



BOAT SAFETY SCHEME

Go boating - Stay safe

BSS Annual Report 2023-24





BOAT SAFETY SCHEME

Go boating - Stay safe

Contents

Pages



Section 1

1-2

BSS Manager's Foreword



Section 2

3-6

Introduction, the BSS in 2023-24,
Advisory Committee Chairs Report



Section 3

7-8

BSS Finances



Section 4

9-12

BSS in Figures



Section 5

13-14

BSS Training & Quality



Section 6

15-20

BSS Priorities, Technical Committee
Chair's Report



Section 7

21-22

BSS Incident and Risk Database



Section 8

23-24

Summary



Section 1



BSS Manager's Foreword

The Boat Safety Scheme (BSS) is a public safety initiative delivering safer boating on Britain's inland waterways and supporting the legal duties of their navigation authorities.

As we reflect on the achievements of this year, we extend our deepest gratitude to our dedicated community of over 150 authorised Examiners and the numerous stakeholders who contribute to the Boat Safety Scheme. Their hard work and commitment have ensured that over 22,000 boat examinations were conducted across the UK's inland waterways this year, safeguarding our boating community and upholding the highest safety standards.

Each examination not only represents a step toward safer waterways but also reflects the tireless efforts of our team, who bring expertise, diligence, and a shared commitment to public safety.

We thank each of you for your invaluable role in maintaining these standards and supporting the ongoing evolution of the Boat Safety Scheme.

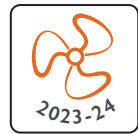
During 2023-24 rising inflation continued to challenge our costs and potentially threaten our income, albeit that some people look to making their homes on boats as the cost of 'living ashore' increases. Even with those challenges, we were still able to balance our budget and achieve many of the goals of the year. We worked extensively with our stakeholders (navigation authorities, trade, and Examiners) providing training packages to help with our aim of continual improvement in delivering consistent Examinations. This reflects our evolutionary approach to our training programmes, addressing drivers for change arising from the BSS Risk Management Process that reflects changes in legislation, appliances, fuels, power sources, boat construction, Marine Accident Investigation Branch (MAIB) recommendations, and our operating environment.



In conclusion, we enjoyed an extremely successful year despite ongoing challenges. We delivered all our outcomes and are looking forward to next year with confidence.



Section 2



BSS in 2023-24

Introduction

The BSS protects people and property either on, or nearby, the waterways, by reducing the risk of boat fires, explosions, and boat pollution.

The work we do relates to the condition and use of powered or fuelled engines, systems, and equipment on boats. Our roles are shaped by the UK's Inland Navigation Authorities. Our duties include:

- Working alongside BSS stakeholder committees who constantly review and upgrade sets of national safety requirements and associated Examination checks for private boats, hire boats, and other non-private vessels
- Providing a quality-assessed Examination service using checks to verify boats meet relevant BSS Certification and issue this appropriately
- Promoting safety advice to help people and manage known risks
- Monitoring reported boat-related incidents and accidents, and risks and trends concerning current potential future issues - feeding this into a risk register

Since 1997, the BSS has been co-owned by the Canal & River Trust and Environment Agency.

On 8 March 2024, the Canal & River Trust, Environment Agency, Broads Authority, and the Association of Inland Navigation Authorities announced governance changes to the Boat Safety Scheme with the intention that it becomes a public safety initiative run as a not-for-profit company from 1 April 2024.

As a company limited by guarantee, Boat Safety Scheme Limited is incorporated to take on the work of the original Boat Safety Scheme.

The Scheme's structure and intent remains unchanged, with all income returned into the running costs and continuing the safety improvements brought about by the Scheme since its inception.

Immediate, middle, and long-term challenges

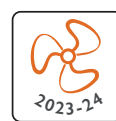
The attraction of owning a boat to use on inland waterways has not diminished. Through our customer query process, we still see evidence of many novices with modest experience, little training, and limited boat-specific risk management knowledge.

Research continued into the risks that the emerging technologies of hydrogen powered equipment and lithium-ion batteries potential could present. We engaged with key organisations in the marine and fire safety sectors.

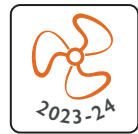
The BSS was an active part of the lobby that led to Calor Gas Limited (Calor) reversing a policy it announced in 2022 to stop supplying small LPG cylinders.

As Calor is leading supplier of LPG in the marine market, we recognised the potential safety risks associated with this change, as many smaller cruisers and sailboats have gas lockers specifically designed for the potentially discontinued cylinders.

In December 2023, after extensive efforts by the Scheme and others, Calor announced its intention to resume supplying the small cylinder market. The increased potential for people to take safety-impacting short-cuts by fitting sub-standard equipment, components, and alternative appliances unsuitable for marine use has been mostly avoided in this instance, albeit we remain vigilant.



Section 2



Advisory Committee

Chair's Report

The BSS Advisory Committee (BSSAC) advises the BSS Management Committee (BSSMC) on all aspects of operating the Scheme.

It comprises of members drawn from navigation authorities, BSS Examiner representative bodies, the marine industry, and boat user organisations. Its purpose is to agree cross-sector recommendations to the BSSMC.

