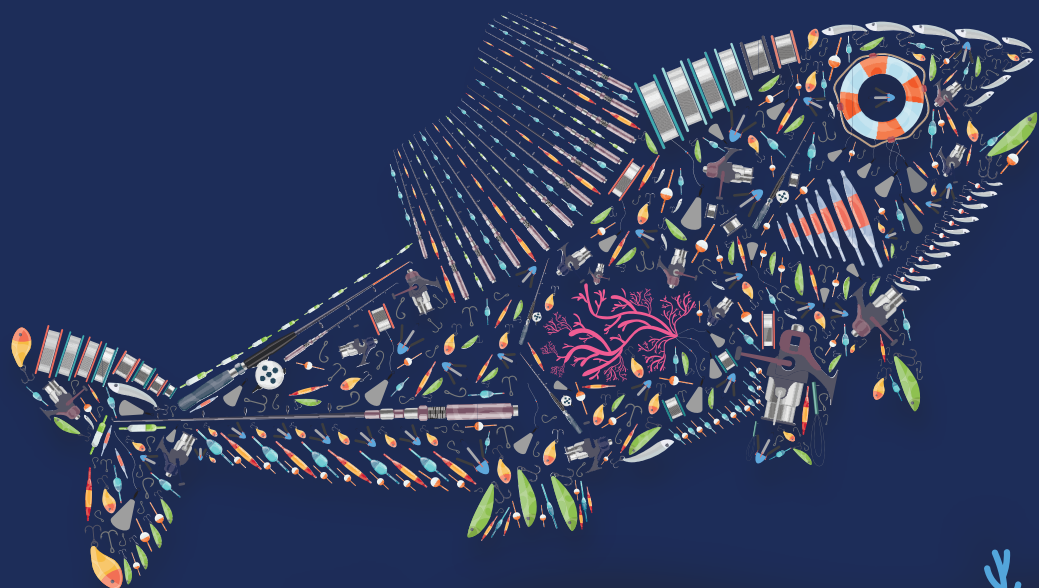


AN ANGLER'S GUIDE TO **PREVENTING** PLASTIC POLLUTION



Interreg
France (Channel
Manche) England



**PREVENTING
PLASTIC POLLUTION**

European Regional Development Fund

Acknowledgements

Special thanks goes to Benjamin Bassett from Ben Bassett Fishing, Stuart McLanaghan from Fish 21 and local Plymouth anglers for their assistance with informing this brochure.

This brochure was researched and compiled
by Odyssey Innovation in 2022.



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Recreational Fishing & The Environment

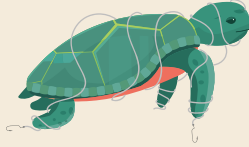
An Introduction

Every year over 14 million tons of plastic ends up in our ocean resulting in the death of 100,000 sea creatures through entanglement or ingestion. This is the equivalent of one garbage truck being tipped into our oceans every minute.

Fishing gear including lost angling gear accounts for approx 10% of this.

Each angler uses on average 1,245 metres of line in a year. Assuming there are around one million anglers in the UK alone, this equates annually to 1.245 million km of line- enough line to go around the world 31 times!

What are some of the effects of abandoned or lost fishing gear on the environment?



Disrupts Balance in Nature

Lost fishing gear is a major form of marine pollution and is listed as a major threat to biodiversity. It persists in the sea for 600 years at least outliving everything else alive.



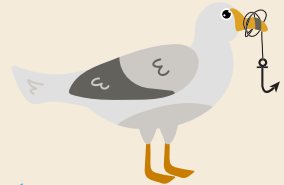
Hazard

Abandoned fishing gear can cause safety risks to divers, bathers and other water users.



Toxicity

Lost gear breaks down into microplastics which then find their way into our food chain due to fish ingesting it. Several human health issues have already been connected to these.



Entanglement

40% of lost fishing gear items pose a risk of interaction (play/ingestion) with animals and birds whilst 58% of them pose entanglement risks. Many times this will either lead to ingestion and death.



