

Thames Manta Volunteer Manual



Version 2 May 2021



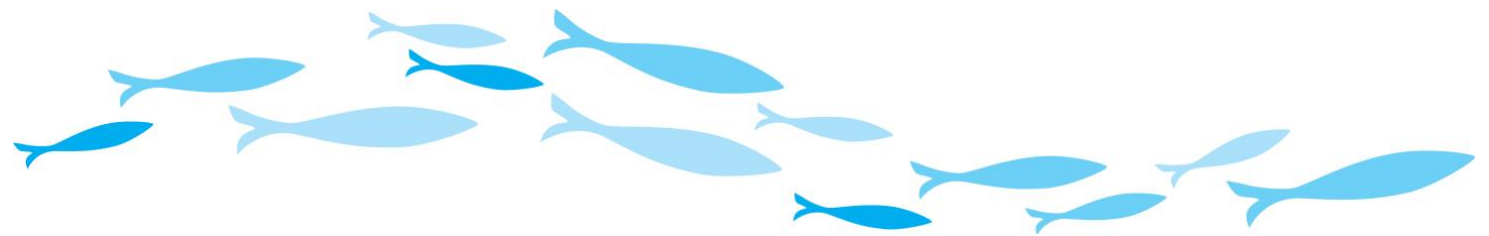
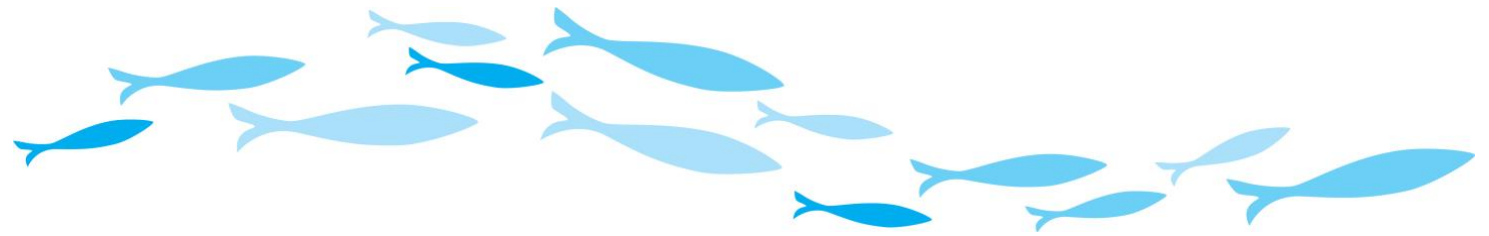


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Protocol

Workboat 'Snapper' will maintain a steady linear course at 1-2 knots, depending on sea state. Sampling will be undertaken during the ebb tide to allow for water depth in the upper reaches of the estuaries.

A crew of, up to, three will undertake the sampling, plus a skipper on the helm, at least one crew should observe the net, via the line and others assist the skipper to observe traffic during sampling. The two surveyors on the net will set and retrieve the net. If a fourth is on board they are not intervene unless absolutely necessary.

Effective trawling

The Manta trawl net should not fill with air. This usually means the net aperture is above water, which makes volume measurements inaccurate. Watch the net while trawl to observe its performance and adjust speed and lines accordingly. Key indicators are air just below the frame in the net and bubbling back out of the mouth of the frame in front of the trawl or just below the frame.

Boat speed or water flow must not exceed 1-2knots, maximum flow through the net is 4knots. Trawl duration should not be less than 15 minutes, unless aborted for safety reasons including the weight of the net.

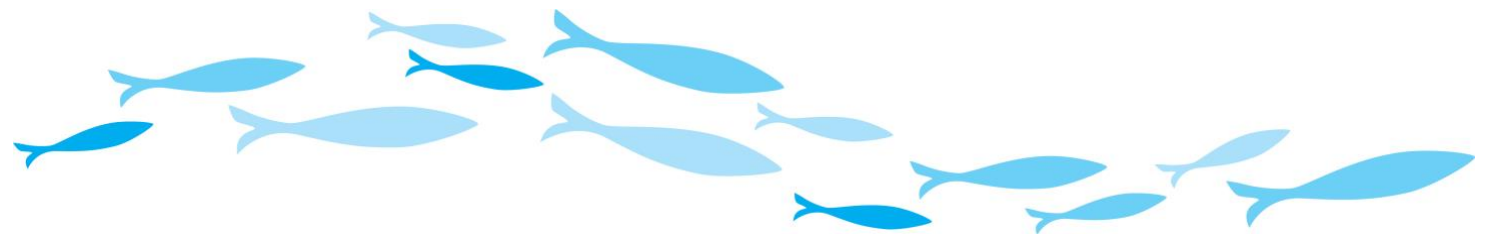
Contamination

Crew must minimise contamination by wearing natural fibres where possible, if wearing waterproofs avoid leaning directly over the samples and sieves. Keep clothing relatively consistently to help discount contaminants. However, this is not at the expense of your comfort, do not come without suitable clothing to keep yourself warm and dry. All manmade fibres associated with the samplers or used in error must be noted on the survey form.