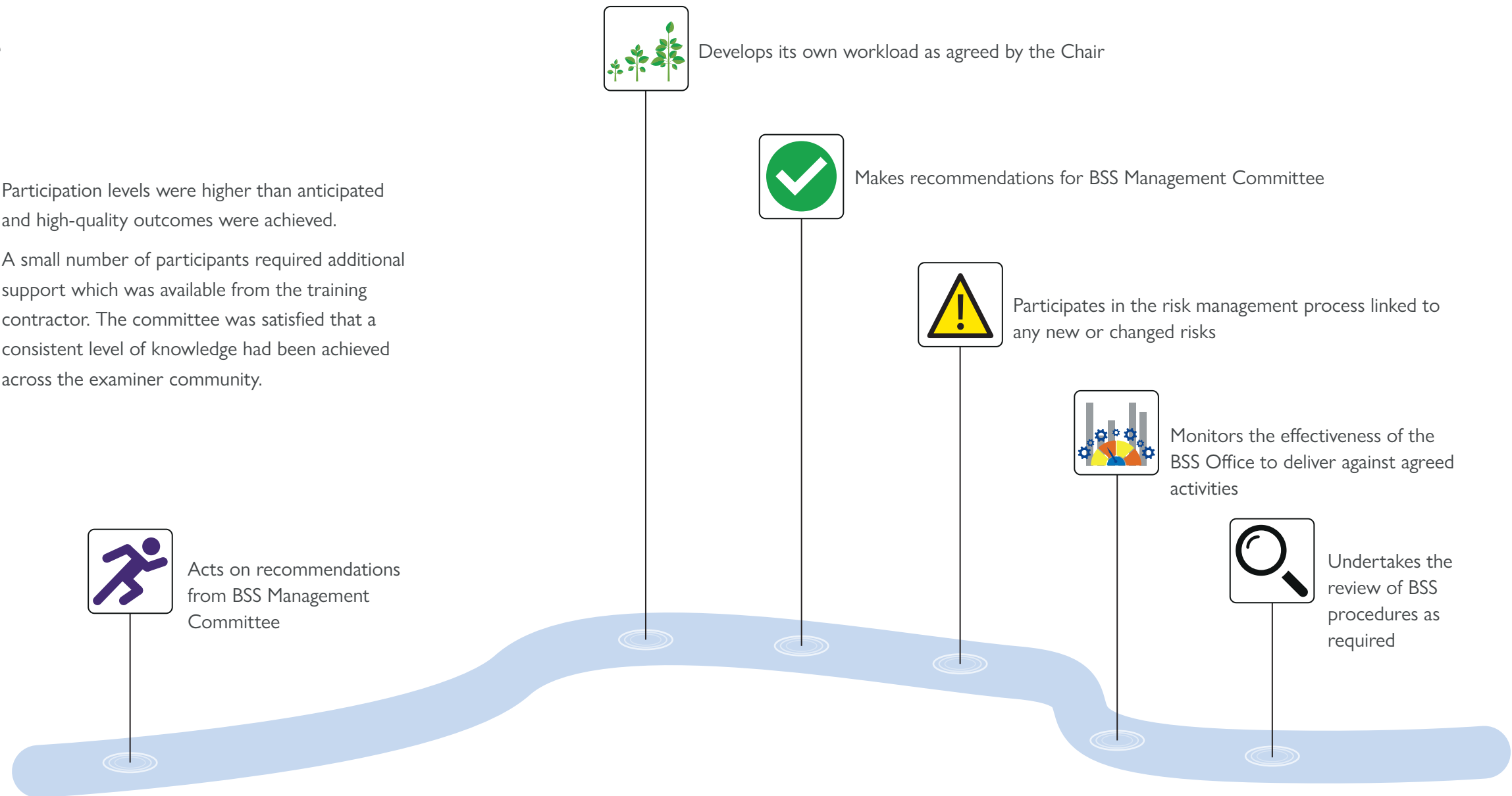
The BSSAC receives proposals from the BSS Technical Committee (BSSTC) and considers how they can be applied within the aims of the Scheme.

It also reviews BSS operations and looks to identify future trends impacting on the Scheme's risk assessment.

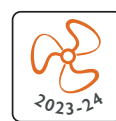
In 2023-24 the committee was largely engaged in monitoring the outcomes following full implementation of the New Entrant Training Programme and the associated refresher training for existing Examiners.

Participation levels were higher than anticipated and high-quality outcomes were achieved.

A small number of participants required additional support which was available from the training contractor. The committee was satisfied that a consistent level of knowledge had been achieved across the examiner community.



The committee Chair was engaged throughout the year in the governance review that led to an intended transition to a limited company on 1st April 2024. The move to being safety initiative operating as a not-for-profit company limited by guarantee will facilitate clearer lines of communication with the navigation authorities and enable a more flexible response to the risks associated with new technology.



Section 3



BSS Finances

BSS 2023-24 end-of-year financial accounts

The Scheme operates on a non-profit basis with any surplus or deficit being addressed.*

Income is generated by Examiner subscription fees, the sale of Certifications and training fees which cover the costs of the Scheme’s administration and crucial technical professional

support. The fees for training are based on the costs of running the programmes.

The completed financial accounts for our financial year 2023-24, as compiled and audited by the Canal & River Trust’s financial team, appear in the table below:

Accounts	Plan (£)	Actual (£)
External Income	1,058,779.78	993,673.98
Payroll Costs	(367,875.69)	(371,161.35)
Staff Related Costs	(28,690.00)	(24,663.20)
Materials & Contracts	(5,566.51)	(3,799.61)
Operational Costs	(11,348.91)	(10,431.97)
Premises Costs**	(1,664.48)	(1,572.55)
Office Costs***	(48,450.72)	(49,092.26)
Professional Fees	(547,870.00)	(488,966.79)
Non-Operational Costs	(42,474.13)	(42,101.30)
Overall Expenditure	(1,053,940.44)	(991,789.03)
End of year balance	4,839.34	1,884.90

* The net balance shows a surplus of income over plan of 0.19% (The BSS is administered by the Canal & River Trust which will absorb a small surplus or cover a small deficit).

