



Women and Protected Wrecks: Examining Engagement



Historic England



Project: 9147
March 2024



Women and Protected Wrecks: Examining Engagement

Project Report 2024

Contents

I. ACKNOWLEDGEMENTS	2
II. LIST OF FIGURES	2
1. PROJECT EXECUTIVE SUMMARY	3
2. PROJECT BACKGROUND	6
3. RESEARCH AND STATISTICS RELATED TO WOMEN AND PROTECTED WRECKS.....	7
3.1 METHODOLOGY.....	7
3.2 RESULTS.....	7
3.2.1 Women and PW Teams.....	7
3.2.2 Women within Maritime Archaeology Companies, Groups, Universities and Organisations.....	8
3.2.3 Women's Participation in Maritime Archaeology Conferences	11
3.2.4 Women in Maritime Archaeological Publication	11
3.2.5 Women in Diving.....	13
3.2.6 Women in Archaeology.....	14
3.3 SUMMARY	15
4. SURVEY TO UNDERSTAND WOMEN'S ATTITUDES TO INVOLVEMENT IN PWS.....	16
4.1 METHODOLOGY.....	16
4.2 RESULTS.....	16
4.2.1 Demographics of Respondents.....	16
4.2.2 Diving Experience and Access	17
4.2.3 Archaeological Training and Experience	17
4.2.4 Experience with Protected Wreck Sites.....	17
4.2.5 Motivations and Roles within PWS.....	19
4.2.6 Exploring Gendered Roles and Experience with PWS.....	20
4.2.7 Increasing Women's Involvement in PWS.....	20
4.3 SUMMARY OF SURVEY RESPONSES	21
5. INTERVIEWS WITH WOMEN INVOLVED IN PWS.....	22
5.1 METHODOLOGY.....	22
5.2 RESULTS.....	22
5.2.1 Barriers to Involvement in PWS.....	22
5.2.2 Overcoming Barriers to PW Involvement.....	25
5.3 SUMMARY OF INTERVIEWS.....	26
6. BRIEF REVIEW OF PW & SAM SITES AND COLLECTIONS IN ENGLAND FOR WOMEN'S STORIES	27
6.1 METHODOLOGY.....	27
6.2 RESULTS.....	27
6.3 SUMMARY OF THE REVIEW OF WOMEN' STORIES.....	28
7. CONCLUSIONS AND RECOMMENDATIONS.....	29
7.1 WOMEN AND PWS	29
7.2 GENDER IN MARITIME ARCHAEOLOGY	31
8. REFERENCES	34
9. APPENDICES	36
9.1 FULL LIST OF SURVEY QUESTIONS	36
9.2 INTERVIEW QUESTIONS	38
9.3 WOMEN IN MARITIME ARCHAEOLOGY IMAGERY.....	40

Document Control Grid	
Project Name	Women and Protected Wrecks: Examining Engagement – Project Report
HE Project No	HE: 9147
Organisation	Maritime Archaeology Trust
Origination date	19 March 2024
Version	2
Updates	Amendments and additions after comments

i. Acknowledgements

This project has been made possible thanks to funding from Historic England.

We would like to extend thanks to all those who completed the survey and took part in interviews, also those who provided data and statistics which contributed to understanding the background to women and diving, archaeology and protected wrecks, in particular Terry Newman (Historic England), Alison James (MSDS and PWA) and Mark Beattie-Edwards (NAS).

The project has been delivered by Lauren Tidbury, with contributions from Julie Satchell and Iro' Camici. The report has been authored by Lauren Tidbury and Julie Satchell.

ii. List of Figures

Figure 1: Composition of PW Licensee teams 2011-12.....	8
Figure 2: Proportion of professional maritime archaeological staff within commercial and charity organisations.	9
Figure 3: Gender breakdown of staff teaching maritime archaeology at UK Universities.....	9
Figure 4: Gender composition of membership and friends organisations.	10
Figure 5: Composition of Trustee, Committee, President and Patron positions in maritime archaeological organisations.	10
Figure 6: Review of the gender of speakers at the IMASS conference series.....	11
Figure 7: Review of female authors in the International Journal of Nautical Archaeology	12
Figure 8: Review of female authors in the Journal of Maritime Archaeology.	12
Figure 9: Breakdown of survey respondents involvement with Protected Wrecks.....	17
Figure 10: Heat map showing the Protected Wreck sites that respondents had been involved with.	18
Figure 11: When survey respondents had been involved in PWs by decade.	19
Figure 12: How long respondents had been involved with PWs across multiple decades.....	19
Figure 13: Reasons for getting involved with Protected Wrecks.	20
Figure 14: Divers Heather Anderson and Jan Gillespie in the Solent. Credit Maritime Archaeology Trust	40
Figure 15: Diver Christin Heamagi working on the Shingles Bank Protected Wreck site. Credit Maritime Archaeology Trust.....	40
Figure 16: Student recording shipwreck material. Credit Maritime Archaeology Trust	41
Figure 17: Working with shipwreck archives. Credit Maritime Archaeology Trust.....	41
Figure 18: Surface Supply diver, Jenny Kent. Credit Alison James, MSDS.....	42
Figure 19: Sara Hassan diving on the Iona II in 2023. Credit Yo-Han Cha.	42
Figure 20: Working with shipwreck material. Credit Alison James, MSDS.....	43
Figure 21: Berit Antonsen diving on the Mary Rose project. Credit B.Antonsen.....	43

1. Project Executive Summary

The project has investigated the engagement of women with Protected Wreck (PW) sites and the potential impact this has, and is, having on the understanding and enjoyment of PWs. It was inspired by statistics including those from June 2021 (provided by Historic England) that only 3% of Principal Licensees for Protected Wreck sites were female (one), and of other licences issued only 10% had been issued to women. Project elements employed desk-based research, an online survey and interviews to understand the present situation in more detail.

Desk based quantitative research revealed that:

- The number of female PW licensees is now at 6%, while numbers within PW teams exhibit a consistent trend of at least 80% male and around 20% female;
- Other statistics from across the sector included: within professional maritime archaeology (largely commercial and charity sector) there were 56% women and 44% men; University teaching staff are 65% male: 35% female; membership-based organisations are 63% male: 37% female; at Trustee, Board and Patron level in organisations it is 70% male: 30% female;
- In terms of more public facing outputs, those speaking at maritime archaeological conferences are 80% male: 20% female, and within maritime archaeological publication the proportion of female authors is 20%, and within just UK PWs publication that falls to 13%;
- The percentages of women involved in UK diving is around 30% female: 70% male.

These statistics have provided some of the first research-based considerations of gender within UK maritime archaeology and particularly related to PWs. They provide some sobering figures with female representation most commonly between 20% and 30% (and even lower in some aspects of PWs), although there are some more encouraging figures for women in some areas of the sector.

The results of an online survey, completed by 52 respondents, demonstrated:

- Over 70% were divers, and just over 50% have been involved in PWs in a professional capacity;
- Those responding have high levels of training, with almost half either holding Masters degrees or having undertaken NAS training;
- There was a slight south coast bias in the PWs respondents were or had been involved with;
- Many were part of male dominated PW teams, some commented on the associated macho and unwelcoming environment, with others having a more positive experience. Several commented on the male bias within the UK diving industry. However, it was noted that in professional maritime archaeology there is less of a bias;
- Key barriers to involvement raised included a lack of opportunities, awareness and funding;
- The lack of visibility of women was raised as an important barrier, alongside a lack of recognition of the variety of roles available to work with PWs, and feeling undervalued as part of a team;
- Most respondents were very keen to be involved with PWs and those already involved find it very rewarding.

While the survey results are not an exhaustive data set, it provides the first review of these issues and important accounts of the experiences of individuals within the framework of contemporary maritime archaeology.

Interviews with women involved with PWs revealed a range of qualitative data:

- All 16 women had positive experiences of working with PWs, and found their involvement highly rewarding, many of whom have been involved over several decades.
- Many of the women have led projects, pioneered techniques, and fought for the protection of underwater heritage. However, all except two said that they have faced various challenges based on their gender, much of which has, in the past, been accepted as the norm.
- Several felt that to be accepted as an equal to their male counterparts they had to work a lot harder, and not complain about inadequate kit, inappropriate comments or a lack of toilet facilities. The latter point raised an important issue of several interviewees admitting they had dehydrated themselves so that a lack of toilet facilities was not an issue.

- Many said that it is a macho environment which can be hard to break in to, however, several did comment that being female helped them to build relationships with the teams where there had previously been tensions between the PW team and archaeologists.
- Some of the key barriers to involvement in PWs raised were:
 - Lack of opportunities within a diving environment: Fewer opportunities for women to advance their dive training and those that had undertaken professional dive training had been treated differently and/ or referred to in derogatory terms. One woman reported having been the subject of inappropriate online discussions.
 - Constraints due to family, work and other commitments: ingrained social expectations for taking on more responsibility for home and childcare impact the ability to take part in diving. A lack of understanding from teams that were dominated by older men with more time and resources was reported.
 - Ingrained unconscious bias: many more subtle aspects still pervade PW teams and are not often called out and there are expectations to take on administrative tasks.
 - Lack of female role models: this is an issue with PWs and the wider diving community. There is a need to see women in a range of roles, including as Principal Licensee and presenting at conferences.
 - Physical barriers: highlighted dive equipment designed for men, issues with women feeling the cold more than men, and a lack of toilet facilities on boats.
 - Lack of confidence, perceived lack of skills: having taken a break from diving to have a family it was noted there can be a lack of confidence to get back in the water, and some had masked their lack of confidence due to attitudes of male team members. One respondent noted they only felt able to take on licensee role due to a strong support network (despite being a highly experienced diver). There was a tendency for women to shy away from promotion of their work on social media and in other fora.

A brief review of PWs and Scheduled wrecks sought to establish whether there are any women associated with the sites, the ships or the collections recovered from them, with the aim of highlighting potential opportunities for telling stories that could counter the traditional masculine narratives associated with the history of ships and shipping. This process proved challenging as there is a dearth of information within historical records mentioning women on board as they were not paid or provisioned for. Designated sites that do have women's stories include the *Assurance*, *Pomone*, *London*, *Josephine Willis* and *Seagull*, however, the amount of information is scarce. With a high proportion of the PW collection in England being naval warships or submarines there are fewer opportunities to identify women, however, the two 19th century Scheduled wreck sites show how more women were onboard within the merchant fleet.

The project identified a range of statistics, information and data related to women and PWs, women and diving, and women and maritime archaeology more broadly. The results appear to indicate there is not equality of opportunity within maritime archaeology, and the lack of visibility of women both in the historical record and in contemporary practice are having an impact, however, further research is required to analyse this in more depth. There were a range of measures put forward based on the project results, the recommendations include:

Women and PWs: Recognising the barriers to involvement in PWs is an important first step. There are a range of ways that the sector as a whole can work to address issues raised and develop a more inclusive future for PWs. Measures suggested include:

- Using established communication channels such as the HE Marine and Coastal Newsletter to promote more inclusive teams and diving, encourage the sharing of information about female team members and roles, and highlight PW publications.
- Increasing the visibility of female imagery and role models, supporting the 'see it to be it' approach.
- Encouraging conference and event organisers to include more women speakers.
- Developing a workshop within the PWA meeting structure to promote inclusivity more broadly.

- Organising an all-female workshop on PWs, to highlight roles and explore barriers and issues in an inclusive environment.
- Support refresher dives for women, particularly those returning to diving after children or a career break.
- Promote understanding of challenges faced by women within dive training, especially within professional dive training, which can be difficult, non-inclusive environments.
- Provision of training and support for women involved in the above activities, which would include training on how to address potential backlash, trolling, misogyny and sexism. A support mechanism will be required for women in this sector to take the lead on tackling barriers.

Gender in Maritime Archaeology: Further work is required to understand the full impact of the apparent gender bias within the past and current maritime archaeology sector, and the bias within theory and practice as revealed through the long-term publication record. Measures to achieve this could include:

- A study of women in maritime archaeology to understand the past to be able to influence the future – gaining a better understanding of the involvement of women in the discipline, reviewing their roles within projects (development, research, fieldwork, through to publication), within key positions within organisations, and how this might have influenced the ongoing involvement (or lack of) by women, and also influenced the sites, techniques and research themes that have been focused on, and ultimately the creation of maritime archaeological knowledge and the setting of priorities for research, management and protection.
- Profiling the maritime archaeology sector: a study to build on the results of this project and seek to understand the contemporary sector in more detail (inclusive of professionals and volunteers) to create a baseline to better identify any gender bias, diversity, or exclusion issues. This would gain understanding of roles and skills, review gender statistics in training and higher education, review recruitment and career progression, assess issues with retention of women in maritime archaeology and identify barriers.
- Hold a sector wide seminar or workshop based on the results of the profiling the maritime archaeology sector work, to present issues and act as a catalyst to improve inclusivity and equality of opportunity to ensure change in the future.

Whilst this project has highlighted the barriers women face in terms of PW involvement, it should be emphasised that all of the women we spoke to have found working with PWs extremely enjoyable and rewarding. Despite the range of issues and barriers they have faced they are positive about engaging others in the future.

2. Project Background

The impetus behind this project came from a number of factors which had highlighted issues with gender balance related to involvement in the investigation of Protected Wrecks (PW) and engagement with maritime archaeology as a subject more broadly. The statistics from 2021 that only one PW licensee (3% of the total) was female and that of visitor licences only 10% had been issued to women, were particularly shocking. While it was noted that these were the figures for the licence holders only, and that the composition of the full PW teams was likely to include more women, there had been no work undertaken to investigate this further.

Observations from working within professional maritime archaeology appeared to indicate there was less of a gender imbalance more widely in the sector, however, within active diving maritime archaeologists there was still a considerable bias towards male teams (often demonstrated through the 'classic dive team' shots from a boat). Informal discussions with women working in maritime archaeology had revealed mixed experiences with examples ranging from often unconscious bias through to clear discrimination.

Historically the naval sphere has been male dominated and this means many investigations and stories told from shipwrecks are often male focused. However, women were not absent from ships. The role of women not only onboard, but also as key parts of the supporting network that enabled maritime trade, transport and industry has often been overlooked and their stories remain untold.

The project aimed to obtain quantitative and qualitative information to better understand the actual gender balance of those working with PWs and more widely in the sector, including:

- What is the current percentage of female licensees?
- What is the actual gender ratio of PW teams?
- What is the gender ratio within maritime archaeology as a profession?
- What are the percentages of females involved in activities such as conferences and publications relating to maritime archaeology?

The project then used further research, the survey and the interviews to try and address the following questions:

- Why are the numbers of women involved in PW teams and holding PW licences so low?
- What barriers are women facing to engagement in PWs, and more widely are there barriers in maritime archaeology for women?
- How do we find and tell more women's stories in maritime archaeology, both today and in the past?
- How do we encourage more women to be involved in PWs?

The project delivered work to allow the present situation to be better understood, to recognise where there are gaps in data or knowledge, and put forward recommendations to help face future challenges.

