Dee Conservancy Statutory Harbour Authority

Fatal Accident Investigation Report

Fatality of a Licensed Cockler within the Dee Estuary Fishery 28th August 2020

Report compiled by the Dee Conservancy Harbour Master

Contents:

Glossary:

ALB	All weather lifeboat
DCHM	Dee Conservancy Harbour Master
HMCG	Her Majesty's Coast Guard (Holyhead Coastguard Station)
ILB	Inshore lifeboat
MAIB	Marine Accident Investigation Board
MCA	Maritime and Coastguard Agency
MSMS	Marine Safety Management System
NRW	Natural Resources Wales
NWP	North Wales Police
PMSC	Port Marine Safety Code
RIB	Rigid Inflatable Boat
RNLI	Royal National Lifeboat Institution
SAR	Search and Rescue
SHA	Statutory Harbour Authority
Stbd	Starboard (right side)
+ve	Positive
-ve	Negative

Background:

National legislation in the form of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 requires the MAIB to investigate a reported marine casualty involving the death of, or serious injury to, a person. The DCHM initially reported this incident to MAIB, but following discussions between the MAIB Inspector and NWP, primacy for the investigation was passed to NWP acting on behalf of the North Wales Coroner.

NRW as SHA are subject to the requirements of the PMSC which strongly recommends harbour authorities investigate incidents within their jurisdiction to ascertain if any lessons can be learnt which improve safety of navigation. This requirement to investigate incidents is formalised within the Dee Conservancy MSMS.

In the process of investigating this incident, DCHM produced a letter requesting any information from any other license holders active on the day, and this was circulated to all license holders by NRW as regulator for the fishery. No formal response was received to this request.

In compiling this report, DCHM acknowledges the cooperation of NWP in sharing their evidence from the investigation. Pertinent details have been extracted from NWP reports; however, it is not possible to include this information directly.

Through the Dee Estuary Cockle Fishery Order 2008, NRW regulate and manage the cockle beds within the Dee Estuary. The beds are generally open between July and December to license holders; at the time of the incident there were 54 NRW licensed cockers, however not all had been working that day. Fishing is permitted only during daylight hours and restricted to one low water period each day. Access to and from most of the cockle beds, which lie towards the middle of the estuary, is by small boat, RIBs being the preferred type. Licenses are issued annually and on an individual basis, though some holders do work together. It was whilst returning to Greenfield Dock from an afternoon's work that this incident occurred.

Summary:

At around 18:00hrs on Friday the 28th of August, DCHM was notified by telephone that an inflatable boat belonging to a licensed cockle fisherman had been found adrift with nobody onboard. HMCG had already been advised and a search involving the Flint (on scene 17:30hrs) and West Kirby ILBs, Hoylake ALB and HMCG SAR helicopter from Caernarfon was underway.

At around 19:40hrs, DCHM contacted HMCG to request an update and was advised the search remained ongoing. The search was subsequently suspended by HMCG due to darkness. At around 21:00hrs the inflatable involved was taken under tow by Flint RNLI back to Greenfield Dock where it was handed over to NWP at approximately 00:45hrs 29th August.

At first light, around 04:30hrs on Saturday the 29th of August, the search for the missing person resumed. This continued until the water search was ended by HMCG as the missing person had

been deemed beyond their in-water survivability criteria. It was planned to resume a land based/coastal search, assisted by Hoylake RNLI hovercraft, at low water. It was during this search that the casualty was located on the riverbed close to where the boat had been found and was recovered by the Hoylake RNLI hovercraft assisted by Flint RNLI being landed ashore to Merseyside Police custody.

The casualty was subsequently identified and as Mr. Chris Mossman, a licensed cockle fisherman.

Inspection of vessel:

On Thursday 3rd September, DCHM accompanied by NRW's Estuary Navigation Officer was invited to attend an inspection of the recovered boat in company with NWP and their appointed Marine Surveyor. The boat had been held at secure premises since being handed over to the police on the night of 28th August.