** Premises costs include mobile telephones and other utilities.

*** Office costs include meeting costs, printing, postage, subscriptions, and computer costs.

The 2023-24 business plan was created from certificate sales history and the consequences of the examiner training program using newly qualified Examiners operating in the field.

Anticipated Certification sales in early March 2024 were lower than planned, we believe this

was due to the early Easter holiday and the knock-on effects of the four-year cycle from Covid-19 disruptions.

The net result was an operating surplus of **£1,884.90** to end of year 2023-24.



The 2023-24 Business Plan was delivered successfully. Sales were in line with Examination-led expectations and controllable costs were in line with the predicted and planned activity of the Scheme.

Section 4

BSS in Figures

The BSS continues to be supported by the majority of the UK’s navigation authorities and as a consequence operates on over three quarters of UK waterways by length.

A valid BSS Certification allows a boat to be registered with navigation authorities across England, Scotland, and Wales, whether it’s cruising the Broads, Brecon, the Highlands, or Kent.

During 2023-24 there were **157** registered Examiners.

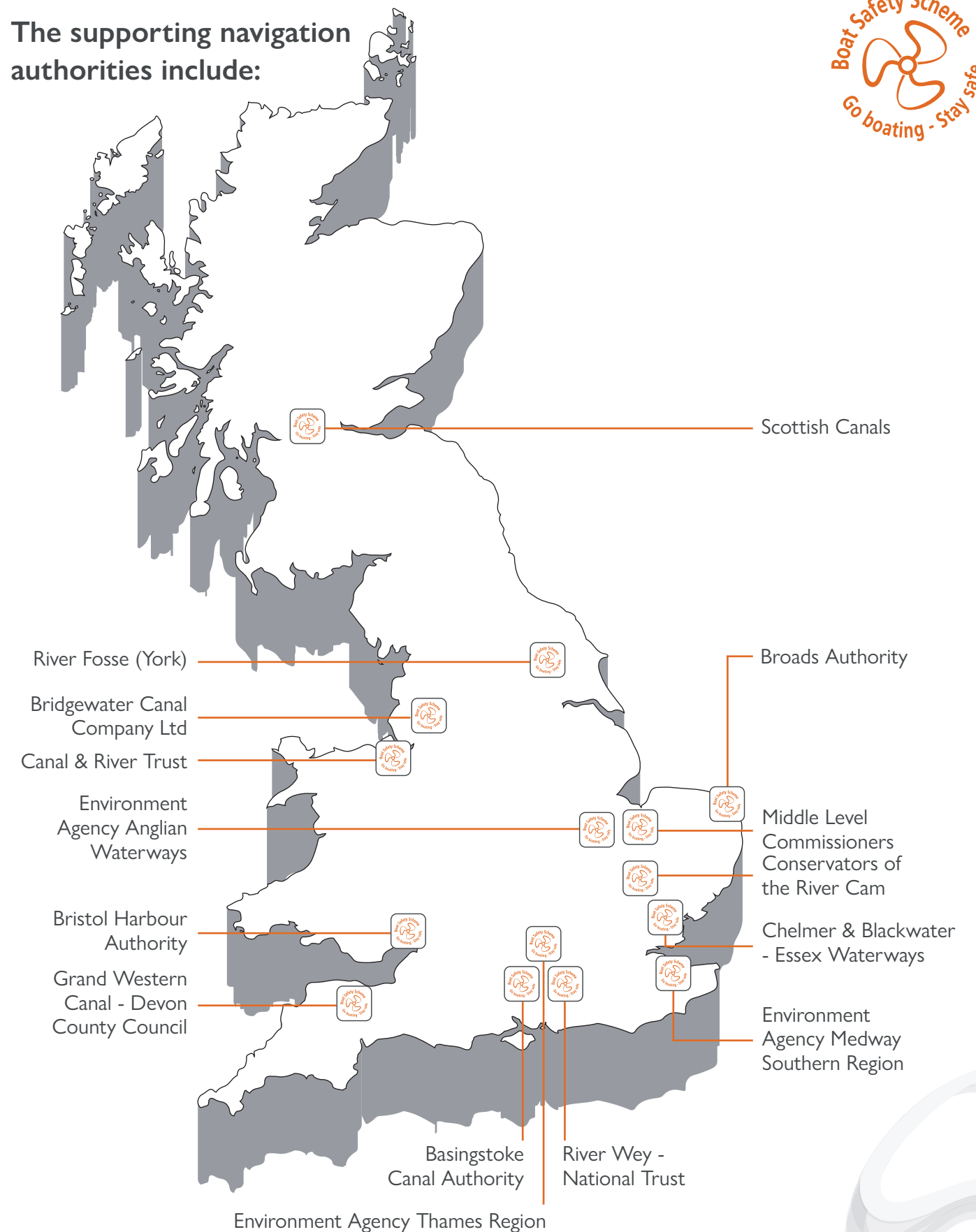
Approximately **90,000** boats are subject to a BSS Certification. The types of craft include narrowboats, broad beam, glass reinforced plastic both for private use and hire, and other commercial and community boats such as workboats, small passenger boats, floating retailers, offices, marshalling and safety boats, galleries, and theatres.

In this financial year **15** BSS Trainees successfully completed the New Examiner Training Programme. We will not be running the programme in the next financial year.