The project was delivered through a number of linked elements:

- Desk based research to establish background information and statistics related to women and PWs, the composition of maritime archaeology groups, organisations and teaching staff, the frequency with which women present at conferences and are represented in publications, and broader statistics on women in diving and archaeology.
- An online survey which sought to understand women's involvement with PWs in more detail and gather information on attitudes to and experiences of involvement;
- Interviews with women involved in a range of aspects related to PWs; and
- Research on women's stories related to historic wrecks.

The resulting data and statistics were analysed and a range of conclusions and recommendations have been put forward.

3. Research and Statistics Related to Women and Protected Wrecks

Desk based research was used to gather data to better understand the broader context of women's involvement in diving, archaeology and protected wrecks both professionally and avocationally, in addition to looking in more detail at the composition of maritime archaeological organisations, conferences and publications. This allowed the results of the survey and interviews to be analysed against the wider framework influencing their experiences.

3.1 Methodology

Research gathered information through a range of sources including:

- Contact with Historic England staff for available data and statistics on PW licensees and teams;
- Contact with the Nautical Archaeology Society (NAS) and Protected Wrecks Association (PWA) for relevant figures that included information on gender representation;
- A review of female authors through a brief review of published sources – in particular IJNA articles from the past 50 years, the Journal for Maritime Archaeology and *People and the Sea* Maritime Research Framework for England;
- Requests for information on gender balance within the membership of groups included the NAS, ClifA Maritime Special Interest, Joint Nautical Archaeology Policy Committee, Protected Wrecks Association, Friends of the Maritime Archaeology Trust;
- Use of published website information on team members of maritime archaeology organisations, charities and company websites. Examples included: NAS, Maritime Archaeology Trust (MAT), Historic England, Wessex Archaeology, Maritime Archaeology Sea Trust, MSDS, Mary Rose Trust, Coracle Archaeology, 3H Consulting, PWA, International Maritime Archaeological and Shipwreck Society (IMASS), Cornwall and Isles of Scilly Maritime Archaeology Society, South West Maritime Archaeological Group etc;
- Review of website data on those teaching or researching maritime archaeology in UK Universities;
- Gender balance in UK diving organisations and groups;
- Review of relevant published data on gender in UK archaeology through the *Profiling the Profession* surveys which review this at regular intervals alongside other potentially relevant information on age and workforce changes; and
- Brief review of gender balance of speakers at UK maritime archaeology focused conferences and events (such as NAS, IMASS South West Shipwreck Conference and special interest conferences).

The results of research have been collated either within .excel spreadsheets or for more qualitative data within Word documents.

3.2 Results

The following results have been revealed through desk-based research.

3.2.1 Women and PW Teams

Some of the statistics that helped prompt this project were those from June 2021 (HE), which demonstrated that:

- Of the 52 Principal Licensees for Protected Wreck sites only one is female (3%);
- Of other licences issued, such as visitor licences, of 74 only 8 of these (10%) had been issued to women.

These statistics relating to named licensees have not changed considerably and in 2023 the percentage of principal licensees for PW sites was 6% female. However, as part of this project data provided by Historic England has allowed the composition of the whole Licensee Team Members to be reviewed (rather than just those applying for licenses). Data from between 2011 and 2022 (See Figure 1) revealed that the proportion of women within PW teams has ranged from 17% to 27%. There does not appear to be any clear patterning or trends across the years represented.

A survey of members of the PWA in 2022 asked a range of questions and collected information on the gender of the respondents. This revealed that 77% of those completing the survey were male, 23% female.

Some PW licensee teams have their own websites or social media presence. Although many of these do not have detailed information about their team. The exception to this was the South West Maritime Archaeology Group that has their team listed as 17 men and one woman.

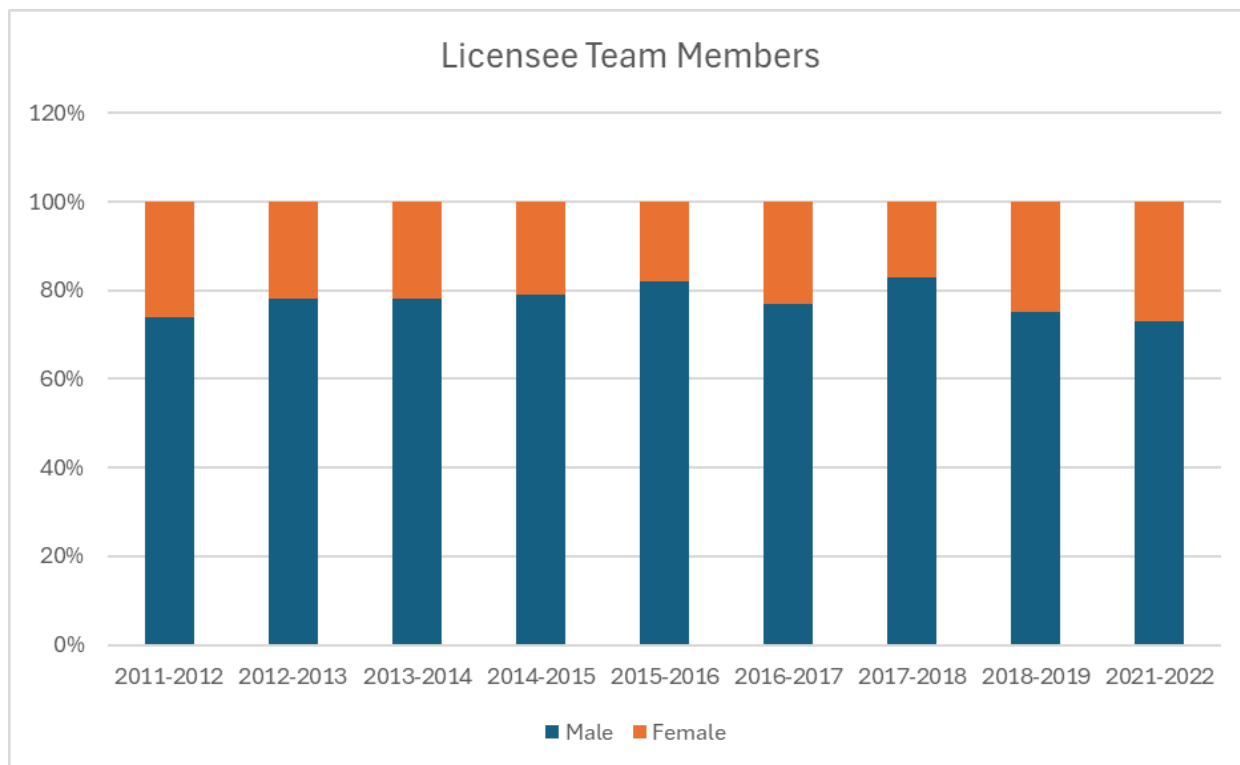


Figure 1: Composition of PW Licensee teams 2011-22.

3.2.2 Women within Maritime Archaeology Companies, Groups, Universities and Organisations

To gain an initial view of the gender composition within maritime archaeology, research of online website based information on the staff, members, Trustees and board members of a number of companies, groups, universities and organisations was undertaken.

Staff

A review of staff within maritime archaeological organisations (HE Maritime team, NAS, MAT, Wessex Marine team, MAST, Mary Rose Trust, Coracle Archaeology, MSDS, and 3H Consulting) revealed that 56% of staff members were female and 44% were male (Figure 2). This didn't take account of whether these were full or part time positions. This is an interesting statistic that indicates that the number of professional maritime archaeologists working with commercial and charity based organisations has a slightly higher proportion of women. However, there was not detailed consideration of the roles of staff and whether they were involved in diving roles within their organisation. This also did not attempt to identify maritime archaeologists working within larger consultancies.

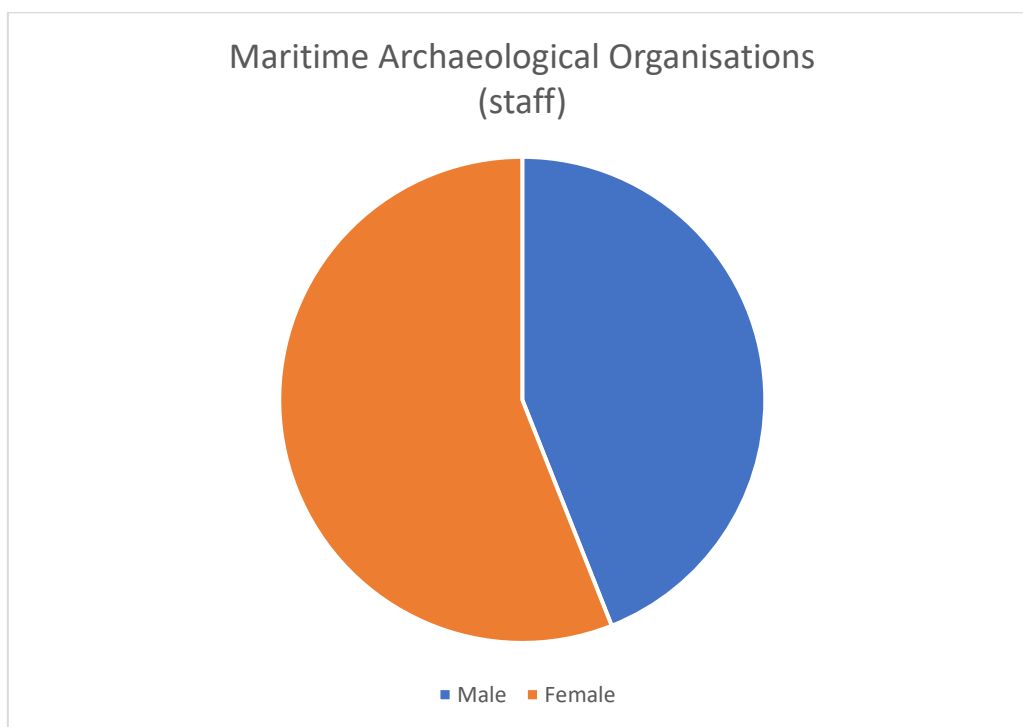


Figure 2: Proportion of professional maritime archaeological staff within commercial and charity organisations.

University Teaching Staff

A review of staff teaching maritime archaeology at universities within the UK through information available on their websites revealed that 68% of staff were male and 32% were female (Figure 3). Within universities, the University of Southampton Centre for Maritime Archaeology had an almost 50/50 gender split, the Oxford Centre for Maritime Archaeology, Nottingham Underwater Centre and Edinburgh Marine Archaeology generally around 30% women to 70% men, and Bournemouth University had 100% male staff. The project did not look at numbers of students studying at these universities, but it would be interesting to review these numbers and related gender statistics to assess them against the longer term development of the profession and whether there are differences in the proportions of students going on to work within the sector.

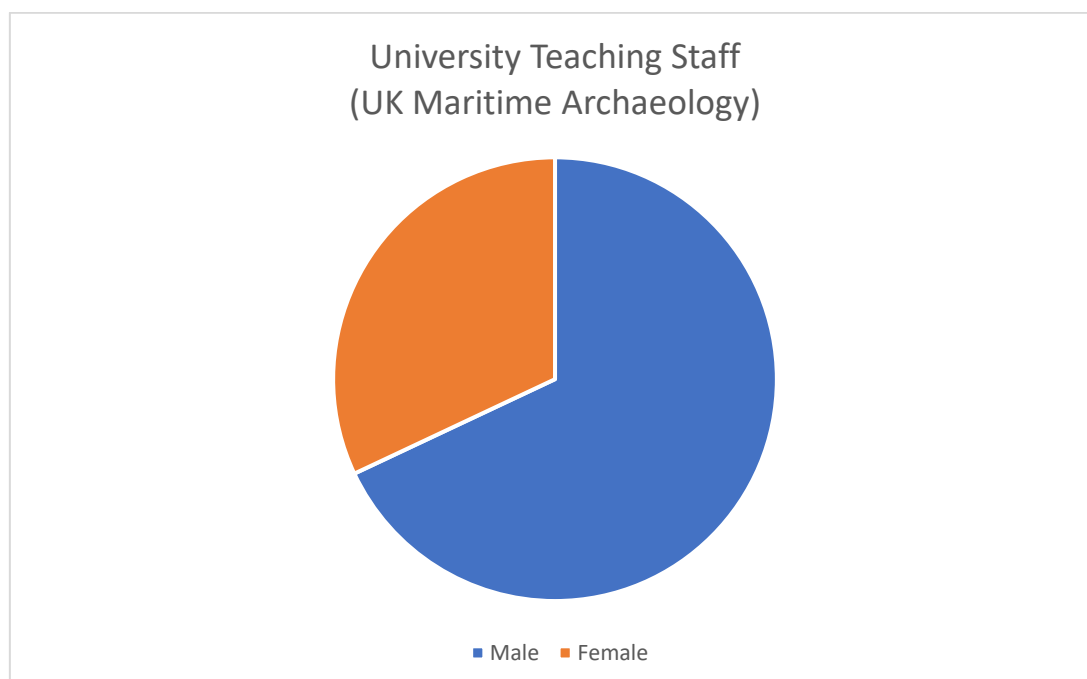


Figure 3: Gender breakdown of staff teaching maritime archaeology at UK Universities.

Members/Friends

Looking at the composition of membership-based organisations (NAS Members, MAT Friends, PWA Members, Cifa MASIG members, JNAPC members) revealed almost the reverse situation as that of staff in the sector with 63% identifying as male, 36.5% female and 0.5% other (Figure 4).

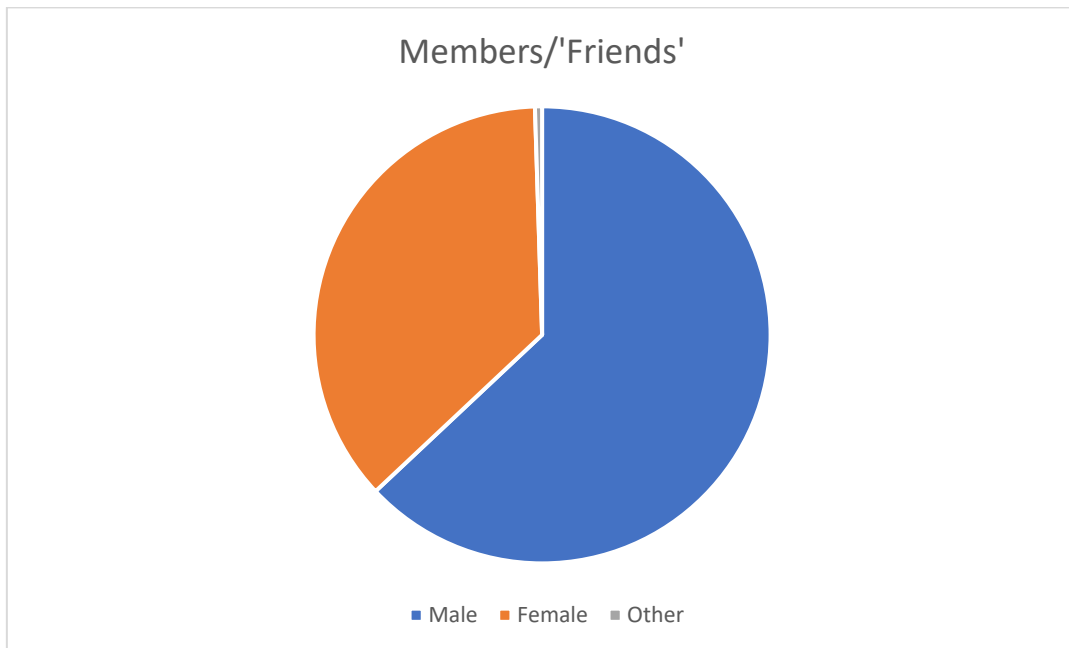


Figure 4: Gender composition of membership and friends organisations.