Two initial points were immediately noted:

1) The vessel had not capsized as had been stated in some early reports, as the boat was still filled with cockle sacks and equipment. (Images 1 and 2)
2) Items in the boat had at some point previously been moved from their initial position as some of the cockle sacks were laying on top of the control consul and engine. It was reported the cockle sacks had been removed from the boat during recovery ashore to lighten it and make man handling possible. (Image 3)

The boat was an Excel Vanguard 595, a 5.9M inflatable with plastic/aluminium composite 3 section floor (makers details), without any solid hull, identification number GBSDIEX130C616, manufactured in 2016. Total capacity is certified as 14 persons or 1,800 kg.
It was fitted with a Honda BF 20D engine (20hp/14.9kW), which is within the 40hp/30kW maximum recommended by the manufacturers.

With the sacks of cockles onboard having been out of the water several days, they were starting to degrade. It was decided to remove the sacks (having already been disturbed previously) for disposal. Eighteen sacks were removed and placed on a wooden pallet which was taken away for weighing prior to disposal. The cockle sacks were reportedly weighed in at 460kg as witnessed by NWP. Advice from NRW noted that this could be around 20% less than the fresh weight, making an estimated fresh weight of 552kg. Allowing for this, the estimated weight of the boat contents (cockles, tools, fisherman), was well within the 1800kg capacity.

The engine and consul unit were laid in the back of the boat but partly overlain with some cockle sacks from where these had been replaced once the boat had been recovered ashore. The boat was examined with these in situ before the cockle bags were removed.

Points noted on inspection:

- There were no apparent signs of impact to bow, stern or the visible part of lower hull
- The throttle was in the full ahead position.
- The kill cord (engine stop) was in position but wrapped around throttle cables. (Image 4 & 5)
- The ignition was off.
- Damage to steering wheel centre noted but it was not evident when this occurred.
- Consul seat was broken and had some evidence that this had been repaired with duct table. It also appeared to have been cut smaller to fit. Stbd side appeared to have old damage, port side damage appeared recent, possibly as result of the incident.
- The consul had been pulled from position where it had been screwed to the plastic floor of the boat.
- Stbd side screws in consul foot pulled out from boat floor.
- Some port side screws were still in boat floor and pulled through holes in consul foot.
- There was evidence of damage to the plastic grip pad at the engine mount area of the transom.
- Engine mounting screws had to be released to remount the engine on the transom indicating they had been tight at the time of the incident.
- The engine top cover was missing.
- The battery was in position midships against the transom, the +ve lead had detached from its corroded terminal.
- The -ve lead was attached to the battery but detached from the engine.
- The engine was in gear (could not turn propeller)
- The engine was locked down (could not tilt upwards manually)
- There was no damage evident to propeller blades other than sand polishing.
- There was no evidence of impact damage to front of the 'leg' of gear box at the bottom.
- The steering arm mechanism was bent forwards and slightly down.
- There was no hand tiller fitted.
- The engine drive was possibly set into shallow water mode (slightly tilted up).
- The front stbd section of the lower engine case showed signs of impact being fractured and misaligned.
- The lower front port casing had one section of probable impact damage, and further scuffing marks extending approx. 30cm.
- The portside rear tube section had signs of scuffing and scrapes.
- The becketed grab line around the boat had detached from the rearmost two fixings with the grommets having been pulled through (fresh surfaces).
- The fuel tank was found in bow of the boat and had presumably been moved during recovery. The pipe fittings had been detached manually, not pulled out, and did not appear damaged.
- Engine oil was at a sufficient level on dipstick and appeared clean with no visible water contamination.

Conclusions:

With a fatality arising from the incident, NWP have been investigating and a Coroner's Inquest was opened. On the 9th of February 2021, the inquest returned the cause of death as drowning and concluded accidental death. Because of the police investigation, not all evidence has been available first-hand, and it is only possible to refer to and not include extracts from these.

NWP have interviewed several of the licensed fishermen who had been out at the same time as Mr. Mossman, and who were initially on scene and discovered the drifting boat. Although leaving the fishing grounds at a similar time, they did not travel back towards Greenfield together. Mr. Mossman's boat being an inflatable rather than a RIB, did not have a solid hull giving it a shallower draft and was therefore able to use shallower water. It has been reported that and he was known to have used a short cut across the banks on previous occasions, and it probable this may have been the case on the day of the incident.