Poor Water Quality

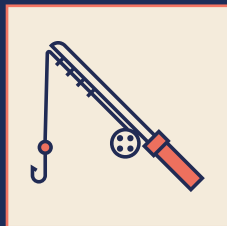
Lead leaching from sinkers and microplastics from fishing gear decrease water quality for all its users, animal and human alike.



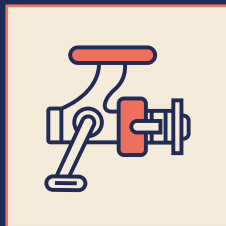
More Plastic Pollution

This type of marine debris increases the damage made to other fishing gear often in the form of snagging which exponentially increasing plastic pollution.

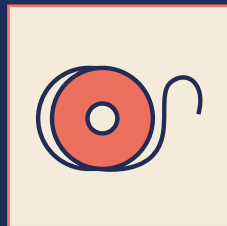
Tips on how to **Avoid** Gear Loss



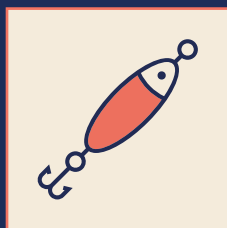
RODS



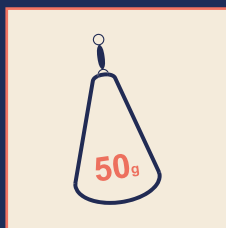
REELS



LINES



LURES



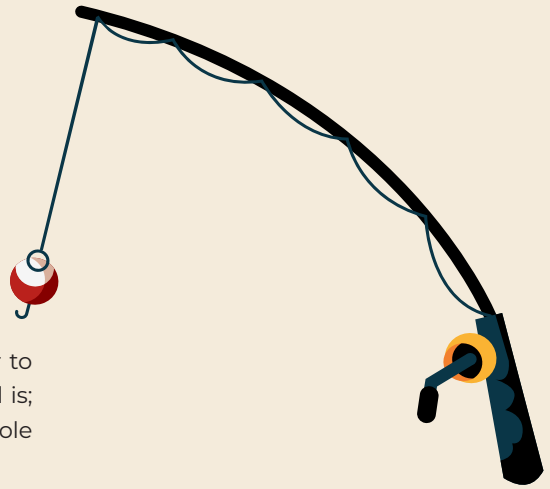
SINKERS



**SUSTAINABLE
OPTIONS**

Equipment

Rods



Consider Rod Weight

If your rod is too heavy, it will be harder to detect where the bottom of the seabed is; this could lead to you spending your whole session sorting out snags.

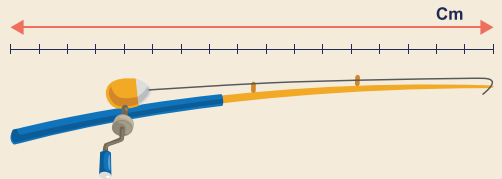


Consider Rod Length

A long rod will allow you to both have more control when fishing and trying to free the line after it gets caught between rock piles, kelp and weed. Often rods between 9 to 12 ft (2.7 to 3.6 meters) are recommended to reduce the contact with anything that can catch or break your line. A longer rod also enables longer casting distances, better landing, and more accurate targeting.

Rod Maintenance

Every few months you should examine the condition of the fishing line guides on your rod. These are the little hoops (or rings) running down the length of the fishing rod which your line runs through, to guide it when it de-spools and spools. The outside of the guide is usually made from metal, but the inner part is often made from hard plastic or even ceramic. If the inner part of the line guide is damaged, cut, or has fallen out completely, it can damage the line as it runs through the guide, fraying it or even causing it to break.



TIP

There should be balance between the rod, line and reel. Use a fishing rod that's suitable for the fish that you want to catch. Then, use the appropriate fishing line that would match the reel and provide enough strength to successfully retrieve the fish.

Equipment

Reels & Lines

Consider Line Weight/Thickness

A heavier line means it won't abrade as easily as a thinner alternative and will hold more efficiently against rocks - this will allow you to enjoy a snag-less fishing experience.



Consider Line Strength

Lines need to be considerably stronger, whether you opt for braided or monofilament line, when fishing over rough ground or from rocks.