Trustees/Committee Members/Presidents/Vice-Presidents/Patrons

Looking at the composition of the Trustees, Committee Members, Presidents, Vice-Presidents and Patrons of maritime archaeological organisations (NAS, MAST, Mary Rose Trust, MAT, Cifa MASIG, PWA, CISMAS, IMASS) as available from their websites revealed a further gender bias with 70% of these being male and 30% female (Figure 5).

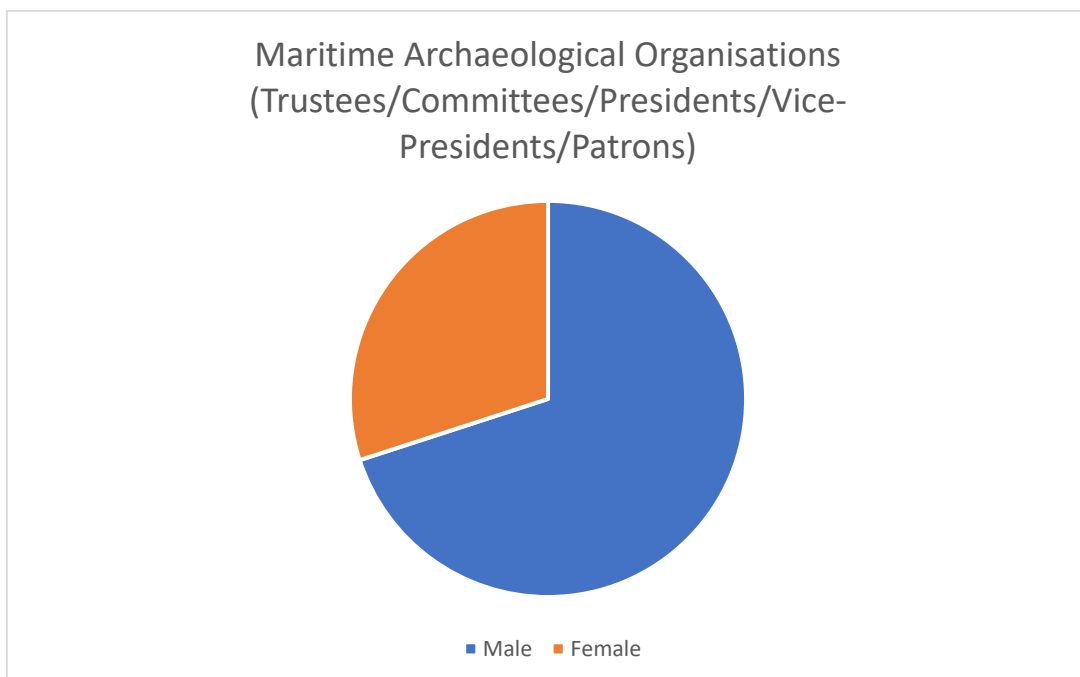


Figure 5: Composition of Trustee, Committee, President and Patron positions in maritime archaeological organisations.

3.2.3 Women's Participation in Maritime Archaeology Conferences

A brief review of data available on speakers at key maritime archaeological conferences within the UK revealed that at the International Maritime Archaeological and Shipwreck Society (IMASS) conference series held in Plymouth and promoted as the 'International Shipwreck Conference', there was a large proportion of male speakers represented within the past 40 years of data (See Figure 6). From available information there were no female speakers within the first decade of the conference series, and the proportions represented remain low. Online data from the Nautical Archaeology Conference Series between 2021 and 2023 revealed that on average 30% of speakers were female and 70% were male.

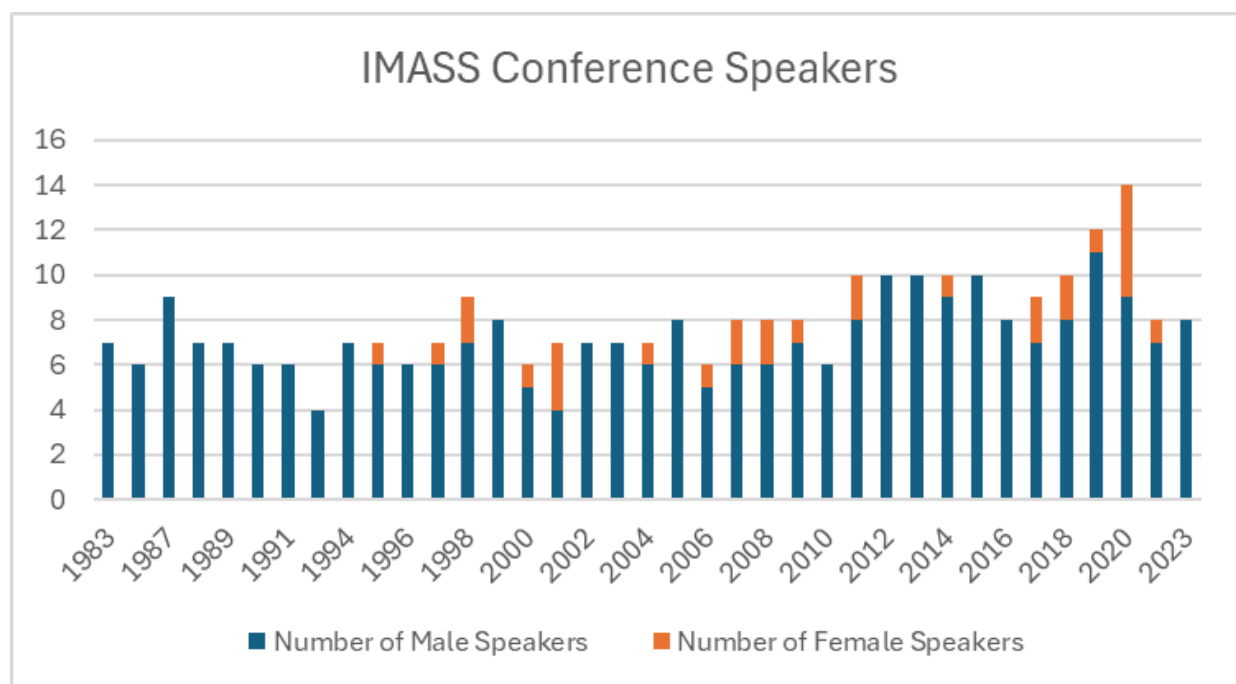


Figure 6: Review of the gender of speakers at the IMASS conference series.

3.2.4 Women in Maritime Archaeological Publication

Three key sources were used to review women publishing within maritime archaeology. This included the International Journal of Nautical Archaeology, and the Journal of Maritime Archaeology, and a review of *People and the Sea: a maritime archaeological research framework for England* (Ransley & Sturt 2013) which brought together professionals working in the field.

The International Journal of Nautical Archaeology was established over 50 years ago and has been the most prominent English language specialist journal for the subject. A review of papers and authors was undertaken and where possible an assessment of the number of male and female authors (occasionally there were only initials for an individual and it has not been possible to establish their gender, where this is the case they have been left out of the statistics). A number of authors appear multiple times over the years, but each of their paper entries has been counted individually as representing a published paper. The results reveal 4,997 instances of male authorship and 863 female, representing 15% of authors being female and 85% being male. Figure 7 shows there appears to be an encouraging tendency for women to be more frequently represented within editions in more recent years, however, within the last 10 years having 30% female authors has only been attained twice, so there is some way to go to reach parity of gender representation.

Considering just those papers, notes and reviews that include UK Protected Wreck sites within the IJNA series included a count of authors and whether they were male or female (some names appeared multiple times on different papers but for analysis they were recorded each time they appeared). This revealed 136 instances of male paper authors and 21 female, this represents 13% of authors being female and 87% male.

These are particularly interesting statistics for the discipline as a whole and in relation to UK PW sites, it shows a significant male bias within the publication record. This contrasts with the role of the Editor of the IJNA, which has been almost exclusively female.

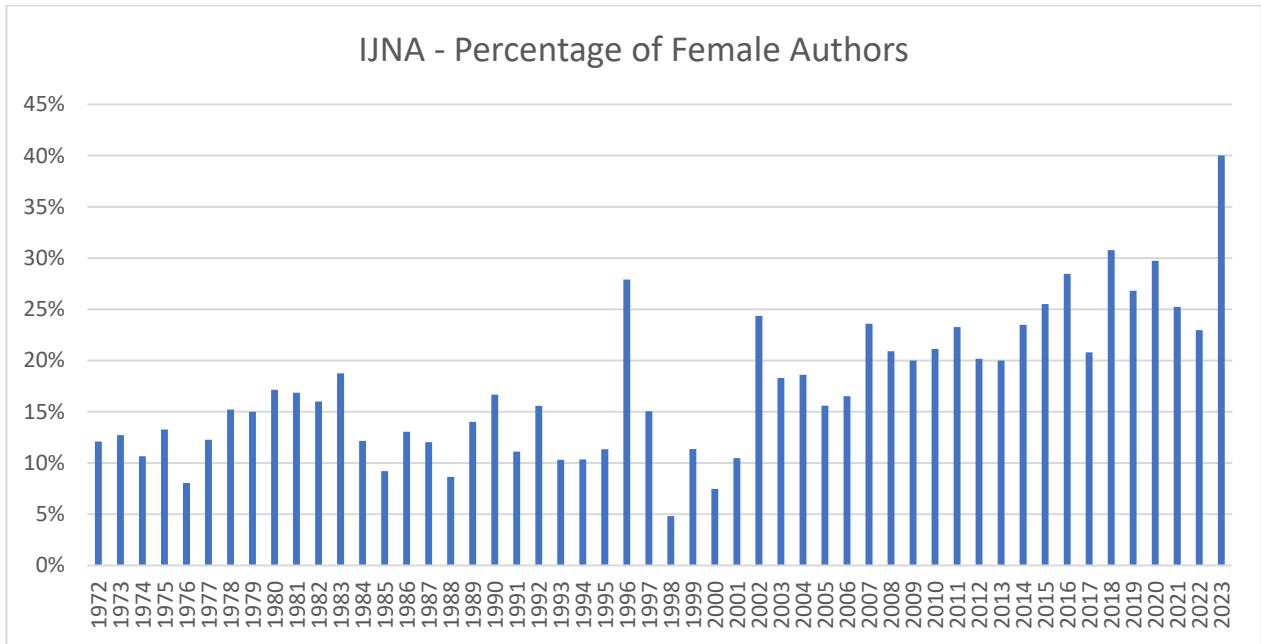


Figure 7: Review of female authors in the International Journal of Nautical Archaeology

The review of the more recently established Journal of Maritime Archaeology, which has been published since 2006 has revealed further interesting statistics. As with the IJNA some authors appear on more than one occasion and each of these have been counted towards the totals. Across the whole journal series there is an average of 20% female authors and 80% male. This breaks down into years – see Figure 8 – which demonstrates there are occasions where there are almost 30% female authors, but these are contrasted with years with much lower figures.

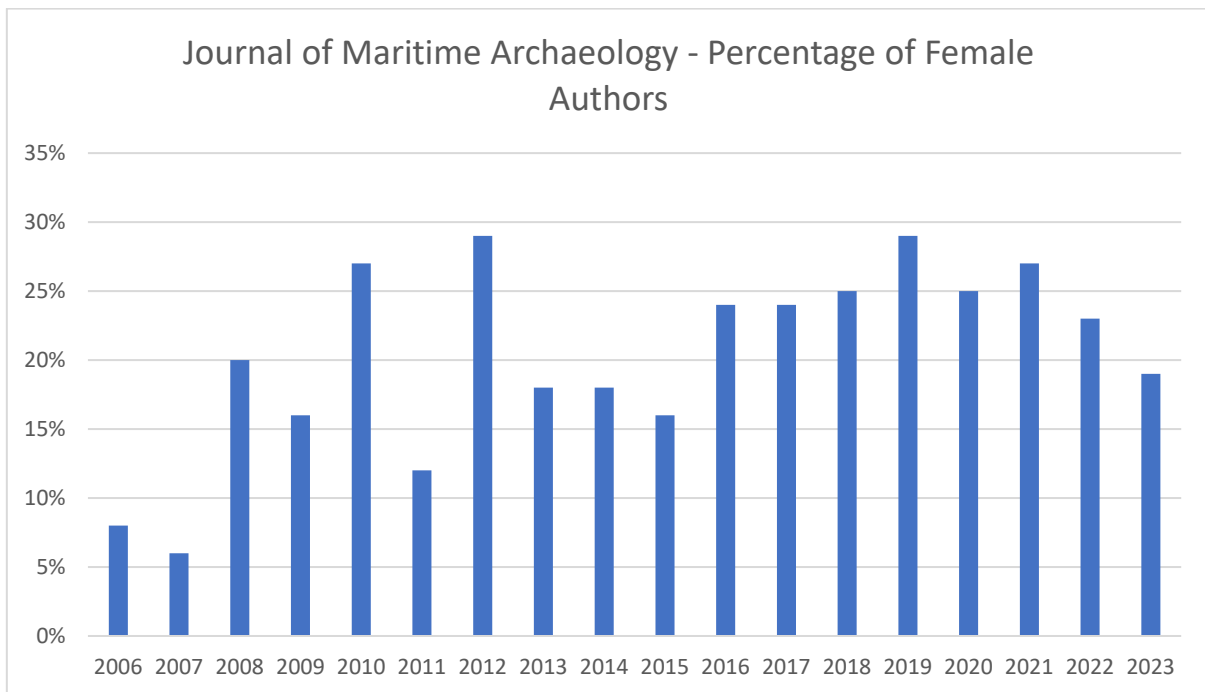


Figure 8: Review of female authors in the Journal of Maritime Archaeology.

The process of developing the maritime archaeological research framework for England which resulted in the publication *People and the Sea* (Ransley & Sturt 2013) brought together a wide range of professionals working within the maritime archaeological field across all periods, particularly in England in 2011-12. This included workshops and the production of collaborative chapters that formed the basis of the publication. Within the acknowledgements for the volume there is a long list of 'critical friends' that contributed – there are a total of 98 individuals, of which 20 are women (20%). When considering the working group chairs and lead authors list (not included in the critical friends totals), 4 are women, of 20 in total, again a 20% / 80% female/ male split.

The recent edition of the CfA magazine, *The Archaeologist* (Winter 2024, Issue 121), focussed on articles about Protected Wrecks to mark the 50th anniversary of the Act. Of those authors who wrote about Protected Wrecks, 36% were female.

It is recognised that the brief review of women in maritime archaeological publication concentrated on Journals and a key synthetic publication for England and so did not include single or joint author monograph publications, adding these into consideration may change the statistics, potentially in either direction. However, the statistics from publications for this project have further underlined the distinct gender imbalance within maritime archaeology through dissemination outputs. There is a slight trend towards the percentage of women within publications increasing as seen in the IJNA, however, this isn't a clear and consistent trend. There may be a generational factor involved in this as the wider workforce becomes more gender balanced, however, these are surprising statistics for maritime archaeological publication.

