give a measure of species diversity. Tennyson Down, for example, demonstrated a range of algae and fauna but was felt overall to have low diversity.



Mixed algae and sponge cushions on Tennyson Down (photo Mike Rushworth)

5. Non-native Slipper Limpet *Crepidula fornicata*, which is widely distributed throughout the Solent, Wireweed (*Sargassum muticum*) and Siphoned Japan Weed *Dasysiphonia japonica* were observed at Yarmouth IoW.



## Seaweed Abundance vs Depth

In order to draw conclusions on the effect of water depth on seaweed abundance a variety of depths will need to be surveyed, with repeat visits for each. A start was made during the year with surveys at three depths: 7 – 8m, 8 – 11m and 17 – 22m.

### 7 – 8m (Pomone Reef) Alum Bay, Isle of Wight

As expected this site had dense red algae on upward facing slopes and short animal turf on the verticals.



*Mixed red seaweeds and short animal turf on vertical rock on Alum Bay at 5m*

### 8 – 11m (Tennyson Down) Freshwater Bay, Isle of Wight

This slightly deeper site still had dense red algal turf on upward-facing surfaces. The sides of the reef had only sparse algae and cushion / encrusting sponges and at 10m the algae were sparse.





Red and brown seaweeds and Mermaid's Ear (*Meredithia microphylla*) on Tennyson Down at middle depth



Sparse red seaweeds on Tennyson Down at 10m

**17 – 22m (Outer Tinker) off Colwell Bay, northwest Isle of Wight**

A gently sloping seabed had fauna dominated by crusts of the Ross Worm *Sabellaria spinulosa* with hydroids, encrusting sponges and bryozoa.





*Sabellaria and sponge crust with drift algae on Tinker Rock*

## Chalk Habitat

The dives specifically targeting chalk bedrock were among the ones cancelled due to poor weather conditions. However some of the surveys achieved included areas dominated by chalk (Pomone Reef, Outer Tinker and Old Pepper Rock) and so some data will be available to record under this objective.



## Seagrass

### Early season (29/5/22) at Yarmouth, Isle of Wight

The site had a dense bed of *Zostera marina* with an understory of mixed, bleached algae. The seagrass was generally in good condition with less than 1% of blades showing blackened areas.

The biotope included *Zostera* with both seeds and flowers, very short hydroids on seagrass blades and bleached algae, mostly on pebbles or clumps of Slipper Limpets (*Crepidula fornicata*) and a lot of filamentous brown seaweed (*Ectocarpaceae*).

Possible anchor scars were observed.



*Zostera* at Yarmouth, early season



*Zostera* at Yarmouth – early season - with smothering layer of *Ectocarpaceae*

### Mid-season (20/8/22) at Yarmouth, Isle of Wight

A very dense seagrass bed was recorded. The site was heavily silted, with unidentified epiphytes. There was a small amount of leaf blade blackening.

Unfortunately both dives days timed to capture late season Seagrass surveys were the ones cancelled for weather reasons.

### Seagrass Regeneration Project

Several attempts were made to survey a very shallow area close to the entrance to Beaulieu River. The Seagrass Regeneration Project had attempted to establish a new seagrass bed via seeds enclosed in hessian bags and it is important to establish what success has been achieved.

This work is associated with LIFE Recreation ReMEDIES, <sup>1</sup>a partnership project funded by the EU LIFE programme and led by Natural England, aimed at restoring areas of seagrass, as well as helping to protect the seabed from damage by recreational activities.

Unfortunately the practical difficulties of accounting for the local tides and getting to such a shallow site in a hard boat made it impossible to get divers onto the site.

Therefore a different approach will be taken next year using a RIB, probably involving both divers and snorkellers. A proposal has been made to Andark Diving and Watersports for a joint project. The benefits to Seasearch include achieving the survey data and introducing more potential volunteers to Seasearch. The benefits to Andark include extending the experience and abilities of a number of diving Instructors, Divemasters and trainee Divemasters. Andark will contribute the use of their RIB, the Diver Training Manager and Course Director. Hampshire Seasearch will contribute surveying experience, mentoring for the participants and funding for fuel.

The project survey objectives have been set:

1. Search the survey area for seagrass seedling bags and growing seagrass. Either:
  - a. Bring back photographic evidence of bags or growing seagrass; or
  - b. Confirm no bags or seagrass are evident and record an estimate of the extent to which the survey area has been covered.
2. If bags or growing seagrass is observed:
  - a. Estimate the coverage;
  - b. Provide photographic evidence of the health of the plants;
  - c. Provide photographic data of the biotope such that a Seasearch Observer form can be constructed for the data.

Suitable learning objectives for the participants have also been set.

An initial meeting at Andark was held, which proved to be very popular. A further schedule has been set leading up to dives to survey the area during the 2023 season.

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<sup>1</sup> <https://saveourseabed.co.uk/>

## Acknowledgements

1. Funding for the seagrass study kindly given by Natural England through LIFE Recreation ReMEDIES: Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed)<sup>2</sup>



2. Skipper Dave Wendes and hard boat Wight Spirit gave great support with professional transport, in-water guard-boating and advice based on in-depth local knowledge.
3. Observations collected by the lifeblood of Hampshire Seasearch, its volunteers:

|                   |
|-------------------|
| Mike Rushworth    |
| Hugh Waite        |
| Lin Baldock       |
| Charlotte Bolton  |
| Steve Mawer       |
| Jane Maddocks     |
| Robert Dawson     |
| Pippa Hardesty    |
| Ed Rollins        |
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| Liz Lumb          |
| Nick Owen         |
| Holger Schuhmann  |
| Fiona Crouch      |
| Claude Love       |

4. Observations, instruction and indispensable general guidance from Seasearch staff, Charlotte Bolton and Lin Baldock.

Mike Rushworth, March 2023

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<sup>2</sup> <https://saveourseabed.co.uk/>