Braided-line

Braid offers high breaking strengths with low diameters but has poor abrasion resistance; because of this it is recommended to not be used when fishing amongst rocky structures. If you are a big fan of braid and don't want to change it, then perhaps consider connecting an 18-24 inches mono - or fluorocarbon leader to your mainline, to provide the necessary abrasion resistance, this in turn will help to reduce the amount of lost tackle and plastic pollution in the sea.



TIP

Seek assistance in choosing suitable equipment - talk to your local angling shop about purchasing the right gear for the sites you intend on visiting. Alternatively, ask family members and/or friends that fish, or politely seek the advice of local anglers prior to your session.

Use specialised equipment such as weak links and lead lifts to assist you in avoiding line snags, however, bear in mind that the more things you add, the more you increase the chances of getting snagged, especially if passing through rocks.

Line maintenance

To help reduce gear loss you should check and assess the integrity of your fishing line before and after each fishing session. Also consider the following to ensure maximum preservation of your current gear.



Overrun/Bird's Nest

This happens especially when casting with a multiplier reel. Whilst fishing reels have a drag mechanism to help minimise such overruns, these can still occur if the drag tension is not set correctly for the amount of casting exertion employed. This could eventually lead to the fishing line breaking. To avoid this, use your thumb to check the line and to slow the spool's rotation. This technique will help you avoid tangles.

Wet your Knots

When tying a knot to attach your line to your lure, don't forget to wet the knot before pulling tight. If you're rushing and forget to do this, the join between your lure and line will be weakened by friction which could result in a broken fishing line.



Check for Line Damage

Look out for nicks and roughness from abrasion on your line. A nick on your fishing line can reduce its strength by approximately 50% or more. There are various reasons why you got a nicked fishing line, like a rough rod guide/ring, chaffing the side of your boat, or getting snagged on a log or rock. Even the scales from your target fish species can cause damage to your line after a hard fight; you can check for such damage to your fishing line by running it through two pinched fingers.

Avoid Excessive Reel Drag

Before fishing, check your reel's drag. If you have a high drag setting it might apply too much pressure on the fishing line; this may cause it to break-off. Ideally you should set your drag to 25% to 30% of your line strength.

Uneven Tension

Don't spool the line, especially when there is no level-wind mechanism present. The overtightened sections of the line can bite into the slacker sections resulting in the line cutting into itself on the reel's spool, effectively damaging the line and weakening it.

This is a frequent problem with lighter lines or small-diameter lines such as braided lines and fluorocarbon lines which are notoriously difficult to get an even spool on your fishing reel.



Clean your Equipment

After your fishing session and prior to storing your gear, it is good practice to clean your equipment, especially after fishing in saltwater. Salt can make a fishing line brittle which may lead to it becoming weakened and breaking-off.

Aim to wash your lines with warm, slightly soapy water to ensure all the salt has been removed. Washing salt deposits from rod rings can also minimise corrosion and minimise the risk of associated line damage.



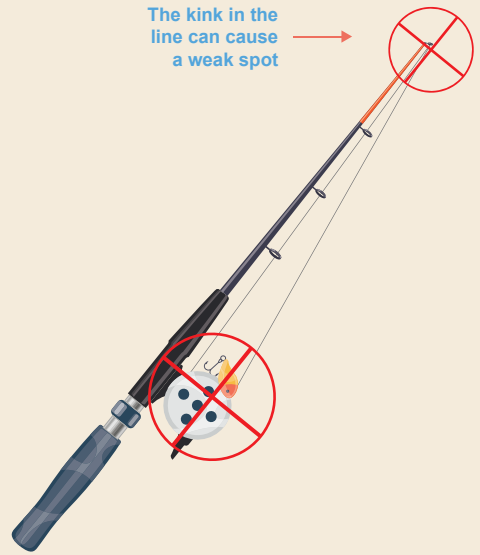
Store lines in a cool and dry place

Studies have shown that heat from bright lights or the sun can significantly deteriorate the quality/durability of your lines. Consider storing these in a cool/dark space - to help preserve the life of your fishing line.

