Hints and tips for using DOC Traps in the UK

Game & Wildlife CONSERVATION TRUST
Advisory Service

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Why you should read this leaflet

This document gives GWCT's guidance on using DOC traps in the UK, and directs users where to find the relevant legislation. To the best of our understanding, users following our recommendations will be acting within the law. However, several aspects of the legislation regulating trap use are difficult to interpret and have not been clarified through court cases. Furthermore, some flexibility in working practices is allowed to suit local circumstances, and there may well be variations not described or illustrated in this leaflet that are perfectly defensible under the law. For both these reasons, this leaflet is advisory only. While we have done our best to make things simple, every trap user (and their employer) must satisfy themselves that the way they use traps complies with the legislation in spirit and detail.

What's new?

DOC traps have been widely available in the UK for over a decade but with quite limiting conditions of use. Recent changes to UK trap approvals, including changes to the conditions of use for DOC traps, mean that DOC traps have been adopted more widely by UK trap operators. This updated document outlines the law concerning the use of DOC traps and illustrates options for running them successfully to maximise trapping results, while minimising the risk to non-target species.

WHAT ARE DOC TRAPS?

DOC traps are a family of spring traps (killing traps) designed by the Department of Conservation (DOC) in New Zealand and manufactured by CMI Springs. The intention was to replace older spring traps (including Fenn traps) with a new generation of traps that would meet humaneness standards based on emerging international agreements such as the Agreement on International Humane Trapping Standards (AIHTS) to which the UK is a signatory.

There are three models in production, the DOC 150, 200 and 250 (see photo). The model numbers refer to the approximate width of the tunnel in millimetres that traps must be placed in and the actual trap dimensions are detailed in Table 1. All three sizes are approved in the UK (see Table 2 for the range of species for which each is approved), but only the 150 and 200 are readily available here. The DOC 150 is intended to fit the same tunnel dimensions as the Fenn Mk IV or Springer/Solway No 4 traps, meaning it can be fitted into a pre-existing trap space. However, note that because the DOC trap must be fixed to a rigid base and requires an inner baffle(s), some adjustment of the tunnel may still be necessary; for most trappers, the construction of a new dedicated box has proved to be the best way forward to ensure appropriate length and height. Likewise, the 200 is designed for similar tunnel dimensions to Fenn Mk VI and Springer/Solway No 6 traps (see photo). Readers will note that the width of both traps is similar when set, but the height differs enough that existing Fenn housings may not work (see bottom photo).

The 150 and 200 are similar in strength,

The DOC series of traps from left-to-right DOC 250, DOC 200 and DOC 150.

Size comparisons of DOC 200 and DOC 150 traps (top) and set Fenn-type Mk 6 and Mk 4 traps (bottom).

DOC traps are marginally taller than their Fenn-type equivalents so existing tunnels may need adapting. This photo shows the difference in height between a DOC 200 and a closed Fenn-type Mk 6.

but because of its larger dimensions the DOC 200 provides more leverage to cock the trap and is easier to set. The 150 has the benefit of a high strike force but in a small package, making it a valuable trap for UK applications.

The DOC trap treadle plate design is large (almost twice the length of a Fenn-type trap), so when combined with the required baffle configuration and position in relation to side of tunnel, it ensures that animals cannot skirt around it and are less able to jump over it. Underneath the treadle plate is a small secondary spring which maintains the height of the treadle (see photo below). The factory setting of the trap is such that it will only fire when a weight of 80g or more is applied to the treadle. This useful feature reduces false trips caused by mice, voles or shrews, and prevents the progressive lowering of the treadle by repeated passage of such animals until it eventually trips. It cannot, however, prevent the trap firing if small mammals arrive in twos or threes, or if they jump about on the treadle plate which appears to be a frequent occurrence in both the uplands and the lowlands. See page 7 for trap calibration.

Underneath the trap is a small return spring which maintains the height of the treadle.