In an average year there are:



The supporting navigation authorities include:



Section 4



BSS in Figures

In 2023-24:

- Overall, just over 22,000 Examinations were carried out
- 15,083 Certifications were issued, of these:
 - 92.9% were privately-owned boats
 - 4.7% hire boats
 - 2.4% non-private boats (for example, work boats, ferries, small passenger boats etc)
- Examiners made 43,634 comments against non-compliant checks
- The advice check for under ventilation (linked to the risk of carbon monoxide poisoning) was not complied with on 2,497 boats at the point of BSS Certification
- Over 300 boats were missing the vital protection of all electrical circuits passing through an AC consumer unit
- The third most common non-compliance was lack of escape - 207 boat crews could struggle, or be trapped, in an emergency
- 38.5k comments to boat owners were recorded in 6.9k non-compliant result Examinations

- The most common mandatory non-compliance was: Are batteries secure against excessive movement in any direction? 2,386 boats had loose batteries and risked catching fire

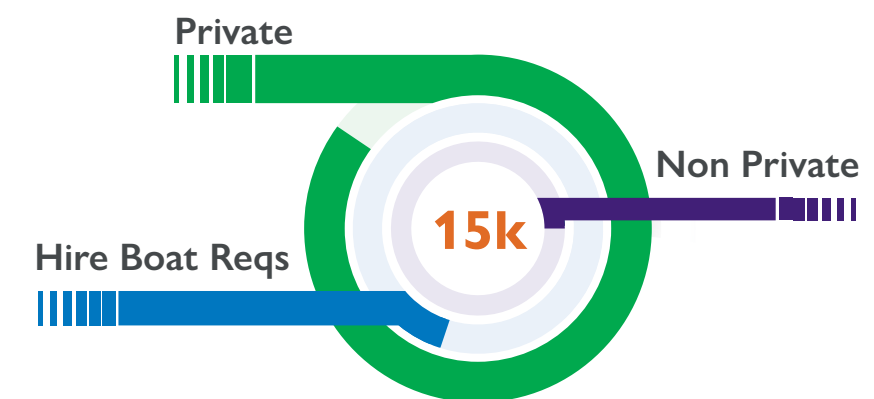
Compliant CO alarms independently certificated to BS EN 50291 are required on boats with cabins. They are readily available from high street retailers, trading park stores, supermarkets, chandleries, and online outlets. Do not allow your crew to be unprotected. See www.boatsafetyscheme.org/co for more detail.

- The next most common non-compliance was a lack of carbon monoxide (CO) alarms, over 1,900 boat crews were not fully protected from this gaseous toxin which cannot be seen, heard, smelled, or detected by any other alerting system
- The third most common check not complied with was: Is the LPG system free of leaks as defined in the tightness test? There were 1,700 boats found either with gas leaks, or without a means of testing for leaks on the day of Examination

Numbers of BSS Examinations undertaken with navigation authorities during 2023-24.

Authorities	Examinations
CRT	13.3k
EA - Thames	2.7k
Broads Authority	2.5k
EA - Anglian Rivers	1.4k
On trailers or hardstanding	450
EA - Medway	200
Scottish Canals	200

Certification types issued



In conclusion, our commitment to safety saw over 22,000 Examinations. These resulted in 43,600 comments against non-compliant checks. We have improved the text of the ECPs and will be promoting the need to comply with requirements at all times.

Section 5



BSS Training & Quality

BSS New Examiner Training Programme

During 2023-24, **15** candidates successfully completed the Examiner Training Programme. This training is City and Guilds assured recognition.



The assessments are a valuable opportunity for Examiners to have constructive discussions with the Assessor and another opportunity to give feedback, raise queries, and make suggestions.

Personal Improvement Plans can be assigned which prompt follow-up actions to confirm progress.

We continued the development of a new field assessment process. Our aim is to replicate the success of the DtA in quality assuring and supporting Examiners in their field-based activities.

Trials were undertaken and the feedback was useful in finessing the process in preparation for rollout when the BSS technical team is fully resourced.


The majority have now registered as new Examiners

Examiner Development Programme


Quality Assurance

The Scheme now has three Quality Assurance Assessors, and in 2023-24 they achieved **31** active assessments.

BSS Quality Assurance Assessments are a supportive two-way review process for BSS Examiners, which have two formats.

 Desktop Assessment (DtA) where the assessor reviews a minimum of three Examinations including all notes, records, and reports; and is designed to help Examiners to either improve record keeping or make corrections to previous Examinations

In 2023-24 there were **27** Examiners quality assessed in the DtA support programme

 Field Assessments, are an on-boat review of on-site practises and processes, helping examiners to ensure their observations, examination methods and interpretation of BSS Checks are consistent with the published BSS Examination Checking Procedures



In conclusion, we continued to enhance the BSS Training and Development Programmes.

The New Examiner Training Programme, with its City & Guilds Assurance, again delivered well-received professional online modules and attended learning, and a final boat-based assessment.

These new examiners have helped to both replace those who have left and address any gaps in coverage, with **157** applications accepted, **143** re-applications and **14** newly qualified examiners (NQE) joining the team.



Section 6



Some examples of 2023-24 Priority Projects and our future work

Calor reversed its intended withdrawal from the market for small LPG cylinders.

Calor, the market-leading supplier of small gas cylinders commonly used in smaller boats, reversed its previous intention to withdraw from that market segment.

Its withdrawal was identified by the BSS as being a potential risk of increasing non-competent LPG system adaptations and other DIY related hazards.

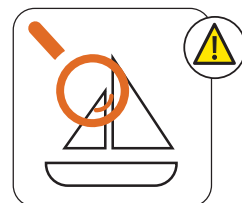
Following on from our success last year in helping to persuade Calor to suspend its withdrawal of small cylinder from its product list, it announced in December 2023 that it had listened to those concerns from all stakeholders, and it would continue to supply small LPG cylinders.

Hazardous boat recognition

Training was delivered to teams from the Broads Authority at the BSS Training Centre in Norwich.