Avoid Lure Strapping during storage

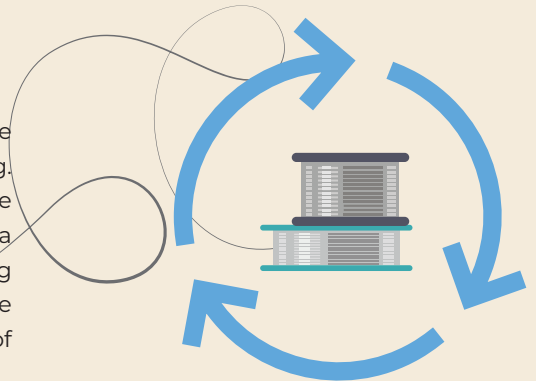
Do not hook lures to your fishing reel - also known as 'lure strapping'.

This can both scratch the reel and compromise your fishing line. Many anglers store their rods with a lure attached to the line, the hook on the lure is attached to an eyelet, and they crank the line tight; this then bends the line around the top eyelet of the rod, which creates a kink or a crease in the line at that point if it is stored this way. This can result in a weak spot in the line, giving it the potential to break at that point.



Recycle old lines

At the beginning of each season, examine your lines before making your first outing. If they are cloudy or frayed, ideally replace them and recycle the old line(s) in a responsible manner (e.g. line recycling scheme); this will dramatically reduce the risk of gear loss. minimise the risk of associated line damage.



Tackle

Lures

Metal Spinners

Metal spinners (e.g. Mepps) and lures (e.g. Tobys) are a highly-productive method of fishing for a wide range of species. They are of course far more prone to snagging over rough ground, but when attached to smaller, single hooks, they are much better in this regard.

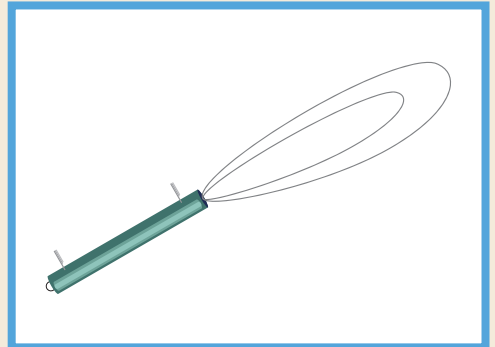


Surface Lures

Using surface lures (like the Pachinko) is great for avoiding snags since the lure floats well away from the weeds. It's therefore possible to catch many fish on one lure until you may eventually lose it. This not only saves you lots of money on lost lures in the long-run, but also helps reduce plastic pollution in the marine environment.

Lure Retriever

If you have a large collection of lures, the likelihood is that you've spent quite a lot of money on them, therefore it might make sense to consider buying a lure retriever (traditionally called an 'otter'.) They only cost a few pounds but can pay for themselves time and time again. This will also minimise further littering/plastic pollution in the marine environment.



Tackle

Sinkers / Weights

Anglers are spoilt for choice when faced with the plethora of fishing weight shapes and sizes available to them, however one should again seek advice (e.g. local angling shop) prior to their purchase, as there are several factors to consider such as:

- ▶ The environment in which you intend to fish.
- ▶ The rod you are using.
- ▶ Weather conditions (on windy days you will want to choose weights that have some type of grip, to cling to the bottom and avoid rolling).
- ▶ The line to be used in each case (a heavy lead on a thin line will eventually split it and if the sinker is too light then it will float in the water).



TIP

You should also consider replacing lead weights with commercially and readily available non-toxic alternatives.

Losing sinkers will not only amount in a significant loss of money, but will be immensely frustrating throughout your supposedly relaxing fishing session, and will cause damage to the environment by not only littering but also leaching toxic chemicals into the marine environment; so please consider learning more about how to prevent gear loss.

If fishing close by there is no need to use expensive purpose made fishing weights. Anglers have experimented with using scrap metal, bolts and even spark plugs in place of weights, although only the simplest short-range casts should be performed when using unconventional items as fishing weights.