Table 1: Actual dimensions of the three DOC trap models

Trap	Height (mm)	Width (mm)	Length (mm)
DOC 250	215	215	170
DOC 200	180	180	130
DOC 150	140	140	130

You must provide sufficient tunnel height and width for the trap to operate, but must avoid leaving gaps larger than 10mm between the trap and inner baffle(s) and between the treadle plate and tunnel side. The internal height and width of the tunnel will also vary according to how you choose to access the trap eg. top access, sliding wooden chassis, wire mesh cradle.

The configuration of the DOC trap with multiple strike bars, a strategically placed baffle and plenty of power significantly increases the likelihood of a humane dispatch.

APPROVAL FOR USE

The DOC 150, 200 and 250 traps, manufactured by or under the authority of the Department of Conservation, Wellington, New Zealand, were first approved for use in England by means of the Spring Traps Approval (Variation) (England) Order 2007, and by similar Orders in the devolved administrations.

Use of these traps is now governed by the following:

- The Spring Traps Approval and Amendment Order specific to each of England, Scotland, Wales and Northern Ireland.
- The manufacturer's UK DOC trap instructions.

Links to these resources can be found at the end of this document.

Depending on the tunnel configuration, the 150 and 200 models may be used only for the purpose of killing grey squirrels, rats, stoats and weasels. The 200 model may additionally be used for mink, although we do not consider it sufficiently powerful for this purpose. The 250 model may also be used for mink and rabbits but the UK restrictions on baffle design make these species un-targetable. See Table 2 on page 5 for the full list of species and configuration approval.

Note that while the Spring Traps Approval Order currently permits the use of 'clone' traps (copies that are functionally equivalent to named, approved brands), the General Licences allowing the use of traps for stoats authorise named brands only. Thus, for any situation in which stoats are likely to get caught, clones of DOC traps are not legal. Genuine DOC traps are clearly labelled as such, and those manufactured from 2020 onwards are stamped in the metalwork.

Genuine DOC traps are easily identifiable by the manufacturer's name engraved on the framework and strike bar (above) and come with tricky-to-peel stickers on the framework and treadle-plate (below).

THE TUNNEL

As with most spring traps approved in the UK, DOC traps must be used within a tunnel that is – in the words of the approval order – "suitable for the purpose" with respect to selectivity (exclusion of non-target species), convenience in operation and human safety. How this is done is left to the discretion of the operator, allowing some flexibility over materials, dimensions, and tunnel entrance size according to circumstances.

When first approved in the UK, DOC traps could be used only in a single-entry (blind end) tunnel that followed a very detailed design. This has now changed. All three DOC trap models may now be used in either single-entry or run-through tunnels. The original highly prescriptive tunnel design - which deterred many operators from using DOC traps - has been relaxed, leaving operators the flexibility to choose materials, dimensions and designs to suit their specific circumstances. However, aspects that are critical to humaneness remain legal requirements and these differ slightly depending whether the trap is housed in a single-entry or a run-through tunnel (see Table 2).

In this leaflet we distinguish carefully between (i) baffles, positioned alongside the trap and required by law to ensure humaneness; and (ii) excluders, a discretional feature but necessary to minimise the risk of protected non-target species entering the tunnel.

(i) Baffles

A baffle is a vertical piece of material that slows the animal's approach to the trap and guides it onto the correct part of the treadle plate through a small hole. For DOC traps the baffle is essential to ensure a humane strike, and it is a legal requirement that baffles matching the manufacturer's instructions must always be present when DOC traps are used. In a run-through tunnel you need a baffle each side of the trap. In a single-entry tunnel you need only one baffle on the side the animal will approach from. Baffles must be positioned no more than 10mm from the edge of the trap (when viewed from above - see photo) and must be fixed in place relative to the trap. The hole in the baffle may be round or square (depending on the material you use to make the baffle and what tools you have to cut the hole with), but it must not be larger than 51mm (2 inches) in height or width for a run-through tunnel. The hole must be located so that when the trap is set the bottom of the hole is level with the treadle plate and not obscured by it. For a single-entry tunnel, the hole can be up to 65mm (2½ inches) in height or width if you wish. The difference in requirements between run-through and single-entry tunnels emerged in Government testing and is thought to be related to the speed with which stoats move through the different tunnels. Single-entry tunnels were tested with a bait in place, and this may produce a slower approach by the stoat.