The aim was to enable a navigation authority workforce to recognise any customers' boats that are in a potentially immediately hazardous condition. They can then implement the Authority's

own policies aimed at seeing those boats achieve compliance with the safety standards.



Major CO research project

The London Carbon Monoxide Boat Safety Project was initiated in a partner project with BSS and is being run by London Fire Brigade.

It targets residential boats on the Thames in West London and on the canal network in North and East London with the aim to deliver greater understanding of CO risks linked to boats.

Non-Private Boat Requirements

The review of current policies, processes and standards for Non-Private Boats was initiated this year.

This medium-term project will see modernised BSS Non-Private Boats standards and checking procedures proposed for adoption by the participating navigation and harbour authorities.

BSS Hire Boat Requirements

The BSS Hire Boat Requirements Appendices were revised and improved.

Hire Boat Requirements trainees were provided with the draft versions of the appendices and their feedback was taken to make final adjustments to the contents. Printing of the agreed Hire Boat ECPs is anticipated in the next financial year.

Outcomes from the MAIB report into a fatal incident on hire boats on the Broads

The British Marine working group acting on the MAIB recommendations kept the BSS informed about any working outcomes from the group.

BSS representatives visited hire boat companies in Norfolk researching the various solutions that are being utilised by operators in the region. The MAIB were updated on our progress to date.

Section 6



BSS Priorities

BSS Database improvements and the development of a dedicated mobile-first Examination app.

This includes updating and improving our database platform as a precursor to developing an industry-standard mobile-first field app for direct entry of examination data, working on and offline.

Additionally, the works will also optimise the management of our data, including heightened security and protections.

Lithium-ion batteries

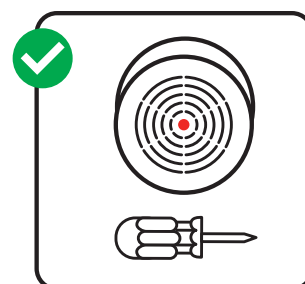
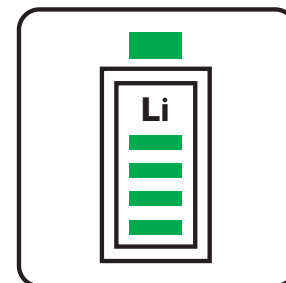
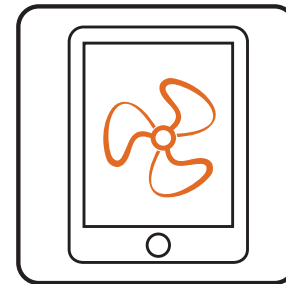
Lithium-ion and other battery technology is advancing fast and has many potential advantages.

Research continues to gain a greater understanding of the variety and the nature of the potential hazards these new batteries present and then determine the best means of mitigating those risks. A thorough Risk Review and Analysis Report is anticipated in summer 2024-25

Draft proposals for smoke alarm requirements

Staff vacancies and the BSS transition to a not-for-profit company limited by guarantee continued to affect this project, however, the project commenced and meetings with stakeholder partners is ongoing.

National Fire Chiefs Council statistics and fire-safety industry information will be used to support a consultation on the potential introduction for smoke alarms for private and non-private boats. Following the governance changes being implemented in April 2024, the consultation will be run on behalf of the Standards Setting Forum.



Continued customer Service Improvements

We have further reduced the response times to conclude customer requests and queries by over ninety percent since 2021.

BSS Cases: during 2023-24 there were 1447 new cases were opened, 1287 of these cases closed. There were 390 certificate queries and 426 technical (i.e. about our requirements and checks) cases.

Since the introduction of a Customer Service Officer in December 2021 their inputs and contributions have continued to result in a reduction of the time to close a case from 100 days to less than 19 in 2022-23 and further reducing to 6.3 in 2023-24.

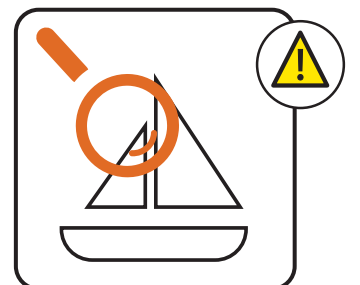
The BSS Office through our existing contract with Moneypenny telephone answering and outbound calling are continuing to improve our customer service provision.



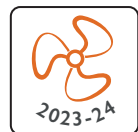
BSS Risk Management Process (RMP)

Our RMP is jointly authored with RoSPA and is subject of a five-yearly review. RoSPA reviewed the existing document and reported in March 24 that it remains robust, needing only minor editorial and clarification suggestions

The draft revised BSS Risk Management Process will be updated to take account of the suggestions and the governance changes and will be published in 2024-25.



Section 6



Technical Committee

BSSTC is the specialist stakeholder committee making recommendations to the BSSAC concerning issues of a technical nature.

Chair's Report

The Committee has representatives from boat owners, Examiners, trade groups, and the navigation authorities.









A new Chair was appointed in May 2023, taking over from the previous Chair, who held the post for a decade.

During 2023-24 the committee has continued its routine workload of risk assessments and Examination appeals. It is pleased to note that, following much work behind the scenes, Calor have reversed its decision to withdraw small cylinders from its product list.

The Committee has increasingly been looking at changing technologies including electric drives, new battery chemistries and hydrogen as power sources. These changes are happening rapidly and will be a future challenge for the Scheme.

Revised Examination Checking Procedures (ECP's) for privately owned vessels were issued in October 2023.