Sites

Sites have been chosen to cover a variety of environmental factors, such as flow from sewage treatment plants or overflows. We start at the highest point of the sites requiring surveys, only Richmond is immediately adjacent to the first site, but Hermitage, Chatham and Gravesend require transit to get to site so please be prompt in arriving ready to leave. The vessel may also not be able to wait long on some pick-up points. If you are going to be late please notify the helm in advance as it may be necessary to start without you.





Boat

A full briefing will be given each day, for areas of risk, or concern. Please be aware of tight spaces and manual handling. Keep all limbs outside of the loops in line, especially when working.

Do not place anything on the engine bay except the trawl and sampling equipment. This must be kept clear at all times. It also vibrates so phones and cameras (and the samples) should not be left on it.





Working environment & safety

PPE

Life jackets are to be worn out on deck and during sampling. Hard hats must be worn during trawl deployment and recovery if on deck, this is mandatory by those carrying out the task. Protective gloves are provided for handling the trawl, but it is not advisable to wear during rope work should they catch in the lines.

Waterborne infections

The estuaries water is not clean and can carry diseases such as Weil's Disease (Leptosporosis), hands should be cleaned with antibacterial gel (available on board) before eating or drinking. Any open cuts or burns should be protected. If you develop cold or flu like symptoms following working on the estuary, please let your doctor know that you have been working near river water. For more information please go to <https://www.nhs.uk/conditions/leptospirosis/>

COVID precautions

Until such time that Government restrictions are lifted face coverings must be worn during sampling periods and close working on the deck of Snapper and if more than two persons are within the cabin. All surfaces when shared should be wiped down if necessary, it is advised that you allocate yourself the equipment so that you are not sharing forceps etc. Antibacterial gel is also available for all crew to use.


First Aid

The skipper is first aid trained and a full first kit is on board. If you have any health issues that the helm should be made aware of please let the project team know microplastics@living-river.org these will be held in confidence in line with data protection. You may be asked to sign a document each survey to confirm you are fit to work the trawl or carry out the tasks involved. Parental permission is also for volunteers under 18 years old.

You must provide an emergency contact to the foundation prior to surveying so that should the onshore staff need to make contact.

General emergency

In the event of an emergency with the boat, please follow all instructions given to by the helm. While you are on the vessel the helm will show you where all the emergency equipment is located should we need it and explain basic procedures should you need to act on their behalf.






Managing Risks

Risk assessments and full briefing will be reviewed with skipper each day based on weather and environment. The survey may be cancelled as a result of lack of volunteers or poor weather conditions up to 1800 on the previous day. Living River Foundation does not tolerate unsafe practices and all procedures should be followed at all times. Any questions or concerns please raise with the skipper or contact info@living-river.org

Volunteering

All volunteers are treated and managed in accordance with the foundation's [policy](#). All volunteers must be aware of both the volunteer policy and the [safeguarding policy](#).





Method

Sampling protocol

- The skipper is in charge at all times
- Do not start sampling without skipper's knowledge and consent
- Do not put anything over the side without the skipper's knowledge
- Communicate back to the skipper if you are unclear
- Tell the skipper when the net is deployed and lifted.