It would be interesting delve into these figures further to understand in more detail whether the project work and research direction was all led by the authors, and whether this bias towards men in publication shows any correlation with the types of sites being studied and methods employed and hence the long term development of the focus of the discipline. There has been recognition of the male dominated nature of maritime archaeology (Ransley 2007, 2008), and how this has impacted theory and method (Ransley 2010), and the long-term and discipline wide publication record appears to strongly reinforce this position. The even smaller proportion of female authors for UK PW papers, is further evidence of this trend, and taken alongside other statistics it appears that feminist theory, as discussed by Campbell (2023: 20)¹ as having been put forward within maritime archaeology from the early 1990s, has so far eluded UK PWs both in theory and practice.

3.2.5 Women in Diving

Research was also carried out to better understand women in diving more generally. Statistics provided by BSAC show that at present just 27% of members are female. Alison James also provided statistics from GoDive training sessions, these cover a period of 18 months up to November 2022, when just 27% of trainees were female.

Information on the [PADI website²](#), states that women represent less than 40% of divers worldwide, and there is a notable gender gap within professional diving, with women currently representing only 20% of all PADI Professionals (PADI Divemaster or Scuba Instructor).

¹ Campbell, P, 2023, Prelude: a History of Maritime Archaeological Thought. In S.Rich and P. Campbell (eds), *Contemporary Philosophy for Maritime Archaeology: Flat Ontologies, Oceanic Thought, and the Anthropocene*. Sidestone Press, Leiden. Pp 11-34.

² PADI. Women PADI Pros Changing the Face of the Dive Industry. Blog by Tiffany Duong November 2023. <https://blog.padi.com/women-padi-pros-changing-the-face-of-the-dive-industry/> - accessed January 2024.

Other worldwide statistics from 2017 indicated that 65% of SCUBA divers are men, and 35% are women (<https://differentdive.com/women-and-scuba-diving/>). In 2019 the Sports and Fitness Industry Association reported that there are up to 6 million scuba divers worldwide. The statistics on age and gender demonstrate that a majority of divers are aged between 25-44 years of age and in every age group there are much higher levels of participation from men than women.

According to a [Research Report by Sport England³](#), there are two million fewer women than men regularly taking part in sports. Some of the key findings were that sport is not generally perceived as directly relevant to what goes on in the everyday for women, it rarely appeals to women's core values or reflects what is important to them, and to have a wider appeal it needs to align to women's values. The report suggests that to engage women and girls we need to think about what sport can do for them, specifically in relation to what really matters to them, such as a healthy way to spend time with family and friends, or an opportunity to develop new skills or discover new places. It also encourages taking in to account the practical and emotional factors, so to make it easier for women to act we must consider: right time, right place, right welcome, right company and right gear. There is a demand for more women to take part in sports but there are barriers which include a fear of being judged, lack of confidence, and practical barriers of time, cost and information. These barriers particularly affect women in swimming, however, new initiatives such as [Her Spirit](#) are supporting and encouraging more women in to swimming, and this has recently been highlighted with a surge in women undertaking open water swimming. These changes are gradual and BSAC also has an [initiative](#) based on these studies to engage more women with diving and to encourage clubs to consider the barriers women face, and the benefits of having a diverse club.

Although further details on the Women and Protected Wrecks survey are provided below (see Section 4), some common themes from the respondents included specific issues for women with UK diving, such as the cold, the equipment, and the lack of toilet facilities. These practical considerations may be affecting women's involvement with diving, as well as other personal and emotional factors which are discussed later in the report.

3.2.6 Women in Archaeology

It is possible to gain some information on women in archaeology through the Profiling the Profession Surveys which have been undertaken periodically since 1997, with the most recent being in 2020 (Aitchison et al 2020). This survey gathered enhanced levels of information related to age, gender, and a range of demographics compared to previous surveys. However, it must be noted that this is a limited survey with a relatively low sample size, and there is a lack of engagement with volunteers (a particularly large sector in relation to maritime archaeology). The scope of this project meant that it wasn't possible to undertake more extensive research to identify more data on women in archaeology, however, there is a need to review this in more detail in the future to be able to place women in maritime archaeology in the wider context of women in archaeology.

Those statistics gained from Profiling the Profession most relevant for providing the wider background for women in archaeology include:

- The estimated number of archaeologists working in the UK is 6,300. This workforce is 47% female, 53% male, which matches previous survey results, and also matches the wider UK workforce average.
- The average working age for archaeologists is 44 with females on average 41 and male 47.
- The detailed breakdown of gender by age within archaeology shows higher levels of women of younger age and more men than women of older age.

³ Sport England. Go where women are. Insight on engaging women and girls in sport and exercise. https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/gowherewomenare_final_01062015final.pdf - Accessed January 2024

- Archaeologists are highly qualified. In 2019-20, 23% of archaeologists held a Doctorate or post-doctoral qualification (in 2012-13 the equivalent figure was 20%), a total of 70% held a Masters degree or higher (in 2012-13 the equivalent figure was 47%) and 99% of archaeologists held a Bachelors degree or higher (in 2012-13, the equivalent figure was 93%).

The earlier Profiling the Profession survey (Aitchison & Rock-Macqeen 2012) included gathering data on unpaid volunteer archaeologists, as the responses were very low from the sector they found it difficult to draw any trends from the results as there were only 38 volunteers represented. They have also tried to look over time at trends for volunteers in archaeology but again the data sets are very small, but they do have gender based statistics for volunteers. As this survey is aimed at the professional sector, it is not surprising that there are small numbers of volunteers, however, this contrasts significantly with maritime archaeology where there are large numbers of volunteers involved.

3.3 Summary

Data gathered through desk based research has revealed that:

- The headline figure prompting the project of 3% licensees being female is now slightly better than it was (now 6%), but still remains extremely low;
- The numbers involved in PW teams or organisations displays a fairly consistent trend of at least 80% male and around 20% female (from names within licenced teams, responses to PWA survey);
- Within professional maritime archaeology (staffed organisations, mostly commercial and charity based) there appears to be more of a gender balance, with slightly more women (56%) than men (44%) identified;
- Within Universities teaching and practicing maritime archaeology there is an approximately 65% male, 35% female split between staff;
- Within membership-based organisations there was a 63%/ 37% male/ female split;
- At Trustee, Board, Patron level within organisations there was a 70%/ 30% male/ female split;
- A review of women speaking at maritime archaeological conferences (NAS and IMASS) revealed that the proportion of men to women is often 80%/ 20% (with some variation over the years);
- Within maritime archaeological publications (IJNA, Journal of Maritime Archaeology, Ransley & Sturt 2013) the proportion of female authors is around 20% of totals. When just UK PW papers within the IJNA are considered, this proportion falls to only 13%;
- The percentages of women involved in UK diving which are around 30% female, 70% male, will be impacting the numbers of women undertaking archaeological diving, with a number of factors recognised as making diving and some water sports less appealing and accessible for women.
- Reviewing the % of women in archaeology as a whole which at 47% is close to national average we see some distinct differences in comparison with women in a range of PW, maritime organisations and companies, universities and represented in publications.

These statistics have provided some of the first research-based consideration of gender within UK maritime archaeology and particularly related to PWs. Prior to this work the situation had been commented on informally and was also evident through visible promotional photos of dive team examples. The data provide some sobering figures for consideration with female representation most commonly between 20% and 30%, although there are some more encouraging figures for women within commercial and charity staff positions which show slightly more women than men.

Some of the most surprising figures come from the review of authors of maritime archaeological publications with 20% of authors on average being female, and taking the review of UK PW site papers within the IJNA that figure falls to 13%. While it is accepted that maritime archaeology, like many areas of work has undergone transformation over the past 50 plus years, this is being very slow to be reflected within those publishing, and from this it can be inferred that fewer women are leading investigations, formulating research questions and programmes, and hence are likely to have less agency within the creation of archaeological knowledge. The impact of this on the discipline requires further consideration.

4. Survey to Understand Women's Attitudes to Involvement in PWs

The online survey sought to understand women's involvement with PWs in more detail and gather information on attitudes to and experiences of involvement. There were 52 responses to the online survey which revealed a range of interesting data.

4.1 Methodology

The survey questions were developed to explore how women are, or are not, involved in PWs, more on their particular interests and reasons for involvement, their involvement in the licencing process, information on diving experience and access, as well as archaeological training. They sought information on any barriers to involvement, what might make involvement more attractive and whether there were any specifically gender related issues impacting this. As it is such a small field of specialism, participants were asked for broad demographic information and were also provided the option to complete the survey anonymously and assured that individual responses would not be able to be identified in public outputs.

The survey questions were developed and prior to the survey going live they were reviewed by HE Maritime Team and HE Public Engagement Department, Head of Inclusion, Sean Curran. A full list of the questions is provided in Appendix 9.1.

The survey was set up within Survey Monkey software and made available through a webpage within the MAT website: <https://maritimearchaeologytrust.org/projects-research/women-and-protected-wrecks/> The survey was launched in time for the 2023 Protected Wreck Association Licensees meeting on the 3rd February 2023 held in Plymouth and then widely advertised across social media, through E-newsletters, newsletters, and being sent to individuals by email. The survey remained open until the end of November 2023 which allowed for a final promotional push for the survey at the Nautical Archaeology Society Conference (18th and 19th November) where a paper was given on the interim results of the project by Lauren Tidbury and a workshop on Women and PWs held during a conference break.

Survey responses were downloaded from Survey Monkey in .excel format and have been analysed using either statistical analysis for questions with quantitative responses, or review of text based responses for those with qualitative information.

4.2 Results

The survey gained 52 responses, which considering the relatively low numbers of women involved with PWs that had been identified as a catalyst for this project, and has been further underlined through the desk based research, this was considered a good number to provide initial insights across the sector.

4.2.1 Demographics of Respondents

Not surprisingly 49 responses to the survey were from women. There were 2 responses from men and these have been accounted for in the general number of responses, but for questions seeking the particular experiences of women their answers have not been reflected in this report. One respondent identified as non-binary, their experiences and answers are reflected in the report.

49 respondents identified as white, one as Indian, one as other ethnic group, and one preferred not to say. Almost half of the respondents were in the 35-49 age category, followed by 25% in the 25-34 age category, nobody under the age of 24 answered the survey and 14 were over the age of 50.

Three respondents were from overseas, the remaining were from across the United Kingdom, including Scotland, Wales, the North, the Midlands and the South. There was a slight increase in the amount of respondents located in the south.

4.2.2 Diving Experience and Access

Just over 70% of the respondents said that they dive, and just over 50% of respondents said that they have access to their own equipment. Just under 50% are members of diving organisations, this was predominantly BSAC or other local branches, as well as NAS and PADI members.

4.2.3 Archaeological Training and Experience

In response to the question about archaeological training where multiple answers were able to be selected, 25 respondents had taken part in an NAS course and 24 had a Master's degree (of the 24 with a Masters Degree, 14 had also taken part in NAS courses). Those that had a Degree, Masters or Doctorate were from a variety of institutions, the most common answer was the University of Southampton (7 respondents), others were from institutions both within and outside the UK. Almost 60% of the respondents are also involved in other archaeological projects on land and underwater, primarily in a professional capacity.

4.2.4 Experience with Protected Wreck Sites

Those responding indicated the range of ways they are or had been involved in PWs (Figure 9). It was possible to choose multiple responses for this question.

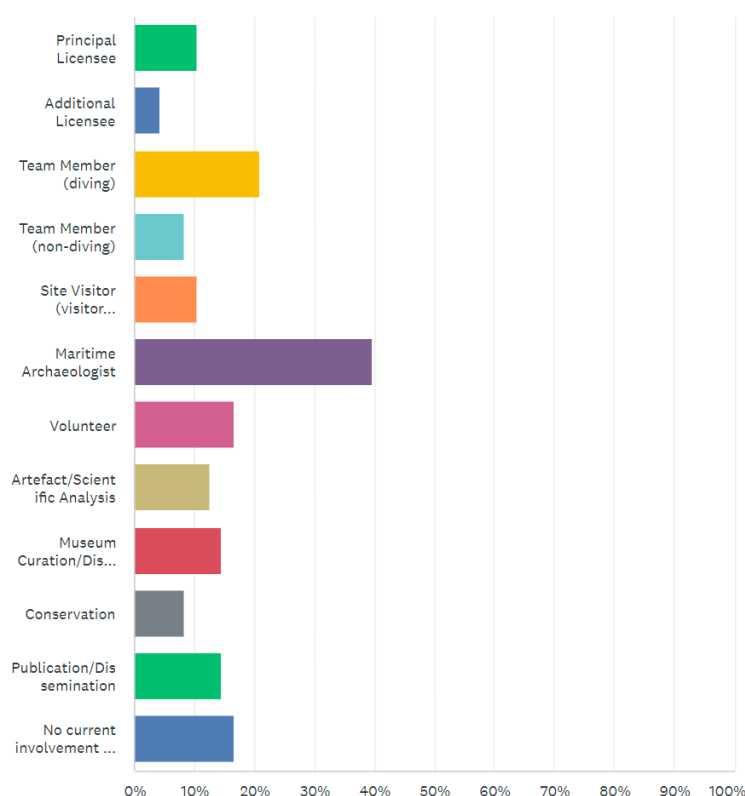


Figure 9: Breakdown of survey respondents involvement with Protected Wrecks.

Although the question allowed multiple answers, 26 respondents only selected 1 option. The majority of respondents (19) ticked that they are maritime archaeologists. Of those 19 maritime archaeologists, 7 also ticked that they were PW team members (both diving and non diving). The majority of those that selected Volunteer, had either a Master's degree or had taken part in an NAS Course. Of the 13 that selected Licencee/ Additional Licensee/ Team Member (diving and non-diving), 7 also selected Maritime Archaeologist, and 3 also selected Volunteer. 8 respondents stated that they have no current involvement but have a general interest, three of those had been involved in the past through diving on PWs with the NAS, all raised lack of understanding on how to get involved and accessibility as barriers.

Indicating which PWs they had been involved with allowed for multiple sites to be chosen, the results show that all but two (Pwll Fanog and The Smalls) of the current Protected Wrecks were represented. 49% of respondents have worked with HMS *Invincible* and 35% on HMS *Colossus*, the next most frequently represented sites were in the south (Holland No 5, the Needles, *Iona II*, the *Mary Rose*, Normans Bay and *Hazardous*), all of which were ticked by nine or more respondents. Figure 10 demonstrates the higher proportion of respondents who have worked on sites around the south coast, note the largest point relates to HMS *Invincible*.

