

Live rats and mice as lures for stoats

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Published by
Department of Conservation
Head Office, PO Box 10-420
Wellington, New Zealand

This report was commissioned by the Science & Research Unit

ISSN 1171-9834

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Reference to material in this report should be cited thus:

Lawrence, B., 1999

Live rats and mice as lures for stoats. *Conservation Advisory Science Notes No. 234*, Department of Conservation, Wellington.

Keywords: Live lures, pest control, stoats

Stoat trapping is carried out in many areas of New Zealand for a variety of reasons, usually to protect rare and endangered bird species. In most cases trapping is carried out using Fenn traps which kill stoats. Research being carried out on the best way to control stoats requires live capture so that they can be radio-tagged and monitored through control operations. Usually meat and eggs are used as baits, but new better lures are always sought. The use of live mice and rats, which are natural prey of stoats, is often mentioned as being a likely superior trap lure. During trials in the Dart Valley to evaluate the effectiveness of diphacinone in eggs as a control method for stoats, it was decided to also test the effectiveness of live rodents for improving stoat catch rate. Stoats were being live trapped, given a radio collar and released, and monitored in the presence of poison eggs.

Two stoat live-trapping lines were set out with traps at 200 m centres. A line from Lake Sylvan up the Routeburn valley contained 34 live traps (6.6 km) and a line on the other side of the Dart Valley at Millflat comprised 32 live traps (6.2 km). Each live trap was baited with a 2 cm cube of stewing steak, renewed every fourth day. One third of the traps had live mice in stoat proof containers beside the trap. Another third had live rats in predator proof containers. The remainder had no lure. Traps and lures were checked at least once a day.

Rats were housed in wood and wire cages 150 mm x 150 mm x 600 mm. The wood was lined with aluminium printers' plates to prevent animals gnawing their way out. Mice were kept in cages made of 2 litre ice cream containers with a 40 mm x 70 mm gauze window in one side and a margarine container nest box containing shredded paper. Each cage contained either two rats or two mice. The various lures (rat, mouse or none) were alternated along the line.

The total number of first stoat captures was 17 and stoat recaptures was 28. Four stoats were first captured at live traps with rats as lures. Three stoats were captured with mice lures and ten stoats were caught at traps with no lures. Recaptures were more evenly distributed; eight, seven and thirteen respectively (see table). None of these differences was significant.

Table: Lure influence on live trap results

Lure	Stoat captures per 100 'lure nights'	Stoat recaptures per 100 'lure nights'	Traps sprung per 100 'lure nights'*
Mice	0.27	0.54	8.7
Rats	0.51	1.3	7.2
No Lure	0.81	1.1	7.7

* most of this was due to ferret and cat activity and includes any trap disturbance

Some difficulty was experienced in keeping rats and mice alive. The rat cages were not waterproof enough and fresh nest material (hay) was needed after each rain. The mice cages were too small and we suspect high levels of ammonia in an enclosed space led to high mortality. There was certainly no problem generating odour as a lure.

The use of these lures for live-trapping stoats provided no benefits. The trial took place in the spring after a stoat irruption when stoat numbers were still high. However, many radio tagged animals did not survive long and it appeared that the stoats were starving (B L Lawrence and P J Dilks pers. comm.). Stoats caught early in the trials appeared to be in very poor condition and six of nine stoats radio-collared died before poison eggs were deployed. None had any body fat present. The result of a live lure trial might be different if it were carried out at another time of year. It is possible that stoats focused attention on the rats and mice and once they found they could not get at the live lure they moved on without checking the traps.

In any event, our experience was that using live lures involved considerably more work. Animals needed to be fed and watered daily to keep them alive and servicing the "live lures" was very labour intensive. We conclude that live lures have no practical place in a stoat management operation and add considerably to the time it takes to check a trap line.

The use of waste rat and mouse nesting material in live traps might be more successful and would use less labour, though no indication that this would be an advantage can be drawn from this trial.