My most important comment remains that these findings might only be generalizable to places where mammal population densities are low enough that preferred prey are a limiting/motivating factor. A very recent study clearly demonstrated that the attractiveness of mammalian baits to invasive snakes is significantly reduced in ecosystems where prey are not (yet) limiting, i.e. in the early stages of invasion. Siers et al. (2024. Limitations of invasive snake control tools in the context of a new invasion on an island with abundant prey. NeoBiota 90:1-33) found that traps baited with live and dead mouse lures were almost totally ineffective at catching Brown Treesnakes on Cocos Island, in contrast to on mainland Guam where they are among the most effective tools.

Researcher looking for context on snake invasive often reference brown tree snakes in Gaum, However, this is a very different snake, a very different system, and a very different prey base, so we do not find this relevant to this study. Additionally, concentrating mammalian cues (leaving rabbits in one place for three months) as we did in this study would be rare in nature. In addition to the amount of scent and movement cues that live rabbits provide, were likely to differ considerably from live and dead-rodent cues. Therefore, to use the generalizability of the findings you present lacks generalization to our system.

I respectfully disagree. Although we don't know for sure, it's at least conceivable that the effectiveness of mammalian lures for pythons might depend on prey availability.

BTS are different from pythons but given the absence of data on the effectiveness of baited traps for nearly all other snake species, neglecting to make comparisons based on differences between species and systems is analogous to refusing to compare the human genome with previously-sequenced bacterial genomes back when those were the only fully-sequenced genomes.

Regardless, I would argue that generalizability to your system is high for the following reasons:

- Both BTS and pythons are invasive top predators that have caused top-down trophic cascades and we are trying to manage them using baited traps as part of a suite of control techniques specifically because we want to protect populations of native prey from going extinct.
- Both BTS and pythons are active foragers at least some of the time, so their likelihood of entering traps in search of food is more comparable than with, say, vipers.
- The more pronounced scent and movement cues of rabbits relative to rodents scales up to the larger snake predator. If anything, a mouse is a proportionally larger prey item for an adult BTS than a rabbit is to an adult python. If the BTS study had used only dead rodents I

could see the argument that the cues are fundamentally different, but the results of Siers et al. were equally strong with live rodents.

- Attraction to bait and attenuation of that attraction with increasing prey density outside of traps should be general phenomena that extend far beyond snakes. The phenomenon has been demonstrated in traps set to catch invasive feral cats in Australia, for example (Algar et al. 2007. Conservation Science Western Australia 6; Christensen et al. 2013 Ecological Management & Restoration 14:47-53; Doherty et al. 2021. Wildlife Research 49:137-146).

In addition, I was reflecting on the fact that we largely don't study native terrestrial snakes using traps baited with prey items because they are generally considered to be ineffective. However, baiting does appear to increase snake capture rates in both aquatic (Keck 1994. Herpetological Natural History 2:101-103; Winne 2005. Herpetological Review 36:411-413) and arboreal (Rodda & Fritts 1992. Micronesica 25:23-40; Rodda et al. 1999. A state-of-the-art trap for the Brown Treesnake. Pages 268-305 in Rodda et al., editors. Problem Snake Management: The Habu and the Brown Treesnake. Cornell University Press, Ithaca, NY) habitats. I would suggest adding these references to your discussion.

We know that mesomammals have declined from historic baselines in ENP, although I'm not familiar with what data are available from C4 and Frog Pond.

There are mammals still present at these sites.

Is anything known about whether their densities resemble pre-python densities? If so, you should describe the evidence for or against declines. If not, I would recommend at least stating that changes caused by pythons to mammal populations in this area have not been studied but that wild mammals are still present at these sites. Currently readers would have no way of knowing this.

If you think it's probable that there are very few wild mammalian prey available to the pythons and other snakes where you conducted the study, then I would argue that, taken together with the Siers paper, there is reason to believe that mammalian lures/baits could be more effective in your study than they would be in a newly-invaded area, with important implications for initial rapid response efforts in future invasions by snakes, which are likely to occur in prey-rich environments.

