**Methods (copied from SEM ms draft)**

*Experimental design*

Our experiment used three sites along a gradient of devil density caused by spread of devil facial tumor disease (Appendix S1: Fig. S1). Devil facial tumor disease outbreaks, and subsequent devil declines, began 26 years ago at Blue Tier, 15 years ago at West Takone, and 3 years ago at Salmon River (Cunningham *et al.* 2021). We conducted our experiment at each site in winter (July-August) and summer (February-March). At each site in each season, we established six replicate blocks separated by > 1 km. Within each block, we assessed effects of adult devils by establishing two plots, separated by 200 m: one plot contained a carcass with full devil access, and one contained a carcass inside an exclosure that excluded adult devils. Full-access plots had one adult pademelon carcass staked to the ground with a 45 cm star picket. Exclosures had one carcass staked to the ground and enclosed by a weld-mesh box with 10 × 10 cm openings that allowed access to all mammalian and invertebrate scavengers except adult devils; subadult devils less than 15 months old were small enough to enter. Exclosures were 1.1 × 1.7 × 1.0 m in size. Weld-mesh bottoms were added to the exclosures in summer to prevent entry by digging.

*Carcass persistence and vertebrate scavenging activity*

During the winter (July 2023), we deployed 34 carcasses for 26 d; unforeseen weather events led to removal of two plots (1 exclosure, 1 full access) at Salmon River. During summer (Feb 2023), we deployed 34 carcasses for 30 d; we removed one block from West Takone due to a failure of an exclosure. Carcasses were visited every 5 to 10 d to assess the presence or absence of internal organs, muscle, bones, tail, and hide at each carcass. Carcass persistence was quantified by the number of days a carcass persisted until the internal organs and muscle were fully consumed.

Remote wildlife cameras (Swift Enduro, Outdoor Cameras Australia, QLD) were placed at each carcass to confirm measurements of carcass persistence and to assess vertebrate scavenger activity. Each camera was fastened to a tree at 0.5 to 1.0 m, facing the ventral side of the carcass. Cameras were active for 24 h a day and set at high sensitivity to capture five photos per trigger. We identified vertebrate species captured on images using the Mega-Efficient-Wildlife-Classifier software (Brook *et al.* 2023). We tagged species using DigiKam software (digiKam team, 2020) and used the camtrapR package in R (v. 4.3.2) to export the date, time, and species tag for each photo (Niedballa *et al.* 2016). Tasmanian devils were also scored by age (adult or subadult) based on their body size and head width. For all vertebrate photos, we scored foraging behavior as a binary variable: 1 if they were consuming the carcass and 0 if not…