The distance from the edge of the trap plate to the inner baffle(s) must be no more than 10mm, but be careful not to get it so close that the trap doesn't fire properly.

(ii) Excluders

It is a legal requirement in the UK that all spring traps – not just DOC traps – must be used in a manner that minimises the risk of catching non-target species, without unreasonably compromising their use against target species. We remind you that it is also a specific offence to set any trap in such a way that it is likely to injure or kill a protected species: in this context protected species include all birds, plus polecat, hedgehog, pine marten, red squirrel, water vole and otter. Although a dark tunnel minimises exposure of most birds to the trap, it is an attractive feature that many mammals will instinctively explore. Adding a bait increases the risk for non-target species with similar tastes to the target species. Placing the trap on a rail across a ditch or stream and replacing the dark tunnel with one of wire mesh may expose certain bird species to increased risk. You therefore need to think carefully about which protected species are present in your area, and which species you are targeting. Whatever style of tunnel you decide on, we advise you to make a record of your reasoning in case you were ever challenged over an unintended capture.

It will almost always be the case that some physical barrier is needed to prevent access of non-targets larger than the target species. For decades it has been common

The circle shows legal requirements of the baffle arrangement for a run-through DOC trap. In this case, a DOC 150 trap fixed within a folded sheet metal trap cradle. If you are using wire mesh for the baffle, the square-hole cut-out must be equivalent, ie. no larger than 51mm (2 inch) square. (For a single-entry trap, the hole can be up to 65mm (2½ inch).

practice to narrow the tunnel entrance using two sticks or whatever came to hand. Nowadays there is at least some knowledge of the size of gap that different species can get through if motivated, so something less arbitrary is expected. We recommend that trap tunnels are always used with an excluder at or near the tunnel entrance and at least 150mm from the trap itself.

This means that with DOC traps you will need both baffle(s) and excluder(s). As already discussed, the purpose of the (mandatory) baffle is to slow and guide the approaching target animal to ensure a humane strike, and to achieve this it must be adjacent to the trap. Because it is next to the trap, the baffle does not prevent animals entering the tunnel, and it remains possible for a protected species such as hedgehog or polecat to enter the tunnel and stick its snout through the baffle aperture. Larger non-targets that can't physically enter the tunnel may be able to trigger the trap by reaching in with a foot or beak.

The design of the excluder can be varied according to local circumstances and personal preference. Some ideas are illustrated in this leaflet. The most important consideration is to consider what non-target species present in the area could be at risk of being killed or injured by the trap. If non-targets are repeatedly caught, operators will need to review the excluder configuration, or switch to live catch traps.

For those wanting a recommendation, we suggest that where stoats and weasels are the main target, an excluder entrance identical to the baffle' ie. with apertures, round or square, no larger than 51mm, is used at each entrance. This keeps things simple, is defensible, and is amply big enough for stoats and weasels to enter. Excluders can be set back inside the tunnel entrance, but we suggest they should be at least 150mm away from the trap, to avoid non-target species reaching the trap by inserting beak, head or paw. With a DOC 150 trap placed in the middle of a run-through tunnel (for example) the total tunnel length will then be at least 470mm (18½"). You may choose to make your tunnels longer still, creating a porch outside the excluder to help funnel in approaching animals (see photo on page 8). The same effect can be achieved using local materials, such as stones, logs or turf in front of an artifical cradle or housing.

For trappers targeting grey squirrels (and rats) with DOC traps, a larger excluder aperture is better. To minimise exposure to non-targets, we recommend that trapping (in woodland) is concentrated into short periods of a week or 10 days, repeated two to three times a year, each time preceded by pre-baiting for at least a week with whole maize. DOC traps are not approved for grey squirrels in the run-through configuration, so for grey squirrels they must be used in single-entry tunnels, which should also be baited with maize or hazel nuts.

