Specifications on ScallopLight

TECHNICAL SPECIFICATIONS

LED colour	White
Battery Life	1500 hours (2 months)
Dimensions	Length 173mm | Diameter 60mm
Weight (with D Cell battery)	385g
In-water Weight	65g
Depth Rating	1000m
Battery Type	1 x Alkaline D-Cell
Immersion Switch	Automatic immersion switch
Attachment Hole Diameter	8mm
ScallopLight Housing Material	Injection moulded polycarbonate
Light Intensity	4 lm

Batteries are changeable.

Scallop Potting

Fishtek Marine, alongside a Cornish fisherman, first stumbled upon the phenomenon where you can catch scallops using light as an attractant (or 'bait,' as it were) in the winter of 2020/21.

Since then, our team has spent years investigating this phenomenon further through various tank trials and validation trials at sea. These trials examined factors such as:

- Light intensity

- Light colour

- Flash rates

- Various pot and entrance designs

Alongside this, our team has been noting anecdotal feedback and observations from fishermen, as well as from our own trial observations. We are only now beginning to build a clearer picture of this fishery here in the UK and are working to gain an understanding of which environmental variables affect the catch rates.

One thing that is becoming apparent is that it isn't as simple as crustacean fishing. However, when figured out, it can match and even significantly outcompete typical crab and lobster fishing. This success is very much dependent on several factors.

To help fishermen get to grips with some of these variables, we have formulated the attached **scallop potting guide.**

While this guide outlines five of the key principles related to catch rates, along with some of the key factors regarding the placement of pots, the fishing practice isn't limited to these. Other factors include:

Current

- This is an interesting variable. We have found, from speaking with ex-dredge fishermen turned potters, that historically productive dredged grounds in significant tidal races aren't necessarily good for pot catches all the time. We've begun to find that these areas often only produce good catches after periods of high ground swell, which we believe lifts scallops from their hollows in the sediment. This needs to coincide with a neap tide phase, when scallops tend to move more.

Ground swell

- This still remains a bit of an unproven assumption, but one thing that our tank trials showed was that when the scallops excavated a hollow to settle in, only in very few instances would those individuals move into a pot afterward. We believe the same could be true for scallops in the wild. It is not uncommon for catches to jump after periods of high ground swell, and we think this is because the swell pulls the scallops out of their hollows, making them much more active before they resettle. This is a theory, but other fishers and divers are starting to suggest the same idea. Even stranger, this might also explain why areas with a high number of starfish tend to have good catches—scallops can't really settle for long before getting disturbed, as they would otherwise be preyed upon. Again, this is a theory, but we actually tested it in tanks, and it seems to be valid!

Neap & small tides

- As mentioned in the scallop potting guide, something we are starting to tease out from our catch data is that catches tend to jump during periods of neap tides. We are unsure as to why this occurs, but we believe it has something to do with the amount of sediment in the lower water column. Scallops have been shown to close their shells when sediment levels rise above a certain amount, presumably to protect their gills from becoming clogged. Alternatively, it may be that they don't want to move when it requires more effort.
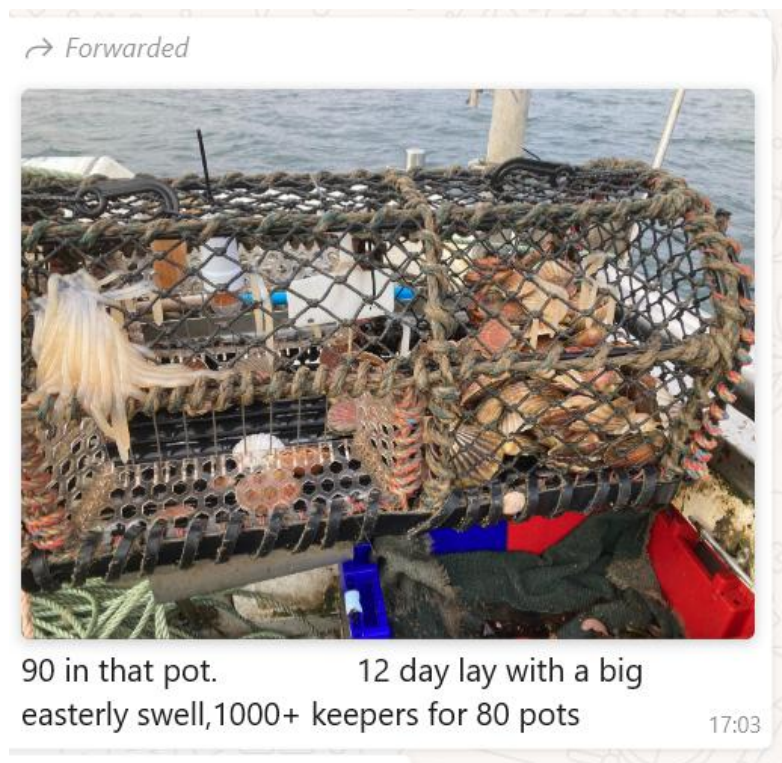
Soak Times

