ACCIDENT REPORT

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

Report on the investigation of

the collision between the rigid inflatable boat

Rib Tickler and a **personal watercraft**

resulting in one fatality

in the Menai Strait, Wales

on 8 August 2020

VERY SERIOUS MARINE CASUALTY REPORT NO 3/2022 FEBRUARY 2022

The United Kingdom Merchant Shipping

(Accident Reporting and Investigation)

Regulations 2012 – Regulation 5:

"The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame."

NOTE

This report is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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CONTENTS

FIGURES

ANNEXES

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

BM	-	British Marine
BPA	-	British Ports Association
CHT	-	Caernarfon Harbour Trust
COLREGs	-	International Regulations for Preventing Collisions at Sea, 1972 (as amended)
DfT	-	Department for Transport
DP	-	designated person
HRO	-	harbour revision order
IACC	-	Isle of Anglesey County Council
kts	-	knots
LGA	-	Local Government Association
m	-	metres
MCA	-	Maritime and Coastguard Agency
MSA	-	Merchant Shipping Act, 1995
MSMS	-	Marine safety management system
PMSC	-	Port Marine Safety Code
PW	-	personal watercraft
PWP	-	Personal Watercraft Partnership
RIB	-	rigid inflatable boat
RYA	-	Royal Yachting Association
SHA	-	Statutory Harbour Authority
SIG	-	Special Interest Group
UKHMA	-	UK Harbour Masters' Association
UTC	-	universal time coordinated
VHF	-	very high frequency

TIMES: all times used in this report are UTC + 1 unless otherwise stated.

SYNOPSIS

On 8 August 2020, an unnamed personal watercraft and the rigid inflatable boat *Rib Tickler* collided at high speed in the Menai Strait, Wales. A passenger on board *Rib Tickler* was struck by the personal watercraft and fatally injured.

The personal watercraft had been jumping across *Rib Tickler*'s wake when the rigid inflatable boat altered course across the personal watercraft's path. The personal watercraft collided with *Rib Tickler* and struck one of the passengers, who was seated on the aft bench seat.

The accident happened because the personal watercraft was too close to *Rib Tickler* when jumping its wake, which left insufficient time to react when the rigid inflatable boat's driver altered course across its path. *Rib Tickler*'s driver had commenced his turn without sufficiently checking astern for other craft. The investigation identified that neither *Rib Tickler*'s driver, its owner, nor the personal watercraft rider had attended an appropriate training course and the knowledge and skill levels of the persons in control or overseeing the two craft were not appropriate for the manoeuvres being undertaken. The investigation concluded that the rigid inflatable boat's driver did not have full awareness of other water users before commencing his turn and the personal watercraft rider did not have sufficient knowledge or experience to appreciate the hazards involved in wake jumping.

The investigation also identified that although the Isle of Anglesey County Council had a marine safety management system there was insufficient local governance of the marine environment, with a lack of resources, risk assessment for leisure users, or powers to manage their waterspace. Improvement areas for Royal Yachting Association training and guidance have also been highlighted in light of the safety issues raised. The report also explored the legislative status of personal watercraft in the United Kingdom.

Following this accident, Isle of Anglesey County Council has engaged a maritime specialist to conduct a review into its governance of the Menai Strait, and the Royal Yachting Association has updated its course content and guidance documents.

Recommendations have been made to the Isle of Anglesey County Council about its management of the Menai Strait waterspace, reviewing its legislation governing the Menai Strait and resource availability within its maritime team. A recommendation has also been made to the Personal Watercraft Partnership and Royal Yachting Association to formalise the creation of a cross-industry group, focusing on a consistent nationwide approach to personal watercraft management.

Rib Tickler

Personal watercraft

SECTION 1 – FACTUAL INFORMATION

1.1 PARTICULARS OF *RIB TICKLER*, THE PERSONAL WATERCRAFT, AND ACCIDENT

SHIP PARTICULARS		
Vessel's name	*Rib Tickler*	Not applicable
Flag	United Kingdom	Not applicable
Type	Ribeye S650	Yamaha WaveRunner VX Cruiser
Registered owner	Private	Private
Construction	Glass-Reinforced Plastic hull, Hypalon tubes	Glass-Reinforced Plastic hull
Year of build	2008	2011
Length overall	6.5m	3.27m

VOYAGE PARTICULARS		
Port of departure	Menai Bridge	Menai Bridge
Port of arrival	Menai Bridge	Menai Bridge
Type of voyage	Leisure	Leisure

MARINE CASUALTY INFORMATION		
Date and time	8 August 2020 at 1928	
Type of marine casualty or incident	Very Serious Marine Casualty	
Location of incident	Menai Strait	
Place on board	Starboard aft	Bow
Injuries/fatalities	1 fatality	None
Damage/environmental impact	Superficial damage to boat	Superficial damage to personal watercraft
Ship operation	On passage	On passage
Voyage segment	Mid-water	Mid-water
External & internal environment	Northerly wind 5 knots, smooth water, good visibility	
Persons on board	4	1

1.2 BACKGROUND

Rib Tickler was a privately-owned 6.5m rigid inflatable boat (RIB). Its owner and his family lived in the Midlands and kept a caravan near the Isle of Anglesey **(Figure 1)**, which they used most weekends in the summer. The family also owned two personal watercraft[1] (PW). During his visits to Anglesey, *Rib Tickler*'s owner often met up with a local friend, who was the RIB driver[2] at the time of the accident, and the friend's brother, who were both PW owners, and their families regularly spent time together.

[1] A personal watercraft refers to a watercraft that the rider sits or stands on. The term Jet Ski is the trademarked brand of personal watercraft manufactured by Kawasaki. Other popular types in the British market are the Yamaha WaveRunner and the Bombardier Sea-Doo.

[2] For clarity, the RIB driver at the time of the accident will be referred to as the RIB driver throughout the report.

Reproduced from Admiralty Chart BA 2 by permission of HMSO and the UK Hydrographic Office

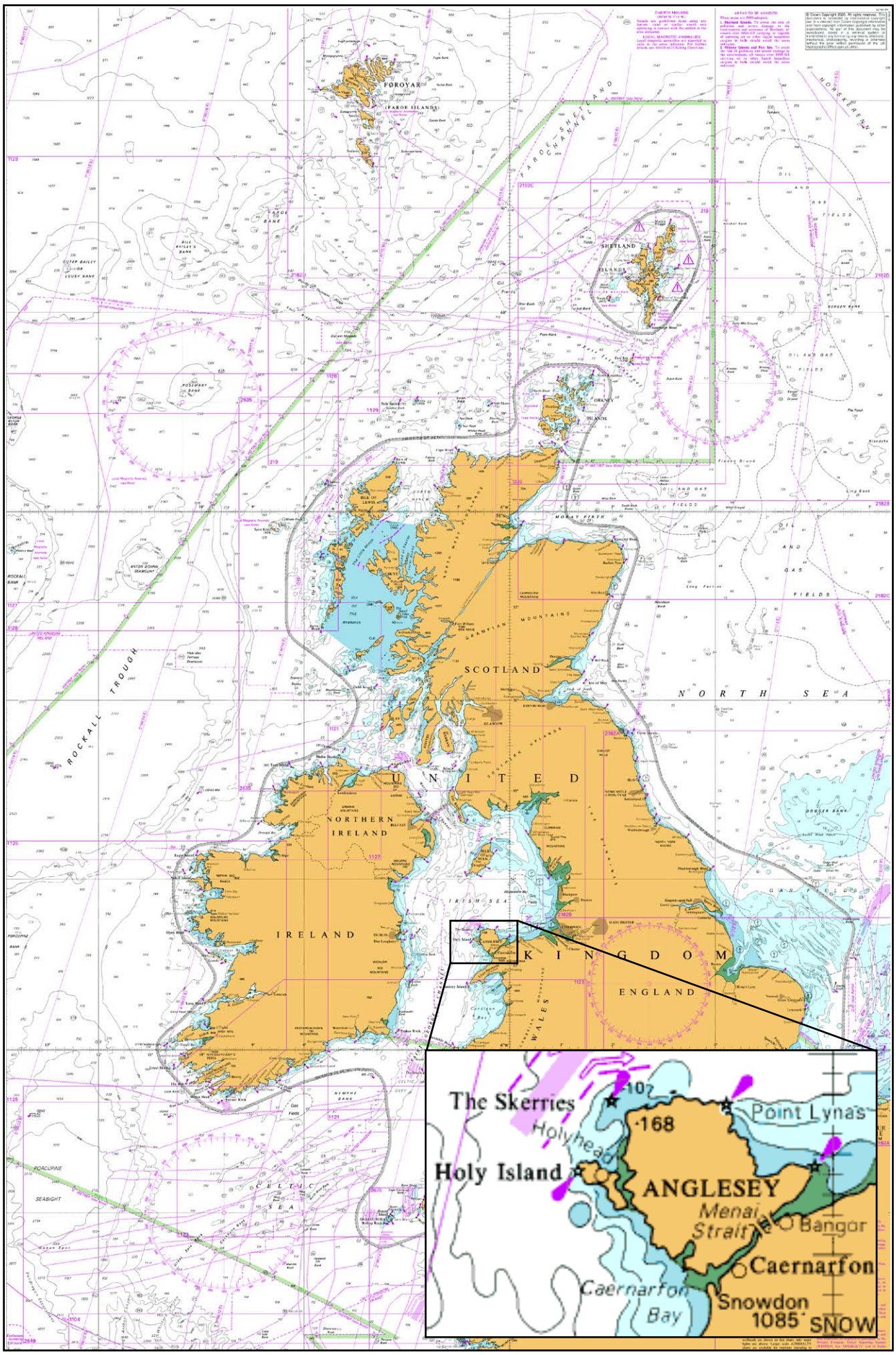

Figure 1: British Admiralty Chart 2, showing the location of the Menai Strait

1.3 NARRATIVE

On 7 August 2020, *Rib Tickler*'s owner travelled to Anglesey with his mother, Jane Walker, and his father for a weekend at their caravan. The following day (8 August) the weather was good, so *Rib Tickler*'s owner contacted his friend, the RIB driver, and arranged to meet him and his family later that afternoon at Menai Bridge to go out onto the water.

At about 1630, *Rib Tickler*'s owner and his parents arrived at the Porth y Wrach slipway **(Figure 2)** and launched the RIB. At about 1730, the RIB driver arrived at the slipway with his family and two PW. During the next hour, members of the RIB driver's family took turns riding the PW and occasionally rafted alongside *Rib Tickler* to share drinks and chat with the RIB owner and his parents. The RIB driver and the rest of his family sat on the slipway, enjoying the fine weather.

Image courtesy of Google Earth (www.google.co.uk/earth)

Figure 2: Google Earth image of the Menai Bridge, with inset showing Porth y Wrach slipway

At about 1830, the RIB driver joined *Rib Tickler*'s owner on board the RIB. They then left the Menai Bridge area through the Swellies[3] with the PW, which were being ridden by one of the owner's sons and his niece. The PW riders carried out various high-speed manoeuvres, such as wake jumping, as the group made their way to the Plas Newydd National Trust property **(Figure 3)** where they stopped and rafted together. After a short while, the PW riders set off towards the Britannia Bridge **(Figure 4)** with *Rib Tickler* following on behind. During the transit back through the Swellies, the PW riders dropped back behind *Rib Tickler* and started to zig-zag and jump across its wake.

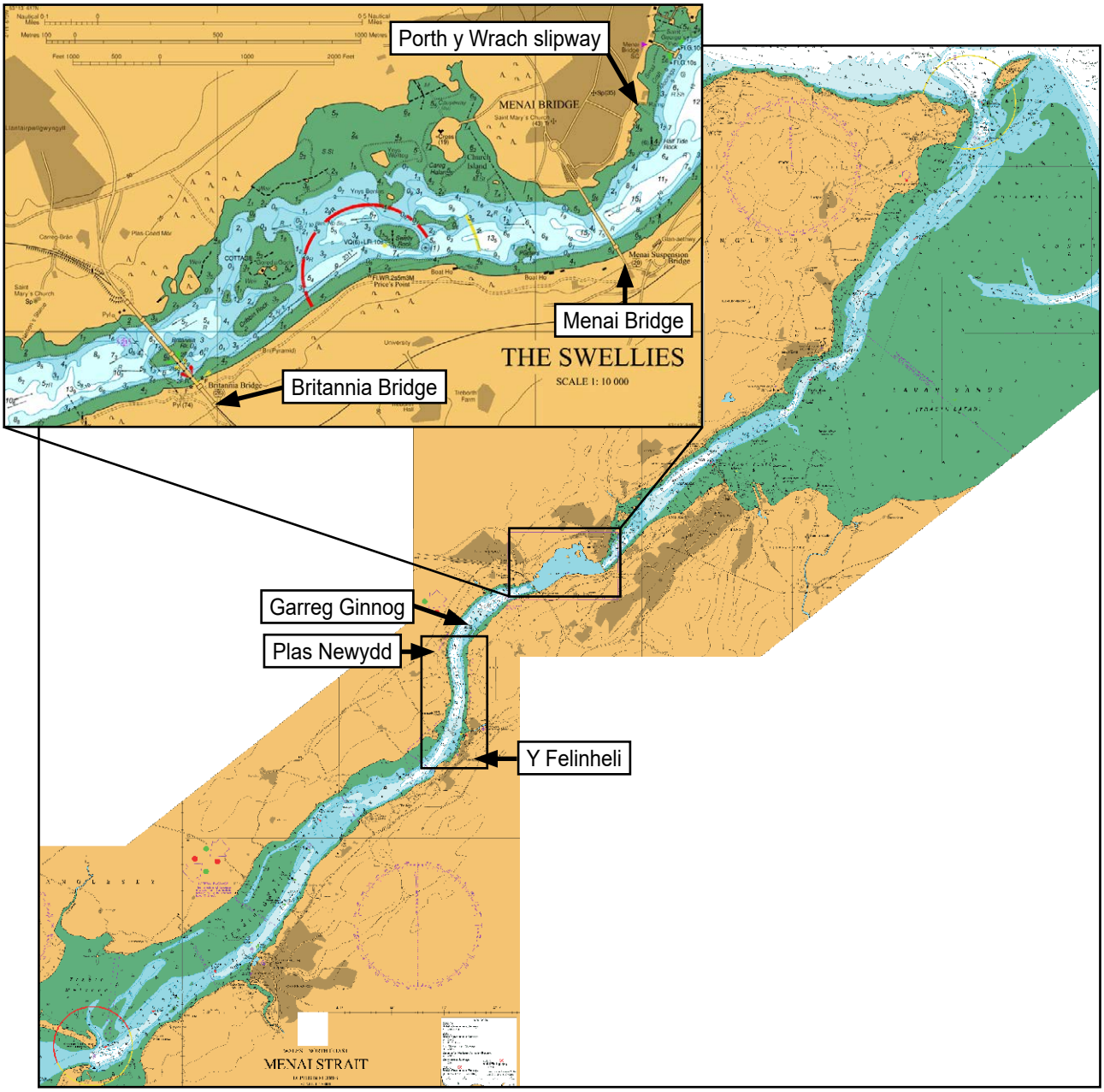

Figure 3: British Admiralty Chart 1464, showing the Menai Strait

[3] The stretch of water on the Menai Strait between the Menai Bridge and the Britannia Bridge.