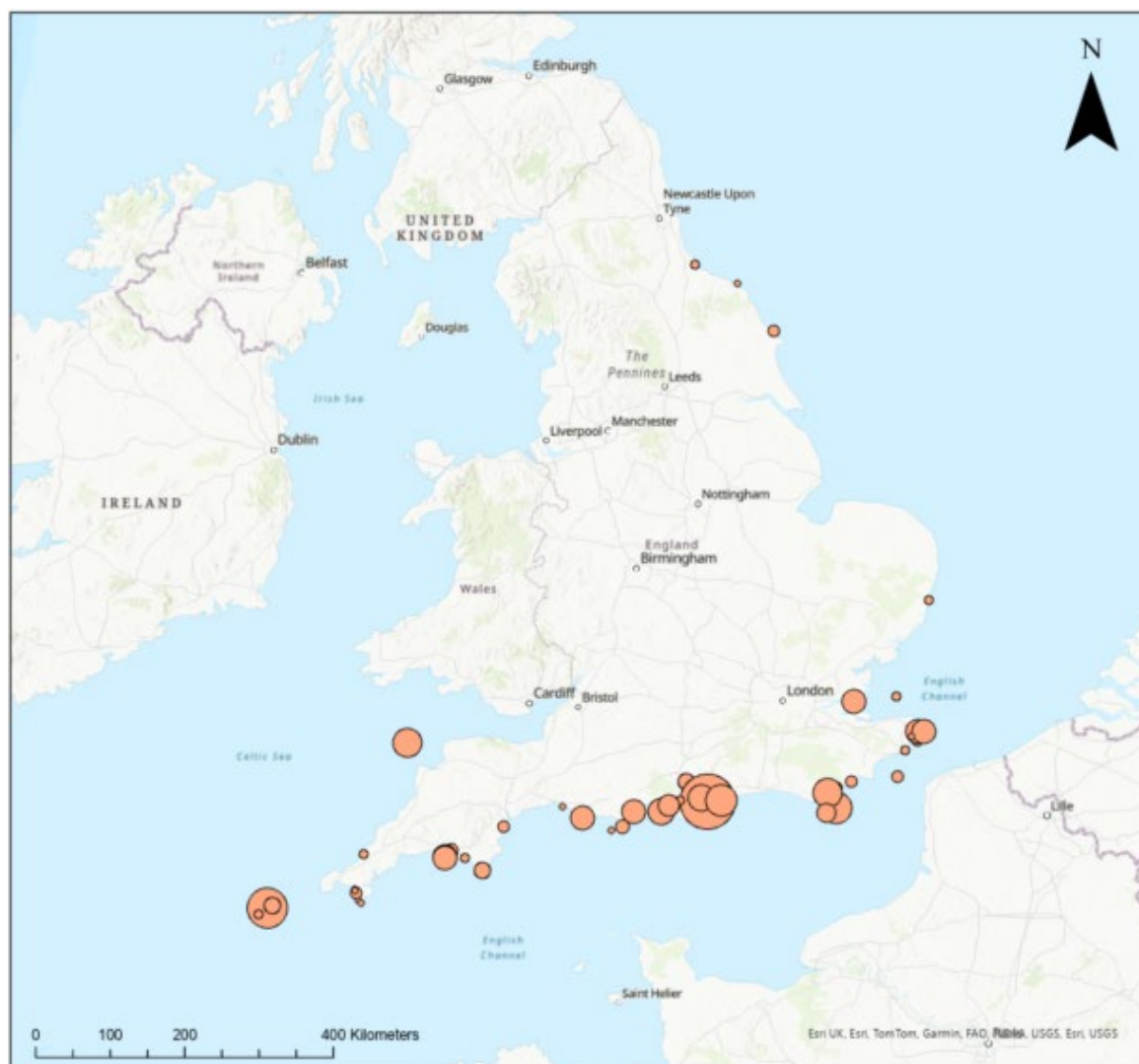


Figure 10: Heat map showing the Protected Wreck sites that respondents had been involved with.

When indicating the time scale over which respondents had been involved with PWs it was possible to choose multiple decades. Figure 11 shows the distribution of responses by decade. Looking in more detail: 14 respondents ticked just 2020s (7 of which are in the 25-34 age category), 13 respondents ticked both 2010s and 2020s and 13 respondents had been involved over three or more decades, this was predominantly the 2000s, 2010s and 2020s (Figure 12 shows how long respondents had been involved across multiple decades). All except one of those who had been involved over three or more decades were involved in a professional capacity.

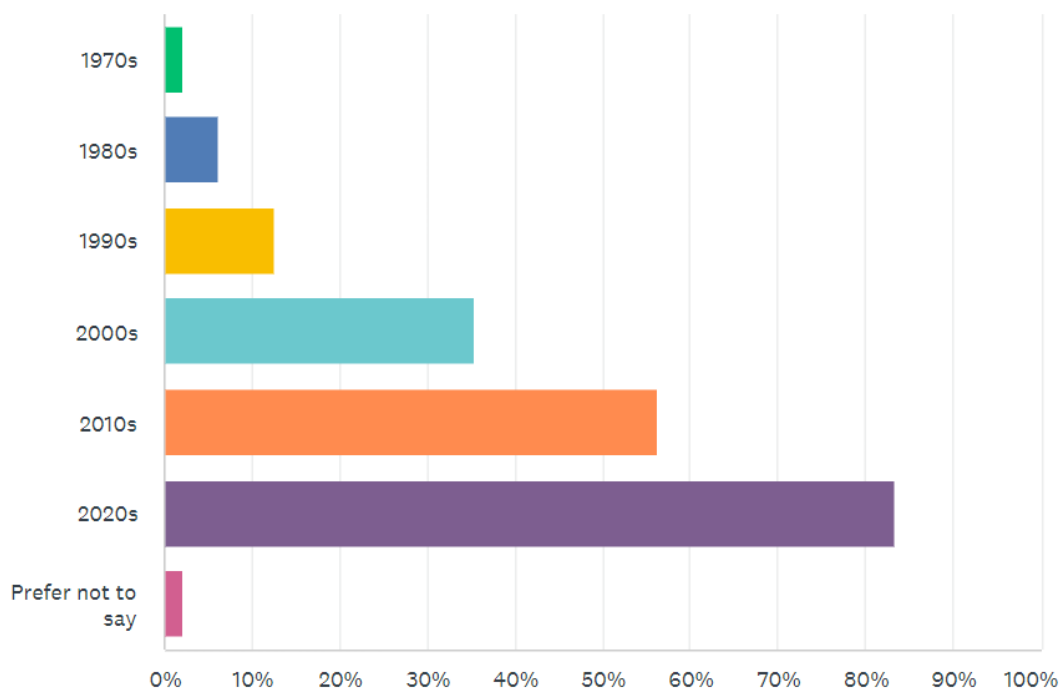


Figure 11: When survey respondents had been involved in PWs by decade.

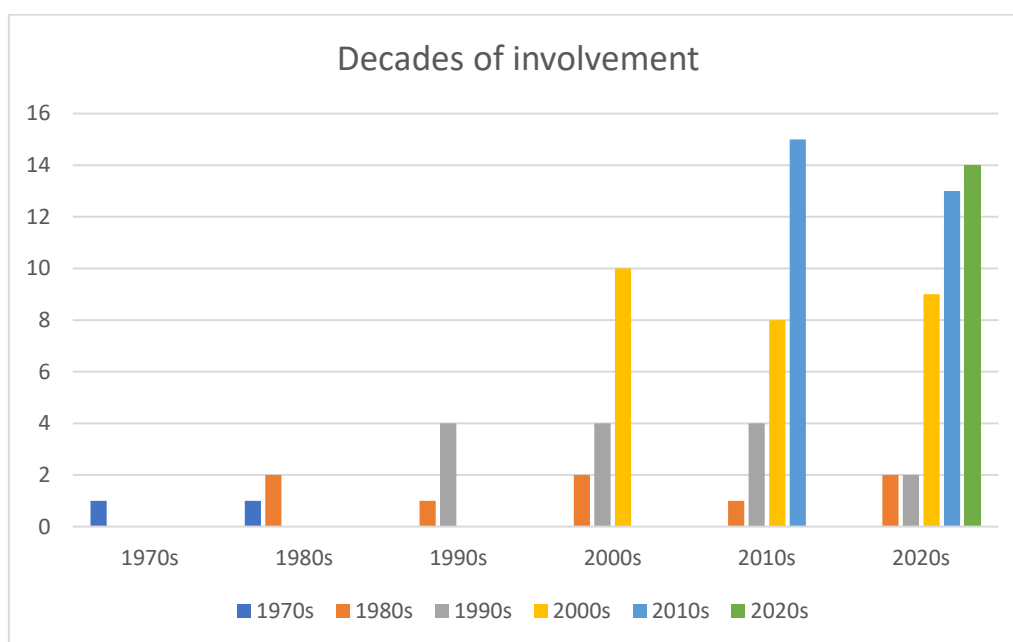


Figure 12: How long respondents had been involved with PWs across multiple decades.

4.2.5 Motivations and Roles within PWs

Respondents were asked what their reasons were for getting involved in Protected Wrecks (Figure 13), respondents were able to select more than one if needed. 28 respondents said they were involved in a professional capacity (15 of those answered yes to being divers), respondents were able to provide detailed comments, those that did comment explained that they were involved through their work such as the Historic England (previously English Heritage) Diving Contract which has been delivered by a range of companies in support of the Protection of Wrecks Act.

When asked about their reasons for getting involved, 19 responded 'to add something new to my diving'. However, this included the 8 who had said they have 'No current involvement'. So there may have been some confusion over the question, and instead they were using this to demonstrate why they would want to get involved as opposed to why they may currently be involved.

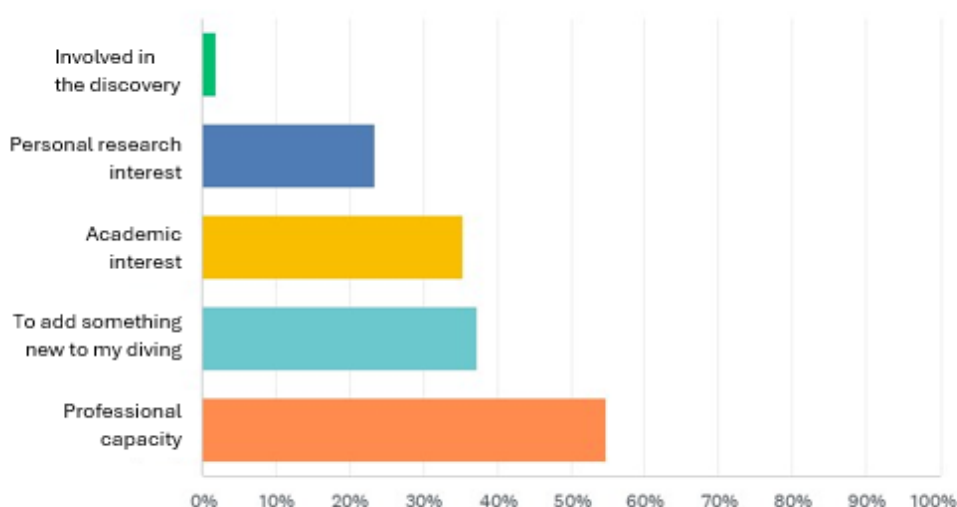


Figure 13: Reasons for getting involved with Protected Wrecks.

When asked whether they had an active role in PW teams, just over 30% said yes (all except two of those respondents also answered yes to being a diver, the two that said no to being a diver had been involved as former Civil Servants). In the detailed comments these included involvement as a supervisor, archaeologist, volunteer diver, in analysis, conservation, finds processing, photography and dissemination. Only 13 respondents had been involved in the PW Licencing Application and/or reporting process, which represents just under 28% of those who have been involved in PWs.

4.2.6 Exploring Gendered Roles and Experience with PWs

The survey asked about the gender composition of the PW team or group that respondents had been involved with. This was a free text question and the majority of answers reflected that the teams were predominantly male, only four respondents answered that the group they were involved with was either equal males and females or had more females.

Respondents were also asked to describe any barriers they faced to involvement or continuing involvement with PWs. The majority of answers were not related to barriers based on gender, but most commonly included: lack of opportunities, lack of time, and the most common answer related to a lack of funding. Those that did relate to gender mentioned issues such as the lack of visibility of women on diving websites, difficulty in juggling family commitments and childcare, male dominated (and often close knit) teams making female members feel uncomfortable or belittled, and the lack of toilet facilities for female divers on dive boats.

Reviewing this question it may have been advantageous to ask more specifically about any barriers they had faced based on gender, however, information on more general barriers to PW involvement is also useful data.

4.2.7 Increasing Women's Involvement in PWs

Respondents were asked what could make PW involvement more rewarding. This was a free text answer, but the most common answers included: making it easier to get involved, better recognition, and knowing what opportunities available. There were no clear patterns with these answers when comparing to what the respondent had selected in terms of their reasons for PW involvement.

The survey went on to ask respondents if they were not involved in PWs to describe whether they would like to be and what would make this more appealing to be involved in. The vast majority said they would love to be more involved, and to do that respondents said there would need to be more flexible opportunities (in relation to the timing and frequency of dives to fit in around work and studies), acknowledgement of all levels of involvement (particularly conservation), a better understanding of the variety of roles (research, dissemination, museum displays) and more transparent information available online, particularly relating to the cost of involvement. Five respondents said that they already find it rewarding enough as is.

4.3 Summary of Survey Responses

The survey responses have revealed that:

- Just over 70% of respondents were divers, providing representation from those actively involved in seabed investigations;
- Just over half of the respondents have been involved in PWs in a professional capacity;
- Many of the respondents had undertaken maritime archaeological training with almost half having taken an NAS course and a similar number having a Masters degree (there was an approximately 60% overlap here with 14 respondents having both NAS and Masters level training);
- Most of the Protected Wrecks were represented through respondents involvement but there was a notable bias towards wrecks off the south coast. HMS *Invincible* has been surveyed by students at the University of Southampton, so the notable number of respondents ticking this site may also coincide with the number of respondents who had undertaken a Masters at the University of Southampton and the relatively recent excavations on the site;
- Many of the respondents were often part of male dominated teams, particularly in relation to diving. Several also commented on the UK diving industry being very male dominated, however, stated that this isn't the case within the profession;
- Many of the barriers faced included a lack of opportunities, awareness and funding, as well as some still feeling this was a macho and at times unwelcoming environment for women particularly in relation to diving on wrecks;
- Several answers also touched on the variety of roles relating to PWs, and the need to raise awareness about the research, conservation, analysis and dissemination work involved, not just the diving. Respondents who have been involved in analysis, conservation and museums often said they felt this area was overlooked and undervalued;
- Several respondents also commented on the need for more support for volunteer divers, making members feel valued as part of a team and recognising their contributions would help ensure long term involvement and encourage more women to get involved;
- The majority of respondents are very keen to be involved in PWs and those involved find it rewarding; and
- A number of respondents remarked on the lack of women in PW imagery and questioned whether this may have an impact on women getting involved with them.

The survey responses have provided interesting and useful statistics and more qualitative data related to women's involvement in PWs. While the survey results are not an exhaustive data set, it provides the first review of these issues and important accounts of the experiences of individuals within the framework of contemporary maritime archaeology.

5. Interviews with Women Involved in PWs

The project made contact with a range of women who are currently involved in Protected Wrecks or have been in the past in either a professional or volunteer capacity to undertake interviews to gather more in-depth information related to gender issues.