NWP acting for the Coroner have been able to obtain video footage from the RNLI covering their recover of the boat and subsequent location of the casualty. These images confirm the condition of the vessel contents when located by the RNLI to be like those noted at the time of the inspection, but after the engine and consul had been recovered onboard.

The witness statements seen by the DCHM commented that Mr. Mossman headed back to Greenfield before them. They followed a little later at around 16:25hrs, and during their own return, three other fishermen following behind the initial group came across the empty drifting boat. One witness continued to Greenfield to check if Mr. Mossman had landed there by another boat, before himself returning to assist those at the scene trying to locate him. At this point those searching had anchored Mr. Mossman's boat in position. Witness statements at this time confirm that there was damage to the boat; the engine had unmounted from the transom and was in the water and the fibreglass consul had become detached from the floor of the boat and was also hanging over the transom into the water, all attached by the control cables. To ensure the submerged engine and cable had not trapped Mr. Mossman, these were pulled back onboard by the fishermen who found the boat. This accounts for their location back onboard as noted in RNLI footage and at the inspection. The fishermen commenced searching the area for a period before ringing 999 to report the incident to HMCG. At this point the local RNLI stations were alerted, and the Coastguard SAR helicopter stationed at Caernarfon was also despatched to the scene.

Further evidence was received following a post-mortem conducted by the Coroner. A summary of this from NWP noted the post mortem report gave the cause of death as consistent with drowning, a head injury resulting in minor subdural bleeding and a severe fractured tibia, (which leg is not identified). The casualty had been recovered from the bottom of a channel close to where the boat was found and was wearing chest waders but no life jacket.

Without any direct witness to the accident, with only summary access to evidence held by NWP, and an inspection of the boat conducted after it's condition at the time of the incident had necessarily already been altered, only an assumption of what happened based the information provided can be made.

It seems likely that as had been witnessed on previous observations, Mr. Mossman, on returning to Greenfield Dock took a short cut across or navigated close by a sand bank and encountered depths of water less than expected. During this time, the drive leg of the outboard engine struck a sandbank under the boat resulting in it being dislocated from the transom. With the control method for the engine having been modified; from a tiller throttle with the helmsman sat to one side on the buoyancy tube to a mechanical cable driven power tilt/lift arrangement on a retrofitted consul, the helm position was now moved close to and directly in front of the engine powerhead. The addition of the powered tilt/lift mechanism had deactivated the tiller throttle spring loaded trip system, so when it struck the bank, the engine did not tilt forward out of the water as would normally happen, instead it was forcefully pushed upwards and subsequently torn off the transom, falling into the water and pulling the consul from its ineffective mountings by the attached control cables. It is most likely at this point that the battery connections were broken, and the engine stopped leaving the boat drifting close to where Mr. Mossman was subsequently found. The consul was mounted with limited space between it and the engine powerhead at the transom; assuming Mr. Mossman was positioned at the consul, he was likely struck with some force when the engine lifted on striking the sandbank before it fell back into the water. This could have resulted in him being thrown directly into the water, or trying to stand with a fractured tibia, becoming unbalanced and then falling out of the boat. He was wearing chest waders which would have rapidly filled with water and he was not wearing a lifejacket which may have provided additional buoyancy in the water. There are conflicting reports whether Mr. Mossman was able to swim. He may also have been unconscious because of the injury received.

Possible Contributing Factors:

The vessel was navigated close to the underwater obstruction of sandbanks rather than an alternative safe water route.

The method for engine control and steering had been modified from that intended by the manufacturer.

The retrofitted consul was in poor condition and the nature of the boat's floor meant securing arrangements were weak and ineffective. The seating position was in close proximity to the engine power head. (Image 4)

The location of the consul meant the helm position was in very close proximity to the engine powerhead.

A lifejacket was not worn.

The casualties' return route to the dock was made alone and not in proximity to others also returning from the cockle bends so the incident was not witnessed, and immediate assistance was not available.

