

A Weka-Proof Possum Trap

Leghold traps set on the ground are widely used for monitoring the abundance of possums following control operations, but the traps endanger threatened ground birds such as kiwi and weka living within monitored areas. To reduce the risk in areas where there are ground birds, leghold traps are usually placed above the ground on leaning boards or on tree-mounted platforms, although these modifications are generally more labour intensive, catch fewer possums than ground-set traps, and provide less robust estimates of possum abundance. As possible alternatives to the raised traps, Peter Sweetapple and his colleagues designed and tested weka-excluding doors for two commercially available possum kill-traps. They acknowledged that covered kill-traps were likely to have lower catch rates than raised-set leghold traps. However, the daily servicing of leghold traps (as required under the Animal Welfare Act

1999) is not required for kill-traps, and thus extended periods of trapping using covered kill-traps is more likely to be costeffective.

The 'Sentinel' and 'Set-n-Forget' kill-traps used in this study are supplied with plastic covers that guide possums into the jaws of tree-mounted traps. Peter and his colleagues modified these covers by adding a spring-hinged door that possums need to open to access the trap (*photos a & b*). After showing that penned possums could successfully access the trap, covered traps were tested for their ability to exclude weka. Traps were set in a forested area with abundant weka and weka encounters with traps indicated by their foot prints in mud-filled trays placed under each trap (*photo c*)

In these trials, all weka were successfully excluded during 95 encounters with Sentinel traps and 98 encounters with

Set-n-Forget traps.

The final stage of the study compared the possum-capture efficiency of both traps with that of raised leghold traps. The modified Set-n-Forget traps captured few possums; hence they were discarded from the study. Sentinel traps showed higher possum catch rates and were tested further against leghold traps set on leaning boards in two South Island forests with low possum densities (i.e. a 3–4% trap-catch on raised leghold traps). At both sites, Sentinel traps set and unserviced for 10 nights caught similar numbers of possums as raised leghold traps set for 3 nights and serviced daily. In terms of possums caught per day of fieldwork, Sentinel traps with the modified covers appeared to be about twice as efficient as raised leghold traps and therefore show promise as a costeffective alternative to raised leghold trapping of possums in weka habitat.



Sentinel possum kill trap equipped with (a) the standard commercial trap cover and (b) a cover fitted with a weka excluder



c
A wild weka investigates a Sentinel trap fitted with an excluder set over a mud tracking-tray



d

A raised leghold trap set on a leaning board

Additional trials are planned to confirm this. The freedom to run kill-traps without daily servicing also makes Sentinel traps an attractive tool for use in controlling low-density possum populations, where low daily catch rates and high labour requirements make leghold trapping less efficient.

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