



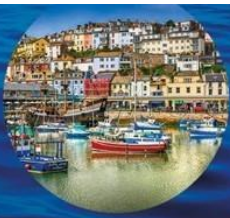
Marine
Management
Organisation

Studland Bay

Voluntary No Anchor Zone: 2023 Review

March 2024

...ambitious for our seas and coasts



Executive summary

The Marine Management Organisation (MMO) has responsibilities, alongside other governmental bodies, for managing marine non-licensable activities to further the conservation objectives of marine conservation zones (MCZ), a form of marine protected area (MPA).

A voluntary no anchor zone (VNAZ) was introduced in December 2021 to ensure that anchoring over seagrass beds in Studland Bay MCZ did not undermine the conservation objectives of the MPA. The management measure was determined following a detailed evidence-based assessment, and several rounds of consultation with stakeholders.

This document sets out the findings of a review of the effectiveness of the VNAZ during the second year of it being in place.

The 2023 review shows that boaters have been using ecomoorings when they are available; with more ecomoorings set to be installed for the 2024 season we are confident that their use will increase. Boaters are also seeking to anchor outside of the VNAZ when there are no moorings available. The marking of the VNAZ this season will help boaters to better understand the location of the protected habitats and avoid dropping anchor in that area.

The levels of adherence are not yet sufficient to ensure the recovery of the seagrass, however monitoring does indicate that levels of anchoring have reduced from year 1. This together with the planned installation of ecomoorings and marker buoys by Studland Bay Marine Partnership (SBMP) leads MMO to conclude that a VNAZ remains the most effective way to protect the MPA as positive progress is still being made. Therefore, we do not plan to introduce a statutory measure (for example, an MMO byelaw) at this stage. MMO remain committed to working closely with partners, including SBMP to ensure the success of the voluntary approach.

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1. Introduction

MMO is responsible for ensuring that marine non-licensable activities do not hinder the furthering the conservation objectives of an MCZ. In 2020, [MMO's assessment on the impacts of marine non-licensable activities on the features of Studland Bay MCZ](#) concluded that management measures for anchoring were needed due to the impact on some designated features (long-snouted seahorse, subtidal sand and seagrass beds). Following consultation with stakeholders, a phased voluntary approach for the management of anchoring was announced in September 2021.

Phase 1 of the voluntary no anchor zone (VNAZ) launched on 17 December 2021 covering the parts of the seagrass beds closest to Middle Beach and South Beach. Phase 2 commenced on 1 June 2022, extending protection for the majority of the seagrass habitat in Studland Bay. Please visit MMO's website for more information on [Studland Bay MCZ and VNAZ](#).

This document provides a review of the effectiveness of the VNAZ in relation to behaviour change, levels of awareness and MMO engagement methods in 2023. To do this we have reviewed MMO activities in 2023, available monitoring data, and collated valuable stakeholder feedback via an online survey. This will inform ongoing and future management of activities in Studland Bay MCZ, helping to support the achievement of the site's conservation objectives and ensure protection of this MPA.

1.1 Structure of this document

Section 2 reflects on activities conducted by MMO in 2023. This includes awareness raising and engagement work, collaboration with the Studland Bay Marine Partnership (SBMP) and activity level monitoring for the VNAZ.

Section 3 provides an overview of the 2023 stakeholder survey results, with MMO responses to the main comments and a comparison with the 2022 survey.

Section 4 looks forward to the 2024 boating season, including plans by SBMP.

Section 5 concludes the findings of the 2023 Review and MMO's next steps.

Section 6 provides MMO contact information for any questions or queries.

Annexes contain activity level monitoring data and a glossary of terms.

2. MMO activities

This report focuses on activities conducted by MMO during 2023. For further information on past engagement and activities, please see MMO's website ([Managing marine non-licensable activity in Studland Bay Marine Conservation Zone](#)). A brief summary timeline is provided in Figure 1 below.

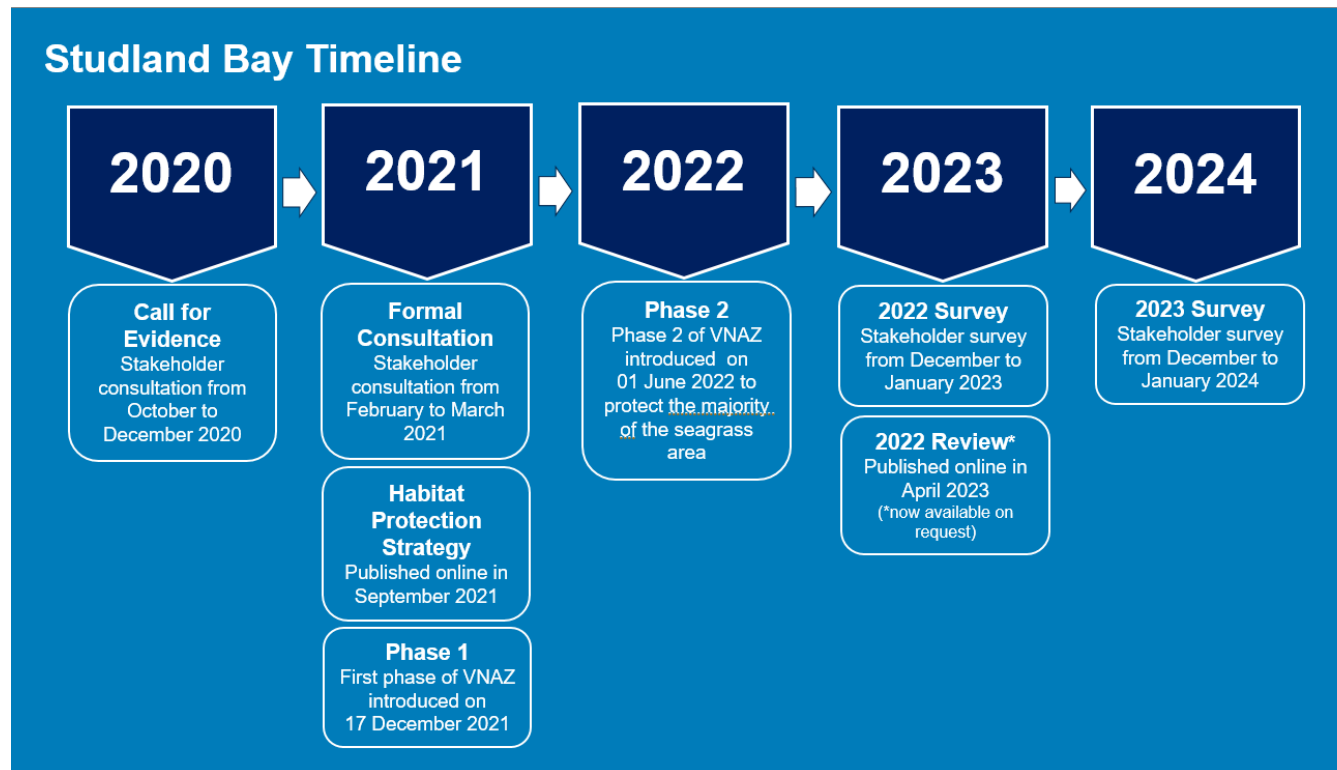


Figure 1: Infographic showing the timeline for Studland Bay MCZ from 2020 to 2024. This includes call for evidence in 2020, formal consultation, Habitat Protection Strategy publication and launch of Phase 1 of VNAZ in 2021. In 2022 Phase 2 of the VNAZ was launched, followed by a VNAZ Review survey in late 2022 with a report published in 2023. A further survey was in late 2023, with a report published in 2024.