Observations:

Historically, it has proved difficult to formally regulate the vessels used by license holders as there is no power to do so under the fishery regulating order. Attempts to voluntarily manage safety, e.g., by requesting boats are marked for easy identification, has been resisted and rejected by license holders.

Although the fishermen are licensed, the vessels they use are not registered fishing vessels and so are not regulated by the MCA. They are also small, less than 10M, meaning they fall outside the SHA powers of regulation. National and current local regulatory regimes do not give powers to raise compliance with the safety guidelines already in place or within the cockle regulating order.

To manage vessel safety, during the annual license application process, a copy of a "Harbour Master's Safety Direction", reviewed annually, is issued to applicants and it is stated that by signing their application, they have read and understood that direction. The direction contains safety information for those navigating on the Dee Estuary, and a list of safety equipment that is expected to be carried as a minimum onboard vessels used for cockling.

As regularly identified in other accident reports nationally, the voluntary wearing of lifejackets by fishermen for personal safety remains low and is often a contributory factor in fishing fatalities.

It has been reported that following the fatality an increased awareness in safety issues has been witnessed among licence holders.

Recommendations:

Whilst there are no direct recommendations, as already described, legislation does not effectively cover this area, there are some points worthy of consideration.

Is there an opportunity for NRW as the SHA/Fishery regulator to examine ways to promulgate more widely or provide more explicit advice of safety? This could include options such as random inspections of vessel and equipment throughout the season and compliance checks on wearing of lifejackets. This would require the establishment of an enforcement process, possibly by amendments within the Cockle Order licensing process aimed at increasing safety within the fishery.

Annex One – Request for Information:

The Harbour Master
Dee Conservancy
14 Chapel Court
Wervin
Chester

Dee Estuary Fatal Incident – Request for Information

Dear Cockle Fishery License Holder,

As you will no doubt be aware, on Friday 28th August there was an incident within the Dee Estuary resulting in the death of one of the Fishery License Holders.

As a Statutory Harbour Authority, we are obliged to conduct an investigation into the circumstances surrounding and events leading up to that incident, to determine the possible cause for the incident and then to consider what if any additional safety precautions need to be put in place to prevent a reoccurrence.

This is an investigation to solely establish failings of and improvements to safety if any.

I am therefore writing to all license holders to request your assistance in providing any information you may have. I am happy to receive this either by email, by telephone or by letter, my contact details are below.

Your confidentiality is assured; this is a safety investigation with the objective of identifying the cause of and not to apportion blame for the incident, however I would of course also be grateful for anonymous information should you wish to provide it that way.

I would like to thank you in advance for your valuable assistance.

CAPTAIN S. CAPES
HARBOUR MASTER

7th September 2020

Strategic Marine Services Ltd.
14 Chapel Court, Wervin Road, Wervin, Chester. CH2 4BP

Telephone : +44 (0) 1244 371428
E-Mail : harbourmaster@deeconservancy.org

Annex Two – Safety Direction Shellfish Harvesting:

HARBOUR MASTER'S SAFETY DIRECTION

SHELLFISH HARVESTING

Natural Resources Wales, NRW, as conservancy, harbour, and local lighthouse authority for the Dee Estuary maintain a generic risk assessment applicable to licensed cockle fishing operations. This risk assessment is also applicable to harvesting of other shellfish by boat in the area of jurisdiction of the Dee Conservancy.

The risk assessment identified the need for control measures which must be adopted in order to reduce the risk to people, the environment, property and the harbour authority to as low as reasonably practical.

One of the control measures identified that shellfish harvesting licence holders should be made aware of and fully understand the *Marine Safety Direction for Shellfish Harvesting Licence Holders operating in The Dee Estuary*.

The Dee Conservancy considers the measures set out in *Marine Safety Direction for Shellfish Harvesting Licence Holders operating in The Dee Estuary* to be the minimum necessary for the safety of all persons onboard vessels involved in the harvesting and / or transportation of shellfish in the Dee Estuary.

By signing and returning their completed license application and fee, a license holder is acknowledging that that they understand this direction and agree to operate any vessel involved in shellfish harvesting operations to the safety standards listed.