5.1 Methodology

16 interviews were undertaken, some were in person and others were online. For those undertaken in person, the interview was recorded using a Shure microphone, and for those undertaken online, the interview was recorded using the Riverside.fm platform. All interviews were transcribed, and interviewees were also asked to share any photographs of themselves during their time working on Protected Wrecks. All interviewees were asked to complete and sign an oral history recording agreement, and if providing photographs for use as part of the project, a photo release form.

The interviewees included:

- Current and past licensees and archaeological advisors;
- Current and past PW team members;
- PW visitors;
- Maritime archaeologists involved in managing PWs (including past HE (or English Heritage) staff who have been the key liaison with PW licensees);
- Women involved in researching PWs; and
- Women involved in publishing PWs.

A set of interview questions was drafted in order to guide the interviews (see Appendix 9.2), however, these were often adapted at the time of the interview depending on the respondent's role in PW activities. Interviewees were given the option for their contribution to be provided anonymously and details within this report have been summarised and/ or anonymised so individuals are not identifiable. Interviewees have been allocated a number for the purposes of reporting.

5.2 Results

13 of the 16 interviewees were divers, one used to dive. Six of the interviewees have been involved in Protected Wrecks since the 1980s. Interviewees were first asked to outline how they became involved in maritime archaeology and PWs, this was generally a chronological review of their involvement. Interviewees were then asked about any barriers they had faced during their involvement of PWs and what could be done to improve access.

5.2.1 Barriers to Involvement in PWs

Some key themes became apparent through the interviews:

Lack of Opportunities within a Diving Environment

It was evident that there have been fewer opportunities for women to advance their dive training. Those who have undertaken Surface Supply or other professional courses such as Professional SCUBA faced issues with the kit being designed for men and were often the only female on the course. Interviewee 12 told us that she was referred to as 'Princess' on her professional diving course, where she was the only female.

Some of those interviewed were involved in the excavation of the *Mary Rose*, the team included several female archaeologists, and was led by Margaret Rule, who was an inspiration to many of those we spoke too. However, interviewee 7 stated that when it came to lifting the wreck, the team were offered the opportunity to become professional divers, she put her name forward but was not chosen, she felt this

was based on gender and that there were no facilities for the female team members to participate in that element of the project.

As a result of being the only female on professional dive courses, many of the interviewees stated that they were often treated differently and felt they had to work harder than their male counterparts. Interviewee 9 said that “you do have to do exactly what they do and more if you can”. Interviewee 8 told us that “When I first went to one of my clubs, they wouldn't let me do the oxygen or the first aid or drive the boat because I was a woman. I think I've had to show, even when I didn't feel it, that I was more confident. I'm not sure that that was a good thing. But sometimes, yes, you had to be better to be thought the same”.

Interviewee 11 encountered inappropriate discussions about herself and other women in online chat rooms of PW divers back in 2005, she reflected that diving has been a masculine world of camaraderie but hopes that this is changing as women feel they have more opportunities to take part.

Constraints on time due to Family, Work or Other Commitments

As a society it is still often women who take on more responsibility when it comes to homelife and childcare, and long days of diving, or diving over long periods of time, makes it less appealing or practical for women to spend that length of time away, particularly from young children. Many of the women we spoke to had stopped diving or had to take a break from diving due to having children. It was no longer possible or a priority for them. This partly comes down to deeply ingrained gender stereotypes in terms of roles in society. This also relates to the lack of younger people engaged with PWs as people have less spare time, it naturally attracts more retired people who have the time and in some cases more finances to be involved.

Interviewee 11 reflected that other heritage areas such as Heritage Rail and Industrial Heritage are also more male led, believing that this often comes down to socio-economic mobility, how much time people have, and is something which affects both women and young people's involvement.

A study by the Office for National Statistics in 2018 demonstrated that men in the UK enjoy nearly five more hours of leisure time a week, suggesting there is a growth in inequality between men and women when it comes to taking leisure time (ONS)⁴.

Ingrained Unconscious Bias

As noted in a range of interviews in addition to specific gender issues, that may be ‘called out’ in today's social context (although that is not always the case), there were also a wide range of more subtle aspects that still pervade PW teams.

Interviewee 15 noted that as a young professional maritime archaeologist working with a predominantly male PW team there was a complete lack of recognition that giving up a whole weekend of time meant that domestic and personal administrative tasks would not be possible as the PW team members were used to being in a home environment of traditional gender roles where their wives would perform those roles.

There were also examples where female team members were expected to do ‘administrative’ tasks such as the majority of paperwork and record keeping. Interviewee 3 stated that the moment she went to register for her local BSAC club she was asked to become the club secretary.

⁴ ONS. Men enjoy five hours more leisure time per week than women.

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/menjoyfivehoursmoreleisuretimeperweekthanwomen/2018-01-09> - accessed January 2024.

There was an example of a female Archaeological Advisor who outlined to the volunteer, majority male, PW team they were working with how things would need to move forward if intrusive investigation on the site was going to gain permission. The group felt the need to ask the (male) heritage agency member of staff to visit who outlined exactly the same information as was previously provided, before they were happy to take that course of action.

These situations have arisen within largely male and older PW teams, some of those involved have retired with generous pensions and have been within very traditional domestic situations which allowed for a time consuming and expensive 'hobby' of diving. Social changes related to employment security and the division of domestic and childcare roles is slowly changing, however, it is unclear whether this is contributing to the reduction in the amount of sport diving clubs and dive charter boats that are managing to keep going. General lack of disposable income and opportunity for both genders is likely to impact the numbers able to volunteer on PWs in the longer term.

Lack of Female Role Models

Although many women were involved in the *Mary Rose*, there has been a lack of female role models both within PWs, and more widely in the diving community. Interviewee 9 stated how important this is for students when learning about maritime archaeology, but more specifically that we need to hear from women who have worked or dived in the UK, "we need to have women who have worked in the discipline in this country to come and talk to them [students] about what it's like, not seeing pictures of women in bikinis which is what they assume it's going to be like".

Interviewee 7 reflected that in the UK diving is seen by the public as a macho activity, this was not something she experienced to such a degree in Scandinavia in the 1970s. Roles such as operating heavy machinery or working offshore were not perceived as so predominantly male roles in Scandinavia then. She felt that the issues of gender in diving were more of a UK issue and not as unbalanced worldwide. However, the experiences of other interviewees appeared to reflect some similar issues in other countries as are felt in the UK and there is clear scope for more research in this area on a global scale.

Interviewee 10 discussed the lack of women presenting talks at IMASS, particularly in relation to technical diving. She reflected that there are fewer women involved in the technical side and believes that women are much more careful than men and therefore less likely to take part in technical diving, particularly those with children.

Interviewee 15 highlighted that the role of 'Principal Licensee' is seen as a status symbol, and that holding this role becomes a life-long commitment for a number of men. While this often provides stability and security for a particular site under that stewardship, along with the role often comes an assumed patriarchal responsibility and dominance over the team.

Physical Barriers

Almost all of the interviewees raised the issue of physical barriers. Whilst equipment has changed a lot over time, it is still heavy and bulky. However, as several interviewees pointed out, even when women are just as physically capable as men, they often feel they have to work harder to prove it.

Many also remarked that women are more likely to feel the cold, which could be why there are fewer women involved in UK diving compared to those who dive in warmer waters, where there appears to be more of a balance in terms of gender. An article by BBC Science Focus⁵ says that women are more sensitive to the cold as they tend to have less muscle tissue to generate heat and that the hormone oestrogen also thickens the blood slightly reducing blood flow to the extremities. Toilet facilities on dive boats were raised

⁵ BBC Science Focus. Why do women feel the cold more than men <https://www.sciencefocus.com/the-human-body/why-do-women-feel-the-cold-more-than-men> - accessed January 2024

numerous times, which is particularly difficult for those who were the only female on the boat. Interviewee 10 discussed how she would dehydrate herself in order to go out on the dive boat all day as she was the only female.

Discussing maritime archaeology in general Interviewee 16 said “conditions with watching briefs and things, are hell. So it is miserable for women to be stuck for months on end in really horrible conditions. I think that probably has made a lot of girls think twice about doing it”.

Lack of Confidence/ Perceived Lack of Skills

A lack of confidence was often related to women who had taken a break from diving to have a family. Due to the nature of diving in the UK, with low visibility and cold conditions, many said they had to build their confidence back up to get back into the water. Others remarked that even if they didn't feel confident they had to mask that in order to be accepted by the male team members.

Interviewee 13 explained that she wouldn't have been able to take on the role of licensee without the support network she has, despite having dived for nearly 50 years. This was a surprising finding from the interview, however, studies demonstrate that women's perceptions of their own skills do differ to men's perceptions of their own skills. A study by Harvard Business Review regarding leadership roles, showed that women are often far more competent than they think they are, whilst men often assume they are more competent than they are, the study also showed that women are less likely to apply for jobs unless they are confident they meet most of the listed qualifications, whereas men are more inclined to assume they can learn what is missing whilst in the job (Harvard Business Review)⁶. Women also shy away from promoting themselves on social media, despite the need for more female role models, women often lack the confidence to share information about their achievements publicly.

Cost

The cost of diving is high, and many interviewees remarked that they did not feel able to spend that kind of money, where men would perhaps not have the same reservations (and statistically are likely to be earning more due to gender pay gap, see also Purple Dive⁷ website for information on men being more likely to buy dive gear than women). One interviewee also noted that whilst the gender balance in professional maritime archaeology is more positive, the wider maritime industry is not the same, she suggested this could be down to the gender pay gap and maritime archaeology being relatively low paid, suggesting that more women may apply for lower paid jobs than men, which could be contributing to the higher number of women in maritime archaeology. However, some studies highlight that this is not down to occupational choice, instead jobs dominated by women statistically pay less and women who have children often prefer career paths with more flexible schedules (Forbes)⁸. More work needs to be done to understand this within maritime archaeology.

5.2.2 Overcoming Barriers to PW Involvement

The interviewees were then asked for solutions to overcome these barriers and encourage more females in to PWs.

⁶ Harvard Business Review. Research: Women Score Higher Than Men in Most Leadership Skills. <https://hbr.org/2019/06/research-women-score-higher-than-men-in-most-leadership-skills> - accessed January 2024

⁷ Purple Dive. Is the Scuba industry sexist? The invisible female diver. <https://www.purpledivepenida.com/post/the-invisible-female-diver-is-the-scuba-industry-sexist> - accessed January 2024.

⁸ Forbes. The Gender Pay Gap and The Career Choice Myth. <https://www.forbes.com/sites/kimelsesser/2019/04/01/the-gender-pay-gap-and-the-career-choice-myth/?sh=2bb8dd98114a> – accessed January 2024

Raise Awareness of the Variety of Roles

This related not only to women, but to getting more people involved in PWs generally. It is important to share that working with PWs is not just about diving, and that there are other rewarding tasks including research, analysis, conservation, museum display and curation, report writing and dissemination.

Increase the Visibility of Female Role Models in PW Imagery/ Talks/ Conferences

Interviewee 6 stated that, “It does help if you see people who look like you or who are like you for you to be able to envision yourself doing something like that”. Almost all the interviewees agreed that there needed to be more female role models in the UK, particularly in PW imagery. However, what many of them didn’t realise is that they are the role models, several of whom have been working with PWs for a number of decades, and it is their stories that we need to hear more of. It is important to invite more women to speak about PWs at events, talks and conferences, this may also help raise awareness about the variety of roles relating to PWs.

Develop more Targeted Schemes/ Groups/ Training/ Mentoring for Women

This relates to the confidence issues raised. Many interviewees felt they had to mask their lack of confidence when in male dominated teams, others said that female support made them feel more confident and likely to return. Interviewees 10 and 12 suggested that female confidence building courses for those who had taken time out of diving would be beneficial, a way to get back into UK diving without a fear of being judged. Interviewee 8 also stressed that we need to target women; we need to find suitable women and invite them along to PW events, training and the PW Association.

5.3 Summary of Interviews

All 16 women interviewed had positive experiences of working with Protected Wrecks, and found their involvement highly rewarding, many of whom have been involved over several decades. Their stories are inspiring and many of these women have led projects, pioneered techniques, and fought for the protection of underwater heritage. However, all except two said that they have faced various challenges based on their gender, much of which has in the past been accepted as the norm. Several felt that to be accepted as an equal to their male counterparts they had to work a lot harder, and not complain about inadequate kit, inappropriate comments or a lack of toilet facilities. Several interviewees admitted that they had dehydrated themselves so that the lack of toilet facilities was not an issue, dehydration however, is a known factor that can increase the risk of decompression illness (Dan.org⁹). Many said that it is clearly a macho environment which can be hard to break in to, however, several did comment that being female did help them to build relationships with the teams where there had previously been tensions between the PW team and the archaeologists, primarily because women are more empathetic and often better at communicating.

To overcome this many of those interviewed emphasised the need for more female role models, particularly in PW imagery and within the diving community.

⁹ Dan.org. Decompression Illness <https://dan.org/health-medicine/health-resources/diseases-conditions/decompression-illness-what-is-it-and-what-is-the-treatment> - accessed January 2024.

6. Brief Review of PW & SAM Sites and Collections in England for Women's Stories

In support of the project there was a brief review of the PW and Scheduled Ancient Monument (SAM) collection of England to establish whether there are any known women associated with the sites, the ships or the collections recovered from them. This aimed to highlight potential opportunities for telling stories that could counter the traditional masculine narratives associated with the history of ships and shipping.

6.1 Methodology

Desk based research to identify potential women's stories included the review of available PW publications and project reports, in addition to the use of online sources. These were used to try to identify women's stories whether directly as passengers or crew, or visible through artefactual evidence, or involved in the vessels wider biography or story. This did not aim to be an exhaustive study, but to instead identify contextual information to inform the wider consideration of women and PWs.

Where possible MAT volunteers were engaged in this process, which allowed more time to consider these stories from available published, archived and online sources related to the PWs. Women taking part in the project interviews were also asked if there were any women's stories within the PWs they are or have been involved in. The outputs from this initial brief piece of work are useful for considering further research in this area in the future.

6.2 Results

One of the biggest challenges with discovering more about women in the past who were involved in the wrecks in some way has been that women do not usually appear in the records. There are reports of female shipbuilders and women on board ships, often with important roles such as helping the surgeon or working as powder monkeys. However, women were not paid or provisioned for and as a result they were not on the muster, meaning that they are often invisible in the records (information provided by Interviewee 6).

Three Protected Wreck sites and two Scheduled Wrecks were identified as having women on board or artefactual evidence that might indicate that there were women on board:

The Assurance

Catherine Trelawny was the wife of Edward Trelawny, the British Governor of Jamaica. He had just retired and in November 1752 was returning to the UK on board the *Assurance* when it sank off the Isle of Wight (Bingeman et al, 2021: 11). Edward had married Catherine in February of 1752, she was the widow of Robert Penny, the Attorney-General of Jamaica. Catherine had a fortune of between 30,000 and 40,000 Jamaican pounds, which are likely to have been a substantial part of the 60,000 coins attributed to Edward. Both Catherine and Edward survived the wrecking. However, no further information has been found about her. A silver scent bottle was discovered on the wreck site and was thought could have belonged to her. But we risk placing gender stereotypes on artefacts (or assuming they are personal possessions rather than stored cargo), so caution should be taken when making these assumptions.