2.1 Awareness raising and engagement

This section provides a summary of MMO's awareness raising and engagement activities in 2023. We planned our work in 2023 following your valuable feedback to the 2022 Review survey and liaison with SBMP, committing to the following actions for awareness raising and engagement in 2023:

1. Enhancing our dedicated webpage and changing how we present key information on both printed and digital content; providing clear and easily available information.
2. Utilising a greater variety of communications and engagement channels to grow awareness including both MMO channels and our local partners, seeking opportunities in national boating magazines and sharing news stories with local media.
3. Exploring with SBMP the use of signage in key locations such as slipways around Studland and the surrounding area.
4. Community engagement working in close collaboration with SBMP Communications and Engagement Group.

Please see Figure 2 for our activities in 2023.

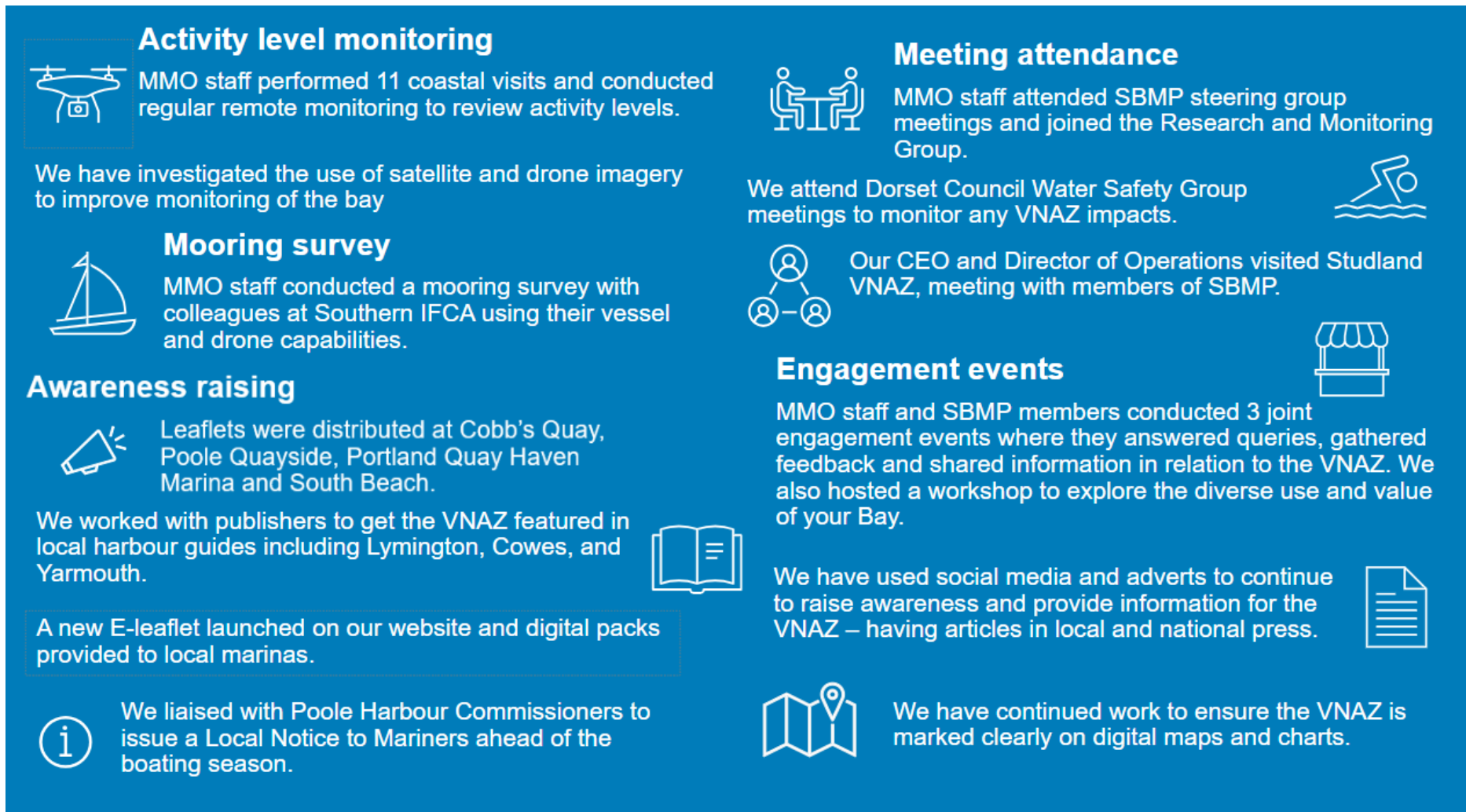


Figure 2: MMO’s awareness raising and engagement activities in 2023. This included activity level monitoring, mooring survey, awareness raising, attending meeting and engagement events.

2.1.1 Studland Bay Marine Partnership (SBMP)

Throughout 2023, SBMP and MMO have continued to take forward initiatives to protect Studland Bay's precious marine ecosystems; working together to engage the local community, encourage positive behaviour change and find innovative solutions to safeguard Studland's seagrass.

In 2023, the SBMP successfully fundraised and installed an additional 21 ecomoorings which provide an alternative to anchoring. This brings the total number of ecomoorings in the MPA up to 43. MMO has further supported the partnership with bids to secure £186,000 of funding through the Fisheries and Seafood Scheme (FaSS) for additional ecomoorings, with SBMP having plans to have a total of 87 managed by the partnership in place. This funding brings the conservation project fundraising to £248,000.

Both organisations have explored funding options and marine licensing for marker buoys to clearly mark out the area of VNAZ on the surface of the water and there are plans to progress this further for 2024. Please see SBMP Plans for 2024 for further information on what to expect for the 2024 boating season.

The [Studland Bay Marine Partnership](#) webpage provides more information about the partnership as well as their ecomoorings and marker buoy projects.

2.1.2 Your Studland Bay

In November 2023, MMO held 3 community workshops bringing together people who live, work and visit Studland Bay to share their knowledge, experiences and values associated with the bay. This natural capital approach to policy and decision making considers the value of the natural environment for people and the economy. Whilst events were not designed to change the management measures, they did successfully highlight the diverse social and cultural values associated with Studland Bay; helping demonstrate the value of the natural capital approach. MMO can use this to help inform future decisions and management of MPAs.

The events were held at the Studland Bay Village Hall, running across different dates and times to create more opportunities for people to join. The events were interactive, with attendees being asked to participate in group discussions and activities. In total, 46 people attended including local residents, local business owners, beach hut owners, and members of the following organisations: National Trust, Natural England, Dorset Wildlife Trust, SBMP and Dorset Council.

These events revealed the many ways people interact with Studland Bay's natural environment, whether through walking along the beach, swimming, boating or wildlife watching. Despite differences in the ways people interact with the bay, the events showed that they value it and place importance on it for similar reasons. Some of the key themes that emerged during the discussions are summarised below.

Importance of nature

The rich biodiversity, wildlife and geological features were highlighted, emphasising their significance in the local ecosystem, educational opportunities, and the importance of protection and conservation.

Health and wellbeing

The connection between the environment and the health and wellbeing of the community was a recurring theme, emphasising the positive impact of natural surroundings. Many participants described the ways in which they took part in active leisure or work-based pursuits in this area, and how the specific features of the environment enabled this activity, contributing to their physical and mental wellbeing.

Community / social space

Studland Bay emerged as a significant social space, fostering a sense of community and shared experiences among residents and visitors alike. Many shared fond memories of time spent with family and friends.