Captain S. Capes

Harbour Master

Dee Conservancy

June 2020

MARINE SAFETY DIRECTION FOR SHELLFISH HARVESTING LICENCE HOLDERS OPERATING IN THE DEE ESTUARY

1. The Dee Conservancy recommends that all persons operating registered fishing vessels engaged in harvesting and / or transportation of shellfish or fishing vessels engaged in the transport of persons engaged in shellfish harvesting in the Dee Estuary adopt the procedures and guidance contained in 'The Fishing Vessels Code of Practice for Safety of Small Fishing Vessels'. [MSN 1871]. Persons in charge of such vessels should also take heed of the information contained in the Maritime and Coastguard Agency (MCA) publication "Fishermen and Safety Booklet"

Both documents can be obtained through the local MCA office or via the MCA website.

2. Additionally, all persons in charge of such vessels operating in the Dee Estuary should fully understand the contents and heed the relevant advice and guidance contained in the publication. "Marine Safety in the Dee Conservancy". This booklet is available on the Dee Conservancy page of the NRW website.

3. The MCA recommends that any vessels used in the harvesting and transportation of shellfish should comply with standards listed in the applicable work boat code of practice. As a minimum any such vessels operating in the Dee Conservancy should be provided with the following items of safety equipment:-

(a) One lifejacket per person (or buoyant clothing if worn at all times).
(b) One commercial anchor of appropriate type and weight, with 2 metres of 6mm chain plus appropriate warp of 15 metres length with one end secured to a strongpoint in the vessel.
(c) Two red parachute flares and two smoke signals.
(d) One gas canister foghorn or other means of making appropriate sound signals.
(e) Baler or container that could be used for that purpose, (this may contain the flares, smoke signals and foghorn).
(f) Waterproof torch and batteries.

4. It is highly recommended that any vessels used in shellfish harvesting operations carry a VHF radio capable of operation on channel 16 and 14 and where practical a portable VHF radio should be carried by persons working the shellfish beds.

5. All persons in charge of vessels are also hereby reminded that under present Pilotage Directions issued by Mostyn Docks Ltd, pilotage is compulsory within the Dee Estuary for registered fishing vessels of 47.5 metres or more in length and all other vessels of 20 metres or more in length.

6. Every vessel navigating in any part of the Dee Conservancy harbour area is required to comply with the requirements of The International Regulations for Preventing Collisions at Sea, 1972, as amended. Persons in charge of vessels must therefore ensure that they are familiar with the requirements of these Regulations and their correct application.

Dee Conservancy Harbour Master
June 2020

Any doubts or queries about the contents of this direction or any aspect of marine safety in the Dee Conservancy should be raised promptly with the undersigned.

Dee Conservancy and Port of Mostyn Local Notice to Mariners are available to estuary uses on request or via the Harbour Authority's websites.

Captain S. Capes
Dee Conservancy Harbour Master
June 2020

Dee Conservancy Harbour Master
c/o Strategic Marine Services Ltd.
14 Chapel Court, Wervin Road, Wervin, Cheshire. CH2 4BP.

Telephone : +44 (0) 1244 371428
Facsimile : +44 (0) 1244 379975E-Mail : harbourmaster@deeconservancy.org

Annex Three – Index of Images:

Image One:
Boat in police secure storage as recovered ashore, bow view, gear onboard.

Image Two:
Boat in police secure storage as recovered ashore, head on view, gear onboard.

Image Three:
Boat in police secure storage as recovered ashore, stern view. Engine and consul position on the floor, gear onboard.

Image Five:
Control consul stood up in position. Note poor condition of the consul; cracked between black tape and cut short to fit leaving no support on the left side.

Image Five:
Control consul stood up in position and engine loosely refitted onto the transom board. Note engine throttle in full ahead position, kill cord fitted but helm end wrapped around control cables and heavily bent steering control arm.