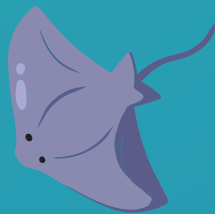


Angling Tips To Avoid Gear Loss

Is it rocky, sandy or both?

How deep is it?

What is the topography of the seabed?



In areas with seaweed

consider using longline, skinny or tear weights - these shapes make it easier to pass through the algae without getting caught.

i Exposed hooks get tangled in plant foliage, so keep your hook point tucked away/unexposed or else consider weedless options.



On a sandy beach

use plain leads whilst fishing as it will roll around and find indentations and gullies which hold fish.



For fine sandy areas between rocks

consider hook-type sinkers (also called breakaway ledgers).

i Pulley rigs are specifically designed to reduce the chances of getting snagged when reeling fish in over snaggy ground, while other rigs incorporate a weak link section which allows the weight to become detached if it becomes snagged.



In Rocky areas

a leader should not have edges or hooks which are prone to getting caught; instead consider using a running ball-shaped sinker to minimise the risk of snags.

i Another option for rock-fishing is to use a float rig. You can suspend your sinker a few meters under a buoyant float. If you don't want to use floats to keep your bait a few inches above the bottom, you can use the paternoster rig, which relies on a three-way swivel that keeps the bait above the sinker.

Sustainable

Tackle Options



Lure
Moulds



Weedless
Lures



Weedless
Hooks



Silver Tungsten
Bead Balls



Brass
Weights



Stone Fishing
Weight



**Monomaster Waste
Line Gadget**



**Paternoster
Rig**



**Lead
Lift**



**Rotten Bottom Weak
Link Release Clip**



**Weedless Barbed
Treble Hooks**



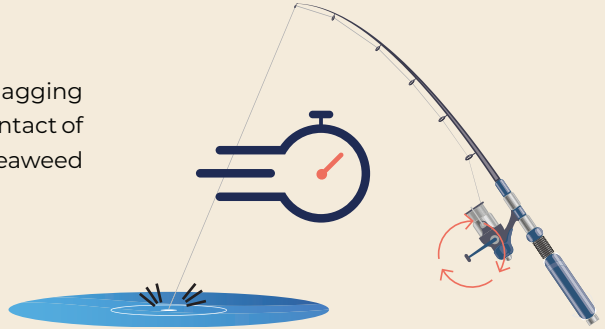
**Natural Stone
Sinkers/Weights**



**Tungsten Fishing
Weights**

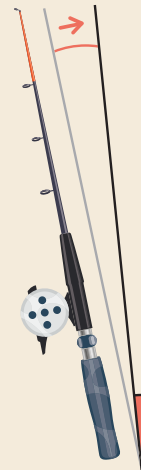
Angling Techniques to Avoid Gear Loss

Fast retrieval will avoid line snagging because it reduces the chance of contact of the equipment with the rocks or seaweed on the bottom.



Before retrieving the fish fully to the shore give it a strike. This will ensure that the tackles aren't settling down at the bottom and are not snagged thus you can reel in easily without having to worry about the snag.

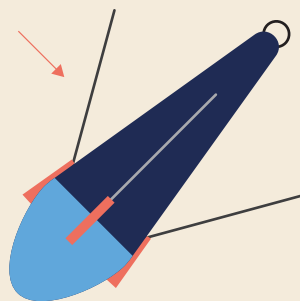
While fishing in a rocky area, try to have your rod tip higher than normal, or at an acute angle, because if you fish with a lowered rod tip you have a greater chance of getting snagged, since the fish and your equipment will spend more time closer to the seabed.



Wait for the tide to settle down as this will take the bait/tackle wherever it wants, drastically increasing chances of snagging.

If you're using a sinker with grip leads (a breakaway weight), then a useful technique is to angle the lead at 90 degrees. In this way, they will have less chance to get stuck in rocks because of the perfect angle. The rod tip sends a standing wave down the line and shakes the lure free.