The Pomone

During the excavation of the *Pomone*, a frigate lost on the Needles, Isle of Wight, in 1811, a number of objects were recovered that were possibly attributed to female ownership. This included a portion of a lady's fan, a glass topped button, a pendant, earring, and portions of gold chains. Many of which formed a perceptibly discrete group in the assemblage. A Lady Jones was known to have been on board and it was suggested that these could have belonged to her (Tomalin et al, 2000). Again, no further information has been obtained on the women on board, as their names are absent from most of the historical records. So it has not been possible to say any more about their stories.

The London

Several women were reportedly on board the *London* when it exploded in the Thames in 1665 (HE, *London*), one of whom survived. However, partly due to the age of the wreck, it has not been possible to discover any more about the women on board, or the one recorded female survivor.

The Josephine Willis

The *Josephine Willis* has recently been Scheduled; it was an emigrant ship headed to New Zealand which sank following a collision in 1856 (HE, *Josephine Willis*). There were a number of women on board, and of the 13 survivors, one was female, a Miss Catherine May from steerage, 22 women were missing, and the bodies of four women were recovered. Again that is as far as it has been possible to get with the research, due to the lack of information on women in the historical records. The enquiry into the loss interviewed only male survivors (Scuba.to).

The Seagull

The *Seagull* is another Scheduled wreck (HE, *The Seagull*), it was an iron-built two masted steam paddle schooner which sank as a result of a collision in 1868. Some newspaper archives were found relating to the loss, one of which mentions a female stewardess on board who survived. However, there is no name and no further information has yet been found.

6.3 Summary of the Review of Women' Stories

This element of the project has been challenging due to the lack of information on women in the historical records and the difficulty in placing our own gendered stereotypes on the archaeological remains. This brief review has helped to highlight the difficulties but can also inform future research, which would benefit from more time spent on targeted archives and other resources for identifying and telling more inclusive stories.

It is significant that the more recent scheduled sites represent 19th century merchant vessels involved in the movement of goods and passengers and such ships are more likely to have women onboard. The PW collection of England has been recognised as being dominated by naval warships and submarines, which are much less likely to have women onboard (although some did). This bias in the PW collection as a whole is another interesting reflection of the long-term involvement of men within maritime archaeology and their role in leading investigations, formulating research questions and authoring publications. Further research in this area would be useful to better understand the impact this has had on the development of the discipline.

Although it has been difficult to tell more stories of women and PWs in the past, it is certainly possible to tell stories of women in the present. All of those interviewed had played crucial roles in Protected Wreck sites, and their stories could help inspire more women to get involved. There are opportunities for more maritime archaeological organisations to become involved with initiatives such as 'Rewriting Women into Maritime History' being led by Lloyds Register Foundation to raise the profile of women and PWs.

7. Conclusions and Recommendations

The project identified a range of statistics, information and data related to women and PWs, women and diving, and women and maritime archaeology more broadly, the resulting conclusions and recommendations have been presented under two key headings: *Women and Protected Wrecks* and *Gender in Maritime Archaeology*.

7.1 Women and PWs

Statistics

- Only 6% of PW licensees are female, and on average only 20% of the PW teams are female;
- Female authors writing about UK PWs in the IJNA represent only 13%; and
- More widely in the diving community just 27% of BSAC members are female, and women represent less than 40% of divers worldwide.

Conclusions

The survey was completed by 50 women, just over half had been involved in PWs in a professional capacity. A number of attempts were made to share the survey with dive clubs who may be involved, or want to be involved in PWs, but with little success. More work could be done to hear from those who are involved in a voluntary capacity. The responses we did receive showed that most had worked with male dominated teams (mainly in relation to diving), and many had faced barriers to involvement.

16 interviews were carried out with women who had been involved in PWs in a variety of ways, as volunteers, professionals and specialists. Although all had positive experiences and enjoyed working with PWs, all except two said they had faced challenges based on their gender.

The statistics gathered during this project appear to indicate there is not equality of opportunity within maritime archaeology, with this being particularly acute in relation to PWs. However, further detailed research is required to understand how this situation may differ between professional and avocational areas of the sector, and how the gender imbalance in diving more widely might also play a role. There is also more work required to understand those involved in PWs in non-diving roles and whether similar inequalities are present.

The main barriers that women have faced, based on the results of the survey and the interviews are:

- Lack of opportunities

Many individuals heard from through the survey and interviews mentioned a lack of opportunities, this includes awareness of wider opportunities for engagement with PWs (such as research, conservation, and analysis).

- Constraints on time due to family, work or other commitments

Practical barriers such as the timing and frequency of dives, as well as issues surrounding childcare are also common themes. This is connected to the lack of opportunities as women are less likely to spend long days, or several days away, particularly those with young families.

- Ingrained unconscious bias

These sometimes more subtle aspects still pervade PW teams, they can relate to the language used towards female team members, as well as the roles assigned to them and assumptions on their ability.

- Lack of female role models

This was raised many times and relates to the concept of 'see it to be it'. Many photographs on social media relating to PW teams are male dominated. We have many images now of women working on PWs, in a huge variety of roles, by using these, or being aware of the impact an image of a male dominated dive team could have, may help encourage more women to take part. This is also reflected in the speakers in

maritime archaeological conferences, more female speakers may also increase female involvement, this is discussed further in Section 7.2.

- Physical barriers

Traditionally dive equipment has been heavy and not originally designed for women, this is changing rapidly, but it has made diving physically more difficult for women. Issues of toilet facilities is also a common barrier. Some of those we spoke to discussed the difficulties of UK diving (cold and low visibility for example), and also suggested that women are less likely to take risks than men.

- Lack of confidence/perceived lack of skills/experience

This project and research undertaken by Sport England and BSAC has shown that many women lack confidence in their ability and have a fear of being judged. Many women we spoke to said that they often had to work harder in order to be treated the same whilst trying to hide any lack of confidence. Several studies (see Harvard Business Review¹⁰), refer to this as the 'Confidence Gap' with evidence showing that women are less self-assured than men, and that to succeed confidence is just as important as competence.

- Cost

This theme also came up several times throughout the project and relates to the diving industry more widely. However, there is also information to show that women are less likely to spend money on what is perceived as a hobby than men, again this is gradually changing. But regardless of gender, if more work could be done to help with the cost of PW involvement, more people from a variety of backgrounds could get involved.

Recommendations

Recognising the barriers to involvement in PWs is an important first step. There are a range of ways that the sector as a whole can work to address issues raised and develop a more inclusive future for PWs. This is a responsibility for all involved, whether as individuals, groups, organisations, regulators or funders, to work together. The following recommendations are put forward as potential future actions or projects.

1. Historic England could use the Marine and Coastal Newsletter to help address a number of the areas identified including:

- Highlighting the recommendations by diving organisations for increasing diversity. This could include information on calling out inappropriate behaviour.
- Encouraging items about licensee team members and their roles, emphasising that this is not just about diving.
- HE could encourage museums that hold PW material to sign up to the Marine and Coastal Newsletter to encourage greater integration of the roles with PW collections. This might also encourage more licensee teams to be in contact with museums.
- Featuring examples of publications from PWs more might encourage more PW team members to be involved (issues of the low numbers of women involved in the publication of protected wreck work is further discussed in Section 7.2 as it relates more broadly across the discipline).

A number of the above suggestions could also be addressed through additional information on the Protected Wrecks Association website.

2. Imagery and Role Models - 'see it to be it'. Whilst it has been challenging to find stories of women in the past, there are many women in the present who have inspiring stories to tell, with their permission their stories could be shared more widely, increasing the visibility of women in PWs. This could take the form of profiling women to overcome the reluctance of some to highlight and promote their

¹⁰ Harvard Business Review. Research: Women Score Higher Than Men in Most Leadership Skills. <https://hbr.org/2019/06/research-women-score-higher-than-men-in-most-leadership-skills> - accessed January 2024

achievements themselves. A range of images were collected during the project and with the permission of their owners, HE and the sector could use them more widely.

3. The wider sector, particularly conference and event organisers should be more proactive in asking female licensees, archaeological advisors, and team members to speak at events. Many of those interviewed lacked confidence to actively offer to speak at an event, but inviting more female speakers, recognising their experience and knowledge, could encourage more women to get involved.
4. HE/the sector could consider developing a workshop to be delivered in conjunction with the PWA – ideally as part of the annual meeting, that frames developing PW Teams for the future around ‘inclusivity’ more broadly, so not just focused on gender. The ClfA Equality, Diversity and Inclusion Standing Committee¹¹ has developed a number of online resources that could be drawn on, such as Sexism: See it. Name it. Stop it from the Council for Europe, and the article ‘Can we be Catalysts for Change?’ (Llewellyn), and the document ‘Thinking about Inclusive Language and Micro-behaviours’ put forward scenarios and approaches that it would be useful to consider in relation to PW teams.
5. HE/the sector as a whole could work together to facilitate an all female workshop on PWs, highlighting the variety of roles and ways to be involved, hearing from female licensees, team members and specialists working with PW material. This would aim to both explore any barriers or issues within an inclusive environment with active discussion and participation, and act to encourage more women to become involved both professionally and avocationally.
6. Facilitate all female refresher dives, particularly for women with young children who may need to rebuild their confidence after a break from diving, in a supportive environment on archaeological sites. Further research with women who would like to undertake refresher dives should be undertaken to determine how best to achieve this, whether through current employers, or with external organisations or groups.
7. There will need to be provision of training and support for women involved in the above activities, which would include training on how to address potential backlash, trolling, misogyny and sexism. A support mechanism will be required for women in this sector to take the lead on tackling barriers.
8. More work could be done within the wider sector to discuss barriers for women within the dive training organisations, particularly those offering professional and surface supply courses.

7.2 Gender in Maritime Archaeology

Statistics

- Female presenters at Maritime Archaeological conferences are on average less than 30%;
- The proportion of female authors in maritime archaeological publications is rarely above 20%;
- 56% of staff within maritime archaeological organisations are female;
- 32% of university staff teaching maritime archaeology are female;
- 36.5% of members in maritime archaeological membership-based organisations are female; and
- 30% of trustees/board members/ presidents/patrons of maritime archaeological organisations are female.

Conclusions

There were some surprising results relating to gender balance in maritime archaeology, particularly in terms of publication. There is also more work required to understand the breakdown of women in archaeological diving, while there are more female staff members in maritime archaeological commercial and charity organisations, this does not seem to be reflected within diving teams. It would be useful to understand more on the balance in terms of diving qualifications and opportunities. There is clearly a male bias within speakers at conferences, the university sector, trustee/board/patrol level, and within publications.

¹¹ ClfA. Equality, diversity and inclusion in archaeology. <https://www.archaeologists.net/practices/equality> - accessed March 2024.

As the focus of the study outlined in this report was on PWs, more data is needed to better understand the gender balance in the wider field, for example, it would be useful to know more about the gender statistics for those undertaking training (such as NAS courses), and for those undertaking higher and further education.

There is also an apparent bias towards what may be perceived as 'masculine' research themes, such as warships and technology. It would be useful to better understand the impact of this, and the relationship with the relatively lower number of female authors in maritime archaeological journals.

Recommendations

As with the proposed responses related more specifically to women and PWs, the responsibility for understanding the impact of gender within the wider sector is shared between all those involved. However, it should be noted that the vast majority of senior roles within organisations, groups, companies, charities, universities and regulators are held by men, and that there may be work required to ensure that the issues raised in this report are recognised and acted upon.

- 1. Women in Maritime Archaeology: Understanding the Past to Influence the Future:** This study would seek to better understand the involvement of women in the discipline in the past to review their roles within projects (development, research, fieldwork, through to publication), within key positions within organisations, and how this might have influenced the ongoing involvement (or lack of) by women, and also influenced the sites, techniques and research themes that have been focused on, and ultimately the creation of maritime archaeological knowledge and the setting of priorities for research, management and protection. Further study of available publications and resources that it was not possible to include within the scope of this project, would help to better understand the history of women within the discipline. This would explore in more detail the IJNA and JMA as well as other single and joint authored publications, it would also review resources such as the ADU archives, past NAS training and university teaching statistics. Consideration of the research areas and interests of practitioners would also help to assess the extent to which this is a male dominated research environment and whether this focus has changed over time. MAT consider this a much-needed piece of work to develop our detailed understanding of the history of the discipline and the context for the current situation in relation to women in maritime archaeology, and would like HE to consider supporting this work through a commissioned project.
- 2. Profiling the Maritime Archaeology Sector:** This study would build on the results of the Women and PWs project and seek to understand the contemporary sector in more detail (inclusive of professionals and volunteers) to create a baseline to better identify any gender bias and issues, and also place this within a broader understanding of the history and development of the sector (as identified through recommendation 1 above). While the ClfA 'Profiling the Profession' studies provide data on professional archaeology, they do not break statistics down to be able to review maritime professionals, and they also do not include volunteers which form a significant part of the maritime sector. The study would:
 - Generate a profile of the maritime archaeology sector including its nature and extent (including range of roles and associated skills) and highlight any diversity issues;
 - Research gender statistics within training and education, for comparison with more detailed data on the continuation of women in the discipline (both avocationally and professionally);
 - Gather and interpret information on professional/ voluntary roles, including potential recruitment and career progression difficulties;
 - Research the retention of women in maritime archaeology; and
 - Identify barriers to employment/ involvement.

The output of such a study would put England in a position to understand gender diversity in maritime archaeology and promote further actions to address issues. MAT would like to draw on the experience of the Women and Protected Wrecks project to develop this study, however, we recognise that input from a range of other organisations would be beneficial to ensure the sector is captured most effectively. While Historic England would be a key part of the study (in terms of examining staff and roles with the organisation as well as potentially with some of the funding), other organisations to be involved would include ClfA to draw on experience with the professional sector, and NAS for targeting the voluntary sector related to involvement and training, and Universities to understand the impact of teaching.

3. Based on the findings of the Profiling the Maritime Archaeology Sector it would be advantageous to hold a **seminar or workshop** to present the various issues that are more acute for different parts of the sector and act as a catalyst to improve inclusivity and equality of opportunity to ensure change in the future. This event would aim to have representation and involvement from ClfA, the Protected Wrecks Association, Historic England, and across the commercial, charity, university and museum sectors.

Whilst this project has highlighted the barriers women face in terms of PW involvement, it should also be emphasised that all of the women we spoke to have found working with PWs extremely enjoyable and rewarding. Many have often had to work harder than their male counterparts, but working with PWs is clearly extremely fulfilling and it is hoped that more people will be engaged with them in the future.

