

Comparing Live Capture Methods for Nutria (*Myocastor coypus*): Single Versus Multiple-Capture Cage Traps

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ABSTRACT: Herbivory and burrowing by nutria (*Myocastor coypus*) cause substantial ecological and economic damage. Trapping is a common practice for reducing nutria damage; however, trapping approaches must continually be adapted to keep pace with evolving animal welfare and ethical issues and to more effectively target species of interest. Our objective was to evaluate the efficacy of 2 non-lethal trap types for nutria: single-capture (SCT) and multi-capture (MCT) cage traps. We established 3 MCT and 3 SCT at each of 7 sites on a 10,500 ha mixed-use island, located 15 km northwest of Portland, Oregon. Pre-baiting was accomplished using carrots, apples, and sweet potatoes for ≥ 3 consecutive days before trapping. Traps were checked daily, and an infrared motion camera was established near each MCT to document activity. A total of 26 nutria were captured over 724 trap nights, with all captures occurring at 4 sites. Nutria captured by MCT were larger (6.38 ± 1.68 [SD] kg, $n = 10$), than nutria captured by SCT (4.21 ± 2.48 [SD] kg, $n = 16$; $F_{1,25} = 5.51$, $P = 0.02$). Camera surveillance showed multiple nutria present in a MCT on ≥ 2 occasions, although individuals < 3.7 kg were able to escape. MCT were more expensive, larger, heavier, and more difficult to transport and deploy compared to SCT. However, MCT were much less likely to capture non-targets, capturing only 1 individual while the SCT had 35 non-target captures of 7 species. Alterations to MCT door design would likely increase multiple catch opportunities and decrease escapes.

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