Connecting with nature

The event explored the ways in which individuals connect with and appreciate the unique and wild natural beauty of the bay. In addition to the variety of landscapes and wildlife, participants described the ever-changing, diverse, and colourful features of the land and seascapes as being a key contributor to their deep connections with nature.

Figure 3 provides a visual representation of your values for Studland Bay.

Table 1: A summary of observations collected during shoreside visits.

Date	Wind force and direction	Likely anchored	Likely moored	At anchor/ on mooring	Vessel underway
15/02/2023	Force 3, Southwest	0	1	0	0
14/03/2023	Force 3, Northeast	0	0	0	1
08/06/2023	Force 4, Northeast	0	1	0	0
08/06/2023	Force 4, East	4	3	0	0
18/07/2023	Force 2, Southeast	8	11	23	3
25/07/2023	Force 2, Northwest	5	10	0	4
18/08/2023	Force 4, West	0	2	0	0
05/09/2023	Force 3, East	4	10	0	0
03/11/2023	Force 4, West-Southwest	0	0	0	2
07/11/2023	Force 4, West	0	1	0	0
30/11/2023	Force 5, Northeast	0	0	0	0

2.2.2 Remote monitoring

MMO continued to trial the use of Automatic Identification System (AIS) for monitoring during the 2023 boating season. AIS is an automatic tracking system used to exchange navigational information between boats with marine traffic in the same area. As noted in the 2022 Review, AIS can be helpful in understanding if vessels are present and the patterns of activity, but it does have limitations. For example, AIS is not required for all vessels, and it does not record whether or not a vessel is anchored. Therefore, alone, it is not an accurate measure of adherence levels with the VNAZ.

Please see Figure 11 and Figure 12 in Annex 1. Remote Monitoring for the number of boats observed using AIS within the VNAZ from January to December 2023. The number of boats is set alongside the relative maximum wind and temperatures in 2023.

The results from this monitoring method show that the main period for visiting boats is between May and October, with peak activity occurring on warm weekends and lower wind conditions, remaining consistent with last year's observations. There were around 22 weeks where we estimate that there were 10 or fewer vessels within the VNAZ. During the busiest week (week 34) we estimate that there were 201 vessels where 41 may have anchored, 140 likely moored and 20 'other'. Compared to the busiest week last year (week 32) when 177 vessels may have anchored and 62 were likely moored.

Extra ecomoorings were installed during week 25 and boats likely mooring within the VNAZ increased from 39% to 78% and those likely anchoring decreased from 61% to 22%. After the installation of the ecomoorings the percentage of boats likely mooring is consistently higher than those likely anchoring.

Overall, the remote monitoring results suggests there is greater compliance with the VNAZ this year, with more boats using alternative moorings rather than anchoring.

2.2.3 Electro-optical imagery

MMO investigated the potential use of satellite imagery to help improve our monitoring of Studland Bay and future work. A project with OceanMind reviewing historic high-resolution Electro-optical (EO) imagery was established to provide more information on current levels of adherence to the VNAZ and how EO imagery could be used for future work. 4 EO images were available for 2023 on 30 May, 31 May, 03 September and 05 September. From the analysis conducted, the following information was collected:

- vessel type – assigned based on size and profile. Categories included sailing vessel, motorboat, yacht, catamaran, rib and dinghy.

- activity - if the vessel was likely at anchor, on a fixed mooring/ecomoooring or transiting, and number of vessels anchored within the VNAZ.
- vessel information - some positive correlations with AIS being able to provide a vessel name, length and the Maritime Mobile Service Identity (MMSI) number.

Due to the resolution of the imagery the deployment of anchors could not always be confirmed. To determine possible anchorage, the detection environment and vessel information (for example, the lack of wake and heading) were combined. Where vessels were not associated with a fixed mooring but showed a lack of wake and an orientation aligning with known anchored vessels, it was determined that a vessel was likely at anchor. A summary of the data provided from this method of vessel monitoring can be seen in [Annex 2. Electro-optical Imagery Data Tables](#).

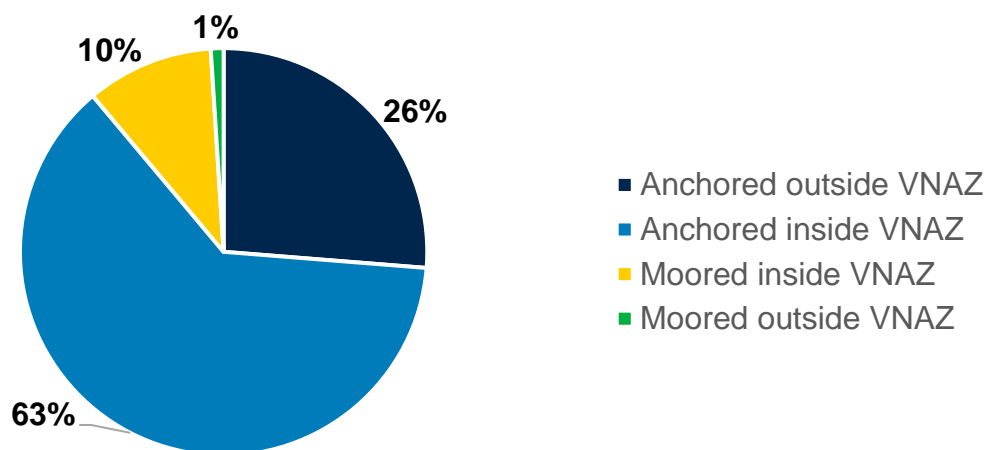


Figure 4: Percentage of vessels likely anchored or moored inside and outside of the VNAZ across the 4 days analysed during the 2023 boating season. Boats classed as ‘transiting’ are not included. 26% of boats were observed to be anchored outside the VNAZ, 63% were observed to be anchored inside the VNAZ, 10% were observed to be moored inside the VNAZ, and 1% were observed to be moored outside the VNAZ. This graph illustrates that the largest proportion of boats were observed to be anchored inside the VNAZ across all 4 days and the smallest proportion of boats were observed to be moored outside of the VNAZ.

Across the 4 days analysed, a total of 99 vessels were observed either likely at anchor or using a mooring, both inside and outside of the VNAZ. 63% of the vessels were likely anchored inside the VNAZ, with identified detections being categorised as motorboats (54.3%) and sailing vessels (27.6%).

The EO imagery suggests that a high number of vessels appear to be anchoring in the VNAZ. It is notable that in the warmer months, during the weekends and school summer holidays, there is a considerably higher level of recreational vessel activity. Most of the vessel detections were observed on 03 September 2023 (80 in total) on the last Sunday of the school summer holidays on a fine weather day. A total of 43 of these observed vessels were anchored inside the VNAZ. The monitoring on this day was likely to be representative of a typical summer day as the average temperature was 21 degrees Celsius with an average wind speed of 10 miles per hour.

MMO are aware that SBMP are reviewing the swim zone following reports of increasing activity levels between the VNAZ boundary and shore in the southwest area of the MPA. MMO have reviewed and found that the EO coverage has included this area. Analysis found 24 detections suggesting that anchoring inshore of the VNAZ is popular and includes vessels rafting together. These vessels were primarily identified as motorboats, which included groups of 2 to 4 vessels 'rafting-up'. This information will be passed onto SBMP and MMO will support the Partnership with stakeholder conversations during the 2024 boating season.