The following matters have been considered and recommendations made where appropriate:

-  The review of Parts 3 & 4 of the ECP's
-  Fire incidents and the installation of smoke alarms on boats
-  Lithium-ion and other emerging battery technologies
-  Increasingly complex 230v AC electrical systems
-  Higher voltage DC systems associated with photovoltaic cell installations and electric drives
-  Storing and handling of hydrogen and fuel cells on boats
-  Ongoing discussions between the Scheme and Regulators regarding the role of BSS Examiners in respect of gas systems on boats
-  Hazards relating to dual control systems on certain classes of craft

Technical Committee

Organisations

Organisations	Sector
Chair	Independent
British Marine (1)	Marine trade
British Marine (2)	Marine Trade
Association of Boat Safety Scheme Examiners (ABSSE)	Practitioners
Surveyors Group Representative	Practitioners
Royal Yachting Association (RYA)	User Organisations
Association of Waterway Cruising Clubs (AWCC)	User Organisations
National Association of Boat Owners (NABO)	User Organisations
Inland Waterways Association (IWA)	User Organisations
Association of Inland Navigation Authorities (AINA)	Navigation Authorities

Contributors

Contributors	Category
BSS Manager	Staff and consultants (non-voting)
BSS Business & Technical Manager	Staff and consultants (non-voting)
BSS Support Executive	Staff and consultants (non-voting)
BSS Lead Quality Control Assessor (Consultant)	Staff and consultants (non-voting)
BSS Quality Control Assessor (Consultant)	Staff and consultants (non-voting)

Section 7



BSS Incident and Risk Database

Small Craft Incident Data recorded by the BSS

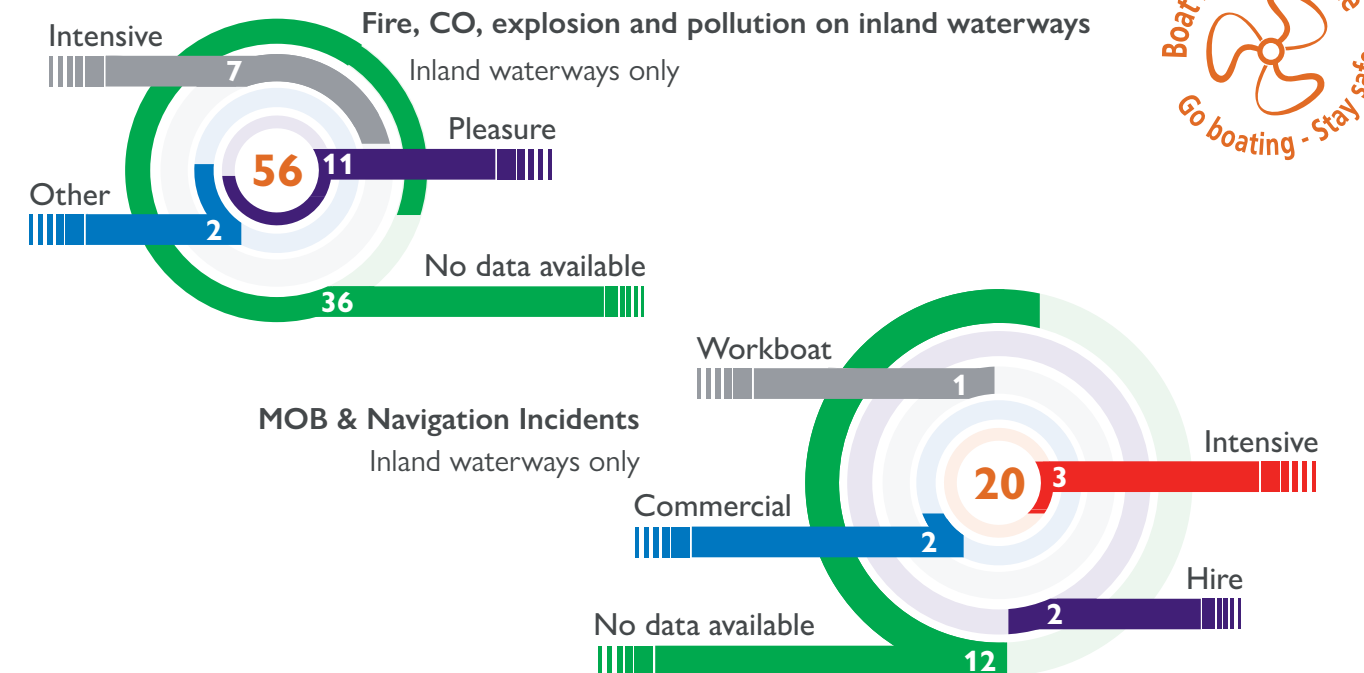
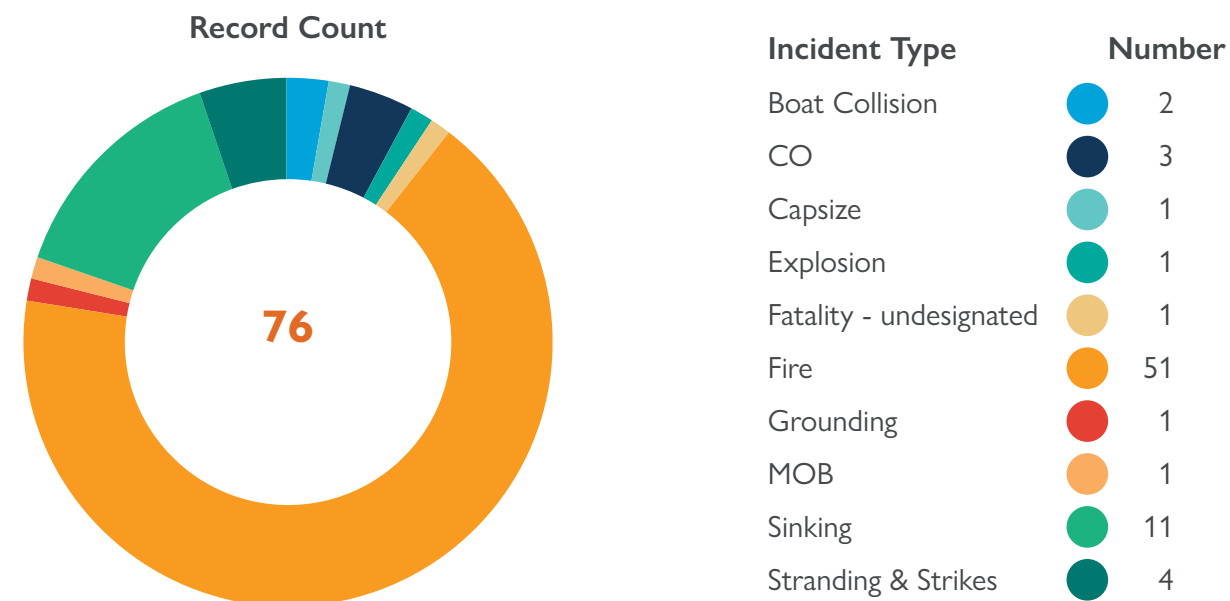
The BSS records incidents involving fires, explosions, and carbon monoxide poisoning on boats on all UK and Irish inland and coastal waters.

