



Otter mortalities within fixed traps in Devon

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Freshwater and marine fixed traps and interactions with Otters

Introduction: There are many types of fishing traps set for fish and crustaceans in the freshwater and marine water environment. It is evident that some of these fishing methods have a high risk of trapping and drowning otters.

Within the freshwater environment use of any fish trap in England requires specific Environment Agency consent, and attachment of an otter guard to each trap is a legal requirement. This includes fyke nets set for eels and crayfish traps.

*The European otter (*Lutra lutra* L.) is the only native UK otter species. It is a European Protected Species (EPS) and is fully protected under the Conservation of Species and Habitats Regulations 2010 (as amended), which transposes the European Habitats Directive 1992 into UK law.*

You are breaking the law if you:

- *capture, kill, disturb or injure otters (on purpose or by not taking enough care)*
- *damage or destroy a breeding or resting place (deliberately or by not taking enough care)*
- *obstruct access to their resting or sheltering places (deliberately or by not taking enough care)*
- *possess, sell, control or transport live or dead otters, or parts of otters*

If you're found guilty of an offence you could get an unlimited fine and up to 6 months in prison (Details from the .GOV.UK website)

Sections 50 and 51 of the 2010 Regulations require that appropriate authorities monitor the incidental capture and killing of protected species, and where there is evidence that such incidental capture could have an impact on the conservation status of that species to put in place measures to reduce such capture. It is for this reason that otter guards have been required on eel fyke nets and crayfish traps in fresh waters, as there is substantial evidence that otters drown not infrequently in unprotected traps.

Otters are well distributed throughout Devon and Cornwall being found in rivers, lakes, all estuaries and along the coastline.

Devon evidence: Locally and nationally otters are being found dead within small "prawn" type fixed traps (that in freshwater can be used to catch crayfish and eels) that have been set in areas such as estuaries or along the coast. In the marine environment these "prawn" traps can as well as prawns also catch eels, crabs or other fish species. Within the local area around Plymouth, Devon the Environment Agency have gathered the following evidence of the lethal impacts on Otters of these "prawn" traps (see **Photographs 1 to 4**). In all cases the otters were dead within the trap.

Yealm estuary 13/06/2006: Adult female otter and juvenile otter (**Photograph 1**), mostly likely its own dependent offspring, *both* fully within this one illegal fixed "prawn" trap. Fresh. Post Mortem showed hypoxia in both animals, with severe congestion of

major vital organs indicating drowning as the likely cause of death. There was no evidence of other trauma or of concurrent infectious disease.

Tamar estuary 14/08/2008: Sub-adult male otter (**Photograph 2**) found fully within this illegal fixed “prawn” trap. Very bloated. Post Mortem gave probable cause of death as drowning.

Plym estuary 11/08/2015: Sub-adult male otter (**Photograph 3**) found fully within this illegal fixed “prawn” trap. Very bloated. This otter had fish and eel remains in its gut including a whole 23cm eel. Post Mortem gave cause of death most likely as drowning.

Plym estuary 25/04/2016: Juvenile female otter found fully within an illegal fixed “prawn” trap. Very bloated. Post Mortem cause of death - drowned.

Plymouth Sound 18/07/2017: Otter (**Photograph 4**) found firmly attached through the wire entrance loop into a “prawn” trap and it looked like someone had cut away the netting to remove the animal but then found the animal was firmly stuck through one of the wire loop trap entrances. Very bloated. Post Mortem not carried out as yet but drowning is the most likely cause of death.



Photograph 1: Drowned mother and male cub found within this single illegal fixed “prawn” trap on the Yealm estuary, Devon.



Photograph 2: Drowned Otter found in this illegal fixed “prawn” trap on the Tamar estuary at Weir Quay, Devon.



Photograph 3: Dead otter found in this illegal fixed “prawn” trap at Mount Batten, Plym estuary. This is part of the lower Plym estuary, bordering the coastal waters of Plymouth Sound.

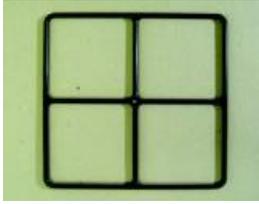


Photograph 4: Dead otter found washed up and held within this fixed “prawn” trap at Rusty Anchor, Plymouth Sound. This is a coastal site between the Plym estuary and the Tamar estuary complex.

A further otter near Mount Batten on the lower Plym estuary was found drowned in the same type of fixed “prawn” trap as those shown in **Photographs 1 to 4**. This known mortality of six otters came from five fixed traps in adjacent estuaries and coastal areas (Plymouth Sound, Tamar estuary, Plym estuary and the Yealm estuary).

The losses detailed above are of those where the trap and dead otters were found. Where such traps are used in all estuarine, inshore coastal areas and freshwater areas there is a likely risk of lethal interactions with Otters that are present in Devon and Cornwall in all these environments.