Breakaway
Grip Weight

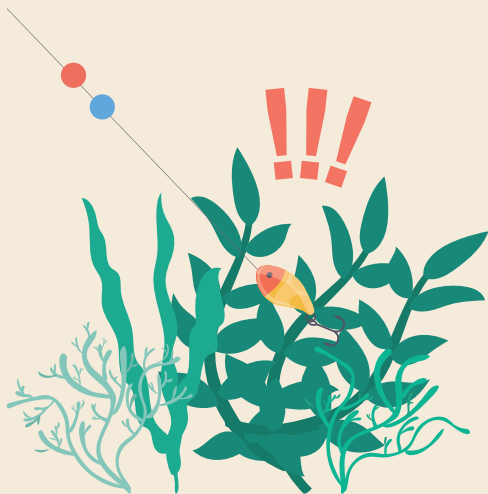


Strike before reeling in even if there is no indication of a fish on the end of the line. This helps get the weight and rig up off the seabed and away from snags.



If your line is snagged, tug it back with a light steady force. Don't pull it strenuously as it might break the rod or cause some serious damage to the equipment. When trying to release the line try using different angles to see if the line will release as sometimes it is stuck from only one point.

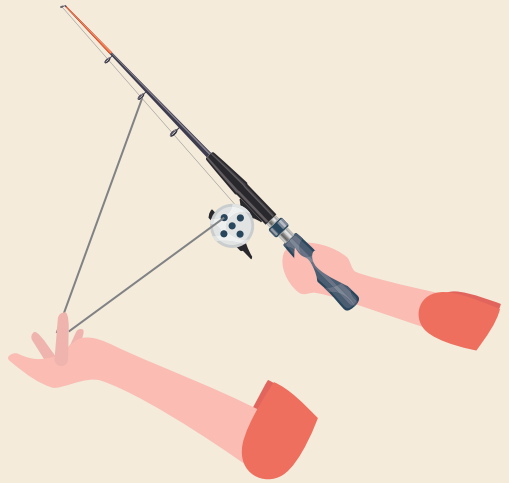
Another method to change the angle of a snagged line is by simply filling up a bottle halfway through with liquid, closing the lid and tying its neck to the fishing line, throw it into the water near your snagged line and let it sink in then give it a tug. This will change the direction of the force on the stuck gear and will thus help it break free from its hold.



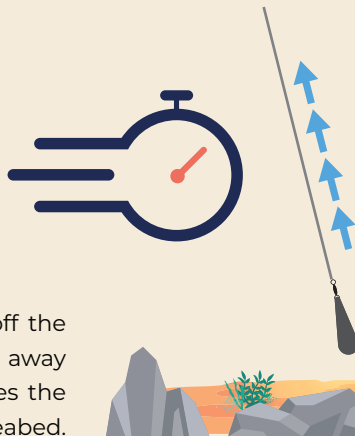
If you do get caught in weeds, do not yank the line as it may break, instead, employ a steady pressure. This will allow the lure to push weeds aside instead of yanking through them and will often result in a free lure.

If your gear is caught you might also want to consider the “bow and arrow” method, also known as the Robin Hood technique. Essentially, you are shooting slackline down to the snagged lure using the rod like a bow. This causes the lure to move backwards and dislodge from the obstruction.

To make it work, put some slack in the line and with your rod held vertically, grab the line a few feet below the tip of the pole and pull it back towards you until you have equal tension on the rod tip and the line heading down to the lure. Once you release it like a bow, the flex in the rod tip sends a standing wave down the line and shakes the lure free.



When fishing in a rocky area let the gear get down all the way until you feel it hitting the bottom, after that pull it out a little. Move your line in a horizontal direction without letting it touch the rocks at the bottom; this will allow you to get in between the holes of the rocks so when a fish catches the bait you can retrieve it without it getting stuck in between them.



Retrieve fast: this lifts the weight off the seabed and keeps it in midwater away from snags. A slow retrieve increases the chances of getting snagged on the seabed.

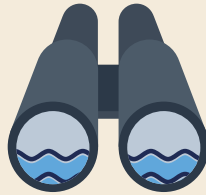
Angling Tips

Consider Location

For an easy and trouble-free fishing experience consider a non-rocky/smooth area, especially if you're a beginner. Choose your fishing site wisely. The highest risk for losing gear is in rocky locations. If targeting fish species specific to rocky areas, choose sites with a mix of rocks and sand then avoid the rocks.