Video still courtesy of David Sanpher

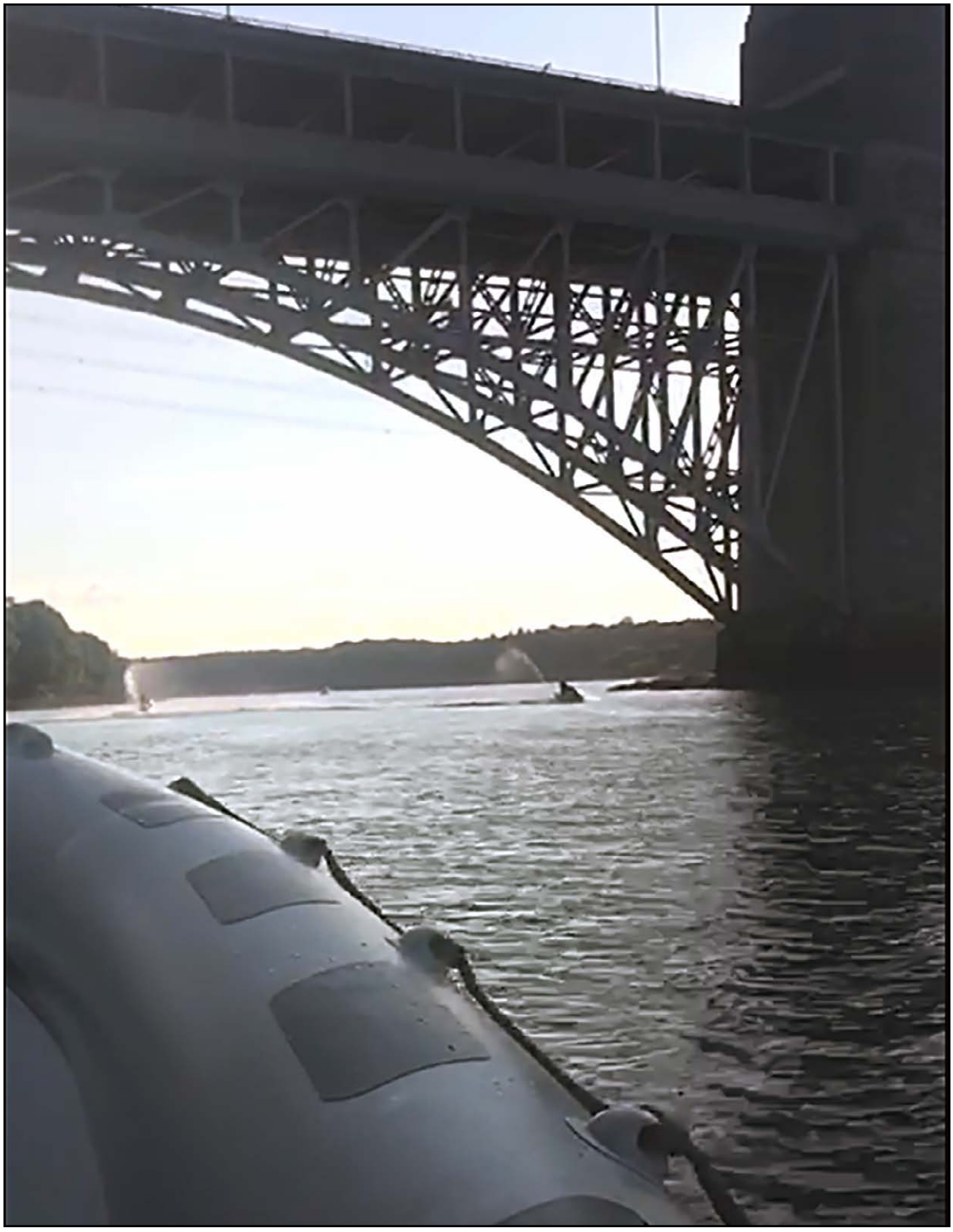

Figure 4: Video still taken from *Rib Tickler* of the group approaching Britannia Bridge

When they reached Porth y Wrach, *Rib Tickler*'s owner asked his friend if he wanted to drive the RIB. His friend accepted the offer, attached the engine kill cord[4] and took the helm. *Rib Tickler*'s owner was standing on the port side of the RIB's centre console as his friend set the RIB on a north-easterly direction towards Bangor. The owner's father was sitting on the port side of the RIB's aft bench seat and his mother was sitting on the starboard side of the bench seat, facing slightly to port **(Figure 5)**.

[4] A safety device intended to stop the engine if the helm is thrown overboard or away from the helm.

For illustrative purposes only: not to scale

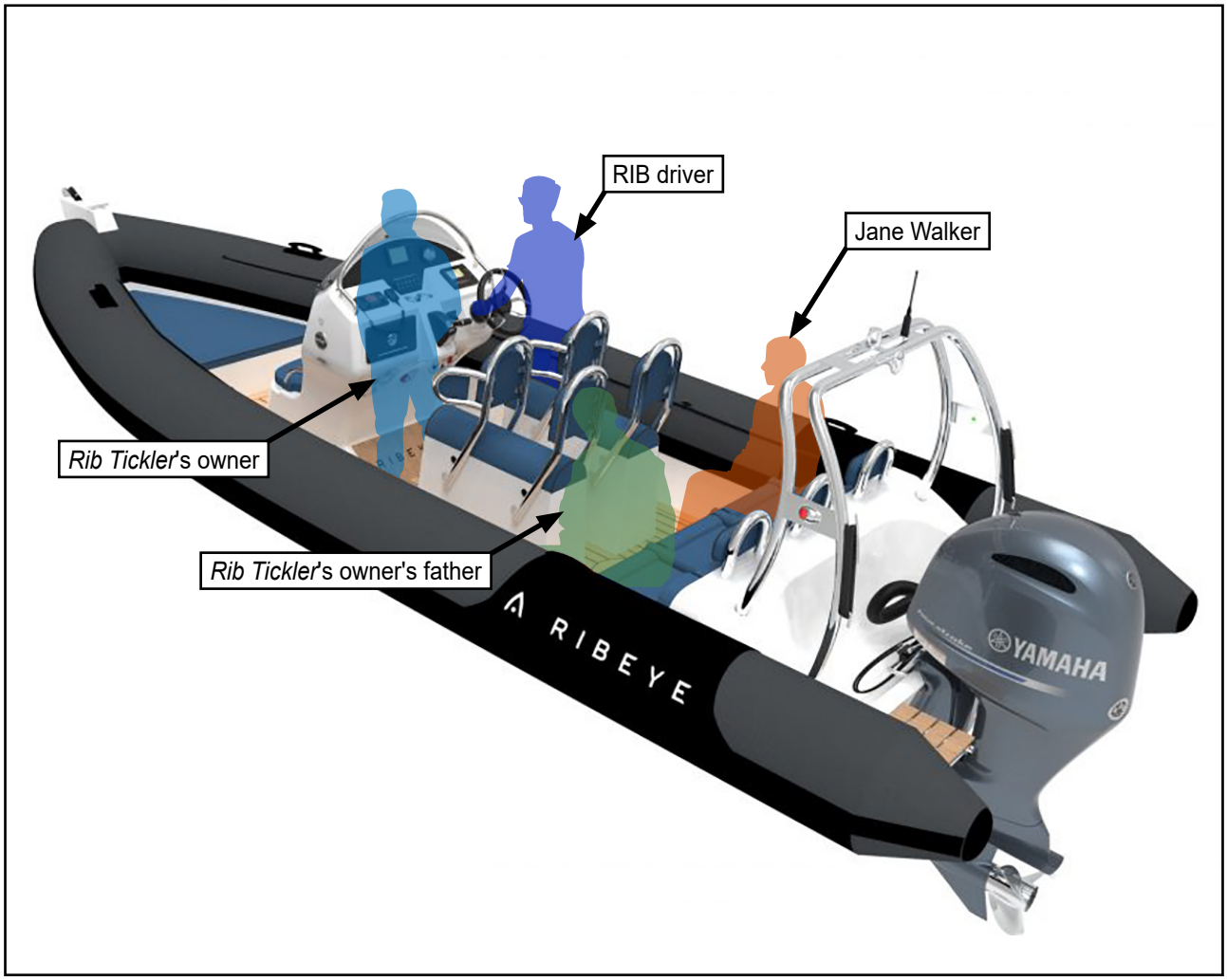

Figure 5: Ribeye S650, showing seating positions on *Rib Tickler* at the time of the accident

While steering *Rib Tickler* on a straight course, the RIB driver began to increase speed, and within a couple of minutes the RIB was close to full throttle **(Figure 6)** and travelling at about 25 to 30 knots (kts).

At 1928, a member of the RIB driver's family, who was following behind *Rib Tickler* on one of the PWs, positioned herself for a high-speed diagonal run from left to right across the RIB's wake. As she accelerated forward and hit the wake, the RIB driver looked over his right shoulder and believing it clear made a sharp turn to starboard. *Rib Tickler*'s owner, who had also looked over his right shoulder, saw that the RIB was cutting across the path of the PW and shouted a warning **(Figure 7)**.

The PW rider was unable to take avoiding action and the PW and *Rib Tickler* collided. The PW hit the RIB owner's mother and knocked her sideways from the starboard side of the aft bench seat and onto her husband **(Figure 8)**. The PW also made contact with the RIB's aft A-frame before pivoting and sliding down the starboard side, landing upright in the water with its rider still on board.

Following the collision, *Rib Tickler*'s owner took immediate control of the helm and headed towards the slipway. His mother was lying unconscious on the bench seat with her husband attending to her; the RIB driver called 999 and asked for the emergency services. As *Rib Tickler* approached the slipway, the RIB owner's mother regained consciousness.

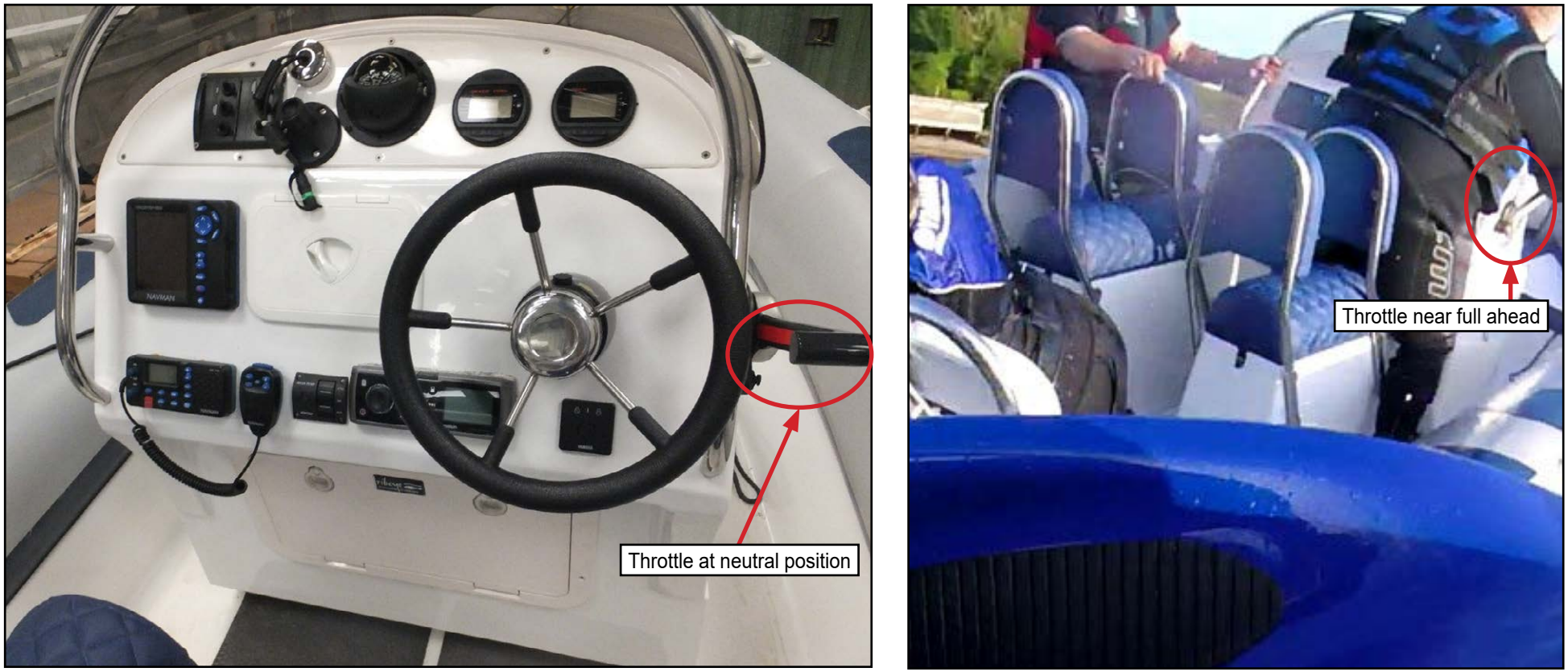

Figure 6: *Rib Tickler* helm console, showing the relative throttle positions for neutral and nearly full ahead