We analyse these incidents to identify lessons learned and risk factors, which are then used to assist our committees and navigation authorities in reviewing BSS Requirements. This ensures we can provide the most reliable advice and guidance

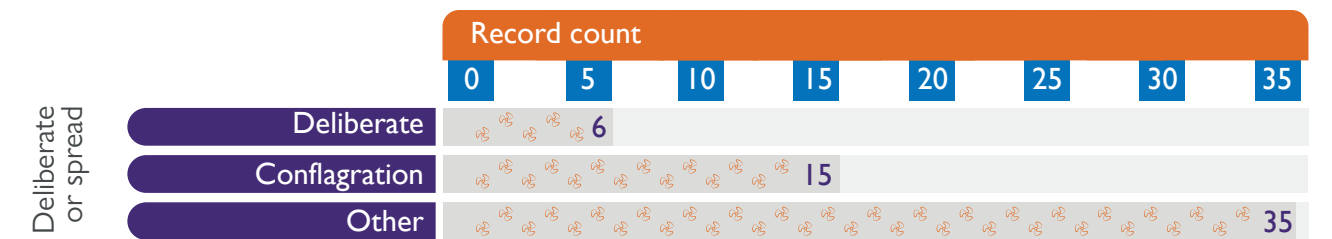
to boat owners, helping them protect both themselves and their crews.

In addition, with a focus on Hire Boat and Non-Private Boat Requirements, we record incidents such as groundings, collisions, sinkings, man overboard (MOB) events, and personal injury accidents related to boat design and fittings. This data supports our efforts to continuously improve safety measures across the boating community.

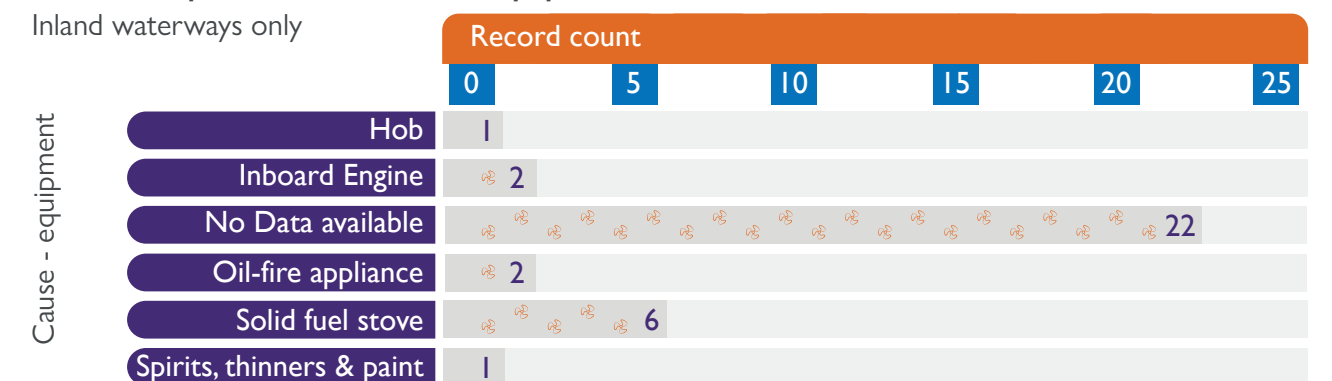
Incidents by type on inland waterways



Fire, CO, Explosion & Pollution Cause



Fire CO Explosion & Pollution - Equipment



In conclusion, our detailed records and analysis of incidents continued to play a vital role in informing the Risk Management Process and helping boat owners and their crews use their craft safely.

Section 8



Summary

The BSS delivered another high-quality programme that met the expectations of both Examiners and navigation authorities.

We delivered the City & Guilds Assured 2023 New Examiner Training Programme. The resulting new 14 Examiners help ensure we continue to have sufficient authorised Examiners to meet customer expectation of the various navigation authorities across the country.

Our daily operations, from training courses to Examiner consistency, customer service, and information delivery, are all guided by a commitment to continuous improvement.

The decision was taken to make a fundamental change in the governance arrangements transferring to a non-profit company limited by guarantee. In March we announced the launch of Boat Safety Scheme Limited that would serve a navigation authority led Standard Setting forum the next financial year.