Overall, EO imagery at this resolution is an effective tool for monitoring activity levels and types of vessel activity in the area. There are discrepancies between this data and the AIS data, with a higher number of boats marked as anchoring inside the VNAZ in the EO imagery data than the AIS data. As highlighted in the remote monitoring section 2.2.2, AIS has significant limitations. Therefore, alone, it is not an accurate measure of adherence levels with the VNAZ. But when reviewing it alongside EO imagery data some trends can be identified such as the clear peak in boating activity on 03 September 2023. It is important that these technologies continue to be reviewed and the data compared to highlight any significant trends or discrepancies.

2.3 Mooring Survey

MMO undertook moorings surveys in November 2023 to update records and ensure any new installations had the appropriate marine licence.

The installation (including the laying, dropping), and maintenance of a seasonal or permanent mooring requires a marine licence from the MMO. Marine Licensing requirements only came into effect on 06 April 2011. This means that if moorings were established before this date, then there would have been no requirement for them to have a marine licence for their installation. However, any subsequent activities for these established moorings (such as maintenance) or the installation of new moorings will be licensable. Further information regarding marine licensing is available on MMO's website - [MMO Marine Licensing - do I need a marine licence?](#)

To undertake the survey, MMO worked with the Southern Inshore Fisheries and Conservation Authority (SIFCA). Two survey techniques were used to compare the survey approaches and outputs. The surveys were conducted using their vessel and drone. During the survey at sea, in November, 49 buoys were found within the

VNAZ; the location and description of each buoy was recorded. During the drone survey (Figure 5) in December, a total of 24 mooring buoys were identified at the time of the survey. We are aware that SBMP removed moorings on 22 November for routine maintenance.

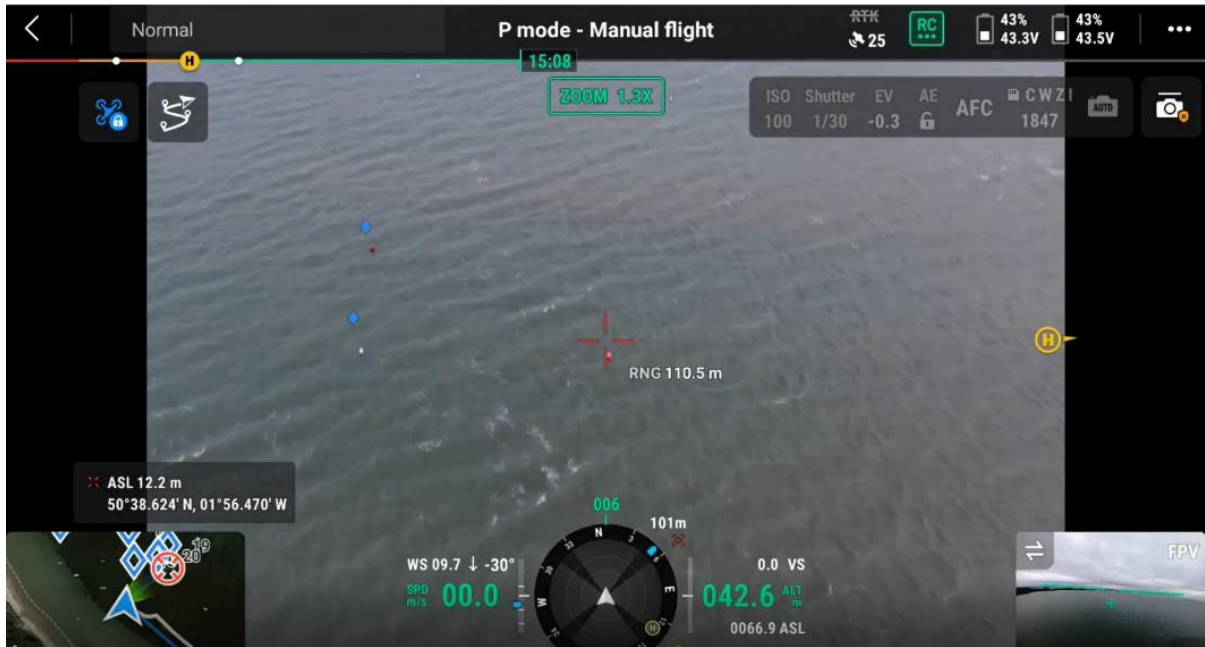


Figure 5: Image of Studland Bay captured during drone survey.

3. Stakeholder survey

An online stakeholder survey took place between 06 December 2023 and 10 January 2024 to seek feedback from stakeholders directly impacted by the VNAZ. The purpose was to reflect on progress for the VNAZ in 2023; the second year of it being in place.

Thank you to everyone who responded to the survey – we received over 400 responses. We have reviewed every response and the feedback provides MMO and SBMP with valuable insights; helping to develop plans for 2024.

We have grouped the discussion of survey results and feedback into themes, providing our response for each. The themes are as follows: ecomoorings; VNAZ adherence and safety; ecological monitoring and evidence. We have also reflected on your feedback to the 2022 Review and any changes from 2023.

3.1 Ecomoorings

Most of the feedback received for the 2023 survey was about ecomoorings, an example of which is shown in (Figure 6). We asked you whether you had used an ecomooring in Studland Bay during 2023 and 49% of respondents to this question told us that you had (Figure 7). To those who had not, we asked you why you had not used an ecomooring. The main reason, given by 45% of respondents to this question was that there was no ecomooring available, whereas 10% of respondents told us they did not need to moor or anchor at all on their visit. You told us that there are not enough moorings available and that you would like to see more put in place to make sure that there are ecomoorings available for the busy summer days.

Some of you gave us feedback that the ecomoorings were not sufficient for the weight/tonnage of your boat. 27% of responses commented on the ecomooring's location, telling us that the ecomoorings are located too far out to sea. You told us that smaller boats prefer to be closer to the shore to avoid being rocked by wave swell which can be uncomfortable and that being closer to shore is safer when transferring people to shore. Some of you noted that you chose to anchor outside of the VNAZ rather than use an



Figure 6: Image of an ecomooring ©boatfolk.

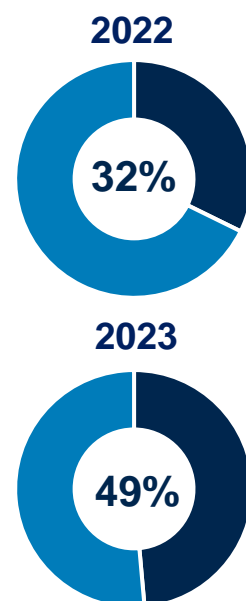


Figure 7: Percentage of people who used an ecomooring in 2022 compared to 2023. In 2022 32% of you had used an ecomooring in Studland Bay, whereas in 2023 49% of you had used an ecomooring in Studland Bay.

ecomoooring. Many of you asked us for details of when more ecomoorings will be installed and some respondents asked us to provide information about where it is ok to anchor in Studland Bay.

Please note that 'other' has been removed from total responses to calculate these percentages, all responses have been read and considered as part of our 2023 review.

MMO response

Thank you to everyone who used an ecomoooring in 2023. Ecomoorings represent an alternative to the dropping and weighing of anchors allowing boats to access Studland Bay without the associated impacts to seagrass.

The current ecomoorings were put in place by SBMP and their partner boatfolk. We appreciate your feedback on how you have found using the ecomoorings and have passed your feedback on to SBMP. Please see Section 4 for information about plans to install more ecomoorings in 2024. To find out more about how to support the work of the Partnership, or to find further technical information about the ecomoorings, please visit the [SBMP webpage](#).