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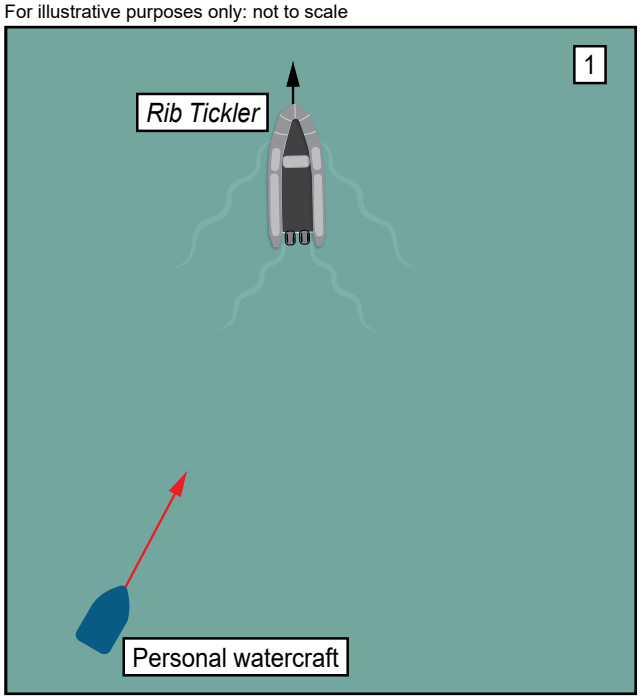
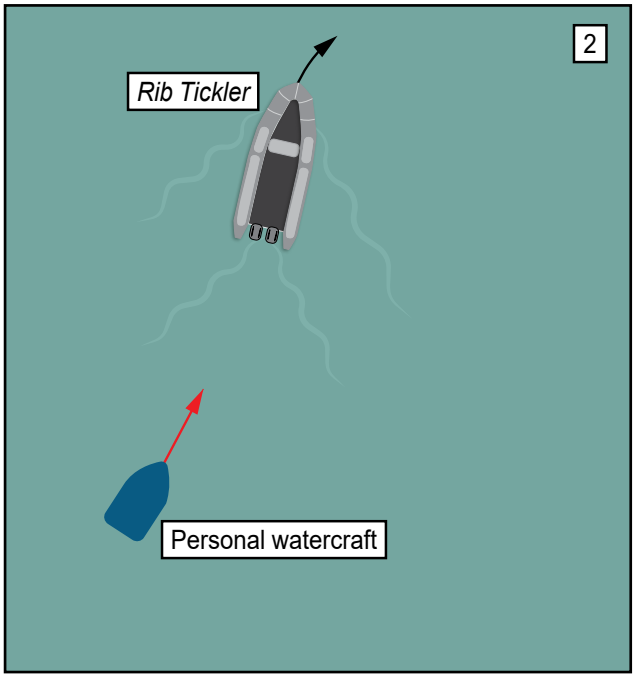
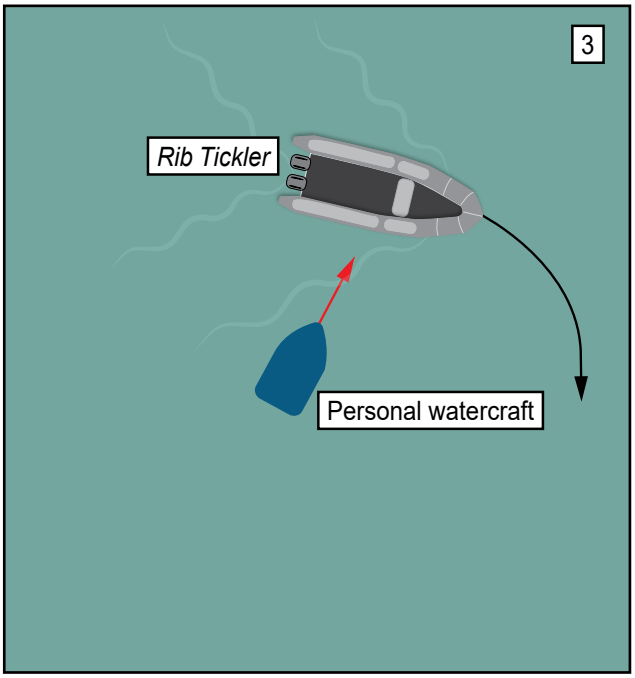


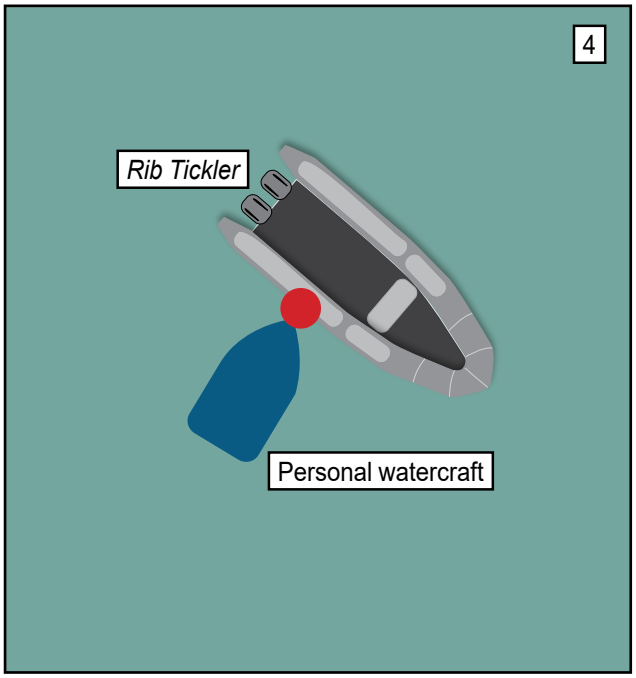
Both craft moving ahead. Personal watercraft on port quarter of *Rib Tickler*



Personal watercraft cuts across stern of Rib Tickler to jump wake, as Rib Tickler initiates a turn to starboard



Rib Tickler turns to starboard, cutting in front of personal watercraft



Personal watercraft collides with *Rib Tickler* at starboard aft tubing

Figure 7: The collision sequence

Video still courtesy of the personal watercraft's driver

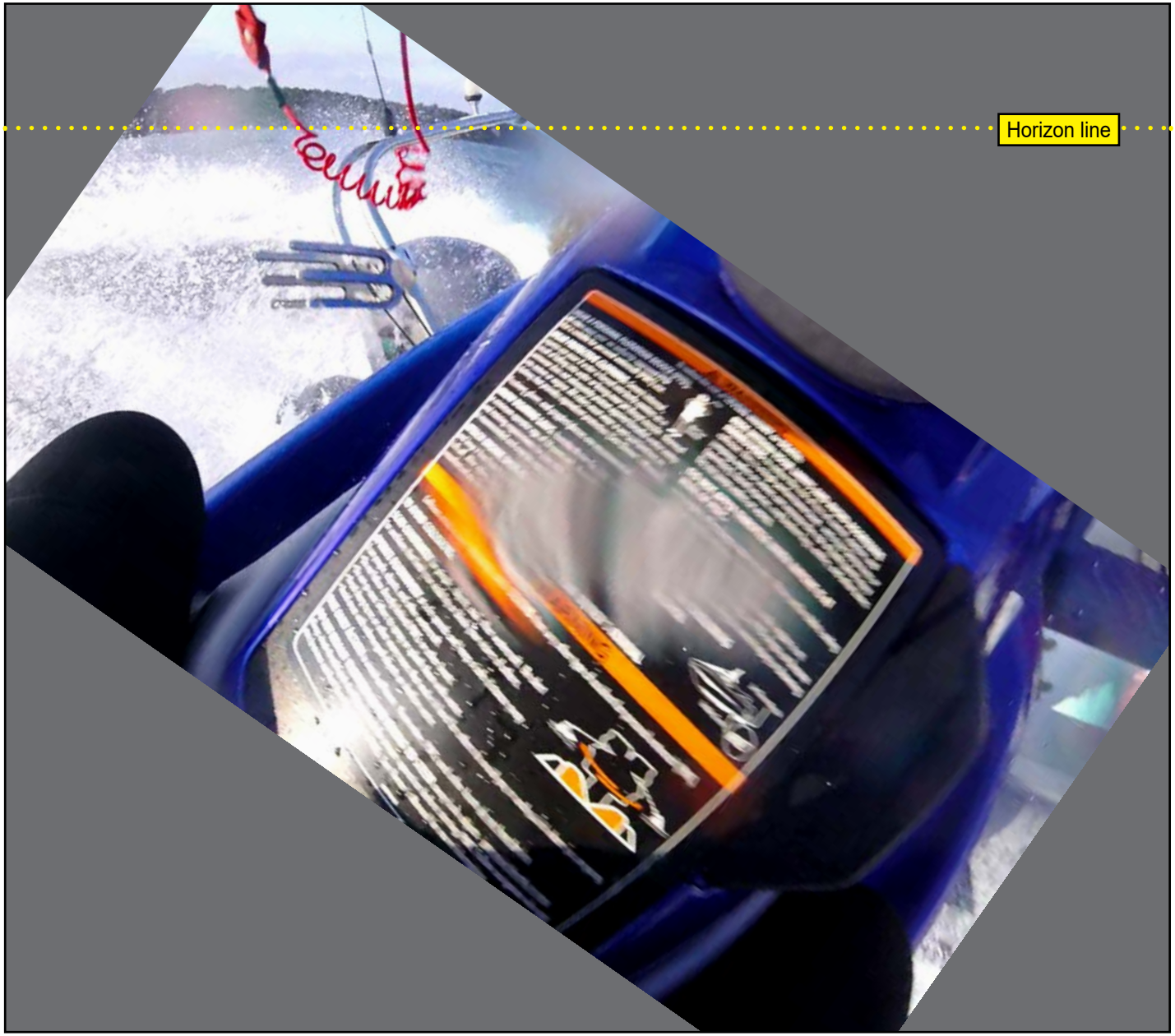


Figure 8: Still from the GoPro® footage taken from the personal watercraft

While waiting for the emergency services to arrive, the group recovered the RIB onto its trailer at the bottom of the slipway **(Figure 2)**. Within 12 minutes, two North Wales ambulance service paramedics had arrived on scene and began assessing and then treating the casualty on board the RIB. At 2008, an ambulance arrived and the RIB owners' mother, who had again become unconscious, was transferred from the RIB onto a trolley and then into the ambulance. She was declared deceased on arrival at hospital.

The RIB driver, who was helming the RIB at the time of the accident, and the PW rider were breathalysed following the accident and found to be under the alcohol limit for driving on the road[5].

A postmortem examination identified that the casualty's death was caused by head, neck, and chest injuries, which were detailed in the pathologist's report as *essentially unsurvivable*. The RIB owner's father also suffered significant bruising to his right shoulder area.

Rib Tickler suffered minor impact damage to the starboard side bench seat head rest and the starboard side A-Frame stanchions. The starboard navigation light was also broken, and there were scuff marks on the starboard tube **(Figure 9)**. The PW suffered minor damage to the gel coat and the fender strip on the port side **(Figure 10)**.

1.4 ENVIRONMENTAL CONDITIONS

The wind was a Beaufort force two from the north, which resulted in calm waters in the Menai Strait. The temperature was 18°C with cloudless skies. At the time of the accident, the tidal stream was running north-east at a rate of 1kt.

1.5 QUALIFICATIONS AND EXPERIENCE OF THOSE INVOLVED

Rib Tickler's owner had completed the Royal Yachting Association (RYA) Personal Watercraft Proficiency course, which was a local requirement for riding PW on a lake he had previously used. He had ridden PW on the Menai Strait over a period of about seven years and *Rib Tickler* during 2019. He did not hold any powerboat qualifications.

The RIB driver had ridden his PW on the Menai Strait for about five years. He had not attended the RYA Personal Watercraft Proficiency course and held no powerboat qualifications. He had helmed a RIB once before, about 25 years earlier.

The PW rider had driven a PW eight or nine times prior to the accident. She used her father's PW and had only ridden in company when her family went to the Menai Strait. She held no PW or powerboat qualifications. At the time of the accident, she was 17 years old.

All members of both families were wearing buoyancy aids while on the water, and the PW riders had handheld very high frequency (VHF) radios attached to their buoyancy aids. They commonly jumped each other's wakes when on the water together.

[5] In England, Wales and Northern Ireland, the alcohol limit for drivers is 80 milligrams of alcohol per 100 millilitres of blood, 35 micrograms per 100 millilitres of breath (https://www.gov.uk/drink-drive-limit).

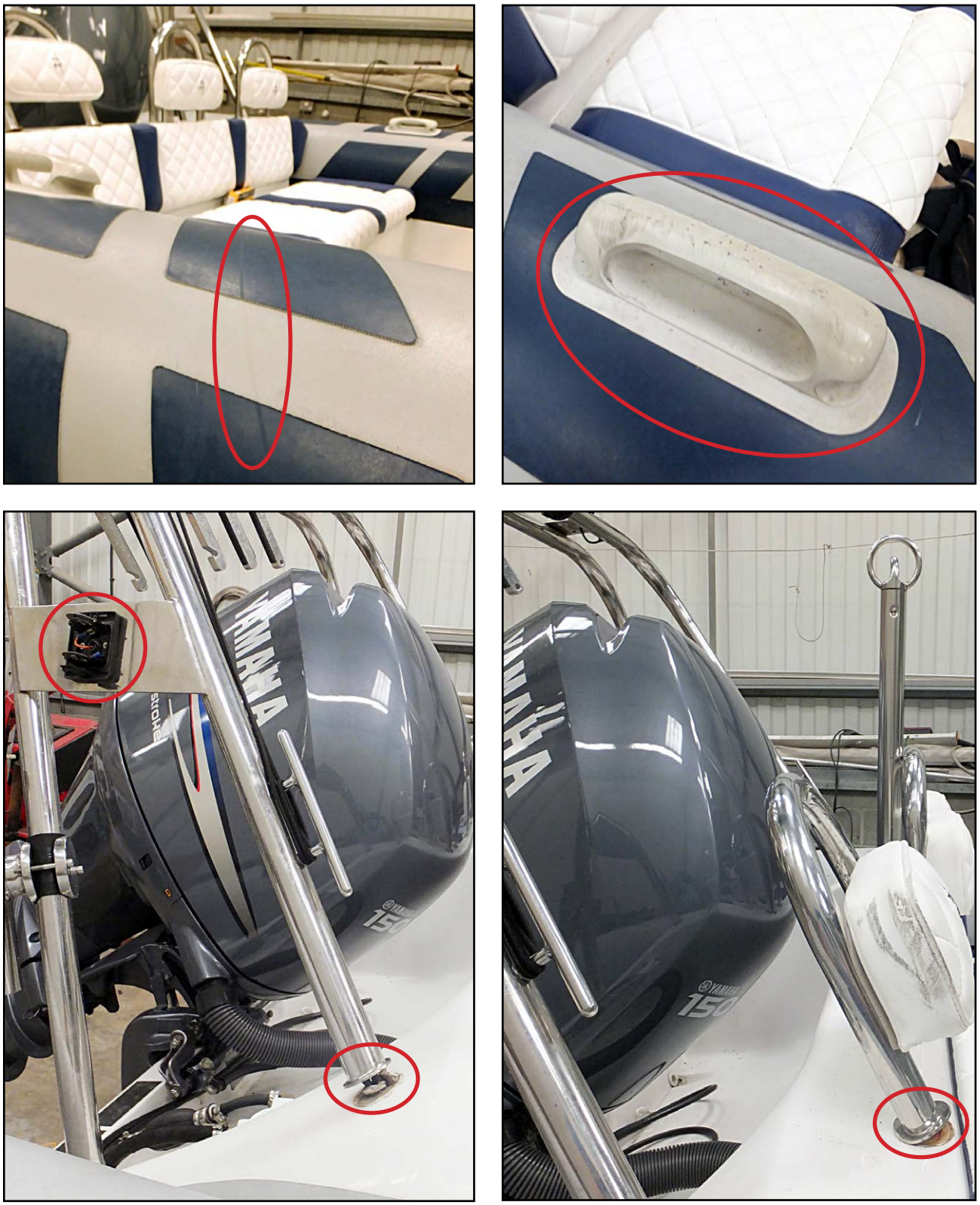


Figure 9: Damage to *Rib Tickler*

Figure 10: Damage to the personal watercraft

The families involved in this accident had met while attending a ride organised by a PW club local to Anglesey. They had not ridden with the club in the last year or so. A factor in this decision was that the RIB driver had a disagreement with the club organiser over the safety requirements for an annual charity ride.