Annex Four – Photographs:

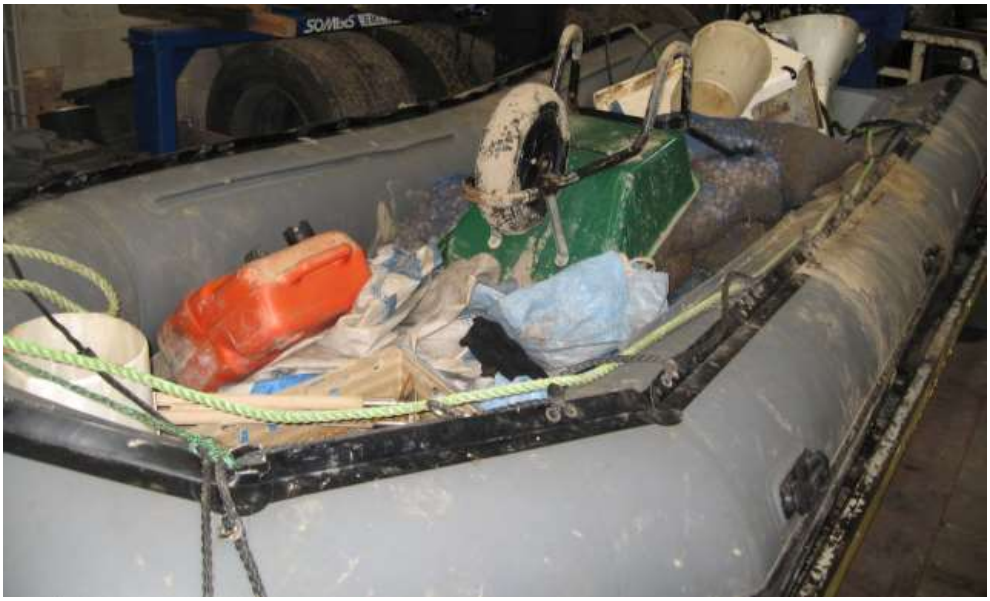

Image One