The 'way in' through the excluder, can either line up with the hole in the baffle or be offset to create an s-shaped entrance path. Intuitively, the 'in line' option seems more accessible to target animals, but also to non-target species. There is currently no scientific evidence on this, and frankly we have no idea whether it makes any difference at all. If you use the 'in line' arrangement, we recommend you are satisfied no animal can reach the trap by inserting its beak, head or paw and trigger the trap.

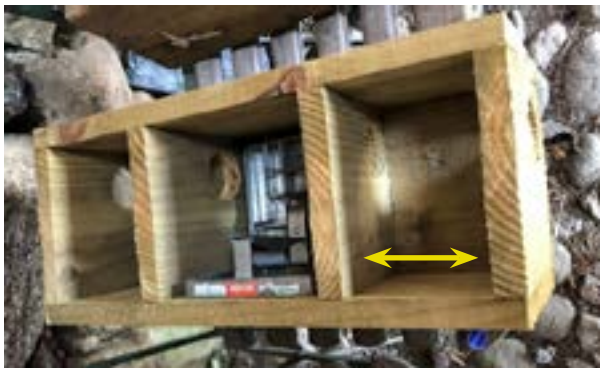
(iii) Trap position

The trap must be firmly secured to a rigid base; either to the floor of the trap tunnel itself, a wooden rail or to the base of a separate removable cradle. Not only must the gap between trap and baffle be no more than 10mm, but likewise the gap between the treadle plate and tunnel side must be no more than 10mm so that an animal cannot squeeze past, but not so close to impede the action of the trap.

Where a team of keepers might be making DOC trap tunnels on a production line, variance in dimensions can result. Care should be taken to ensure the aforementioned gaps do not exceed 10mm once the trap is screwed into position. Our experience informs us that the restrictions imposed by the UK DOC Trap Instructions can present particular difficulties for trappers using weldmesh tunnels on wooden rails, especially when ensuring the distance between the treadle plate and tunnel side remains within the 10mm allowance.

Correct DOC trap position for a single-entry tunnel – note the gaps between treadle plate and box side and between trap and inner baffle are both within the legal 10mm limit. Because this is a single-entry tunnel, the larger gap to the right of the trap is not likely to cause an inhumane catch, and can be used to add a bait if desired.

Incorrect DOC trap position – note the gap (highlighted in yellow) between treadle plate and side of box is in excess of the legal maximum of 10mm.



To avoid non-targets (mainly birds) reaching into the trap, we recommend that the distance between the baffle and excluder should be no less than 150mm.

Table 2: Summary of tunnel requirements and components for DOC 150 and 200 traps

Tunnel type	Tunnel materials	Species approved for	Baffle materials	No. of baffles	Maximum baffle hole size	No. of excluders	Excluder materials	Excluder design
Single-entry	Natural or artificial	Stoat Weasel Rat Grey squirrel	Any suitable material	1	65mm square or core drilled	1	Any suitable material	Operators' discretion to suit local circumstances
Run-through	Natural or artificial	Stoat Weasel Rat	Any suitable materials	2 (1 either side of trap)	51mm square or core drilled	2 (1 either side of inner baffle for each tunnel entrance)	Any suitable material	Operators' discretion to suit local circumstances

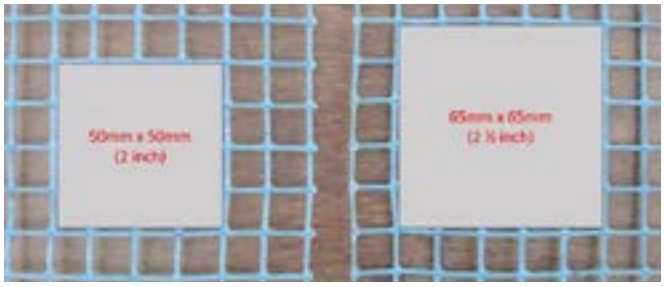
TUNNEL CONSTRUCTION AND SETTING ILLUSTRATIONS

As with all tunnel traps, the species we are targeting dictate where we locate DOC traps and how to design the tunnel. The following photos illustrate options for setting DOC traps while meeting legal requirements. We urge trappers to take great care when setting DOC's in removable cradles. Our experience is that cradles are best suited to the DOC 150 model, because they are smaller and easier to set in the hand than DOC 200's.