1.6 *RIB TICKLER*

Rib Tickler was a 6.5m Ribeye S650 RIB, with a Glass-Reinforced Plastic hull and Hypalon tubes. It was built by Ribeye Ltd in 2008 and was powered by a single Yamaha F150 (150 horsepower) four-stroke outboard engine. The manufacturer's recommended maximum outboard power for the S650 was 200 horsepower.

The helm console was positioned forward of midships and housed the engine monitoring equipment, steering controls, engine throttle, navigation chart plotter, VHF radio, magnetic compass, and media player **(Figure 6)**.

The maximum carrying capacity stipulated by the manufacturer for *Rib Tickler* was 12 people. The RIB was fitted with a two-person bench seat forward of the console, four jockey seats behind the console and a three-person bench seat at the stern. It also had a padded seating area at the bow.

1.7 THE PERSONAL WATERCRAFT

The PW was a 2011 model Yamaha WaveRunner VX Cruiser. It was powered by a 1052 cubic capacity, four-cylinder engine, had a maximum capacity of three people and a maximum speed of approximately 56kts.

A manufacturer's warning label **(Figure 11)** was attached to the PW's engine cover that provided guidance on how to avoid the risk of serious injury or death. The warnings on the label included:

> ***RIDE WITHIN YOUR LIMITS AND AVOID AGGRESSIVE MANEUVERS*** *to reduce the risk of loss of control, injuries, and collisions.*
>
> *This is a high performance boat – not a toy. Sharp turns or jumping wakes or waves can increase the risk of back/spinal injury (paralysis), facial injuries and broken legs, ankles, and other bones. Do not jump wakes or waves.*
>
> *Collisions result in more* ***INJURIES AND DEATHS*** *than any other type of accident for personal watercraft (PWC).*
>
> ***TO AVOID COLLISIONS:***
>
> ***SCAN CONSTANTLY*** *for people, objects, and other watercraft. Be alert for conditions that limit your visibility or block your vision of others.*
>
> ***OPERATE DEFENSIVELY*** *at safe speeds and keep a safe distance from people, objects, and other watercraft.*
>
> - *Do not follow directly behind PWCs or other boats.*
> - *Do not go near others to spray or splash them with water.*
> - *Avoid sharp turns or other maneuvers that make it hard for others to avoid you or understand where you are going.*
> - *Avoid areas with submerged objects or shallow water.*
>
> ***TAKE EARLY ACTION*** *to avoid collisions. Remember, PWCs and other boats do not have brakes.* [sic]

1.8 MENAI STRAIT

The Menai Strait is a narrow stretch of tidal water that separates the Isle of Anglesey from the mainland of Wales. It varies in width between 8000m at its north-eastern end to less than 400m at its narrowest point.

The town of Menai Bridge is situated at the termination of the Menai Suspension Bridge on the Isle of Anglesey. The Porth y Wrach slipway is open to the public and gives access to swing moorings that extend, almost unbroken, north-east to Beaumaris **(Figure 3)**.

The tidal stream in the Menai Strait can be significant, especially in an area known as the Swellies, which lies between the Britannia Bridge and the Menai Suspension Bridge where, on spring tides, the current can reach 8kts.

Figure 11: Warning label on the personal watercraft

1.9 PORT MARINE SAFETY CODE

1.9.1 Application

The Port Marine Safety Code (PMSC) sets out guidance for a national standard for all aspects of safety in port facilities; its aim was to enhance safety for those who use or work in ports, their ships, passengers, and the maritime environment. Since its inception, the application of the Code has been updated and broadened to include not only harbour authorities, but also marine facilities, berths, and terminals. Guidance on safe port operations in the PMSC was subdivided into ten measures, specifically:

1. appointing a duty holder[6] accountable for compliance;

2. appointing a designated person (DP) to provide assurance;

3. reviewing powers and seeking additional powers where necessary;

4. complying with the duties and powers;

[6] A harbour authority should formally identify and designate the duty holder, whose members are individually and collectively accountable for compliance with the Code and their performance in ensuring safe marine operations in the harbour and its approaches.

5. undertaking a marine risk assessment;

6. operating an effective marine safety management system (MSMS);

7. monitoring, reviewing and auditing risk assessments and MSMS;

8. employing competent people;

9. publishing a safety plan; and,

10. complying with the direction of the General Lighthouse Authorities.

To comply with the PMSC, statutory harbour authorities (SHA) were required to consider all ten measures. Further guidance on the implementation of the PMSC was provided in its associated Guide to Good Practice.

1.9.2 Harbour authority powers

Harbour authority powers stem from various legal instruments. The PMSC advises that harbour authorities should understand their local legislation (such as harbour acts, harbour orders and byelaws) and, if identified by a risk assessment, apply for additional powers to be able to meet their safety obligations. To be able to discharge their marine safety obligations the duty holder, as defined under the PMSC, should ensure that appropriate resources are made available. Such additional powers can be sought using byelaws or harbour directions.

Regarding byelaws:

- Byelaws are subject to application to the Secretary of State for Transport and involve the completion of navigation risk assessments and impact assessments.

- The process to amend byelaws can involve significant resources and time, and it can be costly to bring about a prosecution.

- Local authorities in England and Wales have powers to make byelaws regulating (though not banning) the use of ‘seaside pleasure boats’ under section 76 of the Public Health Act 1961.

- Where no other powers are available, councils are also permitted to make byelaws for the regulation and suppression of nuisances under section 235 of the Local Government Act 1972, as amended.

On harbour directions:

- A harbour authority can apply to the Secretary of State for Transport for a harbour revision order (HRO) to give them the enabling power to create harbour directions.

- Harbour directions apply only to ships as defined in maritime legislation; in this case, the Harbours Act 1964.

- Harbour directions give the harbour authority the power to issue directions in relation to ships in the harbour area or entering or leaving the harbour.

1.9.3 Marine safety management system

The PMSC requires that an MSMS that manages the port's hazards and risks be developed, implemented, and maintained.

Two important aspects of any MSMS include:

- The undertaking of a navigation risk assessment considering all foreseeable activities within the port or harbour area, and

- the ability of the harbour authority to record, investigate and analyse incidents in order to determine underlying marine safety deficiencies. Once identified, corrective action can then be taken to reduce the risk to a level as low as reasonably practicable.

The Maritime and Coastguard Agency (MCA) can conduct health checks to measure a port's compliance with the PMSC and, where appropriate, identify ways to enhance it. Health checks also aim to identify and share best practice. A health check visit is intelligence-led and may be triggered for a variety of reasons; the port or facility may also volunteer for one.

1.9.4 Menai Strait governance

The responsibility for safe navigation in the Menai Strait is shared between the Caernarfon Harbour Trust (CHT) and Isle of Anglesey County Council (IACC).

CHT is the SHA responsible for the regulation and provision of safe navigation between Caernarfon Bay and the Menai Suspension Bridge **(Figure 3)**. CHT is also the Competent Harbour Authority, responsible for providing pilotage for the entire Menai Strait.

IACC is the SHA for the section of water between the Menai Suspension Bridge and Ynys Faelog **(Figure 2)**, which includes the harbour of Menai Bridge and St. George's Pier.

Other interested parties include Gwynedd Council, who hold responsibility for several launching sites that exist on the southern bank of the Menai Strait, and Conwy County Borough Council, who are the SHA for the port of Conwy, at the north-eastern extreme of the Menai Strait.

IACC had a speed limit of 8kts in bathing areas and advised the same limit within moorings. CHT had three 5kts speed limit zones in place, including at an area known as Y Felinheli **(Figure 12)**. As an immediate reaction to the accident at Menai Bridge, CHT extended the 5kts speed limit further up the Menai Strait towards the Britannia Bridge and past the Plas Newydd National Trust property to Garreg Ginnog **(Figure 3)**.

1.10 ISLE OF ANGLESEY COUNTY COUNCIL

1.10.1 Maritime responsibilities

IACC's executive committee were individually and collectively responsible for ensuring that PMSC requirements were met. IACC employed an independent consultant as their DP responsible for assessing and reporting on the effectiveness of the MSMS in complying with the PMSC.

Image courtesy of Caernarfon Harbour Trust (www.caernarfonharbour.org.uk)

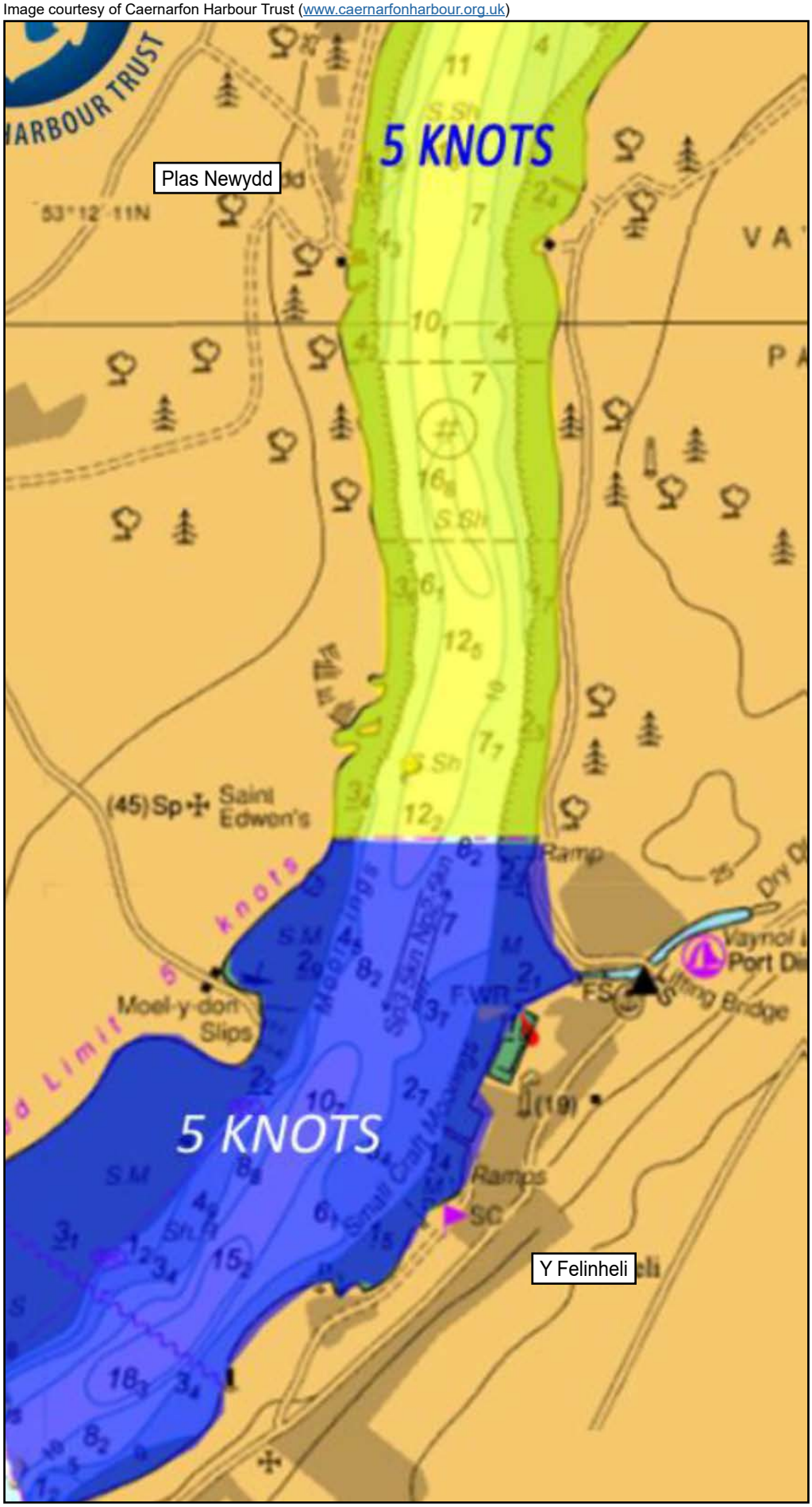


Figure 12: Caernarfon Harbour Trust extended speed limit

Within IACC a senior maritime officer managed all marine-related affairs around the island and was operationally responsible for MSMS implementation. IACC employed a harbourmaster to oversee the port of Amlwch; the ports of Menai Bridge and Beaumaris were overseen by a pier master who had day-to-day operational responsibility.

1.10.2 Current byelaws and harbour directions

The IACC document *Seashore and Seaside Pleasure Boats Byelaws* identified 26 areas around the Isle of Anglesey that had byelaws applicable to them. The document was last updated in 1996.

The only area in the Menai Strait covered by byelaws was the bathing area at Beaumaris, where there was a speed limit of 8kts between the months of April and September and the hours of 1000 and 1900. The byelaws stated that:

> *No person being the navigator of a pleasure boat shall cause or suffer such vessel to be driven or sailed in a dangerous manner or without due care and attention or without reasonable consideration for other persons.*

There were no byelaws applicable to Menai Bridge, although there was an advisory speed restriction of 8kts within the moorings. There were no general, special, or harbour directions in force.