3.2 VNAZ adherence and safety

60% of respondents who had anchored in Studland Bay in 2023 noted that they had anchored outside the VNAZ. We asked all respondents who told us that they had anchored inside the VNAZ for their reasons why. Lack of alternative anchorage or mooring was given as the main reason for anchoring by 51% of respondents. 25% of respondents let us know that they did so because they were unwilling to comply with the VNAZ. Reasons for this are covered in the three survey sections. Whereas 13% of respondents told us that it was for safety reasons.

Some of you told us your concern is that Studland Bay will no longer be used by boaters as a port of refuge in poor weather conditions. 11% of respondents who said they had anchored in Studland Bay in 2023 noted that they were not sure if they anchored inside the VNAZ or not. Some solutions were suggested to help with this including the installation of information boards and marker buoys.

MMO response

Safety at sea is of utmost importance to MMO. We encourage boaters to take any necessary steps to preserve life, or to prevent an emergency situation from developing, including anchoring within the VNAZ if required. We advise that if there is an emergency then please call 999 and ask for the Coastguard.

Thank you to all who anchored outside the VNAZ or used ecomoorings in 2023. We recognise that some boaters would welcome guidance on where to anchor if all ecomoorings are occupied. Owing to the range of vessels that visit and the varying safe conditions needed for each vessel to find suitable locations, we are not able to provide instruction for where to anchor.

We acknowledge that marking of the boundary would be helpful for boaters. SBMP have plans for 2024 to address this – please see Section 4 to find out more. MMO have continued to increase awareness through digital and in-print channels (for example, admiralty charts, electronic charts, harbour guides in Lymington, Cowes, Yarmouth and Poole and by issuing a Local Notices to Mariners (LNTM) with Poole Harbour Commissioners.

We encourage everyone to adhere to the VNAZ, use the available ecomoorings and anchor outside the zone to protect the area's valuable seagrass habitats. As these are voluntary measures, enforcement is not appropriate. However, MMO does operate offshore patrol vessels and monitor activity levels in the VNAZ to assess the effectiveness of the voluntary measures.

3.3 Ecological monitoring and evidence

Some responses questioned the need for the management measure in Studland Bay. You let us know that from what you can see the seagrass is thriving, and the seagrass area looks like it is expanding. You would like to see monitoring information about how the VNAZ is working and whether it has helped to improve the seagrass health. Some of you let us know that you are convinced that there is not sufficient evidence that anchoring damages seagrass, specifically the *Zostera marina* (Figure 8) found in Studland Bay and some believe that anchoring helps seagrass to thrive.

MMO Response

We recognise your feedback asking for ecological information and evidence. The best available evidence currently suggests that anchoring causes damage to the rhizome mats that form the structure of the seagrass beds. *Zostera* typically only grows in the top 20 centimetres of sediment (OSPAR, 2009). This results in anchor scars that can take many years to recover. The action of many anchors over consecutive boating seasons has a cumulative impact; meaning recovery is slow.

There are a number of threats to *Zostera* seagrass beds from physical disturbance (such as trampling, dredging, anchoring and mobile fishing gear), nutrient enrichment, marine pollution, disease, increased turbidity, introduction and competition from alien species also known as invasive non-native species. These factors can impact the seagrass bed extent and its quality as a habitat (OSPAR, 2009).



Figure 8: Seagrass (*Zostera marina*) in the UK

©1257741572 iStock.

We know that anchoring is still taking place within the VNAZ from activity monitoring and your feedback, so anchoring is still impacting the seagrass bed in Studland Bay. Natural England are responsible for producing condition assessments and conservation advice for MPAs and they are planning to provide an updated condition assessment for the Studland Bay MCZ. MMO will monitor for its publication.

The extent of seagrass is a factor in considering the condition of the seagrass beds, so it is great to hear your feedback about the area expanding. However, it is important to note that seagrass bed extent is not the sole indicator for determining its condition. Other important factors include the leaf length and shoot density of the seagrass. The Environment Agency surveyed the seagrass beds in 2022. The Environment Agency's report presents that "while the total extent is greater than was surveyed in 2018, there were fewer high density (greater than 50%) areas found during the 2022 survey. Both surveys were conducted at the beginning of September making seasonal differences unlikely, however it may be due to natural variability of the seagrass bed" (Wright, 2023). Longer term monitoring of the seagrass health, following the introduction of the VNAZ and ecomoorings, will provide a more comprehensive picture and understanding of trends over time.

MMO want to help support the addressing of evidence gaps and ensure evidence is clearly communicated. We are a member of SBMP Research and Monitoring Group and also SBMP Communications and Engagement Group (a collaboration of universities and other bodies including Natural England and the Environment Agency). We will continue to work with Natural England and other partners to review evidence as it becomes available, to evaluate the risks of anchoring to seagrass beds and to fulfil our statutory duties to protect the features of MPAs and further their conservation objectives.

3.4 Survey results from 2022 and 2023

Comparisons between survey results from 2022 and 2023 show an increase in the percentage of people who are aware of Studland Bay's status as an MCZ and of the presence of the VNAZ, as well as understanding what boaters are being asked to do (Figure 9).

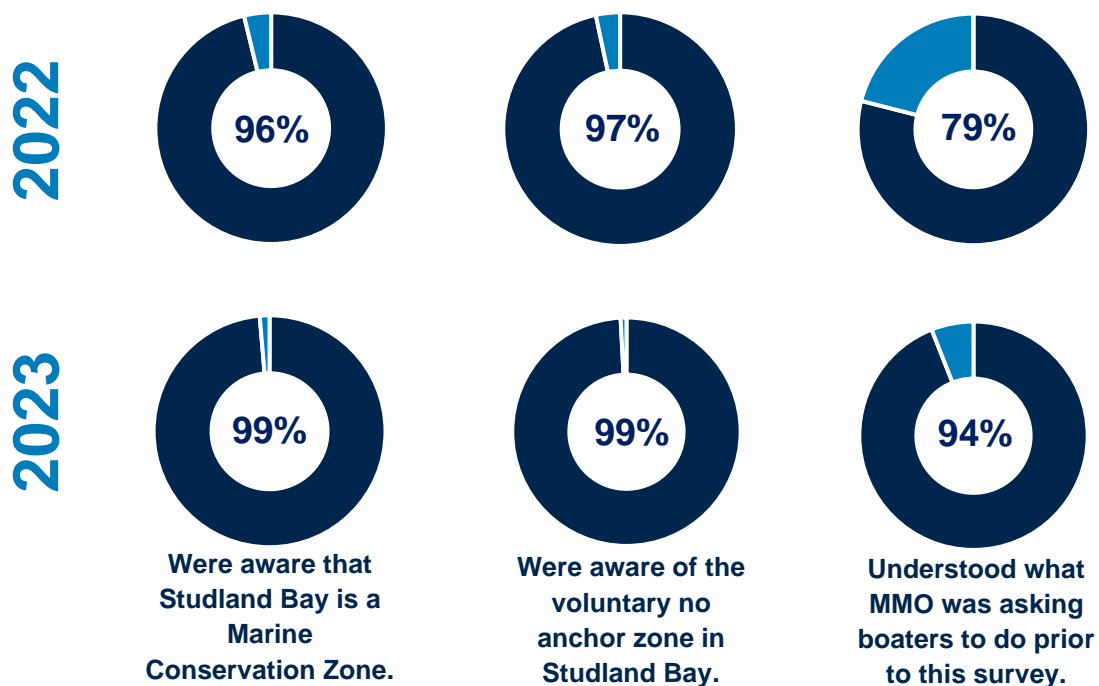


Figure 9: Comparison between 2022 and 2023 survey responses for awareness questions. In 2022 96% of you were aware that Studland Bay is a Marine Conservation Zone, whereas in 2023 99% were aware. In 2022 97% were aware of the VNAZ in Studland Bay, whereas in 2023 99% were aware. In 2022 79% understood what MMO was asking boaters to do prior to this survey, whereas in 2023 94% understood. There has been an increase in awareness on these topics between 2022 and 2023.