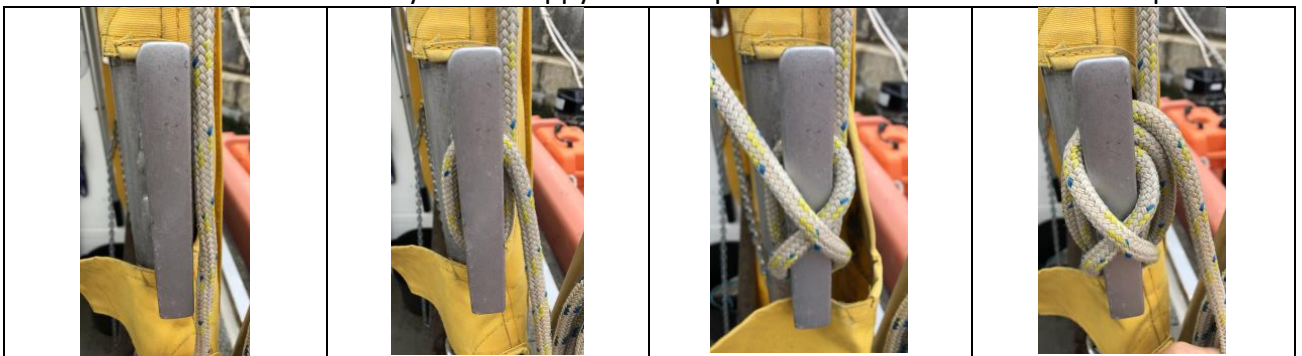
Boat set up


The boats rigging must be set up as illustrated in Appendix one.

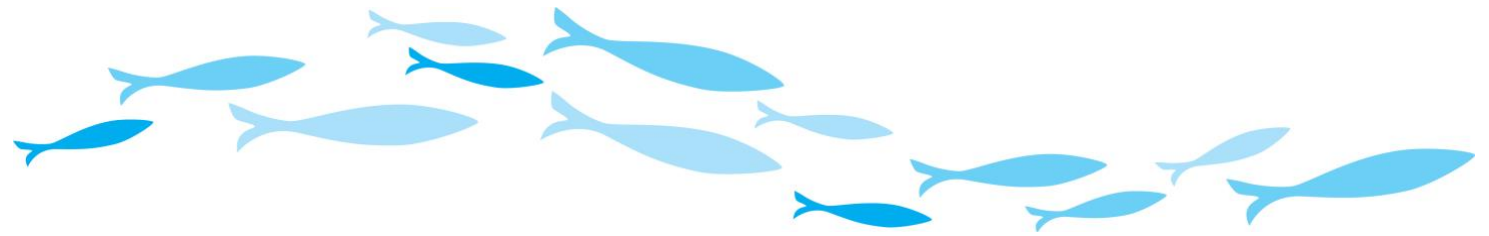
- The front and back stay must be in place before the lifting arm
- Boat hook must be out ready at the back of boat
- Chain must be across the access step.

Using Rigging

- Only undo and managed **one** line at a time, failure to manage the lines will result in the trawl going into the water unchecked, damage equipment and people
- The stern (back of the boat) stay can tangle on the hand rail so check this
- The white net line is only a guide and does not need to be held tight, it will only need small adjustments.
- Use OXO pattern to tie the rope around the cleats;
 - if you are lowering do not take the rope completely off the cleat; leave the last O on the cleat to help you managed
 - Tie the XO once you are happy the set up or need to move to the other rope.



- Lifting arm should be at right angles to the boat and level to the water
 - The knife must be in situ before sampling
- 



Sampling

Setting the net

- Attach the trawl to the blue rope by the shackle
- Skipper position to tide in location
- Lift net to highest point on frame
- Release lifting arm from socket
- Lower the arm down over the water
- Let out the net if necessary using the leading (white) line
- Notify skipper net is deployed
- Skipper start timer once net is deployed

Trawl sampling

- Monitor trawl position
- Prepare boat hook
- Monitor traffic

Trawl recovery

- Lift frame, arm must securely lock into socket
- Stop timer for net sample
- Skipper has boat in neutral
- Haul net over side using lead line
- Remove net
- While still in neutral take a bucket of estuary water
- Once clear of the sample wash the net from any contamination to prevent affecting the next site

Emergency procedure.

- Lift frame and net at same time, collect net in manually as soon as possible.
- If net is fouled and cannot be lifted cut lines and deploy a buoy on the end of the lead line. Skipper will report to the port authority.