Both families were aware of the local 8kts advisory speed restriction within the moorings but, on the evening of the accident, one of the RIB driver's sons was challenged by an employee of a local commercial RIB ride company due to his excessive speed through the moorings.

1.10.3 Resources

IACC had one patrol boat, which was kept at St George's Pier **(Figure 2)** and used between Menai Bridge and Beaumaris as and when it was deemed necessary and staff availability allowed. The patrol boat provided an on-water presence and had been taken onto the water prior to the accident by the Senior Maritime Officer, but it was not equipped or intended to be used to chase PW or high-speed RIBs. Previously the council had owned three PW, but these were disposed of in 2014 due to budget pressures.

IACC employed a team of seasonal beach wardens and slipway attendants who provided a presence at beaches and slipways around the Isle of Anglesey. They wore branded clothing and identification badges, so were immediately recognisable. They were also first aid trained. Their primary task was health and safety, but they also provided local tourism information.

The slipway attendants checked the registration and insurance of those launching from the slipways and took registration and launching fee payments as necessary. The number of wardens and attendants employed had reduced from 26 in 2014 to 11 in 2020.

1.10.4 Menai Bridge safety management

IACC's marine operations plan, which detailed its PMSC compliance, included the following risk assessments relevant to the Menai Strait:

- *Strong weather from the North to North-east*
- *Strong tides*
- *Drying berths*
- *Slipway operations*
- *Fire on a vessel*
- *Collision between a ship and pontoon berth*

The risk assessments were due to be reviewed before 31 August 2018, but this had not been completed at the time of the accident. An incident log was maintained for Menai Bridge and Beaumaris and, since 2017, a total of five incidents had been recorded. There was no documentary evidence that these incidents were investigated.

1.10.5 Registration and launching fees

Each powered craft launched from Anglesey was required to have IACC registration and valid insurance. The registration could either be completed at the IACC offices, by post, or with a slipway attendant. Once registered, the owner received a registration sticker that was to be placed in a visible location on the craft.

Each vessel was also subject to a launching fee, which could be paid on a daily or annual basis. A discount on the annual launching fee was available for people who held a recognised powerboat or PW qualification.

Rib Tickler's owner purchased the RIB in September 2019. Although it was registered for use in IACC waters in 2019, the council office had been closed due to the COVID-19 pandemic and so the RIB had not been reregistered for the 2020 season.

The RIB driver had not registered his PW with IACC due to the council office being closed, but he had registered the PW with IACC in previous years. The IACC *Boat and Personal Watercraft Launching and Registration* document **(Annex A)** contained information on byelaws and some basic safety guidance, such as information on the Royal National Lifeboat Institution's 'Sea Check' service. A minimum age requirement for PW use was also set out, which included:

- *Unqualified people must be at least 18 years of age to operate a Personal Watercraft.*
- *For those aged 15-17, they must possess a R.Y.A Certificate of Competence for Personal Watercraft.*

Gwynedd Council and Conwy County Borough Council had their own registration schemes. They also had a reciprocal agreement with IACC, allowing craft registered in each other's schemes to launch at any site.

1.10.6 Menai Strait Code of Conduct

During the 2019 August bank holiday weekend, where the water adjacent to Menai Bridge was extremely busy due to excellent weather and the appearance of a pod of dolphins, numerous complaints were received from local residents about the congestion of both commercial and privately-owned leisure craft on the Menai Strait, and the related noise pollution. There had also been an increasing number of complaints about speeding craft and irresponsible behaviour building up to that weekend.

In response, IACC, in conjunction with the North Wales Fisheries Local Action Group, created the 'Menai Strait Code of Conduct Project'. The participants aimed to reduce incidences of unacceptable and irresponsible behaviour and noise pollution, while increasing safety through speed restrictions, media, education, and the identification of designated areas for different activities. With support from the other stakeholders, IACC was named as the organisation responsible for leading the group and delivering the project's objectives and IACC's Senior Maritime Office was elected as chair. Due to the restrictions put in place during the COVID-19 pandemic, the project group's work was delayed.

1.11 PERSONAL WATERCRAFT GUIDANCE AND LEGISLATION

1.11.1 The Goodwin case

In May 2004, a PW rider (Mr Goodwin) was involved in a collision with a stationary PW in Weymouth Bay, causing serious injury to its rider. Mr Goodwin was indicted on a single count of doing an act which caused or was likely to cause serious injury, contrary to section 58(2)(a) of the Merchant Shipping Act 1995 (MSA).

In July 2005, Salisbury Crown Court saw the case of R (The Crown) versus Goodwin. The defendant's argument that Section 58 of the MSA 1995 did not apply as a PW was not within the statutory definition of a 'ship' was not accepted by the court. The defendant changed his plea to guilty and was sentenced to six months' imprisonment in line with the sanctions set out in the MSA. He was released on bail, pending appeal.

The appeal was heard in the Court of Appeal in December 2005, where the judge concluded that a 'vessel used in navigation' (i.e. a ship) was used to make ordered progression over the water from one place to another, and not a craft used for having fun on the water without the object of navigating from one place to another. The MSA therefore did not apply in this case and conviction was overturned.

This court ruling resulted in there being no overarching legislation to impose on individuals who use PW negligently, causing accidents or endangering the safety of others. It also meant that harbour directions ceased to apply to PW, as they drew their powers from the Harbours Act 1964, and latterly the Marine Navigation Act 2013, which only apply to the statutory definition of a ship.

In 2009, the Department for Transport (DfT) published a consultation and draft regulations on proposals to regulate the safe use of all watercraft, but were ultimately unsuccessful. However, a new package was prepared for consultation in 2021 with amendments planned to go before Parliament during 2022.

1.11.2 Personal Watercraft Partnership

The Personal Watercraft Partnership (PWP) is a group of bodies involved in the PW industry in the UK. Members include manufacturers, the RYA, and British Marine (BM), as well as security and insurance brokers.

The PWP supports and promotes the PW industry in the UK by helping authorities implement effective PW management schemes, and supports the recreational use of PW through education and advice on training, security, insurance, and legal issues.

The PWP publication *Managing Personal Watercraft – A guide for local and harbour authorities*, is available on the organisation's website and was revised in 2021. The publication acknowledges the thrills that a PW can provide, and the challenge they can pose to coastal managers who aim to provide opportunities for PW users to enjoy themselves without risking the safety and enjoyment of coastal areas for others.

The guide recommends that authorities take a proactive stance and do not manage PW simply in response to conflicts and issues. It identifies the range of management options available, from voluntary to statutory approaches, that may be implemented dependent on local circumstances. These are illustrated using management scheme case studies, such as in Poole, Herne Bay and Whitstable. In conjunction with the publication, the PWP offer free of charge consultancy services to interested coastal authorities.

1.11.3 Registration

There is currently no mandatory or voluntary PW registration scheme run on a national level. Some UK harbour authorities require PW to be registered to an owner, with craft identification numbers and owners' contact details made available to the harbourmaster. This is universally carried out using the Datatag system.

1.11.4 Datatag system

Datatag is a privately-owned independent company that provides anti-theft systems for a range of markets, including motorcycles, scooters, equine, agricultural equipment, construction equipment, trailers, and more.

Datatag's PW security system consists of a range of electronic transponders, Datadots®[7], Datatag forensic chemical DNA[8], and visible identification labels that display unique identification numbers.

The Datatag database is available at any time to the UK police services and harbour authorities. Datatag is fitted as standard by UK PW dealers and the system can also be fitted as an aftermarket purchase.

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[7] A microdot identification system developed for ease of use. The Datadots® can be applied to any surface, thus making it virtually impossible for the criminals to locate and remove them all.

[8] A unique chemical DNA solution. Each piece of equipment is protected with an invisible and unique DNA code. Criminals will have to be confident they have removed every molecule of Datatag DNA.

1.11.5 Cross-industry response to 2020 personal watercraft accidents

After the 2020 summer season, when there were several serious accidents, including fatalities, involving PW, the UK Harbour Masters Association (UKHMA) wrote to the DfT minister for Aviation, Maritime and Security. Its letter highlighted the UKHMA's opinions on the legislative 'loophole' in which PW operated, the enforcement issues this created, and the overall negative impact on coastal communities and leisure users.

The minister responded in her support of the opinions of the UKHMA and pointed towards the consultation package being prepared by the DfT to address the issue.

In October 2020, the UKHMA and British Ports Association (BPA) met with the PWP, RYA and BM. At this meeting, an agreement was reached on a signage initiative for display in ports, at launching sites, and on beaches in an inaugural attempt at consistent national management and education for PW users. The aim of the signage was to make PW users aware of local regulations and help instil safe riding practices. The initiative was shared with all members of UKHMA and BPA, with a free to access, editable, template accessible online. After consultation with their members, the UKHMA and BPA also accepted the PWP's invitation to become a partner body of the PWP.

A consequence of PW falling outside the MSA is that there is currently no national collation of accident data statistics for PW in UK waters.

1.11.6 Local Government Association Coastal Special Interest Group

The Local Government Association (LGA) Coastal Special Interest Group (SIG) exists to champion and represent the collective interests of coastal, estuarine, and maritime communities by increasing awareness and debate on environmental, economic and social issues at all levels in relation to the coast.

Although affiliated with the LGA in England, the LGA Coastal SIG is an independent entity. The SIG is membership-based, with member councils paying an annual fee. Currently there are 57 coastal councils, covering 59% of England's coastline, signed up to the SIG **(Figure 13)**. In 2020, a water safety group was started, and, at the inaugural meeting, PW management was raised as a priority subject.

1.11.7 Insurance

IACC required each PW registered to use its waters to have £3 million indemnity insurance. The RIB driver had an insurance policy that covered the PW and did not have named users. A condition of the policy was that additional users were at the owner's discretion and that only those aged 16 and above were allowed to use the PW on their own.

The majority of insurance providers in the UK will not insure those aged between 12 and 15 for solo use of a PW, but some companies will if the rider has completed the RYA Personal Watercraft Proficiency course.

Image courtesy of the Local Government Association Coastal Special Interest Group (lgacoastalsig.com)

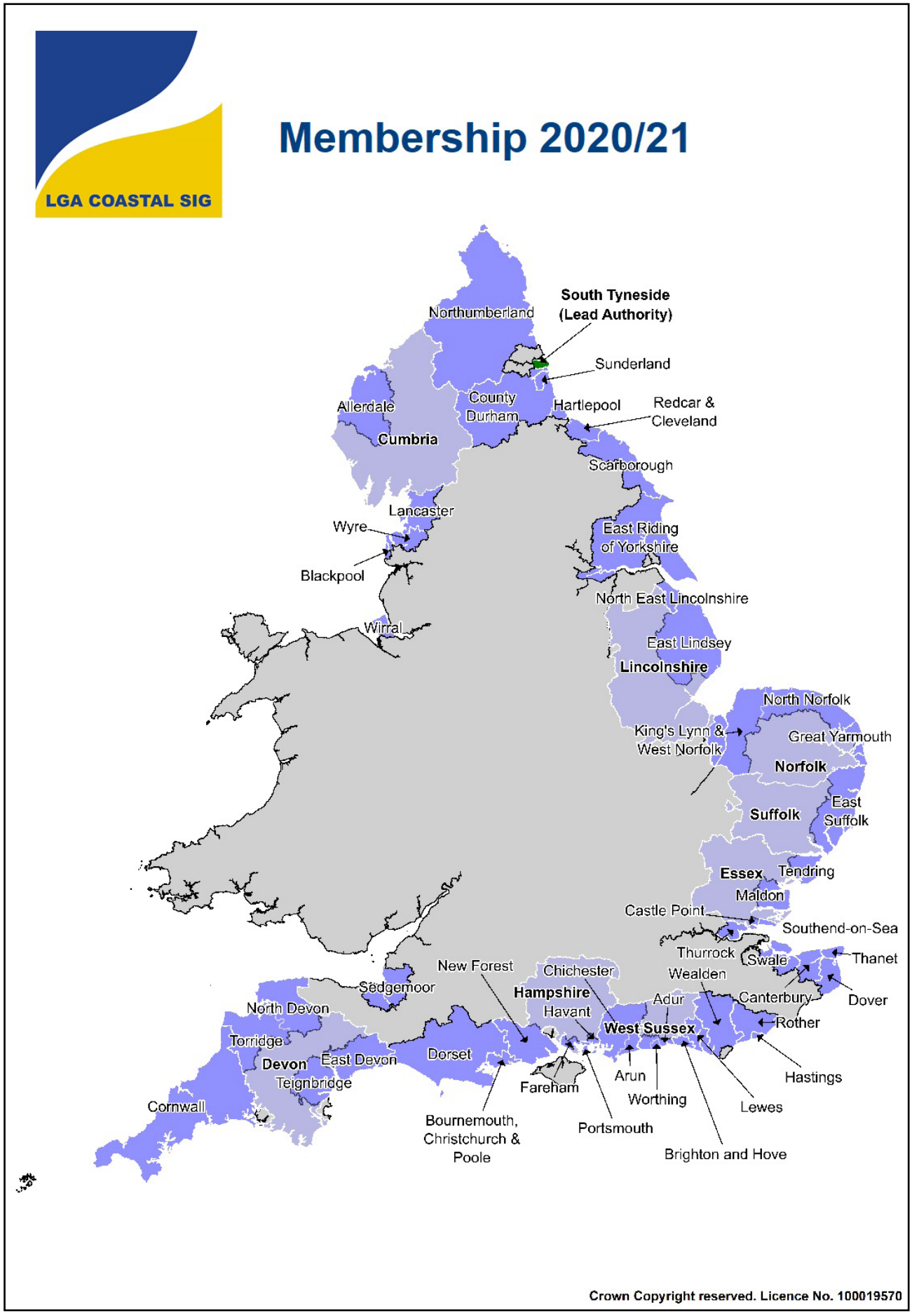

Figure 13: Local Government Agency Coastal Special Interest Group membership 2021

1.12 ROYAL YACHTING ASSOCIATION TRAINING

1.12.1 Overview

The RYA is the UK's national governing body for dinghy sailing, yacht and motor cruising, all forms of sail racing, powerboating, windsurfing and PW. Although other training providers exist, as the national governing body the RYA's courses are widely available and set a standard for leisure training in the UK and around the world.