- During our tank trials, the first recorded scallop he had entre a pot when potlights had been added was within 2-minutes. Now, this was an anomaly and in the field we have found that 4-5 days should be your minimum. Then again, certain guys prefer leaving them for 3 days as they have productive grounds and other for 12 days. This depends on your local scallops & factors such as starfish densities that love the depredate on scallops.

Depth

- We've caught scallops in as little as 3 meters of water and as deep as 60 meters, that we know of. Depth isn't necessarily an issue in itself, but variables such as ambient light seem to be. As you might expect, we think there is a relationship where darker environments produce more consistent fishing due to the lower ambient light levels—but not necessarily better catches. Some of our best catches have been in 8-18 meters of water.

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Light!

- Without light, you just won't catch scallops! The scallop light has been specifically designed for this purpose, with an internal lens that refracts the light above, parallel to the seabed, to help with attraction, based on some tank trial footage. Using these lights, we have had fishermen regularly pull pots with 30+ keepers, including up to 90 size scallops, as shown below. So, provided the batteries aren't dead, these lights should work well. You only need one light. Then again, certain fishermen swear they see more scallops in pots with two or three lights but we cant comment on this as the data we have from a single trial suggested a small increase but it wasn't significant. However, when you see a notable drop in output, be sure to change your batteries.

→ *Forwarded*

90 in that pot.　　　　　12 day lay with a big
easterly swell,1000+ keepers for 80 pots　　　17:03

Location

- Ultimately, apart from having a pot light in your trap, location is the biggest factor. In some areas, it just seems that scallops won't move, and this can be incredibly localized—within as little as 100 meters! Our team actually conducted a few trials with the assistance of a diver, where they placed pots on a dense bed of scallops. Over a few days of soak time, we caught zero scallops however in a neighbouring bay with a similar density we caught a decent number over the same soak time. As a result, with location being the greatest variable, Fishtek Marine recommends that fisher's trial ideally with 15 pots, splitting them into three strings of five pots. This approach helps you cover your ground more quickly, enabling the identification of productive regions – one pot just isn't enough. Once these regions are located, fishermen can focus their efforts by combining strings when they find a productive patch. This method is how some of the most successful UK fishermen have located productive regions, proving its economic viability as a fishery. During our observed trials, it became very apparent to us that even with a distance of 20 meters, catch rates can vary greatly -empty pots could be just fifteen meters away from pots that haul 60+ scallops of harvestable size.

We urge fishermen to persist with this fishing method, but to avoid laying individual pots, as this is more likely to result in false negatives due to a low sample size as well as the fact single pots when deployed tend to skip along the bottom unless correctly anchored. This is why, in the UK, we have a minimum order size of five pots for recreational fishermen & ten for commercials (strongly suggesting fifteen pots).

We can understand the frustration of this method, particularly in new regions however this is ultimately a new fishery and we are learning new things literally every week!

Best practise:

Three strings of x5 pots spaced 20m apart.

Pot design as follows:
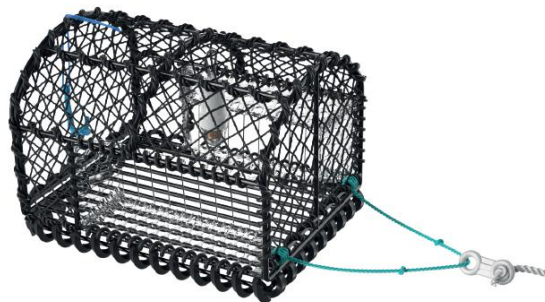
Dims: 26" Length | 20" Width | 17" Height

- Pots are heavy enough to stay anchored to the seabed even in slight swell (Location dependant)
- Make sure the base bars aren't too wide so that the scallops slip through on hauling.
- There is a section at the end of the pot near the door that is just netting so that the scallops tumble down against this when hauling and the pot it vertical in the water column ensuring the scallops don't drop back out of the entrance! – See ScallopEye leaflet for more information.
- Ensure the light bulb is around 15cm from the sediment

Soak time – 5 days minimum (until you find a good location)

Identify locations based on tips in **SCALLOP POTTING GUIDE**