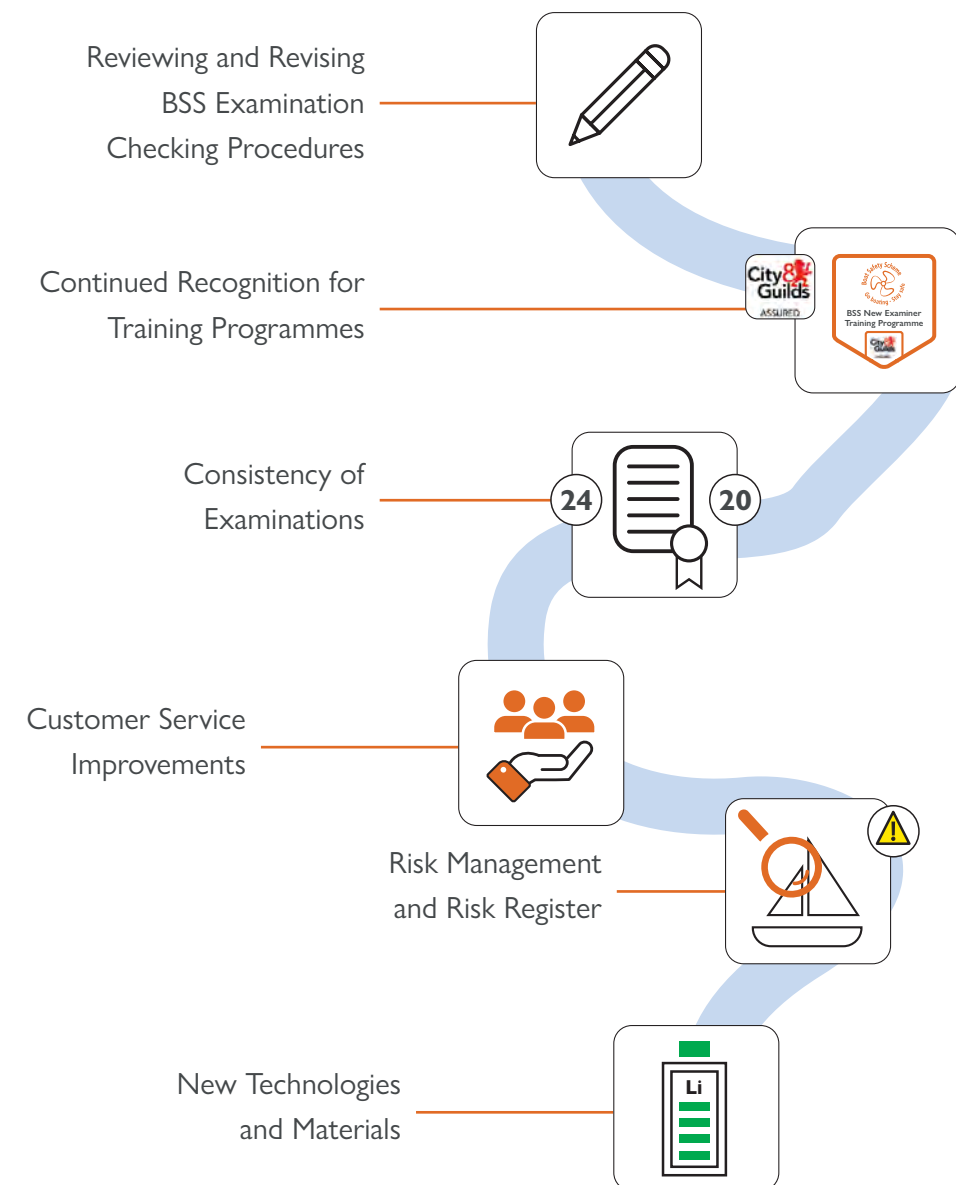
The BSS approach to risk management is rooted in maintaining a dynamic risk register and having a continual review and assessment process. It is this that guides and supports decisions to introduce, amend or withdraw Requirements and Checks.

Building on the stakeholder committees completed review last year of the BSS Examination Checking Procedures for Private Boats, they completed their review of the ECPs for Hire Boat Requirements this year, enabling the Scheme to publish the revised versions.

We anticipated last year that the economic environment influence on the boating community would continue. Certification numbers in 2023-24 were lower than previously predicted, our planning allowed us to finish the year in balance.

The pace of change and emerging technologies, fuels, materials and research, bring new challenges and promote new approaches to managing risks. We look forward to embracing this ever-changing environment and being proactive in reducing risks to navigation authority staff, nearby communities, and visitors to these unique and treasured waterways.

Boat Safety Scheme Limited took over from the BSS on 1st April 2024.



In conclusion we enjoyed an extremely successful year and welcomed new members to the team. Our key achievements included:

- Overseeing the conducting of 22,000 Examinations
- Launching as a limited company
- Improving customer service
- Building on our key future priorities
- Successfully delivering our 2023-24 Business Plan with income and costs in line with our expected predictions
- Working with Calor to reverse its decision to stop supplying some of its small gas cylinders from its product line
- Maintaining safety records and analysis



Boat Safety Scheme Contact Details

Boat Safety Scheme Limited,
c/o National Waterways Museum Ellesmere Port,
South Pier Road,
Ellesmere Port Cheshire,
CH65 4FW

t: 0333 202 1000

e: bss.enquiries@boatsafetyscheme.org

w: boatsafetyscheme.org/contact-us

The Boat Safety Scheme is a public safety initiative run as a not-for-profit company limited by guarantee registered in England and Wales with company number 15501423, registered office address c/o National Waterways Museum Ellesmere Port South Pier Road Ellesmere Port Cheshire CH65 4FW.

All information is correct at the time of publishing - October 2024.