To indicate the depth to which each course subject would be covered, the RYA defined three teaching levels:

- *KNOWLEDGE OF: The subject will be briefly explained. Familiarisation occurs during the course and information on where to find out more is given.*

- *UNDERSTANDS: The subject will be covered in greater depth. You will be asked to demonstrate a basic understanding and go away from the course able to develop further your own skill in this area. Confirmation of your understanding of the subject may be achieved in a number of ways, such as question and answer sessions.*

- *CAN: The subject will be covered in greater depth, including background theory, practical demonstrations by the instructor and repeated practice by yourself until you can demonstrate the required level of skill in this subject.*

1.12.2 Personal watercraft courses

The RYA provides two PW courses: a 1-hour Introduction to Personal Watercraft Safety course, and a 1-day Personal Watercraft Proficiency course. Designed for both first-time and experienced riders, the aim of the proficiency course is to train PW users to ride safely and responsibly. The 1-hour introduction course provides an overview of the basics and was designed by the RYA for the superyacht industry, where the yachts have RYA Recognised Training Centre status and carry PW for their client's enjoyment. Both courses are complemented by the *Personal Watercraft* handbook, published by the RYA, which includes the course syllabus and additional guidance. The handbook contains the following warning:

> ***DON'T** wave jump behind a boat. This is similar to 'tail-gating' a car and is not only dangerous but is also very unnerving and irritating for the boat driver. There are plenty of waves to jump at sea.*

In the *Weather, Wind and Waves* section of the publication there is guidance on how to manage interaction with larger sea waves, but the dangers of wake jumping are not highlighted.

There are several references to keeping a good lookout within the handbook and syllabus, where the course participant is required to demonstrate their ability to maintain a good lookout at all times. This is expanded within the *Rules of the Road* section, where it states:

> *Keep a proper lookout, 360 degrees around you. Always glance over your shoulder before changing direction as someone may be about to pass you. Do not trust your mirrors.*

The recognised best practice for an over-the-shoulder pre-manoeuvre check is to look over both shoulders to a line right astern of you, but this procedure is not explicitly explained in either the syllabus or handbook.

1.12.3 Powerboating scheme

The RYA offers six separate powerboating courses. At entry level are the Level 1 – Start Powerboating and Level 2 – Powerboat Handling courses. The Level 1 course is intended for participants to gain basic skills while the Level 2 course provides the skills and background knowledge that a competent boat driver needs.

The RYA's *Start Powerboating* publication contains guidance based on the curriculums of these two courses. Participants are required to understand the application of the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs), especially Rule 5 and Rule 6, which govern lookout and safe speed respectively, as well as to have an awareness of other water users.

The publication's *Operating at Planing Speed* section also contains this advice:

> *When intending to travel at high speeds, you must keep a really good all-round lookout. Check it is clear to turn and be aware of other water users.*

Similar to the guidance given in the PW handbook, there is no explicit instruction on how to apply best practice over-the-shoulder checks.

The practice of bringing two boats alongside each other while making way, known as Pacing[9], is not covered in the RYA level 1 and 2 courses. Pacing used to be included in the RYA Level 2 syllabus, but it was removed due to concerns over the safety of the manoeuvre. As a result, all advice on operating in groups of craft was also removed. There is also no advice on the oversight of an inexperienced or untrained helm in an informal setting.

1.13 SIMILAR ACCIDENTS

1.13.1 Two fire and rescue service boats – collision

Two fire and rescue service boats were in a collision while undertaking boat training and familiarisation, which resulted in one fatality (MAIB report 17/2020[10]). The MAIB's investigation found that the collision occurred because both boats were operating at speed and carrying out uncoordinated manoeuvres in the same stretch of river.

As his boat exited a large turn made at speed, one helmsman attempted to pass between the other boat and the shoreline. The other boat's helmsman turned his craft sharply to port as part of his training manoeuvres, which resulted in the boats heading towards each other. The subsequent action taken by both boats to avoid a collision was unsuccessful. There was a lack of awareness by either helm of where the other boat was. The investigation found that the accident could have been avoided had the training been properly planned.

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[9] Pacing utilises the natural pressure zones created by the boat's movement through the water. This is useful for at sea transfers and is used primarily by maritime security forces and rescue organisations such as the Royal National Lifeboat Institution but is also applicable when training those in other craft.

[10] https://www.gov.uk/maib-reports/collision-between-2-fire-and-rescue-service-boats-with-loss-of-1-life.

1.13.2 *Osprey* and *Osprey II* – collision

Two passenger carrying RIBs, *Osprey* and *Osprey II*, collided in the Firth of Forth. A passenger sitting on an inflatable tube on *Osprey II* was crushed between *Osprey*'s bow and *Osprey II*'s helm console, resulting in her sustaining serious injuries (MAIB report 10/2017[11]).

While proceeding in parallel at a speed of around 6kts, the RIBs' skippers increased speed and then turned away from each other with the intention of completing synchronised power turns and returning to their parallel positions. As they exited the turns the skippers realised that the RIBs were in danger of colliding and reduced speed. Although they both acted quickly to reduce the speed of their respective vessels, and so lessen the impact, they were unable to prevent the collision. The manoeuvre had previously been carried out successfully on several occasions, but it had not been formally risk assessed, and no thought had been given to what to do if a collision situation developed.

[11] https://www.gov.uk/maib-reports/collision-between-rigid-inflatable-boats-osprey-and-osprey-ii-resulting-in-serious-injuries-to-1-passenger

SECTION 2 – ANALYSIS

2.1 AIM

The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents occurring in the future.

2.2 OVERVIEW

Rib Tickler and the PW collided because they were carrying out uncoordinated high-speed manoeuvres in the same stretch of water and neither the RIB driver nor the PW rider realised the risk until it was too late. Jane Walker died because she was struck by the PW and suffered internal injuries that were detailed by the pathologist as *essentially unsurvivable*.

This section of the report will analyse the circumstances that led to the collision and the reasons why the RIB and the PW were manoeuvring so close to each other at speed. The underlying factors that might have contributed to the accident, such as the skills, knowledge, and experience of those involved, local governance of the marine environment, available training, and the national oversight of PW will also be discussed.

2.3 THE COLLISION

Immediately before the collision, the PW rider jumped *Rib Tickler*'s wake at high speed. As the PW approached the wake, the RIB, which was being driven by the PW's owner, turned sharply to starboard and into the path of the PW. The PW hit *Rib Tickler*'s wake, rose out of the water, and struck the RIB owner's mother and the RIB simultaneously.

Within a few minutes of accepting the owner's offer to drive *Rib Tickler*, the RIB driver had accelerated the RIB to near full speed. Although the actual speed of the RIB could not be established, analysis of GoPro® footage recorded by the PW rider **(Figure 6)** showed the RIB's throttle handle at a position very close to full ahead. This would have resulted in the RIB travelling at between 25 and 30kts. Powerboat speeds of 25 to 30kts are not excessive and are common for RIBs operating in open and calm waters where there are no speed limits. However, given the confined nature of the waters, the proximity of the two PW, and the RIB driver's lack of powerboat training and experience driving a RIB, *Rib Tickler* was not being driven at a safe speed or in a safe manner.

The RYA *Personal Watercraft* handbook advised that PW should be driven at a speed that allows the rider to stay in control and take avoiding action if necessary. As with driving a car, when speed increases, the distance between vehicles also needs to increase. The safety label on the PW engine cover warned riders to keep a safe distance from people in the water and other watercraft and highlighted the potentially fatal consequences of a collision. It specifically warned riders not to follow directly behind other boats or jump over wakes or waves.

Neither the PW nor the RIB were being driven safely on the evening of the accident. However, despite the PW rider's lack of experience, there was little she could do to avoid the collision after committing to crossing the wake once *Rib Tickler* turned in to her path.

2.4 VESSEL OPERATIONS

2.4.1 RIB driver

The RIB driver had no powerboat qualifications and had not driven a RIB for over 25 years. Under his control, *Rib Tickler* was taken to almost full speed within a few minutes and a turn to starboard was initiated without warning or appreciation of the other craft in the party.

The RIB driver was more used to riding a PW and so had a false sense of speed and control when helming the less responsive RIB. In common with the collision between the two fire service boats, the helm lacked awareness of the location and movements of other craft in the party, and his attempts to check over his shoulder to starboard before the turn did not provide him with a full 360° view **(Figure 14)**[12].

For illustrative purposes only: not to scale

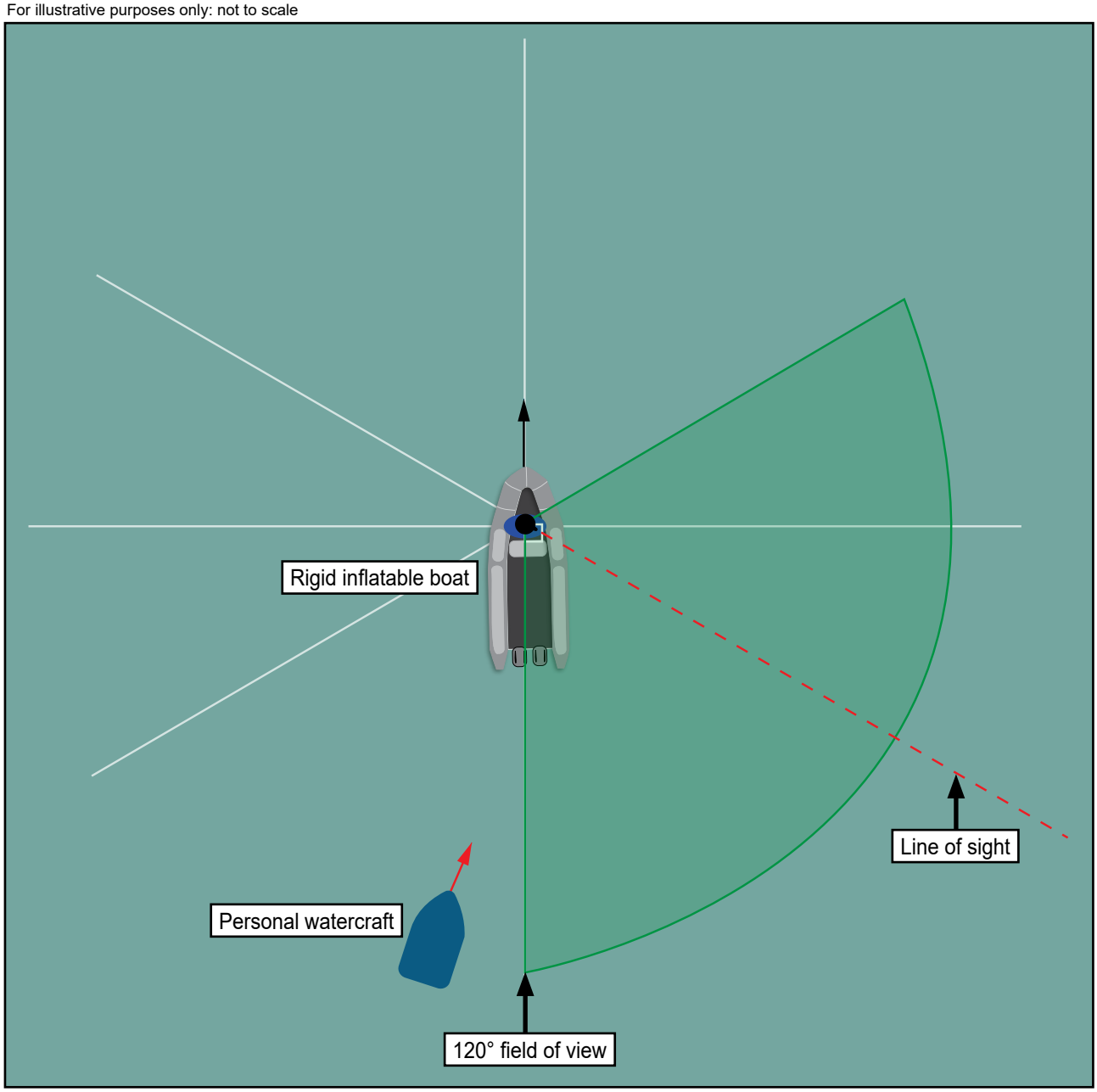

Figure 14: A standard field of view to right astern of the RIB

[12] The commonly accepted static field of view is around 120°, and the average rotation is between 60° and 90°. Even with a rotation of 120° from right ahead, as illustrated in Figure 14, the field of view of the helmsman would only reach to right astern and he would not have seen the PW on the port quarter.

The ability of a helm to safely control their vessel at an appropriate speed, while maintaining an awareness of craft around them, is essential. If the RIB had operated in isolation, its speed would have been appropriate; however, the lack of awareness of other craft, inadequate look astern and nature of the turn indicate that the RIB driver did not have the required level of knowledge, skill, and experience to safely operate a RIB in the prevailing circumstances.

2.4.2 *Rib Tickler*'s owner

Although not in control of the RIB at the time of the accident, *Rib Tickler*'s owner had responsibility for how it was being operated. From his knowledge of his friend's PW experience, he assumed the RIB driver had the ability to control the RIB and made no attempt to instruct, guide or oversee his actions before handing over control.

As the RIB driver started to turn the RIB, *Rib Tickler*'s owner looked to starboard, saw the PW, and shouted a warning. Unfortunately, the PW's proximity and the speed at which the two craft were converging meant that his intervention was ineffective in preventing the collision.

2.4.3 Personal watercraft rider

The PW rider had only been on a PW eight or nine times and was gaining confidence as her experience levels grew. Her actions on the PW were influenced by the group, who regularly took part in high-speed manoeuvres and wake jumping when on the water together. Although naturally cautious, she did not have the training or level of experience to identify a hazardous situation, as demonstrated by her proximity to the RIB when attempting to jump the wake. IACC required PW users under the age of 18 to have completed the RYA Personal Watercraft Proficiency course; the PW rider was unaware of this requirement, following the example set by the more experienced PW users within the family group.

It is unlikely that even an experienced and skilful PW rider could have avoided colliding with the turning RIB once they had committed to jumping *Rib Tickler*'s wake. However, a PW rider who had attended the RYA Personal Watercraft Proficiency course and understood the risks involved with wake jumping might have avoided being in that situation in the first place. Given the speed and power they have at their disposal it is vital that PW riders appreciate the potential to hurt themselves and others, as highlighted by the prominent warning label visible from the riding position **(Figure 11)**.