Thank you for this and we will again respectfully disagree that this should be included. The conclusion reached above is purely speculative, it was reached based on 1) the brown tree snakes and 2) a lack of knowledge of mammals in the currently in the system. We have no indication that that this lure would work differently based on the abundance of mammals in the system. Furthermore, we found the most detections of pythons in C4, which was closest to the edge of invasion front. Lastly, precious work has also shown that there are rodents are common throughout the invasion range (McCampbell et al. 2023).

But you have no indication that lures would work in the same way if mammal abundance were different. It seems reasonable to suppose that prey population density would impact bait effectiveness (see above).

Finding the most detections of pythons in areas closest to the edge of invasion front could also be explained by the idea that invasion fronts are made up of individuals with a high capacity for dispersal and exploration (e.g. Gruber et al. 2017. Geographic divergence in dispersal-related behaviour in cane toads from range-front versus range-core populations in Australia. Behavioral Ecology and Sociobiology 71:1-7). Anyway, with only two sites, I don't think you can claim that more python detections at C4 represents evidence against the idea that prey availability might impact bait attractiveness, or even a repeatable or significant difference in bait attractiveness, especially in the absence of quantitative information about prey availability at the two sites.

Rodents might be preferred prey for BTS but they are too small to be preferred by pythons. It seems reasonable that increased or sustained rodent densities following python invasion (Key Largo woodrats notwithstanding) might be a compensatory, indirect effect of mesomammal declines. As you argue above, rabbits are bigger and likely more attractive than rodent prey to pythons, so their presence on the landscape does not mean that pythons would not be differentially attracted to rabbit baits. In contrast, rabbit presence on the landscape is more likely to impact the effectiveness of rabbit baits, and we know that rabbit declines are among the most severe (Dorcas et al. 2012 PNAS) and the most directly tied to pythons (McCleery et al. 2015. Proceedings of the Royal Society of

London B: Biological Sciences 282). It seems to me that failing to at least acknowledge the possibility that this technique, though promising, has the potential to not be quite as effective in the places and times when we might need it the most (new invasions) could lead to a false sense of security.

Other issues of interpretation

4. Check Fig. 1 of Willson et al. (2023. Overcoming low detectability in snake conservation research: case studies from the southeast USA. Pages 61-76 in Walls and O'Donnell (eds.) Strategies for Conservation Success in Herpetology. Society for the Study of Amphibians and Reptiles, University Heights, Ohio) (I have provided a copy as the book is still in print) for other visual encounter survey studies of snakes and their associated measures of detection probability (corrected for effort). Nafus et al. 2020 is included and you can see that although the point estimate in Nafus is the lowest non-zero estimates for any snake, this estimate is not really an outlier. We took pains to extract comparable estimates and Melia Nafus converted their team's effort measurements from person-km to person-hours for me so that we could include and fairly compare their values.

This sounds interesting. However, we do not have access to this *in print* book, nor should we be expected to have access to this prior to the initial submission and even revision of this manuscript.

I provided a copy of the in press chapter with my previous review on 6 February 2024.

Error when running lines 73 and 76 of code:
Others_glmm <-glmmTMB(S ~ Treatment + (1|Pair), family=poisson, data=snakes3)
Error in fitTMB(TMBStruc) : negative log-likelihood is NaN at starting parameter values

We cannot replicate your error (we don't get them), maybe you are using an old version of glmmTMB or maybe this is using the data from last submission. Either way all the latest version have been submitted and the code works

On line 95, dat$hours = as.numeric(dat$Time)/(60*60) but column is called timestamp, not Time

We cannot replicate your error (we don't get them), maybe this is using the data from last submission. Either way, all the latest versions have been submitted and the code works on our end.

It's important that the code works for others. If the reason is that the data provided are from an out-of-date submission then this must be fixed.

Minor comments:

- Check formatting of dates on the last sentence of the caption to Fig. 4

At a minimum I highly recommend doing the following to improve the strength, relevance, and readability of this paper:

1) Citing Siers et al. (2024. Limitations of invasive snake control tools in the context of a new invasion on an island with abundant prey. NeoBiota 90:1-33) somewhere in the discussion and acknowledging the similarities with your own work.
2) Stating in the “Study Area” section that wild mammals are still present at these two sites and giving any specific information you can (*e.g.* species lists, opportunistic observations). If nothing is known about whether their densities resemble pre-python densities, say so.
3) Consider including citations and comparisons to the four studies showing that baiting increases snake capture rates in aquatic and arboreal systems.