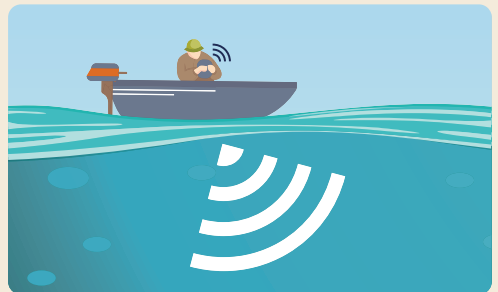


Keep trying different spots along the rocks. A rocky area at low tide will present less snag hazards for fishing tackle.



Scouting the fishing area at low tide is a good way to better understand the underwater structures and define the best spots to throw the bait.

If you are fishing on a boat then a couple of laps around with a decent fish finder could be worth it, both to find the fish and to give you information on any underwater obstacles you may want to fish near but not on top of!



Popular venues such as piers and breakwaters can contain very snaggy areas. This is because anglers losing gear over time will have created a large tangle of lost rigs and line underwater, which in turn traps more and more rigs, increasing the size of the area where anglers are likely to lose gear. Lost boat moorings, ropes and even lost or commercial fishing gear can all also lead to tackle loss blackspots around popular fishing venues.

Recreational Angling in Plymouth

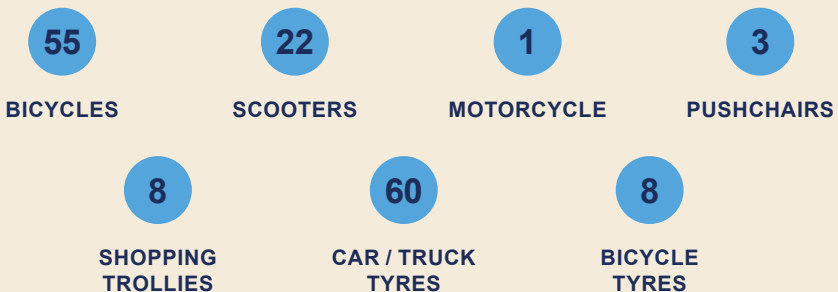


Plymouth is Britain's Ocean City, and home to the UK's first National Marine Park. It is famous for its scenic waterfront and for the range and variety of recreational activities on offer.

Through the PPP project a number of important and popular areas for recreational angling have been identified. These 6 angling 'hotspots' are popular with both local anglers and visitors to the city. To help anglers dispose of their plastic waste in a sustainable way we have installed new waste bins close to popular areas. The black tackle bins are specifically designed for angling line which is regularly collected, cleaned and recycled.

At some of the popular angling spots underwater snag points were identified where fishing gear has been lost over time.

At Mutton Cove commercial divers recovered more than 2000km of angling line along with:



A team of volunteers helped clean the waste so it could be recycled.

This brochure aims to support angling communities to raise awareness about plastic pollution and provide guidance and information on best practices to reduce the loss of fishing gear.

Angling Bin Locations in Plymouth



Cornwall Beach



Mutton



West Hoe Pier



Fisherman's Nose
- Elphinstone



Mountbatten Breakwater



Bin Locations



Dive Clean Locations

PREVENTING PLASTIC POLLUTION

PROJECT

Working in partnership with 18 organisations from across France and England, Preventing Plastic Pollution seeks to understand and reduce the impacts of plastic pollution in the marine environment.

By looking at the catchment from source to sea, the project will identify and target hotspots for plastic, embed behaviour change in local communities and businesses, and implement effective solutions and alternatives.

Preventing Plastic Pollution is a €14million funded EU INTERREG VA France (Channel) England Programme project co-financed by the European Regional Development Fund that will work across seven pilot sites: Brest Harbour, Bay of Douarnenez, Bay of Veys, Poole Harbour, and the Medway, Tamar, and Great Ouse estuaries.