2.4.4 Overall safety awareness

None of the RIB drivers or PW riders had attended recognised training courses, such as those provided by the RYA, but informal guidance and good practice was available from other users and local clubs.

The RIB driver had decided not to ride with his local PW club due to a disagreement with the organiser over the safety standards imposed on the annual charity ride. Riding with more experienced and knowledgeable enthusiasts on organised events would almost certainly have had a positive influence on the development of good habits.

The gathering of the two families at Menai Bridge on the evening of 8 August was an impromptu one. *Rib Tickler* had already been launched and the RIB driver and his family were keen to join them and make the most of the fine weather. As they

had successfully shared the water many times in the past, there was no attempt to formulate a plan or consider a system of communication, factors also apparent in the collision of the two fire service boats (see 1.13.1). This is not uncommon in the world of leisure boating, where the priority is to have fun and the risks are sometimes overlooked.

Without the knowledge gained from training courses, or good practice learned from involvement with local clubs and practitioners, the group did not possess the skills, knowledge, and experience necessary to conduct their activities in a safe manner. Both families had a misplaced confidence in their abilities, which came from having enjoyed being on the water together many times without incident, and their lack of risk awareness contributed to close high-speed passes and wake jumping becoming normal practice. Their confidence in their own competence also led them to doubt the benefits of attending RYA training courses. The PW had been registered with IACC in previous years and the family were aware of the requirements, including those for PW riders under the age of 18 to complete the RYA Personal Watercraft Proficiency course. That the PW rider, aged 17 and under the supervision and guidance of her family group, had not completed this course indicates further misunderstanding of the potential PW safeguards in place. As highlighted on the PW craft label **(Figure 11)**, PW are high performance boats, not toys, and should be ridden with care.

2.5 ISLE OF ANGLESEY COUNTY COUNCIL WATERSPACE MANAGEMENT

2.5.1 Resources

On the day of the accident, there was no slipway attendant at the Porth y Wrach slipway where *Rib Tickler* and the PW were launched, as they had been called to a different location, and the craft were launched at a time when the wardens were expected to have stopped work for the day. The patrol boat had been in the vicinity earlier that afternoon but left before the families launched.

To discharge its marine safety obligations, as defined by the PMSC, IACC was required to make appropriate resources available to manage safety on its waters. In 2014, IACC had operated three PW to manage their waters and employed 26 beach wardens and slipway attendants. The council spending review at the time resulted in the removal of the PW and in subsequent years the numbers of beach wardens and slipway attendants reduced as the council was forced to make savings. At the time of the accident, IACC employed 11 beach wardens and slipway attendants to oversee the entire island. The Menai Strait had one patrol boat, used occasionally when the senior maritime officer deemed it necessary and when manpower allowed. The patrol boat was underpowered relative to many of the PW and powerboats using the water, which meant that its effectiveness was limited to providing an official presence, and the registration stickers issued by IACC were quite small, making identification of unsafe water users very difficult.

In 2020, the control measure of registering PW fell into abeyance, as the council offices were shut due to the COVID-19 pandemic. This hampered RIB drivers who tried to register their craft and did not receive the registration pack safety information or guidance. Although previously registered PW users would have been aware of the registration pack’s contents, the information was not widely available elsewhere.

In streamlining the council's expenditure, IACC had diminished the resource available to its maritime team, which reduced their ability to manage safety on IACC waters.

2.5.2 Legislative framework

The only byelaw in place on the Menai Strait was for the Beaumaris Bay area. Because the local registration requirements and the 8kts advisory speed restriction at Menai Bridge set by IACC were not underpinned by legislation they were difficult to enforce, especially when combined with the reduction in slipway and on-water presence.

The PMSC stated that, if determined by a risk assessment, a harbour authority should seek additional powers to appropriately manage their operations. This can be achieved either by the amendment of local byelaws or the application of a HRO, giving the harbour authority the power to create harbour directions. However, byelaws are difficult to amend or implement and, as directions are empowered by the Harbours Act 1964, they were not applicable to PW.

Even if the need for further powers has been identified by a municipal harbour authority such as IACC, their ability to put these in place is not simple and, in some cases, beyond the knowledge and resource of many smaller harbour authorities. This complexity and the associated cost influenced IACC's decision to introduce the Menai Bridge speed restriction, instead of attempting to amend byelaws, contributing to the area's waterspace remaining largely unregulated.

It is unrealistic to expect all responsible authorities to effectively manage such a complex and specialist area of legislation. Various organisations, such as the PWP, MCA, UKHMA and BPA, have relevant and up-to-date experience on these matters. Local authorities must recognise their own limitations and seek advice and guidance from the knowledgeable bodies that do exist, in order to bring effective regulation and management to their waters and create a safe environment for people to enjoy.

2.5.3 Marine safety management system

The PMSC states that an MSMS should include the undertaking of a navigation risk assessment, considering all foreseeable activities within the port or harbour area. There was no evidence in the IACC Marine Operations Plan that a risk assessment had been completed for the expected increase of seasonal leisure activities, although IACC was aware of this as it had been a well-documented point of local tension for the last few years. There were also no risk assessments in place for leisure activities such as PW and RIB use, which were certainly foreseeable in the Menai Strait.

A harbour authority is expected to evaluate performance and identify lessons learned and improvements to be made. However, IACC's MSMS did not have an effective incident reporting scheme in place for the Menai Strait's two ports and so had little data to evaluate. In addition, there was no evidence to suggest that attempts had been made to learn from reported issues.

These indicators that IACC had not effectively identified risks, nor put in place an effective method of capturing accident and near miss data, hampered its ability to identify and learn from incidents and improve its operational procedures in line with PMSC guidance.

2.6 PERSONAL WATERCRAFT NATIONAL OVERSIGHT

2.6.1 Legal status of personal watercraft

The judgement made by the Court of Appeal in December 2005, that PW did not fall under the legal definition of a ship, had significant consequences. With no overarching maritime legislation, such as the MSA, regulating the use of PW, reliance has been placed on harbour and other authorities to impose local byelaws.

Larger ports, harbours, and local authorities, with the maritime knowledge and resource to bring byelaws into place, have had some success in PW regulation, with enforcement action for dangerous behaviour where necessary. However, there is still a large proportion of the UK's coastline and waterways whose governing authorities do not have the necessary expertise or resource to amend or add byelaws to regulate PW use.

Many PW users are responsible and safe, but the current legislative environment has meant that irresponsible use has become difficult to manage. The DfT previously attempted to bring PW under the MSA and is attempting to do so again, with a consultation package entitled 'strengthening enforcement of the dangerous use of recreational and personal watercraft' published in September 2021 with a closing date for comments of 1 November 2021. If successful, it will improve the ability of all harbour authorities to consistently legislate safe PW use.

2.6.2 Local and national approach

With harbour authorities having differing approaches and priorities, sometimes with a large gap in the abilities of neighbouring authorities to manage their waterspace, discrepancies can form within a local area. For example, a large port with a more heavily regulated approach, backed up with a clear and successful enforcement framework, can dissuade PW users from using its waters. As PW are easy to transport and launch, it is simple enough to use the waters of a neighbouring municipal authority or go anywhere in the UK where the authority may not have the resources to apply legislation or enforcement capabilities.

Organisations exist with the knowledge and experience to help harbour authorities develop a PW management scheme. One of these is the PWP, whose publication *Managing Personal Watercraft – A guide for local and harbour authorities* contains guidance and case studies on successfully implemented schemes. This publication provides a starting point for harbour authorities and local councils who find themselves unsure of how to tackle PW management.

One obstacle in improving PW management is the identification of ownership of those PW involved in incidents and accidents. While acknowledging that there is no mandatory registration for the UK leisure sector, there are benefits to a voluntary system. The ability to identify a PW in the UK has been greatly enhanced by the Datatag anti-theft system, which can identify PW involved in incidents if the correct evidence is gathered. Although some harbour authorities require the PW owner's Datatag details as part of the local registration process, this is not a universal approach and ownership details are not always up to date. If the Datatag system was adopted by all harbour authorities as a condition of use of their waters this would provide a common national registration system.

The UKHMA and BPA met with the PWP, RYA and BM in 2020 to address issues of PW management. An output from this inaugural meeting was the Launch Site Signage initiative. The formalisation of this group, and expansion of its membership to include organisations such as the LGA Coastal SIG, would provide a forum for the discussion of consistent PW management around the coast with implementation achieved through engagement of their members.

2.7 TRAINING AVAILABLE

2.7.1 Overview

While the private leisure sector is lightly regulated with no imposed national licencing or qualification requirements, the sport's governing body, the RYA, provides a mechanism for individuals to train and develop their skills on the water. The RYA publications, and the courses they supplement, cover a wide scope of material and provide beginner and experienced water users alike with the tools and knowledge needed to operate safely. Although comprehensive, this investigation has identified areas within the syllabi and guidance where potential improvements can be made.

An increasing amount of harbour authorities are making the completion of a relevant and recognised course a condition of registration for using their waters despite there being no national requirement for leisure craft users to be trained. As the PW rider was under 18 years of age, it was an IACC requirement for her to have completed the RYA Personal Watercraft Proficiency course, but there was no other local requirement for either family in this accident to have completed a course. There is no doubt that attendance on a recognised training course would have had a positive impact on their levels of skill and knowledge.

2.7.2 Lookout

The application of COLREGs is taught in both PW and powerboat courses and there are dedicated sections within the supplementary publications. Regardless of the unusual legal position of PW outside the MSA, it is still safety critical that a good lookout is maintained at all times.

Even though there are several references to the awareness of other water users and the maintenance of a good lookout, the RYA course contents would benefit from more explicit guidance on the importance of the over-the-shoulder pre-manoeuvre check and how to carry it out effectively.

2.7.3 Craft operating in company

The RYA syllabi are focused primarily on single vessel operations and does not include advice on how to safely operate in a group of two or more craft. When the RYA removed pacing from the practical section of its training content, any relevant information on riding in a group was removed.

It is not uncommon for groups of craft to go on the water together, and an established best practice for how craft in this situation should interact, focusing on speeds, distances, and communication, would improve the safety of those taking part.

2.7.4 Oversight of inexperienced/untrained helms in an informal environment

There will be occasions when trained powerboat and PW owners wish to allow untrained or inexperienced friends and family to helm the craft, where local regulations and insurance policies allow.

In such a situation it would be prudent to give the inexperienced helm a short, informal familiarisation period, covering the basics of craft operation and safety. It would also be sensible for the owner to position themselves ready to intervene quickly if necessary. There is currently no advice from the RYA on how this should be achieved, and formalisation of what good practice looks like could enhance its course and guidance material.

2.7.5 Crossing waves and wakes

Encountering waves and wakes is inevitable when using PW and powerboats. The circumstances of these encounters differ hugely depending on, among other things, the environmental conditions, performance of the craft and proficiency of the helm. Scenarios range from being able to manage a craft in a significant sea state, to operating in a group of craft in sheltered waters, such as the Menai Strait, creating wakes for each other to jump.

Negotiating waves is covered in the RYA *Personal Watercraft* handbook, which includes a warning about the antisocial behavioural aspects of jumping the wake of other boats. However, there is currently no information on the dangers of wake jumping or lessons learned from previous accidents involving this hazardous activity. Sharing this information with the maritime leisure community would increase awareness and contribute to safer PW operation.

SECTION 3 – CONCLUSIONS

3.1 SAFETY ISSUES DIRECTLY CONTRIBUTING TO THE ACCIDENT

1. *Rib Tickler* and the PW collided because the RIB's helmsman turned into the PW's path as its rider jumped the RIB's wake. [2.2]

2. Jane Walker died because she was struck by the PW and suffered injuries that were *essentially unsurvivable*. [2.2]

3. *Rib Tickler* was not proceeding at a safe speed given the proximity of the PW, the amount of room available on the water and experience and knowledge of its driver. [2.3]

4. The PW rider did not leave sufficient distance between the PW and RIB to be able to take avoiding action at the speeds involved. [2.3]

5. The RIB driver did not have full awareness of other water users before commencing his turn to starboard. With little prior experience of helming a RIB, he did not have the necessary level of skill and knowledge to carry out manoeuvres at high speed within a group of craft. [2.4.1]

6. *Rib Tickler*'s owner made an assumption about the ability of the RIB driver to take the helm. As a result, no attempt was made to provide any informal familiarisation or oversight. [2.4.2]

7. The PW rider did not have the necessary skills, knowledge, or experience to appreciate the hazards involved in wake jumping but was following the lead of the more experienced PW users within the family group. [2.4.3]

8. The two families had a misguided confidence in their abilities, which led to them not seeking the guidance and good practice offered by RYA courses and affiliation with local clubs and the safe practices they could offer. [2.4.4]

3.2 SAFETY ISSUES NOT DIRECTLY CONTRIBUTING TO THE ACCIDENT THAT HAVE BEEN ADDRESSED OR RESULTED IN RECOMMENDATIONS

1. IACC did not have the resources necessary to manage its waterspace effectively. [2.5.1]

2. Authorities wishing to manage PW activity on their waters should seek advice and guidance from knowledgeable bodies such as PWP, MCA, UKHMA and BPA. [2.5.2]

3. IACC had not formally considered the impact of reducing the resources available to their maritime team, neither had risk assessments for foreseeable events been carried out. These factors and others, namely no clear incident reporting system, indicate the MSMS was in need of improvement. [2.5.3]

4. Though already taught in the RYA courses, greater emphasis could be placed within its handbooks and syllabi on the importance of over-the-shoulder pre-manoeuvre checks for both powerboating and PW use. [2.7.2]

5. When removing the practice of pacing from their courses, the RYA removed some useful best practice for craft operating within a group, especially regarding speeds, distances, and communication. [2.7.3]

6. There is currently no advice from the RYA on providing informal familiarisation for or oversight of untrained helms, covering the basics of craft operation and safety. [2.7.4]

7. Negotiating waves is covered in the RYA *Personal Watercraft* handbook; however, there is currently no information on the dangers of wake jumping or lessons learned from previous accidents involving this hazardous activity. [2.7.5]

3.3 OTHER SAFETY ISSUES NOT DIRECTLY CONTRIBUTING TO THE ACCIDENT

1. The legal status of PW since the 2005 Court of Appeal ruling made the regulation of irresponsible PW use difficult. It is hoped that the legislative changes sought by DfT will make management of these leisure activities easier to manage. [2.6.1]

2. The inconsistent approach to PW management around the UK coast has a detrimental impact on the efforts being made to reduce irresponsible PW use. The formalisation of a cross-industry forum with the ability, through its membership, to influence the majority of coastal and port authorities would facilitate the development of a nationally consistent approach. [2.6.2]

SECTION 4 – ACTION TAKEN

4.1 MAIB ACTIONS

The **Royal Yachting Association** has been recommended in a letter from the MAIB Chief Inspector to:

2020/136 Review and amend its Personal Watercraft and Start Powerboating handbooks to provide guidance on:

- *The importance and conduct of the over-the-shoulder pre-manoeuvre check;*
- *How to safely operate in company with other craft, with particular focus on communication and safe distances;*
- *The oversight of inexperienced / untrained helms in an informal setting;*
- *Crossing waves and wakes, with particular focus on control of personal watercraft and safe distances from vessels creating wake, and to:*
- *Disseminate to their members a summary of the safety messages from this accident prior to the start of the 2021 boating season.*

Consideration should also be given to including the above topics in the relevant training course syllabi.