In our 2022 survey we asked you to rate your agreement with a set of statements and we did the same in our 2023 survey. Responses for selection were ‘strongly agree’, ‘agree’, ‘neither agree nor disagree’, ‘disagree’ and ‘strongly disagree’. For the purposes of this discussion ‘strongly agree’ and ‘agree’ ratings have been grouped together and the same for ‘strongly disagree’ and ‘disagree’ ratings. Responses for ‘neither agree nor disagree’ we have considered to be neutral.

In 2022, 54% of you agreed with the statement ‘seagrass is an important habitat that requires protection in Studland Bay’, 25% were neutral and 21% disagreed with this statement. In comparison in 2023, 56% agreed, 19% were neutral and 25% disagreed (Figure 13 in Annex 3. Survey Results).

40% of respondents in 2022 agreed that ‘the voluntary no anchor zone is necessary for the protection of the seagrass beds’. 37% disagreed with this statement and 23% were neutral. 43% agreed, 18% were neutral and 39% disagreed (Figure 14 in Annex 3. Survey Results).

73% of respondents told us that they understood what the VNAZ aims to achieve, 13% were neutral and 14% disagreed in our 2022 survey. In 2023, 72% agreed that

they understood what the VNAZ aims to achieve, 13% were neutral and 15% disagreed (Figure 15 in Annex 3. Survey Results).

4. SBMP Plans for 2024

The 2024 boating season will see additional activities brought forward by SBMP. They have confirmed plans to install further ecomoorings in spring. This will bring the total ecomoorings made available by the SBMP in Studland Bay to 87. This follows their successful application to MMO's FaSS grant scheme, resulting in them being awarded funds to support their conservation work to protect Studland Bay's precious marine ecosystems.

SBMP plan that every winter, on rotation, the mooring buoys and elastic rodes will be removed from their helical screws to allow them to be cleaned, checked, maintained and stored. A small number of ecomoorings will always be available in Studland Bay for winter use. To be able to redeploy the moorings each season SBMP need to generate income towards maintaining them. They will be introducing a £10 fee for up to a 24 hour stay for their use from the spring via the use of a payment app.

SBMP in partnership with the Ocean Conservation Trust also plan for the outer boundaries of the VNAZ to be clearly marked for the 2024 boating season. This will be through the installation of distinct yellow marker buoys, making the area of the VNAZ clearly visible for all marine users (Figure 10).

SBMP will be consulting with beach users and boaters throughout the 2024 season to determine if improved signage of, or changes to the swim zone are required at South Beach in the future for both public safety and to help protect features of the MCZ.

Please visit [SBMP's website](#) to find out more about the ecomoorings, marker buoys and swim zone.



Figure 10 Image of VNAZ marker buoys being introduced by SBMP and Ocean Conservation Trust.

5. Conclusion

Thank you to everyone who has supported efforts to conserve the seagrass and marine ecosystem in Studland Bay MCZ during 2023 and to all of you who took part in the survey. We really appreciate all your feedback and will use it to help inform our plans in 2024.

The results of the 2023 Review suggest that levels of adherence to the VNAZ are not yet sufficient to ensure the recovery of the seagrass beds. However, there is evidence to suggest that levels of adherence have continued to increase from year 1 and there was evidence of boaters seeking alternatives (for example, anchoring outside the VNAZ and using ecomoorings) therefore reducing the impacts to the seagrass.

MMO is committed to working closely with partners, including SBMP to ensure the success of the voluntary approach in accordance with Goal 1 of [MMO2030 Strategic Plan](#). We are aware that SBMP has exciting plans for the 2024 boating season (please see Section 4 above) which should further help reduce anchoring levels within the VNAZ. Based on this we believe that the VNAZ remains the most effective way to protect the MPA in 2024 and we do not need to review management options (for example, an MMO byelaw) at this stage.

In 2024, MMO will continue to monitor activity levels, engage and raise awareness for the VNAZ using the feedback you have provided to the 2023 survey. We will reflect on the 2024 boating season to review how these additional measures have performed and to ensure that the MPA is being best protected.

6. Contact Us

If you have any further questions or queries, please email or call our helpline using the details provided:

Email: conservation@marinemanagement.org.uk

MMO helpline: 0300 123 1032.

Annex 1. Remote Monitoring

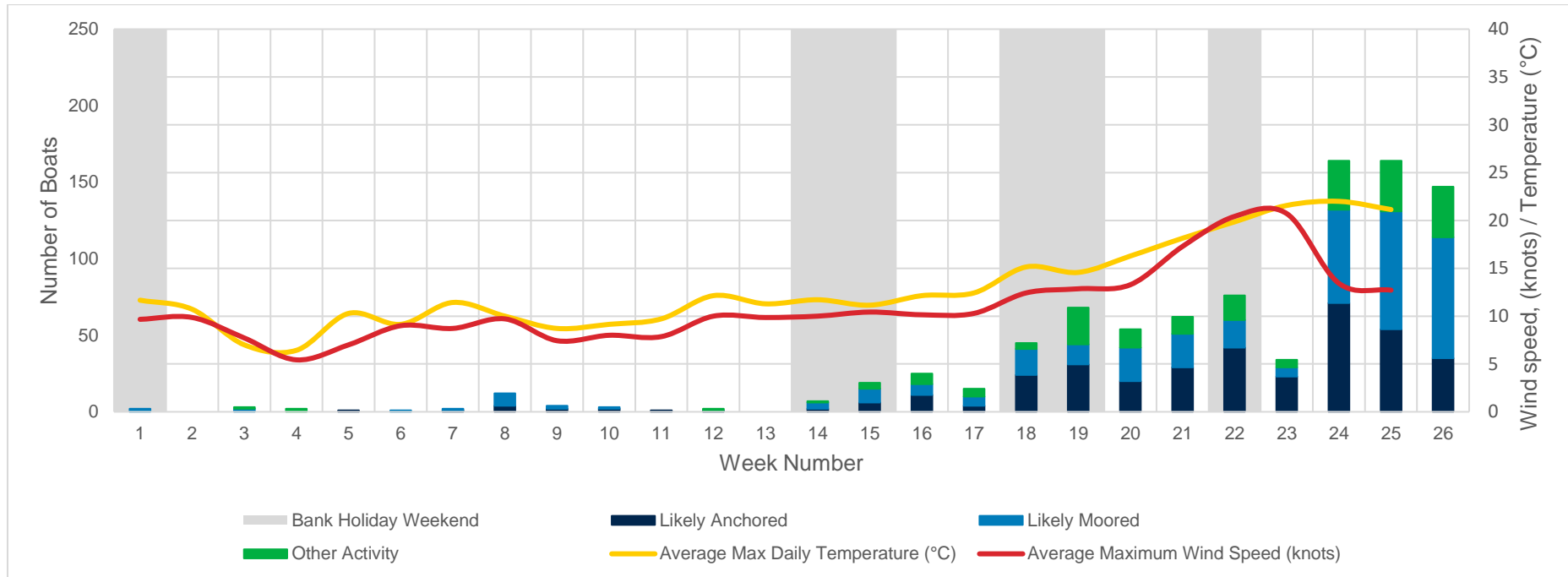


Figure 11: Recreational boats observed within the VNAZ each day (January to June 2023). with weekly average wind gusts in knots (red line) and weekly average maximum daytime temperature (yellow line) in degrees Celsius (°C). Extra ecomoorings were available from week 25. ‘Other Activity’ includes vessels that enter the VNAZ, that appear to be sailing or motoring around the bay for leisure or reasons other than simple transit, as well as those that appear to enter the bay, but their intentions are unknown because of signal drop out. This does not include vessels that have transited (for example, maintained a fixed course, or speed without stopping). The graph shows the overall number of boats gradually increase from 19 boats at the beginning of April to 156 boats in early July.

