

# Potential impacts of insect conservation on grouse reproductive success

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Grouse receive substantial conservation funding due to their popularity as game birds, while insects receive relatively little funding, despite their important role in ecosystem function. Understanding the impact of insect prey on grouse reproductive success could identify conservation actions that benefit both taxa resulting in more conservation funding for insects. Results of a systematic review and meta-analysis provide quantitative evidence that conservation which prioritizes insect abundance will also improve grouse reproductive success in shared habitats.

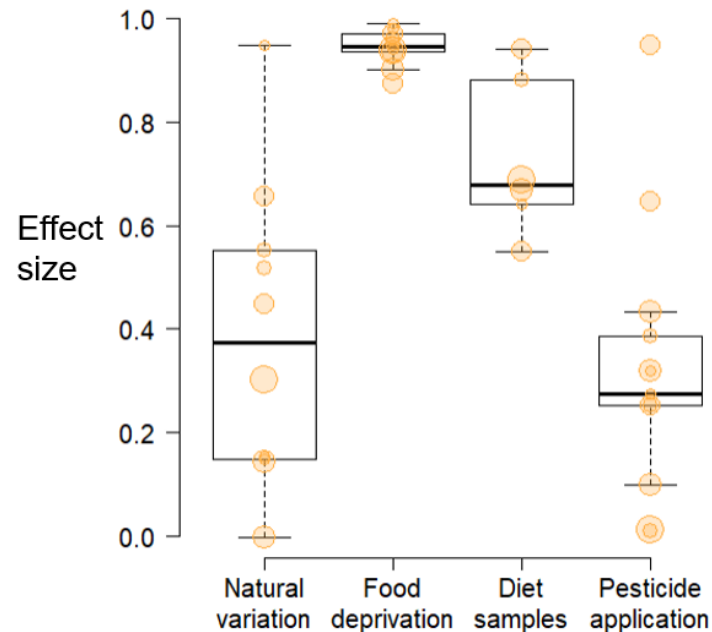


Figure 1: Effects characterized by the method used to assess insect availability. Effects were highest in complete insect deprivation experiments, in which grouse chicks were fed solely grains and no insects.

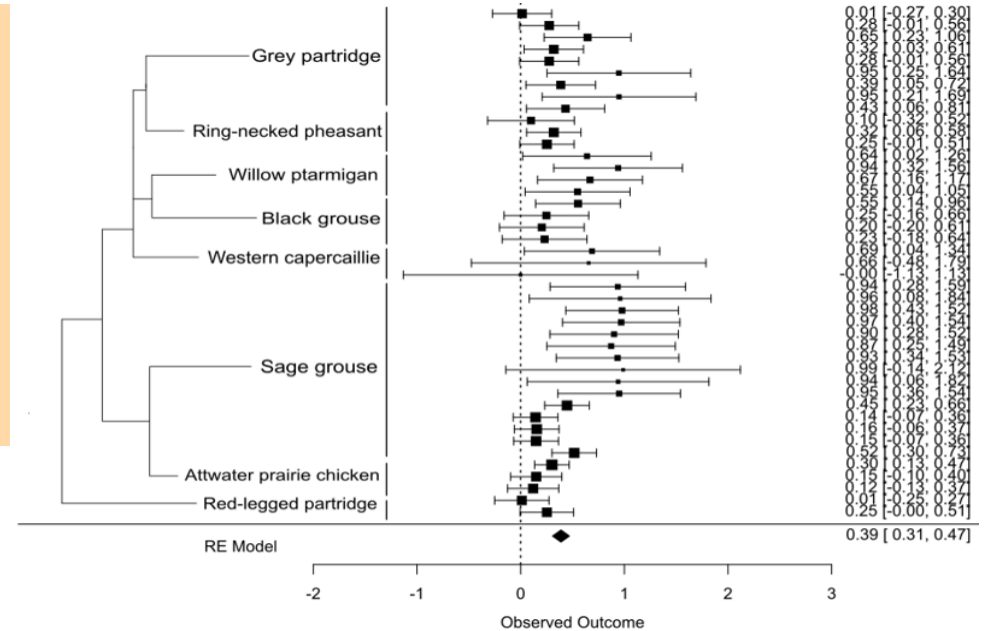


Figure 2: Forest plot showing all calculated effects of insect abundance on grouse reproductive success ( $n = 45$ ). The overall mean effect was 0.39 (95% CI = 0.31, 0.47) indicating a positive impact of insects on grouse reproductive success.

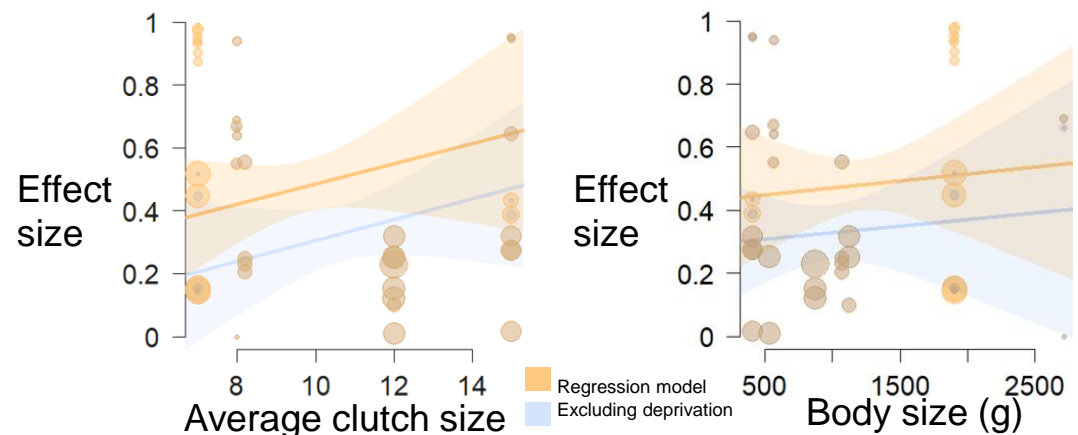


Figure 3: Meta-regression showing the effect of a) mean grouse clutch size (0.032 95% CI = -0.02, 0.09) and b) average adult grouse body size (0.00 95% CI = -0.02, 0.09) on the relationship between insect abundance and reproductive success.