Baffle holes can be either square or round, depending on the materials used and the tools available. If using a vertical groove in the side wall to slide baffles in place, use rigid materials to ensure it stays in position no more than 10mm from the edge of the trap (a legal requirement) and doesn't prevent the treadle moving.

For single-entry tunnels, only one baffle is required. Here, a circular hole has been cut from 10mm thick plywood which has then been screwed to a section of 152mm (6 inch) wide timber. The wood and the treadle plate have been painted grey.

For run-through tunnels, folded metal trap cradles such as these offer flexibility for setting DOC traps, avoiding the need to access the trap by removing the top of the tunnel. They meet legal requirements but allow the trap to be set outside the tunnel, then slid into position from the tunnel entrance, or lowered into the tunnel through the roof. In practice, this makes them very versatile. All that remains to do is to add an appropriate excluder, which should be at least 150mm from the trap.



The aperture in the baffle for a run-through tunnel must be no larger than 51mm (2 inch); for a single-entry tunnel, it must be no larger than 65mm (2½ inch) across. This photo illustrates the difference in size between these apertures using squares cut from 12.5mm (½ inch) wire mesh. If you are using wire mesh to create 65mm inner baffle apertures, it must be 12.5mm.

Single entry wooden boxes remain a good choice of tunnel for DOC 150 and 200 traps, and when baited with maize, they are very well-suited for grey squirrel control.

Underside of the cradles, showing how the trap is fixed into position using short roofing bolts with the head inside, and washers and nuts outside.

DOC traps fixed in cradles can be used in run-through tunnels constructed of bricks or other natural materials. Here, bricks are used to form wide funnel entrances leading to narrow openings (the excluders), which are set >150mm from the trap. The trap is accessed via a brick-weighted plank roof. When constructing tunnels using bricks or other natural materials, it is important that they are sturdy and secure by properly bedding them in or pinning together with tent pegs. We have found brick tunnels useful for catching rats.

Examples of pull-out chassis systems for run-through DOC traps. These can be slid into a housing of your choosing. The vertical wooden handles added here make handling easier. We have found that sliding chassis's can pick up debris with regular use, so recommend that trappers carry a trowel or metal paint scraper and a paintbrush to keep the tunnel runway clean.

Sturdy single-entry self-assembly plastic boxes designed for use with DOC 200 traps can be bought on-line. They include a hinged lid, designed-in bait holder, and come with a built-in baffle and excluder. The GWCT has no field experience of this type of tunnel, but they are popular in New Zealand.

DOC traps lend themselves well to rail use. The required inner baffles are fixed to the roof and sides of this hinged wire tunnel and fit tightly either side of the trap when the tunnel is closed (and fastened in position) leaving no more than a 10mm gap. The whole tunnel is made from 51 x 51mm mesh with a 25 x 25mm mesh sleeve over the trap area, further restricting access from both above and the side to help prevent birds, animals or nosey humans from being able to touch the trap from outside the tunnel. This design can also help reduce tunnel resistance where used on rails over watercourses in high water flow. The trap is 150mm from the tunnel ends. Overall tunnel length is 450mm. Remember to ensure the gap between trap and inner mesh baffle must be no greater than 10mm and similarly the gap between the treadle plate and tunnel side must be no more than 10mm.

DISGUISING TRAPS

Compared to other trappers around the world, UK operators typically pay less attention to the scent and visual signature of their traps but are more concerned that shiny metal may deter target animals. There is only personal experience and tradition to suggest that this matters, but considering the hours that go in to trapping it is important the trapper feels confident in what he or she is doing. Having said that, it's worth noting that in New Zealand not only do trappers disregard the shininess of traps, but often house them in white or yellow tunnels.