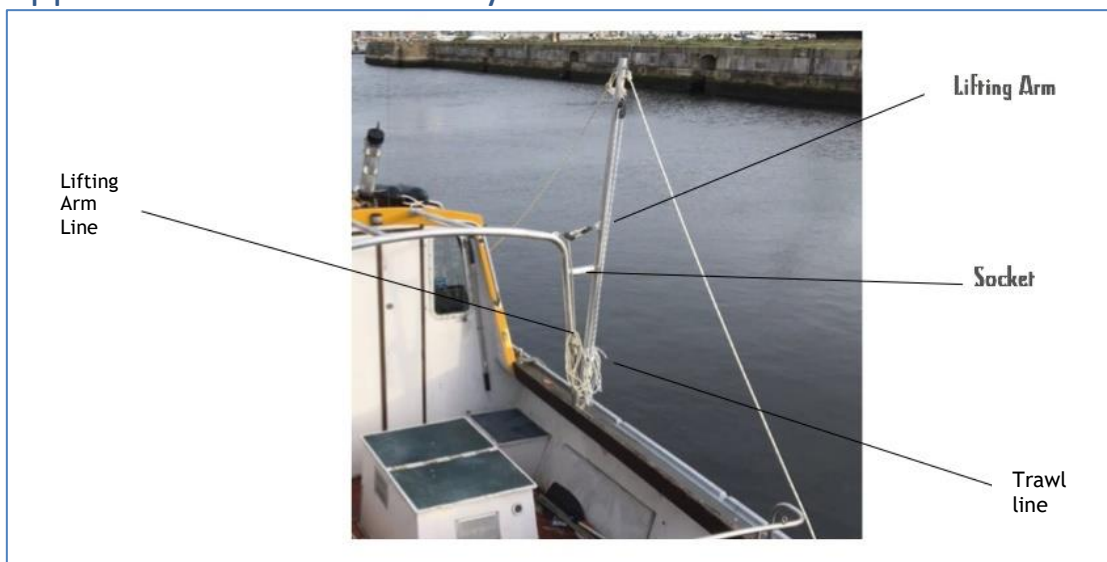
Sample sorting

The sample is washed using one bucket of estuary water from the same location. (please remember to tell the skipper before you take the bucket of water), through the sieves in size order. These are numbered for ease 1 on top to 4 on bottom. Please use the PLA labelled bottle for this. Washing is done over the aluminium trays to prevent any items to be lost and re-sieved. Distilled water can be used in small amounts for the purposes of the transferring plastics into the jars, please use the labelled bottle to do so. Organic material is washed and returned. All animals must be returned as soon as possible to ensure best chance of survival.

Sample storage

Larger items are to be collected and placed in a zip seal bag. Each sieve should be sorted into a zip seal bag or jar and labelled. Labels should have date, location and sieve size. Labelling may need to be done in the cabin when sample containers are dry, it is advised that the labels are put on the lids and kept in the cabin while sorting is underway due to wet hands. Every item of plastic observed must be recorded on the sample form at the time, this can be done with the skipper. Data on the potential of any contamination (i.e. from waterproofs, equipment, paint or ropes) should also be noted on the data sheet. Samples are sent off to Brunel University for analysis with a scanned/electronic copy of the data sheet.

Appendix 1 Boat & Trawl Layout

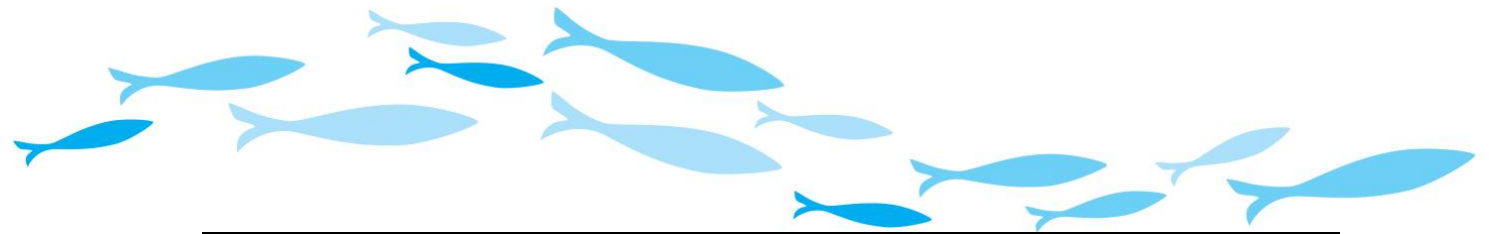




Appendix 2 Sampling sheet example

Date		Location		
Vessel		River/Estuary		
Crew				
Time trawl in		Time Trawl out		
Time HW		Tide Gauge used		
Time LW		Tide Gauge used		
Observations; Weather, sea state, potential contamination, animals observed and returned.				
Large items (use above box if more context needed)				
Plastic items (including polystyrene)		Wood	Metal	other
Food				
Bottles				
Sewage derived				
Containers				
other				

In the Field



4.75mm sieve	1mm sieve	5um	3.33um
In the Lab			
4.75mm sieve	1mm sieve	5um	3.33um
Total			