Otter mortalities within traps became recognised as a problem historically within fixed fyke nets that were set to catch adult eels. Once this was recognised as an issue in the 1970s, when otter populations were very low, subsequent research on the efficacy of otter guards and the impact on trap efficiency, that was deemed negligible, led to the introduction of byelaws making it illegal in England to set any eel fyke nets without first attaching otter guards to these fixed traps set for eels. These otter guards must conform to a strict size and any traps with an entrance greater than 85mm must be fitted with an otter guard (see **Photograph 5**) to prevent otters getting into the trap and drowning.



Photograph 5: Plastic Otter guard

National evidence: Otters found dead and where able to be safely retrieved are collected by the Environment Agency and other organisations. Up to 2006 Post Mortem (PM) investigations on otters were carried out by both the Wildlife Veterinary Investigation Centre, Truro and Cardiff University. From 2007 onwards these have solely been carried out by the Cardiff University Otter Project. This work over many years has highlighted numerous valuable aspects of otter biology, including improving knowledge about unnatural causes of mortality.

There have been Post Mortems on at least 44 Otters that drowned within a variety of fixed traps. This included 25 from prawn/crayfish traps (such as those shown in **Photographs 1 to 4** and **photograph 7**), 12 from illegal eel fyke nets (see **Photograph 6**) set without otter guards, 2 from lobster traps, 1 from a mink trap and four from fish traps that were not described in greater detail. These incidents were spread across 15 counties of England, Wales and Northern Ireland. These are *only* those instances where the trap and dead animals happened to be found, were then reported, with the dead animals able to be retrieved and subsequently taken into the Cardiff University Otter Project for PM analysis.

The evidence above is likely to be a sub-set of the number actually drowned in fish and crustacean traps.



Photograph 6: Three dead otters found in this larger illegal fixed trap. Mother and two cubs. Photograph courtesy of Cardiff University Otter Project.



Photograph 7: Dead otter found in this illegal fixed “prawn” trap. Photograph courtesy of Cardiff University Otter Project.

During an “Otter roadshow” meeting in the Anglian region that Dr E Chadwick of the Cardiff University Otter Project held it became apparent that otter deaths within prawn/crayfish traps were a much greater issue than was previously realised. Often the otter carcasses found were badly decayed and so were not sent to the Cardiff University Otter Project and therefore were not recorded (so were under-reported). During this meeting it came to light that six incidents around the Cambridge area had involved the deaths of up to ten otters.

Of the 25 carcasses caught within prawn/crayfish traps and analysed (in the 2006 to 2017 time period), 96% were adult female, sub-adult female or sub-adult male otters. This includes four incidents of multiple mortalities in the prawn/crayfish traps: adult female and two sub-adult females (Cambridgeshire), two sub-adult females (Essex), adult female and sub-adult female (Oxfordshire) and adult female and sub-adult male (Devon) (see **Photograph 1**). The death of breeding females and sub-adult females could have a disproportionately greater effect in population terms than the deaths of subadult male and adult males (males being the dominant group killed on roads).

In addition where adult females are killed in such a trap, there is a high chance they have dependent cubs. This is likely to mean the associated deaths of any dependent young that weren't directly killed but which will most likely die from starvation if they are too young to feed themselves. Young otters spend between 12 months to 15 months (some longer) with their mothers before becoming sufficiently accomplished hunters to survive independently. The death of females with cubs is deemed to represent a threshold of significance with respect to the local conservation status of otters, given that these are relatively low density carnivores.

Summary and possible solution:

“Prawn” traps do not have a sufficiently restricted aperture to prevent otters entering, becoming trapped and subsequently drowning underwater. The wire loop entrance to these traps can expand allowing the otter to manoeuvre into the trap, but from which there is no escape and they will then drown. From the evidence available adult female otters and sub-adults of both sexes are the most likely otters to be able to enter these traps. Where adult female otters are killed there is a high risk of the associated deaths of any dependent cubs that are reliant on their mother for food. Young otters spend between 12 months to 15 months (some longer) with their mothers before becoming sufficiently accomplished hunters to survive independently.

Within freshwater all traps for eels (such as fyke nets) or crayfish traps are authorised by the Environment Agency in England and Natural Resources Wales in Wales. These freshwater traps with a larger entrance all are required to have robust otter guards fitted. As described above traps set in estuarine and coastal areas (such as “prawn” traps) can and do capture and drown otters as their entrances are too large. Such otter deaths are preventable otter mortalities.

A solution would be that all such “prawn” traps or other fixed traps with an entrance that can open to more than 85mm should have an otter guard fitted in a similar manner to that required for eel fyke nets. Such otter guards, whether made of hard plastic or metal, would be most unlikely to alter the efficiency of these “prawn” traps to catch marine target species such as prawns that would still easily enter through the otter guard. Such a measure would be commensurate with the measures taken on freshwaters to reduce the scale of non-natural mortality of otters as a result of incidental but avoidable drowning incidents.

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