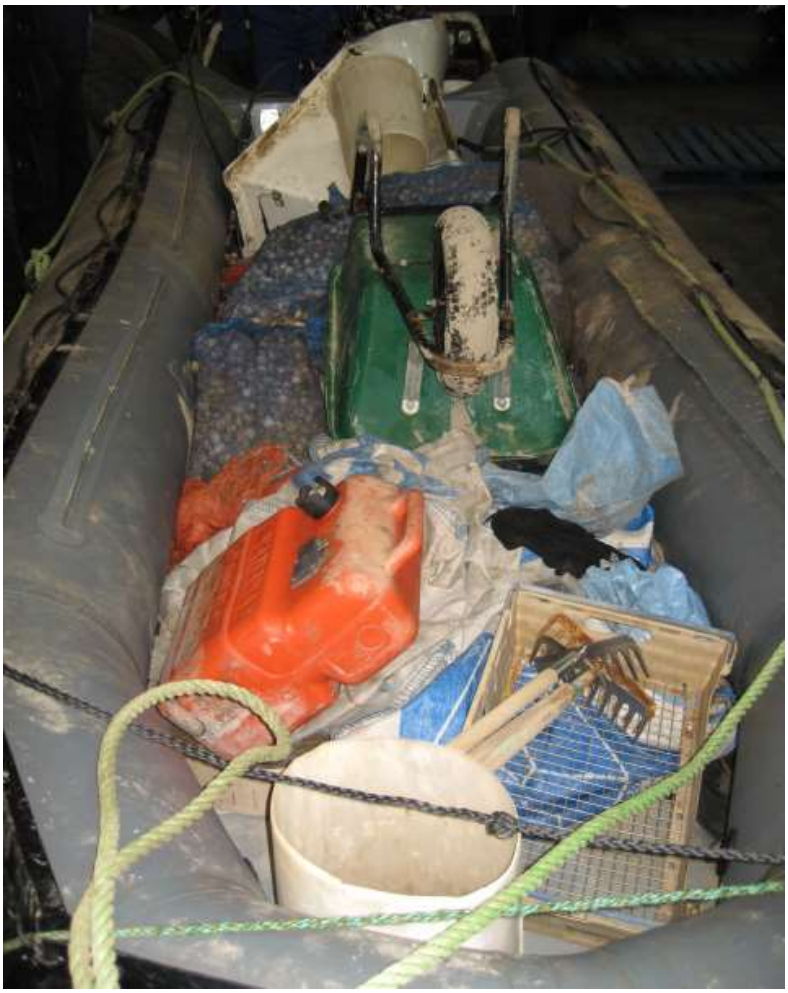

Image Two

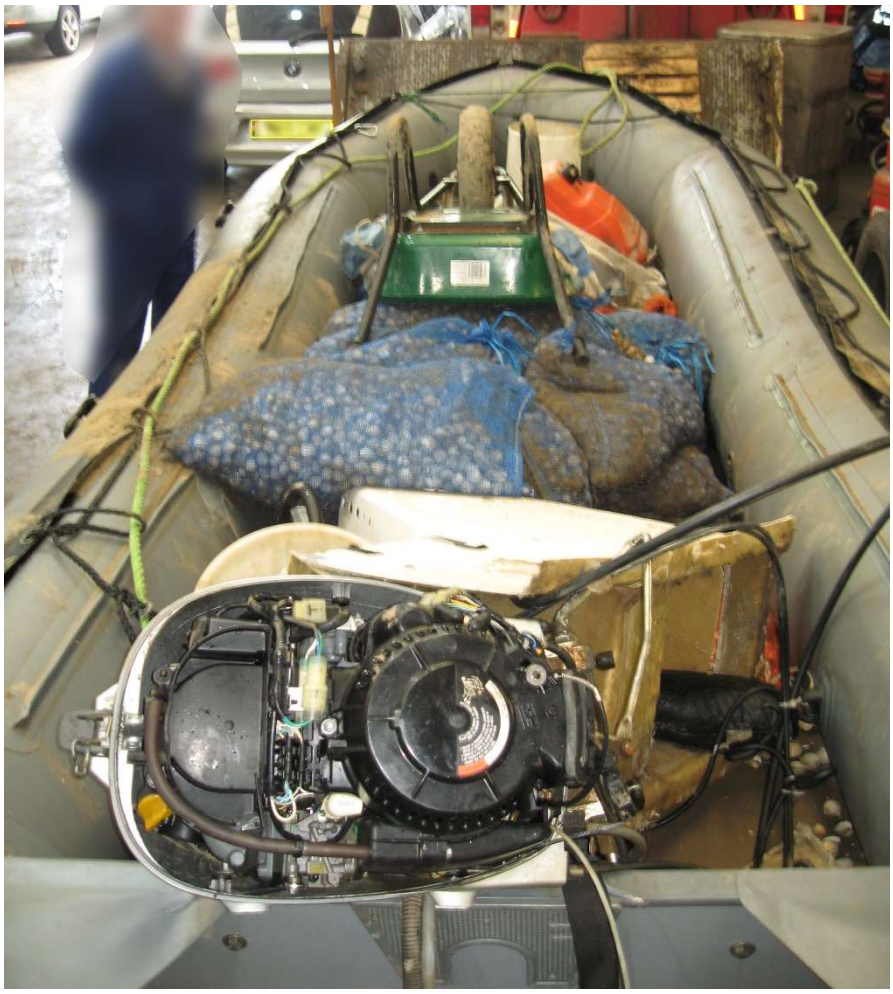

Image Three

