Predator freedom: How close does aerial 1080 get?

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In 2016, New Zealand's government adopted a goal of predator freedom by 2050. One of the initial 2020 objectives is to have 7 million hectares under some form of control by OSPRI (the management agency aiming to eradicate bovine tuberculosis (TB)). That makes it important to understand what such TB-related control is likely to achieve (in relation to freedom from small mammal pests). Here we document major reductions in pest animal activity for multiple species achieved in a large-scale (~80,000 ha) high-intensity aerial 1080 poisoning operation in the Hauhungaroa Ranges in winter 2016. The operation was undertaken by OSPRI with the primary goal of eradicating TB, and involved dual non-toxic prefeeding and then baiting with 1.5kg/ha 12g cereal 1080 baits. Possums and rats were monitored with chew cards (CC), and at a subset of CC detection sites, a sample of possum were trapped and fitted with radio-collars. Of 241 radio-collars successfully tracked through the operation, only 1 survived, suggesting a 99.6% possum kill. Combined with density estimation based on camera trapping, this suggests that only a few tens of possums remained – possibly as few as one per 2000 ha. Results will also be presented for reductions in rats and other mammals (including deer, goats, and pigs), based on the reduction in activity detected by camera traps. The implications of these results will be discussed in relation the goals of attaining TB eradication and predator freedom in very large unfenced mainland areas of native forest.