8. References

- Aitchison, K., and Rocks-Macqueen, D., 2012, *Profiling the Profession 2012-13*, Landward Research Ltd. <https://landward.eu/wp-content/uploads/2013/10/Archaeology-Labour-Market-Intelligence-Profiling-the-Profession-2012-13.pdf>. Accessed January 2024.
- Aitchison, K., German, P., and Rocks-Macqueen, D., 2020, *Profiling the Profession 2020*, Landward Research Ltd. <https://profilingtheprofession.org.uk/>, Accessed January 2024.
- BBC Science Focus. Why do women feel the cold more than men <https://www.sciencefocus.com/the-human-body/why-do-women-feel-the-cold-more-than-men> - accessed January 2024
- Bingeman, J., Simpson, P., and Tomalin, D., 2022, *The Wrecks of Frigates Assurance (1753) and Pomone (1811)*. Oxbow Books, Oxford.
- Campbell, P, 2023, Prelude: a History of Maritime Archaeological Thought. In S.Rich and P. Campbell (eds), *Contemporary Philosophy for Maritime Archaeology: Flat Ontologies, Oceanic Thought, and the Anthropocene*. Sidestone Press, Leiden. Pp 11-34.
- CIfA, Thinking about Inclusive Language and Micro-behaviours. <https://www.archaeologists.net/sites/default/files/Inclusive%20language%20flyer.pdf> Accessed January 2024.
- Dan.org. Decompression Illness <https://dan.org/health-medicine/health-resources/diseases-conditions/decompression-illness-what-is-it-and-what-is-the-treatment> - accessed January 2024.
- Forbes. The Gender Pay Gap and The Career Choice Myth. <https://www.forbes.com/sites/kimelsesser/2019/04/01/the-gender-pay-gap-and-the-career-choice-myth/?sh=2bb8dd98114a> – accessed January 2024
- Harvard Business Review. Research: Women Score Higher Than Men in Most Leadership Skills. <https://hbr.org/2019/06/research-women-score-higher-than-men-in-most-leadership-skills> - accessed January 2024
- Historic England. *London*. <https://historicengland.org.uk/listing/the-list/list-entry/1000088?section=official-list-entry> – accessed December 2023
- Historic England. *Josephine Willis* <https://historicengland.org.uk/listing/the-list/list-entry/1477893?section=official-list-entry> – accessed December 2023
- Historic England. *The Seagull*. <https://historicengland.org.uk/listing/the-list/list-entry/1464587?section=official-list-entry> – accessed December 2023
- Llewellyn, A, Can we be Catalysts for Change? <https://www.archaeologists.net/sites/default/files/Can%20we%20be%20catalysts%20for%20changes%20-%20single%20pages.pdf> Accessed, January 2024.
- Lloyds Register Foundation, Rewriting Women into Maritime History. <https://hec.lrfoundation.org.uk/whats-on/rewriting-women-into-maritime-history> - accessed January 2024.

ONS. Men enjoy five hours more leisure time per week than women.

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/menjoyfivehoursmoreleisuretimeperweekthanwomen/2018-01-09> - accessed January 2024.

PADI. Women PADI Pros Changing the Face of the Dive Industry. Blog by Tiffany Duong November 2023.

<https://blog.padi.com/women-padi-pros-changing-the-face-of-the-dive-industry/> - accessed January 2024.

Purple Dive. Is the Scuba industry sexist? The invisible female diver.

<https://www.purpledivepenida.com/post/the-invisible-female-diver-is-the-scuba-industry-sexist> - accessed January 2024.

Ransley, J., and Sturt, F. (eds) (2013), *People and the Sea: A Maritime Archaeological Research Agenda for England*. York: CBA Research Report 171.

Ransley, J., 2007, Rigorous Reasoning, Reflexive Research and the Space for 'Alternative Archaeologies': Questions for maritime archaeological heritage management'. *International Journal of Nautical Archaeology* 36(2), pp 221-237.

Ransley, J. 2008, Time for a Little Pedagogical Reflection?', *Journal of Maritime Archaeology* 3(2), pp 53-58.

Ransley, J. 2010, Boats are for Boys: Queering Maritime Archaeology. *World Archaeology* 37(4), pp 621-629

Scuba.to. The Loss of the *Josephine Willis* – Official Enquiry. <https://scuba.to/the-loss-of-the-josephine-willis-official-enquiry/> - accessed September 2023.

Sport England. Go where women are. Insight on engaging women and girls in sport and exercise.

https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/gowherewomenare_final_01062015final.pdf - Accessed January 2024

Tomalin, DJ. Simpson, P. Bingeman, J. 2000. Excavation versus sustainability *in situ*: a conclusion on 25 years of archaeological investigations at *Goose Rock*, a designated historic wreck site at the Needles, Isle of Wight, England. *IJNA* Issue 29.1 3-42 doi: 10.1006/ijna.2000.0285

9. Appendices

9.1 Full list of Survey Questions

The survey utilised Survey Monkey software and ran from February 2023 to the end of November 2023. The questions were:

1. Which of these best describe your involvement with Protected Wrecks?

Multiple answer selections were possible for this question.

Principal licensee	Additional licensee	Team Member (diving)
Team Member (non-diving)	Site visitor (visitor licence)	Maritime Archaeologist
Volunteer	Artefact or scientific analysis	Museum curation/ display/ presentation
Conservation	Publication/ Dissemination	Other: [free text]

2. Which Protected Wreck sites are you/have you been involved with?

Multiple answer selections were possible for this question.

<i>Admiral Gardner</i>	<i>Amsterdam</i>	<i>Anne</i>
<i>Association</i>	Bartholomew Ledges	Cattewater
Chesil Beach (Cannon Site)	Church Rocks	<i>Coronation (Inshore)</i>
<i>Coronation (Offshore)</i>	Dunwich Bank	Erme Estuary
Erme Ingot	Filey Bay	GAD 8
<i>Grace Dieu</i>	Gull Rock	<i>Hanover</i>
<i>Hazardous</i>	HM Submarine A3	HMS <i>Colossus</i>
HMS <i>Invincible</i>	HMS/m A1	HMT <i>Arfon</i>
Holland No 5	<i>Iona II</i>	Langdon Bay
Loe Bar Wreck	<i>London</i>	<i>Mary Rose</i>
Moor Sand	Mortar Wreck	Normans Bay
<i>Northumberland</i>	Pwll Fanog	<i>Restoration</i>
<i>Resurgam</i>	Rill Cove	<i>Rooswijk</i>
<i>Royal Anne</i>	Salcombe Cannon Site	<i>Schiedam</i>
Seaton Carew	Shingles Bank Wreck NW68	Shingles Bank Wreck NW96
SM U-8	SM UC 70	South Edinburgh Channel
<i>St Anthony</i>	<i>Stirling Castle</i>	Studland Bay
Swash Channel	Tearing Ledge	Tal y Bont / Bronze Bell
<i>The Diamond</i>	<i>The Mary</i>	The Needles
The Smalls	Thorness Bay	Unknown Wreck Site, Eastbourne
West Bay	Wheel Wreck	Yarmouth Roads
Prefer not to say		Other [if the wreck is Scheduled and not listed here] [free text]

3. When were you involved with these Protected Wreck sites?

Multiple answer selections were possible for this question.

1970s	1980s	1990s	2000s
2010s	2020s	Prefer not to say	

4. What were your reasons for getting involved in Protected Wrecks?

- Involved in the discovery
- Personal research interest
- Academic interest

- To add something new to my diving
- Professional capacity (contracted for survey/excavation/conservation etc)
- Other

Please provide more information on how you were involved, and if applicable why you are no longer involved. [free text]

5. Have you had an active role in a Protected Wreck team?

- Yes
- No

If you answered yes, please describe what roles you have played and what your experiences of this were. [free text]

6. Have you been involved in the Protected Wreck Licencing Application and/or reporting Process?

- Yes
- No

If you answered yes, please outline how you were involved and what your experiences were of the process. [free text]

7. What was the gender composition of the Protected Wreck team/s or group/s you were involved with?

(For example, if you dived a site under a visitor licence can you say how many in the group were female and how many male?)

8. Do you dive?

- Yes
- No

9. Approximately how many dives have you done on UK Protected Wrecks?

None	Under 50	50 – 100	100 – 200
200 – 300	300 – 400	400 – 500	500 – 1000
1000+			

10. Do you have access to your own dive equipment?

- Yes
- No
- Partially

11. Are you a member of any diving organisations (BSAC branches, university dive clubs etc)?

- Yes
- No

If yes, please provide the organisation name. [free text]

12. Have you undertaken any archaeological training? (this can include NAS courses, university courses etc). [Multiple answer sections were possible for this question]

Diploma	Degree	Master's Degree	Doctorate
NAS Course	Online Courses/Training	Other [free text]	

If you ticked yes to any of the above please add more information, such as the type of course and the name of the university. [free text]

13. Do you also contribute to other archaeological sites or projects either on land or underwater?

- Yes
- No

Please tell us a little about your involvement with other archaeological sites/projects [free text]

14. Please describe any barriers you have faced to involvement or continuing involvement in Protected Wrecks. (For example, particular attitudes from others involved, issues with time or funding, lack of opportunities, or unclear processes etc.). [free text]

15. What do you think could make Protected Wreck involvement more rewarding? [free text]

16. If you are not involved in Protected Wrecks, can you describe whether you would like to be and what would make this more appealing to be involved in? [free text]

17. Can you outline any thoughts you have on gender related issues or gaps impacting Protected Wreck involvement? [free text]

About You

To assist with the project evaluation please can you provide the following (this is not mandatory)

Age Range

16-24	25-34	35-49
50-64	65+	Prefer not to say

What ethnic group do you identify with?

White	Mixed Parentage	Indian
Pakistani	Bangladeshi	Black African
Black Caribbean	Other Black / African / Caribbean background	Chinese
Other Asian background	Other ethnic group	Prefer not to say

Location (first part of your postcode)

What Gender do you identify as? [free text]

If you would be happy for us to contact you to discuss your experiences further please provide an email address that we can get in touch with you.

9.2 Interview Questions

The aim of the interview was to better understand women's involvement in Protected Wrecks, their experiences, and any barriers or challenges they have faced, as well as their thoughts on how it would be possible to engage more women in Protected Wreck sites. These questions served as a guideline only and could be adapted at the time of the interview.

- 1. Starting from the beginning can you tell us a bit about how you first got into maritime archaeology more generally and what your background is?**

[This can be adapted depending on the background of the individual]

[This should establish whether involvement has been volunteer or professional]

- 2. Can you tell us why and when you first became involved in Protected Wrecks? Have you been involved in multiple PWs or concentrated mostly on one?**

Other points to ask; In what capacity were you involved (Diver, finds work, researcher, reporting, curator/ heritage management etc)?

Were you involved in the licencing or reporting process and what were your experiences?

3. What was the gender composition of the team/s you have been involved with?

Was there any difference in the gender of those involved in particular tasks (ie boat driving, tank filling, finds, paperwork, organisation)?

If applicable what were your reasons for no longer being involved?

4. Have you worked on other designated or scheduled wrecks?

Other points to ask; In what capacity were you involved?

What was the gender composition of the team?

Did you face any gender related barriers or issues?

5. Can you describe any barriers you have faced to involvement or continuing involvement in Protected Wrecks?

(For example, particular attitudes from others involved, issues with time or funding, lack of opportunities, or unclear processes etc.) If not already covered above

6. Can you outline any thoughts you have on gender related issues or gaps impacting Protected Wreck involvement?

Can also ask, have your experiences influenced whether you are likely to recommend to others being involved in PWs?

7. Are there aspects related to Protected Wreck/s or related research interests that you would like to pursue but haven't been able to?

(Diving activity, further research, publication etc). What are the key reasons for this? (financial, logistical, lack of confidence in experience and/ or permissions process).

8. How do you think we could engage more women in Protected Wrecks?

9. Do you have any other thoughts on gender related issues in maritime archaeology more widely?

10. Are you aware of any stories of women on board or associated with the wreck sites that you have worked on?

9.3 Women in Maritime Archaeology Imagery

Below are a number of images collected through this project. Further images in high resolution will be sent to Historic England. These images have been selected to not only represent women diving on Protected Wrecks, but also the range of activities involved when working with PW material, such as analysis, conservation and research.



Figure 14: Divers Heather Anderson and Jan Gillespie in the Solent. Credit Maritime Archaeology Trust.



Figure 15: Diver Christin Heamagi working on the Shingles Bank Protected Wreck site. Credit Maritime Archaeology Trust.



Figure 16: Student recording shipwreck material. Credit Maritime Archaeology Trust.



Figure 17: Working with shipwreck archives. Credit Maritime Archaeology Trust.

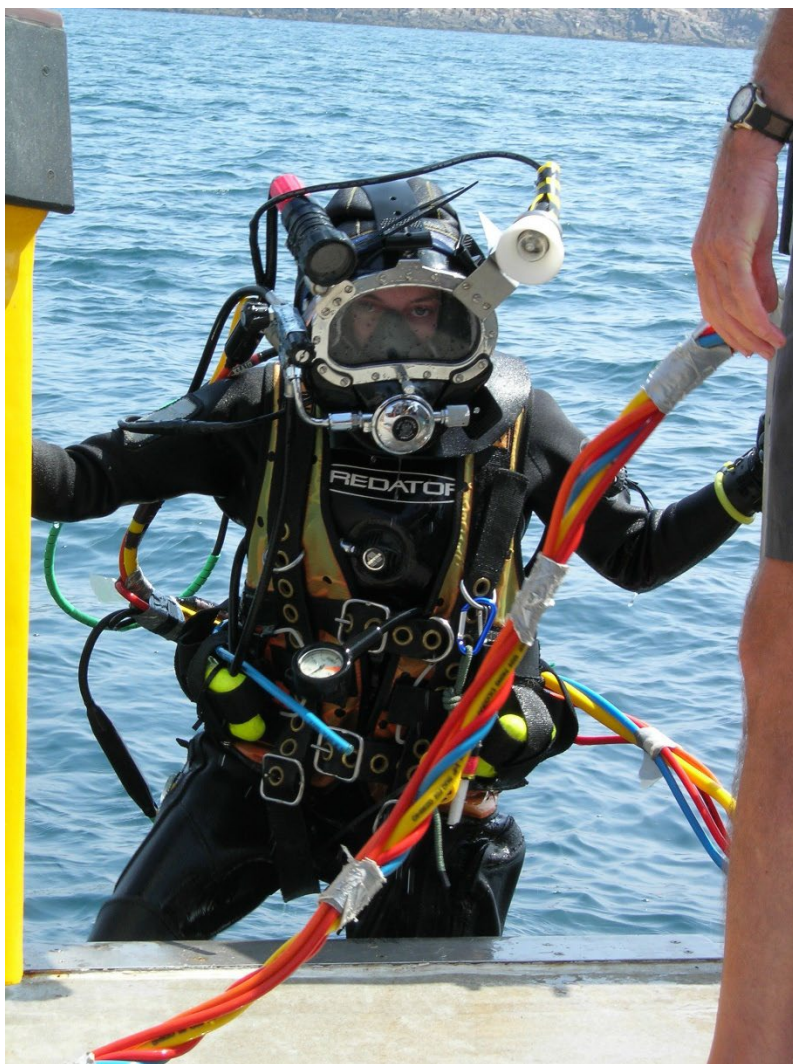


Figure 18: Surface Supply diver, Jenny Kent. Credit Alison James, MSDS.



Figure 19: Sara Hassan diving on the Iona II in 2023. Credit Yo-Han Cha.



Figure 20: Working with shipwreck material. Credit Alison James, MSDS.



Figure 21: Berit Antonsen diving on the Mary Rose project. Credit B. Antonsen.