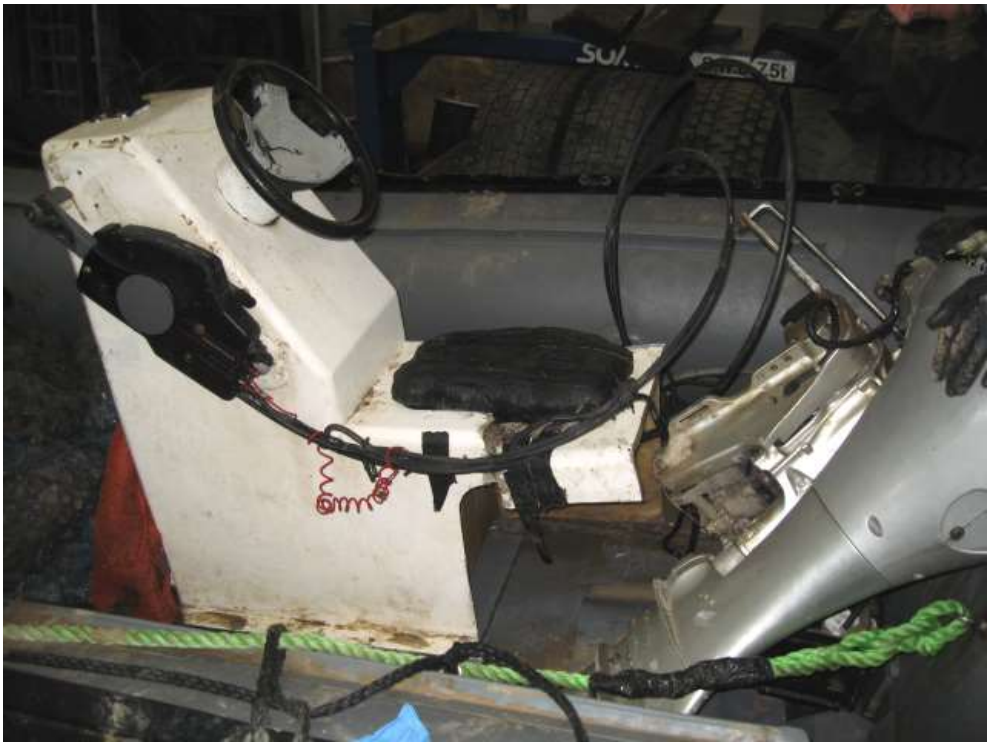

Image Four

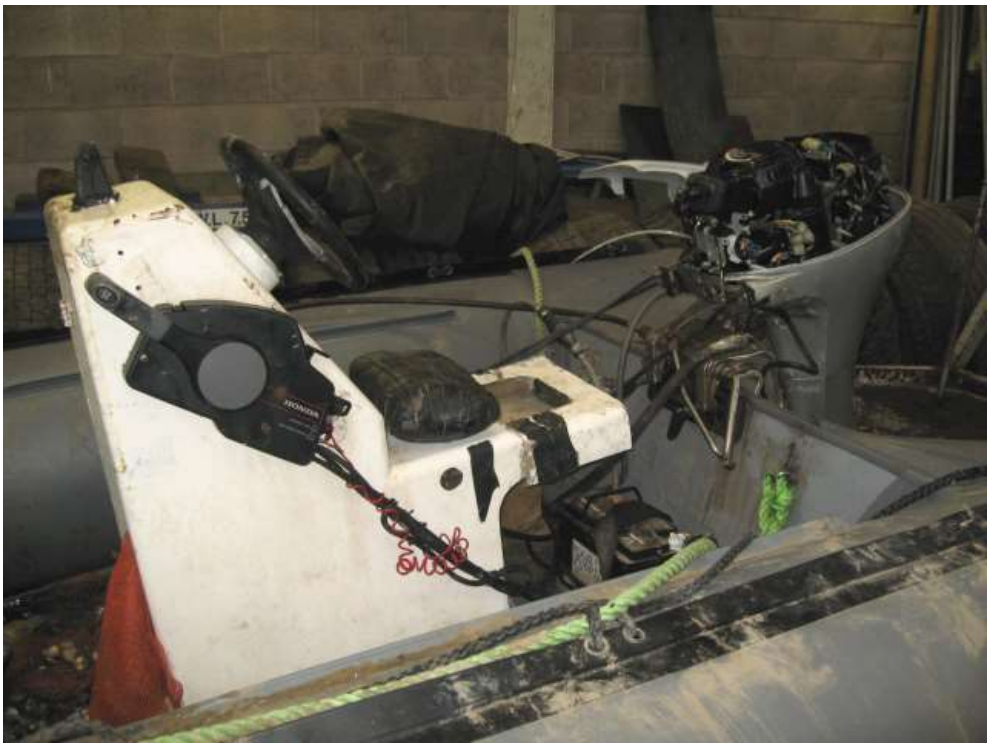

Image Five