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How to make DOC trap boxes safer for Kiwi and Weka
Making and fitting extensions to trap boxes

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Following deaths of Kiwi in DOC trap boxes questions have been raised to if we can be doing more to protect our Taonga species, from the traps that are intended to protect them.
Due to the very nature of trapping a very low number of non target species will always be adversely affected, we just need to find solutions to minimise the loses.

It is now obvious that some adult Kiwi can reach far enough into a standard length DOC style trap box to touch the trap treadle plate with the tip of their bill. If they tap on the treadle it sets off the trap resulting in the tip of their bill being smashed by the kill bar. It is difficult to know how wide spread the problem is as some Kiwi with a damaged bill will wander off to die in the bush.

With the rapid dispersal of Weka into new areas particularly in the central North Island, the same problem of Weka being killed in standard length trap boxes is also cropping up.

With Trail cameras now commonly being used more Kiwi interactions with trap boxes are being recorded.
The recent trend of using Hansel and Gretel crumbs of meat or fat up to and into trap boxes also needs to be reviewed. While the logic of using the crumbs is sound and everyone wants to do their best to catch Stoats and Ferrets, is the practice potentially doing more harm than good for our Taonga species by potentially luring them into trap boxes.
Another trend that needs to reviewed has been people increasing the size of the openings in mesh. The logic could have some merit, Stoats and Ferrets in New Zealand have evolved into larger animals, so is a bigger opening required?.

The logical solution would be to require all trap boxes where there are Kiwi to be the longer length Weka boxes. Where groups already have a network of traps the cost to change to longer boxes could be prohibitive, plus what do you do with all of the old boxes.

This paper will cover a cost effective retrofit to convert existing standard length trap boxes to the longer Weka length boxes. This is done by adding 150mm extensions to the existing box, these changes can be carried out in the field.

The modifications have been evaluated and approved by the Department of Conservation.

The best practice longer length Weka box has an outer to inner mesh distance of 265mm. When adding a 150mm extension to a standard length box it takes the mesh to mesh distance to 280mm.

It is worth evaluating the condition of the existing trap boxes in the field, some maybe in poor condition and it could better to replace them than spend money and time on fitting extensions.
I will go through the process of making and fitting an extension as per the design that was approved by DOC.
There will be some variation in box dimensions that groups make mostly due to variation in timber dimensions. If you plan on making any extensions then the next time you are out checking your traps take a tape measure with you and check the box outside width and height, (minus the lid), of individual boxes.
Also take note of where the traps are placed inside the box, which will determine where the opening in the extensions mesh should be, opposite side to the treadle plate.

Materials required

Use H4 rough sawn timber 25 x150 mm 860 mm per extension
Screws use 8g 65mm long suitable for treated timber, 8 screws plus 3 more for fixing the top of extension to the top of the Trap Box
For the side fixing use 2 stainless brace straps 25 mm wide and 150 mm long, fixed using 8x 8g 25mm long stainless round head screws.

Mesh to suit, either Hot Dipped galvanised or Stainless.

To build an extension to this standard will cost approx $9. Shop around as there is a wide variation in material prices.

Making an Extension

Extension is to suit a 200 Box, for a 250 just alter dimensions accordingly.
Make the extensions about 6 mm shorter than the box height (minus the lid) this ensures that there is clearance for the lid to freely rotate.

The boxes I measured in the field were all 255 mm wide and 235 tall (minus lid)
There may be a need to alter the cut timber dimensions according to each sites box dimensions.
As per photos the timber is cut so that NO end grains are in direct contact with the ground were they can suck up moisture.

Cut the timber 2×255 mm long and 2×175 mm long.

Because the screws will be close to the end grain I have opted to drill 4mm pilot holes in the outer timbers for the screws. Drill the holes 30mm from the ends and 12mm in from sides. Don't drill the inner timber that the screws go into.

Place the four sections on a flat workbench and screw together, at this stage leave the screws slightly loose. Use a set square to check that the extension is actually square before fully tightening the screws.

Check that the Extension is square before fully tightening the screws.

Corner opening gives a greater outer opening to trap distance. The opening must be opposite side to Treadle Plate

Fit the mesh. The opening must be on the opposite side to the treadle plate.
as per photo, I have now gone to cutting the opening out of the corner of mesh. A couple of reasons, I find it easier to cut and do a good job of smoothing sharp edges, plus it means that I can actually get the 60×60 opening that I'm after, normally you are stuck with an opening size dictated by the mesh.
Also by moving the opening to the corner gives a greater Outer Opening to Trap safe distance.
The mesh is fixed with 16mm long narrow crown stainless staples. I do put a few more staples in the area of the opening.

Fitting the Extension to trap box

To fit the extension turn the trap Box on end, remove the staples and outer mesh. Put the old staples and mesh in a container and remove from the Bush.

Place the extension on top of the box and make sure it will fit ok. Align the base of box and extension then fix in place with the brace strap as per photo, at this stage leave the screws slightly loose.
Note: Dependant on which strapping and screws you use you may have to pre drill slightly larger holes in the strap where the screws will be fitted.

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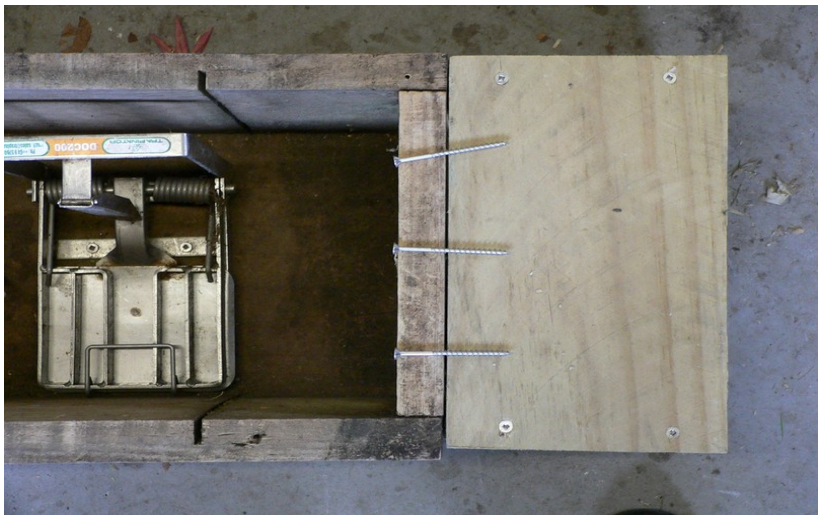
Turn the box over, remove the inner mesh and drill 3x 4mm holes through the top plate of the Box only, Don’t drill into the extension. To save removing the trap, drill the hole closest to the trap at an angle, as per photo.

Fix the top of extension to Box using 3x 8g 65 mm screws suitable for treated timber.

Fully tighten the side screws in the brace strap and refit the inner mesh, make sure the opening in the inner mesh is on the treadle plate side.
Check that the tips of screws do not protrude inside the box.

Remove the staples and mesh from trap box.
Fit the extension, make sure the base of box and extension align and fit the brace strap to both sides.
Leave screws slightly loose at this stage

Note: the extension is slightly shorter than the lid to allow the lid to rotate freely.



Drill 3x 4mm holes through top plate of box only, Don’t drill into the extension.
Angle the hole closest to the trap. Fix in place with 3x 8g 65 mm screws.
Refit the inner mesh, making sure that the opening is on the treadle side.