The information gathered from research in these areas will allow the cross-Channel partnerships to tackle some of the four million tonnes of plastic waste that enter the sea via rivers every year.

The aim of the project is to improve the quality of Transitional Waters across the France (Channel) England area in 3 key ways:

- Identify and map hot spots for plastic
- Test and trial new ways to remove plastic waste
- Work with communities, organisations and individuals to encourage positive behaviour changes around plastic waste and demonstrate best practice.



**LEARN MORE BY
VISITING OUR WEBSITE**

A Desire to Create Best Practice

In recent times there has been an increased focus on developing more sustainable angling techniques and equipment; several of which have come to light through a series of in-depth knowledge-sharing workshops with anglers, divers, public-facing events, and interviews with local tackle shops, industry experts, and NGOs to further support the many months of research conducted by Odyssey Innovation.

It is precisely this knowledge that we believe is the best tool for individuals interested in making a positive change to their attitude towards plastic waste, their angling tendencies, and which will support them in improving the overall condition of the environments which they enjoy whilst angling.



So please, share the knowledge in this booklet with friends and loved ones to prevent further damage to the environment and avoid additional gear loss.

If anyone is interested in recycling their fishing line please feel free to contact us at

WWW.ODYSSEYINNOVATION.COM

Quick tips To Avoid Gear Loss



Note that sites with fast moving tides will quickly move rigs, increasing chances of snagging.

Avoid line wear by ensuring that rod eyes are smooth, all reel parts are moving freely and corrosion free. Rinse the line after use in salt water, store in a cool dark place and replace it if it is looking cloudy or brittle.



When fishing over rocks or weeds ideally use a float rig. If ledger fishing, reel in fast, use a lead lift, use a weak link, don't use grip weights or mackerel feathers, use weedless hooks, try floating and weedless lures. Keep gear simple, for example a Paternoster Rig that will keep the hook away from sea bed.

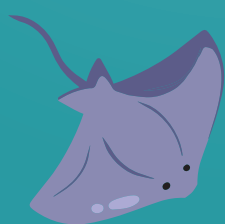
If your line is snagged, try releasing the line by moving around and using different angles or using a lure retriever.



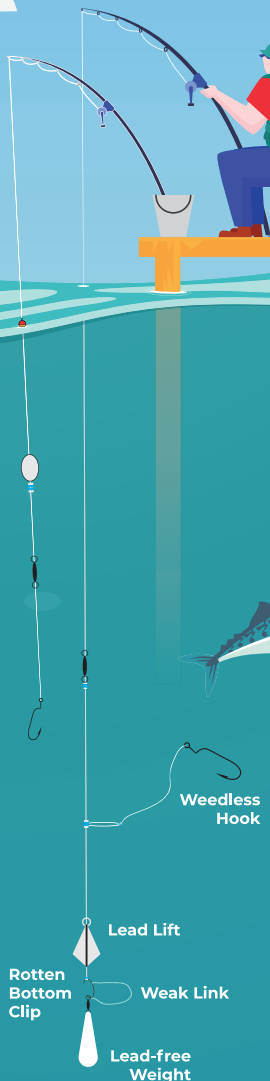
Use Google Maps or visit fishing spots at low tide to identify any snag hazards.



Popular venues such as piers can contain high amounts of lost gear. Consider float fishing on these sites to avoid entanglement.



Choose site appropriate gear by seeking advice from local anglers or tackle shops.



Weedless Hook

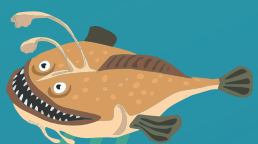
Lead Lift

Rotten Bottom Clip

Weak Link

Lead-free Weight

Consider using eco-friendly gear options such as biodegradable fishing line, recycled & biodegradable lures, weights made from brass, tin & tungsten instead of lead. You can also experiment making your own eco-friendly lures (kits are available) or weights by using pebbles, iron nuts & bolts.



This project was supported by

Plymouth City Council and Odyssey Innovation.



Interreg
France (Channel
Manche) England



**PREVENTING
PLASTIC POLLUTION**

European Regional Development Fund