4.2 ACTIONS TAKEN BY OTHER ORGANISATIONS

The **Royal Yachting Association** has:

- Accepted the recommendation 2020/136. The relevant RYA publications are being amended fully or on an interim basis, waiting for the next full review period of that publication. The RYA included the safety issues identified in this report in its 2021 conference agendas. Magazine articles and social media content have also been produced.

Isle of Anglesey County Council has:

- Appointed ABPmer to undertake a review of the use and governance of the Menai Strait.
- Requested a Port Marine Safety Code compliance health check from the Maritime and Coastguard Agency.

SECTION 5 – RECOMMENDATIONS

Isle of Anglesey County Council is recommended to take measures to improve the effectiveness of its governance of the Menai Strait by:

2022/101 Engaging with and seeking best practice advice from bodies and organisations with expertise in safe waterspace management, including the Personal Watercraft Partnership;

2022/102 Reviewing the current legislation governing the waters at Menai Bridge and, if appropriate, seeking to amend and improve its powers via a Harbour Revision Order;

2022/103 Ensuring the council's maritime team is adequately resourced to discharge its duties effectively.

The **Royal Yachting Association** and **Personal Watercraft Partnership** are recommended to:

2022/104 Collaborate to formalise the creation of a cross-industry forum, focused on the safe and consistent management of personal watercraft in the UK's coastal and inland waters. Items for consideration by the forum should include, among other things:

- Membership of the forum, which it is anticipated will include; the Maritime and Coastguard Agency, British Marine, the UK Harbour Masters Association, the British Ports Association, and the Local Government Association's Coastal Special Interest Group, plus other organisations and stakeholders as appropriate;
- The effective dissemination to all relevant authorities of the Personal Watercraft Partnership's publication, *Managing Personal Watercraft, A guide for local and harbour authorities*;
- The adoption of nationally consistent launch site signage relevant to personal watercraft;
- The adoption of a nationwide voluntary registration scheme for all personal watercraft.

Safety recommendations shall in no case create a presumption of blame or liability

Annex A

Isle of Anglesey County Council boat and personal watercraft launching and registration

CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL

********** **2019/2020** **********

ISLE OF ANGLESEY COUNTY COUNCIL
BOAT AND PERSONAL WATER CRAFT LAUNCHING AND REGISTRATION

General Data Protection Regulation (GDPR)

The Isle of Anglesey County Council is the data controller of the personal data which will be gathered by this form. The information provided as part of this process is collected and used by the Council for the following purpose: process boat and personal watercraft launching and registration applications. It can be disclosed to other departments within the Council and other relevant agencies, where this is necessary or required by law, in accordance with the Council's registration under the Regulation. The Destination function's Privacy Notice can be viewed on the following link - www.anglesey.gov.uk/destinationprivacynotice

REGISTRATION SCHEME FOR PERSONAL WATERCRAFT AND POWER DRIVEN CRAFT 2019

A registration scheme for PWC's (jet skis) and all powered craft is to be run throughout Anglesey for the forthcoming season, summer 2019, starting in April 2019.

All powered craft launched in Anglesey will need to be registered and have valid insurance. It will be possible to register at the County Council offices or through the slipway attendants at Traeth Bychan, Beaumaris, Trearddur Bay, Rhosneigr, and Menai Bridge.

Registration will be required for each and every powered craft even when owned by the same person.

In writing from - Anglesey Business Centre
Bryn Cefni Business Park
Llangefni
Anglesey
LL77 7XA

A launching fee for all powered driven craft of 10hp and above will also be required at the above 5 sites and this can be on a daily or seasonal basis. The seasonal and daily fees can be paid to the slipway attendants at the 5 sites. The seasonal fee can also be paid by contacting the County Council at the above address. A discount is offered on the seasonal fee only to persons with relevant maritime qualifications.

THE DISCOUNTS ARE ONLY AVAILABLE ON PROOF OF QUALIFICATION BEING PROVIDED

FEES AND CHARGES Cheques payable to "Anglesey County Council".

REGISTRATION

AT THE SLIPWAY - £20.00 **FROM THE COUNCIL DIRECT** - £15.00

LAUNCHING FEES

	AT THE SLIPWAY	**FROM THE COUNCIL DIRECT**
DAILY	£16.00	N/A
SEASONAL	£160.00	£160.00

A discount of £55.00 on the seasonal launching fee may be applied for by people who have a recognised power boat handling qualification. The discount is available by postal application, by application in person at the Council Offices in Llangefni or at one of the above 5 slipways.

ISLE OF ANGLESEY COUNTY COUNCIL BOAT AND PERSONAL WATER CRAFT LAUNCHING AND REGISTRATION.

1. PERMIT RENEWALS

Please find enclosed the Powerboat / Personal Watercraft Registration Form and the Seasonal Boat Launching Permit Application. Should you wish to take a permit for the year commencing 1st April, then please complete the forms and return them together with your remittance for the appropriate charge (shown on the enclosed sheet), a copy of your insurance certificate and if applicable proof of marine qualification if applying for discounted launch rates. All insurance and marine qualifications must be in the name of the applicant.

To obtain launching discounts a copy of the approved Qualification must be enclosed with the application form. A list of accepted qualifications appears as Appendix 1 and a list of those not accepted is included as Appendix 2. If you have a qualification which you wish to be considered and does not appear on either list please contact the Maritime Section in writing by giving as much details as possible.

Please Note:

a) If, for any reason, a registered craft does not display the appropriate registration sticker in a way that is easily visible to staff, then a further sticker must be purchased and paid for and displayed correctly, before permission can be given for access over a slipway or the foreshore under the control of the Authority for launching or recovery.

b) If, for any reason, a registration sticker is damaged then a new one may be issued free of charge, strictly subject to identifiable evidence of the original damaged sticker being presented.

c) If, for any reason, a registration sticker is damaged beyond recognition or otherwise lost, then a new sticker must be purchased and paid for and displayed accordingly

ch) If a registered craft is sold or changed, a new registration sticker will be issued free of charge for the new craft, subject to satisfactory completion of an application form and strictly subject to the original sticker being presented in an identifiable condition.

2. REGISTRATION SCHEME

Please note that from 1st April 2019 all powered craft launchers are required to register their craft prior to use of the authorised slip ways or access points.

The annual charge for registration has been set at £15.00 if the application is sent direct to the council offices or at £20.00 if the application is presented at authorised slip ways or access points for 2019.

Customers who do not purchase a seasonal launch permit with their registration will need to pay the £20.00 registration fee plus the daily launch fee of £16.00. On subsequent launches they will only pay the £16.00 daily fee.

This scheme offers considerable advantage to any Anglesey Registered Launchers because Denbighshire, Gwynedd and Conwy Councils will accept Anglesey Registration.

This means for example if you decide to go to Gwynedd for the day instead of Anglesey then you will not be required to register again in Gwynedd as in previous years and pay their registration fee, all you will have to do is pay their daily launch fee.

From the point of view of the participating Authorities this scheme where a registration is valid for all four areas offers the advantage of an ultimate sanction against launchers who create constant problems of any kind by the withdrawal of registration for effectively the whole of North Wales.

The person who registers the vessel or craft will be held responsible for the actions of any person navigating that vessel.

To reassure you on this point the action described would only be utilised under extreme circumstances as a last resort against those who will not comply with Byelaws and/or Local Regulations.

It should also be noted that the Seasonal Boat Launching Permit or payment of the daily fee is required for recovering craft as well as launching on Council controlled slipways or access points.

3. <u>SLIPWAYS ACCESS POINT USAGE</u>

The authorised slipways and access points are:-

REGISTRATION AND LAUNCHING FEES REQUIRED

1. Trearddur Bay Slip way.
2. Traeth Bychan Slip way.
3. Rhosneigr access point.
4. Beaumaris slip way.
5. Menai Bridge slip way (Porth y Wrach).

Restricted slip ways:-

REGISTRATION REQUIRED, (other charges may apply including key holder system)

6. Llaneilian slip way
7. Bull Bay
7. Sandy Beach access point.
8. Holyhead Sailing Club slip way.
9. Lligwy beach.
10. Church Bay
11. Penrhos beach (Holyhead).
12. Bol Sach slip way (coast guard slip way, Holyhead).

13. Cemaes Bay.
14. Fryars Bay
15. Rhoscolyn

Note: No exceptions permitted to 9 to 16 above without the permission of the Maritime Officer or his nominated Deputies.

4. SAFETY AND NAVIGATION

4.1 Please make sure that your craft whatever it may be is properly equipped. To help with this the RNLI are now providing a basically free of charge service to boat owners that will check your safety equipment for you and issue a certificate for the boat/craft. If you wish to avail yourself of this service please telephone the RNLI on the "Sea Check" number to make arrangements, it is :- Freephone 0800 328 0600.

4.2 Please do make sure that before you go afloat that a responsible person knows when and where you are going and at what time you will return. Also having done this please stick to your intended plan and remember that lifejackets are the same as seatbelts in your car, they only help if you are wearing them.

4.3 The HM Coast Guard runs a scheme (CG66) to assist them and you, in the event of your vessel being in trouble. For further information call HM CG on 01407 762051.

4.4 Should you wish any safety advice then our staff are always happy to help you as of course are both HM Coastguard and indeed the RNLI.

5. INFORMATION FOR REGISTERED LAUNCHERS

5.1. Launching Registrations are valid for use at all Anglesey County Council's launching facilities.

5.2. In addition to 1 above registrations for launching purposes are accepted by Gwynedd Council, Conwy County Borough Council and Denbighshire County Council without further registration or payment for such.

5.3. Boat users are to acquaint themselves with the local Bye-laws in relation to the conduct of pleasure vessels on the Anglesey coastline. We would particularly draw your attention to the speed limit of 8 knots applicable at all 26 areas, covered by our seashore and seaside pleasure boats bye laws, a copy of which is available for inspection with the relevant Launching Attendant and on signage at each site. In addition, ski boats are reminded that they must have an observer in the boat, in addition to the driver, at all times when a skier is in the water. Contravention of Anglesey County Council's Byelaws relating to Seaside Pleasure Boats may result in the prosecution of offenders and withdrawal of permission to use Council owned launching facilities.

5.4. Prior to going on the water, boat owners should be aware of the following safety considerations:-

a) At certain states of the tide the currents are considerable in the swellies (between the bridges) at Menai Bridge often exceeding 6 knots.

b) Do not use lightweight or unpowered craft unless you have considerable sailing ability and knowledge of the area.
c) Inform a reliable person or H.M. Coastguard of your departure and estimated time of return.
ch) Boating under the influence of drink, or drugs is not permitted.
d) Carry signal flares and an anchor
dd) Wear suitable clothing and a lifejacket.
e) Ensure your engine's kill cord, if fitted, is attached to your vessel's driver
f) Ensure your boat is not overloaded and is in a seaworthy condition
ff) Obtain an up to date weather forecast.
g) Ski boats must carry an observer when towing.
ng) A wakeless speed is required within 50 metres of another Personal Watercraft, boat, mooring, dock, swimmer, skier, angler, or fishing equipment
h) If in doubt do not go afloat.

5.5. **MINIMUM INSURANCE COVER WILL BE THIRD PARTY £3 MILLION**

6. **Age Requirement for P W C's :-**

6.1 Unqualified people must be at least 18 years of age to operate a Personal Watercraft.

6.2 For those aged 15 - 17, they must possess a R.Y.A. Certificate of Competence for Personal Watercraft.

6.3 For those aged 12 to 14, they must possess a R.Y.A. Certificate of Competence **AND** operate under direct adult supervision. The definition of supervision is such that the adult is present on the craft.

6.4 Under 12 - not allowed to operate a Personal Watercraft.

7. **Speed Restrictions for all powered craft:-**

4.1 A wakeless speed is required within 50 metres of another Personal Watercraft, boat, mooring, dock, swimmer, skier, angler, or fishing equipment.
4.2 Anglesey Council speed restrictions must be complied within in all designated areas.

Paragraphs in italics refer to extracts from the Sea Shore and Pleasure Boat By-laws.

LIST OF QUALIFICATIONS – APPENDIX 1

Royal Yachting Association

International Certificate of Competency	**Personal Watercraft** Personal Watercraft Proficiency Course
Sailing Competent Crew Day Skipper Coastal Skipper Yacht Master	**Motor Cruising** Helmsman Day Skipper Coastal Skipper Yacht Master
Powerboat Level 1 Level 2 Intermediate Advanced Safety Boat	**Navigation** Day skipper Coastal Skipper Yacht Master Off Shore Yacht Master Ocean

Also in association with the above the Council will accept instructors, coaches and/or commercial endorsements qualifications.

British Water Ski Federation (Only qualifications accepted)

Ski Boat Driver Award
Club Driver Award
Instructor Award
Club Coach Award
Senior Coach Award

The British Sub-Aqua Club (Only qualifications accepted)

Boat Handling Cert
Boat Handling Assistant Certificate
Boat Handling Instructor
Diver Coxswain

APPENDIX 2

The following do not qualify for discounts:

RYA Sea Survival
RYA 1st Aid
RYA Diesel Engine
RYA Marine Radio (SRC)
RYA Radar
BSAC Advanced Diver
BSAC Oxygen Administration Award
BSAC Advanced Nitrox Diver
BSAC First Aid for Divers
Maritime Radio Operator Certificate
Certificate of Efficiency as Lifeboatman
Seafish Basic Sea Survival

If you have a qualification which you wish to be considered and does not appear on either list please contact the Maritime Section in writing by giving as much details as possible.

Marine Accident Report

INVESTORS IN PEOPLE