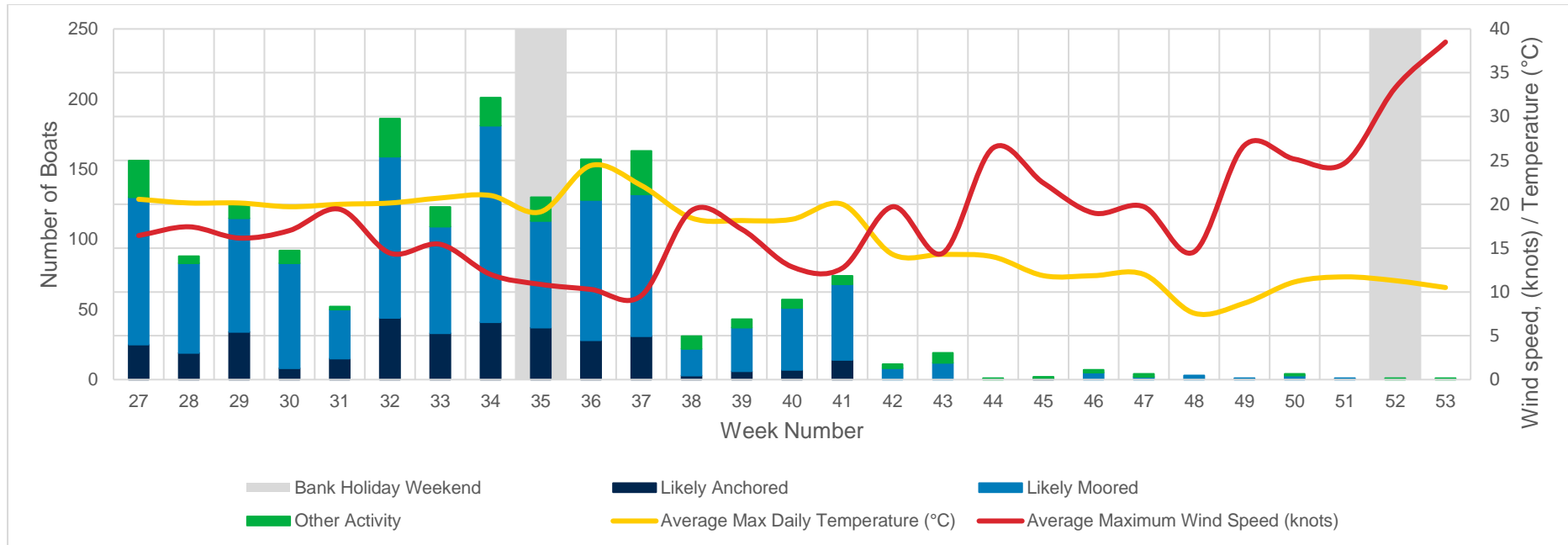


Figure 12: Recreational boats observed within the VNAZ each day (July to December 2023). Number of boats per week in 2023 with weekly average wind gusts in knots (red line) and weekly average maximum daytime temperature (yellow line) in degrees Celsius (°C). Extra ecomoorings were available from Week 25. ‘Other Activity’ includes vessels that enter the VNAZ, that appear to be sailing or motoring around the bay for leisure or reasons other than simple transit, as well as those that appear to enter the bay, but their intentions are unknown because of signal drop out. This does not include vessels that have transited (for example, maintained a fixed course, or speed without stopping). The graph shows the number of boats drop to 52 boats in the last week of July and then reaches a peak number of 201 boats at the end of August. Average boat numbers drop after this point. The most boats likely anchored are seen in week 24 and likely moored seen in week 34.

Annex 2. Electro-optical Imagery Data Tables

Table 2. Table summarising the findings of vessel activity in Studland Bay across 4 days in 2023 using electro-optical imagery.

Date	Total Count of Vessels Detected	Percentage Inside VNAZ	Average Vessel Size (m)	Overall Activity		
				Anchored	Transit	Moored
30 May 2023	3	67%	6.67	67%	33%	0%
31 May 2023	4	100%	9	100%	0%	0%
03 September 2023	80	69%	8.91	83%	5%	13%
05 September 2023	18	83%	10.22	89%	6%	6%

Table 3. Table summarising the total number of vessels anchored and moored inside and outside the VNAZ across 4 days in 2023 using electro-optical imagery.

Date	Anchored outside VNAZ	Anchored inside VNAZ	Moored inside VNAZ	Moored outside VNAZ
30 May 2023	0	2	0	0
31 May 2023	0	4	0	0
03 September 2023	23	43	9	1
05 September 2023	3	13	1	0

Annex 3. Survey Results

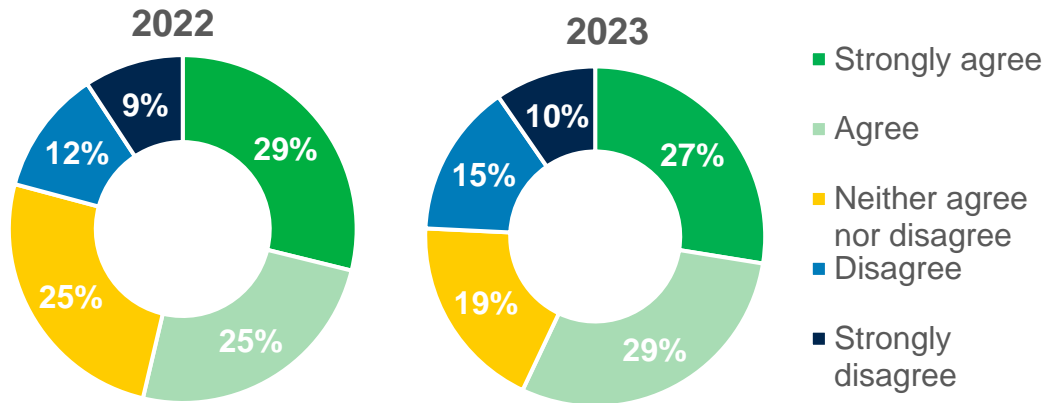


Figure 13: Comparison between 2022 and 2023 survey results. You were asked to rate your level of agreement with the following statement: "I understand that seagrass is an important habitat that requires protection in Studland Bay." In 2022 29% strongly agreed, 25% agreed, 25% neutral, 12% Disagreed, and 9% strongly disagreed. In 2023 27% strongly agreed, 29% agreed, 19% neutral, 15% disagreed, and 10% strongly disagreed. Overall, more of you agreed with this statement in 2023 than in 2022.