With older trap designs, simple outdoor weathering was often considered sufficient to 'take the shine off'. DOC traps, like other recently approved humane designs, have substantial metal frames that are harder to conceal. Practical experience to date suggests that DOC traps which have most success are those placed in wooden boxes and carefully concealed with local materials (turf or stone) that present a darkened, natural environment. The best sites for tunnels require 'keeper cunning' and an understanding of mustelid behaviour. Trap treadles can be disguised with a suitable metal paint and, whilst the paint is still wet, lightly sprinkled with finely sieved soil to provide texture (see photo). Alternatively, treadle plates can be disguised using a cloth tape (see photo). Cloth is absorbent and can be used for holding scent attractants. Whichever you prefer, it is vitally important to securely fasten the raised strike bars to the vertical frame of the trap when handling the treadle plate. We recommend using a short length of folded metal fixing strap (see photo) which can't slide out of position as a folded loop of thin single strand wire can.

Right: This DOC 150 treadle plate has been hand-painted with a matt grey metal paint and sprinkled with finely sieved soil whilst the paint was still wet, to provide texture. The trap is fixed in a wire mesh chassis, formed from folded 12.5mm wire mesh.

Treadle plate disguised with cloth tape.

We advocate the use of folded metal fixing strap to hold open the jaws of traps when working on them.

TRAP CALIBRATION

All of the DOC trap models can be adjusted to fine-tune the trigger system for spring-off but given the lack of a safety catch this is a very risky undertaking. Calibration can be achieved by raising or lowering the metal sear nub located on the arm of the trigger plate (see photo). By using a length of metal fixing strap or loop of strong wire as a safety catch, the trap can be held in a cocked position which keeps the trigger plate raised. The manufacturer recommends using multiple washers of known weight which can then be lowered on to the plate until it fires. Going too light results in trap time wasted by catching mice, and can also result in the trap firing prematurely as a target animal approaches.

The sensitivity of the treadle plate can be altered by adjusting the sear nub by gently tapping it either from above or below using a light hammer and punch (in this case a steel tent peg).

PROBLEMS?

On the whole, DOC traps work reliably. However, occasionally (perhaps due to damage in transit) we have experienced traps firing spontaneously, or firing and jamming. If you find the trap will not set correctly, you will need to adjust it slightly, as follows. Note that these adjustments must be made only when the trap is un-set (ie. the moving jaw is resting on the treadle plate). If the trap has been firing spontaneously, the short arm on which the trigger hangs will need bending upwards very slightly. If the trap fires, but the jaw lodges against the hinged end of the trigger, the same arm will need bending downwards very slightly. Adjustments can be made cautiously using a pair of pliers or mole grips. Do not try to make these fine adjustments using a hammer – you may damage the trigger hanger hinge. If you need to fire the trap to test its action, do not use a solid object as your 'dummy', otherwise the trap can be damaged: we use pipe insulation pushed onto a length of garden hose to make a soft 'dummy'.

FURTHER READING

1. The Spring Traps Approval and Amendment Orders relevant to your country:
    - England
    - Scotland
    - Wales
    - Northern Ireland
2. The Humane Trapping Standards Regulations 2019
3. Animal Welfare Act 2006
4. Animal Health & Welfare (Scotland) Act 2006
5. Wildlife & Countryside Act 1981
6. Nature Conservation (Scotland) Act 2004

These can be found at **www.legislation.gov.uk**.

For the manufacturer's UK DOC trap instructions, please visit the CMI Springs website.

DOC 150 traps lend themselves to being used on rails, but it is imperative that every effort is made to exclude non-targets, as well as ensuring the correct gaps between treadle plate and tunnel side and between trap and inner baffle are maintained at no more than 10mm.

Well concealed DOC box with stone porch.

Far-left: The trap is set within a folded 12.5mm (½ inch) wire mesh baffle cradle and screwed to the rail. Note the 51mm x 51mm apertures either side of the treadle plate, which is painted grey and 'textured' with soil.

Left: The outer excluder with 51mm x 51mm apertures is fixed to the tunnel using cable-ties and has been recessed inside the tunnel entrance to create a porch, to help guide approaching stoats and weasels towards the trap. The distance between the excluder and the trap is 150mm.