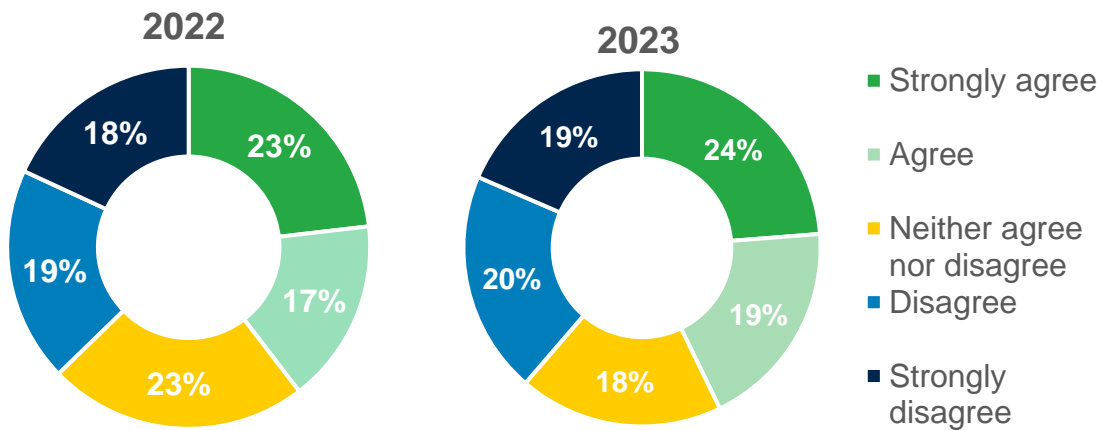


Figure 14: You were asked to rate your level of agreement with the following statement: "The voluntary no anchor zone is necessary for the protection of the seagrass beds." In 2022 23% strongly agreed, 17% agreed, 23% neutral, 19% disagreed, and 18% strongly disagreed. In 2023 24% strongly agreed, 19% agreed, 18% neutral, 20% disagreed, 19% strongly disagreed. Overall, more people agreed with this statement in 2023 than in 2022.

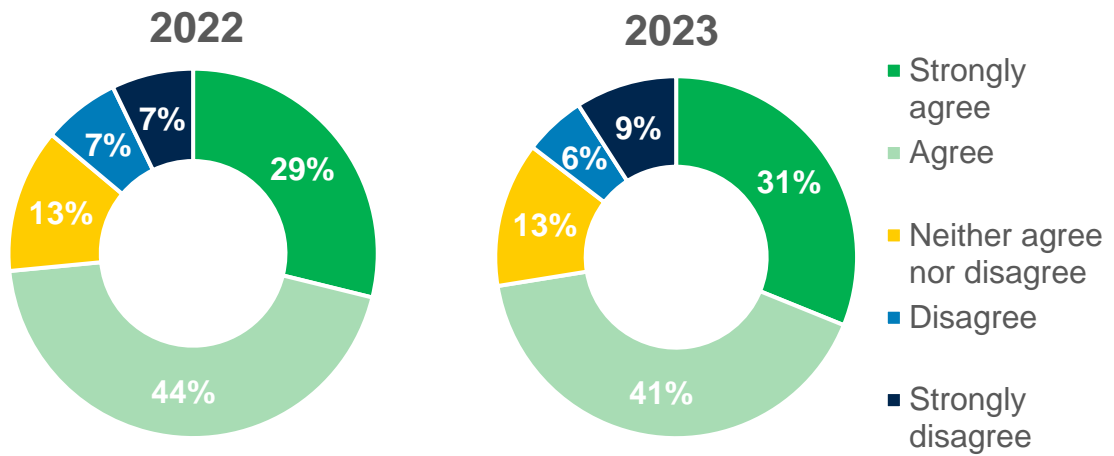


Figure 13: Respondents were asked to rate their level of agreement with the following statement: “I understand what the voluntary no anchor zone aims to achieve.” In 2022, 29% strongly agreed, 44% agreed, 13% neutral, 7% disagreed, 7% strongly disagreed. In 2023, 31% strongly agreed, 41% agreed, 13% neutral, 6% disagreed, and 9% strongly disagreed. Overall, more people agreed with this statement in 2022.

Annex 4. Glossary of terms

Anchorage – an area off the coast which is suitable for a vessel to anchor.

Anchor – a heavy metal object that is dropped from a boat into the water to prevent the boat from moving away.

Automatic Identification System (AIS) – is an automatic tracking system used to exchange navigational information between boats with marine traffic in the same area. AIS is used voluntarily by boat owners, and its main aim is to avoid collisions and control marine traffic.

Call for evidence – informal consultation conducted by MMO during byelaw process. The purpose of this is to collect evidence from stakeholders. This allows the best available evidence to be used for the drafting of site level assessments and recommended management options (if required).

Conservation objectives - objectives are set for each designated feature of an MPA, to either maintain or restore a designated feature of the protected site.

Designated features – a species, habitat, geological or geomorphological entity for which an MPA is identified and managed.

E-leaflet – electronic leaflet.

Ecomoorings – these moorings avoid the placement of large mooring blocks on the seabed and chain abrasion through the use of alternate methods (Griffiths et al., 2017).

Electro-optical (EO) Imagery – Electro-optical Imagery is photographic stills captured with a high-resolution camera equipped with a telephoto zoom lens.

Fisheries and Seafood Scheme (FaSS) – The Fisheries and Seafood Scheme provides financial assistance for projects that support the development of the catching, processing and aquaculture sectors, and for projects that enhance the marine environment. The scheme is administered by MMO on behalf of Defra.

Intertidal coarse sediment – shores of mobile pebbles, cobbles and gravel which are highly mobile and subject to high degrees of drying between tides.

Inshore Fisheries and Conservation Authority (IFCA) – Inshore Fisheries Conservation Authority. There are 10 IFCAs in England all with the shared power

and duty to manage all fishing activities within the inshore (0 to 6 nautical mile) areas.

Local Notice to Mariners (LNTM) – Local Notice to Mariners are issued by the harbour master on a regular basis to inform mariners of any operations taking place in the harbour which may affect the safety of navigation.

Marine conservation zone (MCZ) – a type of MPA in English, Welsh and Northern Irish waters designated under the [Marine and Coastal Access Act 2009](#) (for England and Wales) or the [Marine Act \(Northern Ireland\) 2013](#) (for Northern Ireland).

Marine Management Organisation (MMO) – is an executive non-departmental public body, sponsored by the Department for Environment, Food and Rural Affairs (Defra) and is the manager and independent regulator of England's seas.

Marine non-licensable activities (mNLA) – activities which do not require a marine licence and include a range of recreational activities from mooring and anchoring to boating and SCUBA diving.

Marine protected area (MPA) – a generic term to cover all marine areas that are a clearly defined geographical space, recognised, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. This includes special areas of conservation, special protection areas and marine conservation zones (MCZ).

Maritime Mobile Service Identity (MMSI) – Maritime Mobile Service Identity (MMSI) numbers are a series of nine digits used to uniquely identify a Digital Selective Calling (DSC) radio on a vessel. The MMSI has a standard format (just like a telephone number), and it identifies the type of station, country of registration and vessel identity. In the UK MMSIs are assigned as a part of the ship's radio licensing procedure.

Mooring – any permanent structure to which a seaborne vessel may be secured.

Natural England – government advisor for the environment in England. This includes aspects of the marine environment of 0 to 12 nautical miles (nm). This organisation has a statutory responsibility to provide conservation advice for MPAs and report on the condition of protected features.

Rigid inflatable boat (RIB)

Southern Inshore Fisheries and Conservation Authority (SIFCA) – Southern Inshore Fisheries Conservation Authority.

Studland Bay Marine Partnership (SBMP) – Studland Bay Marine Partnership brings together a variety of stakeholders with an interest in restoring the sensitive seagrass habitat within the Studland Marine Conservation Zone.

Subtidal sand – the most common habitats found below the level of the lowest low tide around the coast of the United Kingdom.

Voluntary No Anchor Zone (VNAZ) – management measure introduced by MMO to prevent anchors from recreational boats damaging seagrass fronds and roots when they embed into the seabed.

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