



ECLG11002 - Research Project Proposal (Ecology, Evolution and Biodiversity) Marking Feedback

Exam Number:	B141395
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1st Marker Feedback

Summary

Good summary - to increase marks here try to be a little more specific in your wording - some examples - You state that your aim is to 'refine understanding' of the effect of population density on performance - this is quite vague - what do you mean by this? Increase accuracy? Try to state exactly what you mean. Another example - you say you'll use a better metric that includes more members of the population - you need to state why this is better. You then go on to say you'll explore 'how these comprehensive density metrics influence density-dependent traits' - here the phrasing doesn't quite make sense - a metric is a measure - not something that can impact a trait - presumably you mean how well it explains the effect of density on a particular trait - by just being a little more specific in the accuracy of your wording you could better convey why your work is important and pick up some more marks.

It would also have been good to set the summary up a little more with what the broader issues is and why it's important and what the knowledge gap in the field before going into how you'll improve on current measures used - explain what the limitation has been in the past and why this might be important. When you say 'the project will analyse the influence of different population density metrics using linear mixed effects models' - say effect on what. Note that power and reliability doesn't not come down to sample size alone - so again just be a little more specific in what you say. Last sentence of second paragraph in summary not needed so could cut this to be more concise.

So overall

- good - you've written a good outline of what you will do
- to improve at next stage - set more in wider context, explain why what you are doing is needed - state the knowledge gap and try to phrase things why what you are doing is relevant from the outset.

Introduction

First paragraph nicely explains why we need to know what factors influence density. In the second paragraph, be careful not to start discussing specifics without explaining them first or assuming knowledge eg reader will perhaps not understand what is the North Block study area and the Kilmory and Samhnán Insir divisions - a map might be useful though this might more commonly come in the methods rather than the introduction.

By the time I get to table one I'm asking if anyone has looked to see if hind density correlates stag density and calf density as a first step to see whether only using hind density is a problem? Presumably yes or there wouldn't be so many studies based on hind density alone?

It was also be good to see a little of the explanation underlying how the outcomes would facilitate the formulation of deer culling strategies and management guidelines rather than just stating they would.

Methods

Nicely written and easily understood. However I'm not sure large sample size on its own is a way to address nonlinear relationships, variability in sampling, lagged responses, population age structure shifts, and fluctuations over time. Presumably you mean it allows you to use techniques to address these issues - but would be good to demonstrate you have an understanding of what these might be.

2nd Marker Feedback

The Summary and Aims were very clear but it would be good to have more context as to why this is biologically interesting and what it might add to our ecological knowledge. It would also be good to be more clear as how this study will inform deer management. In the Aims it would be good to be clearer as to what is being measured/tested.

The Background is largely clearly written but is very focused on red deer and some of the important general ecological concepts are packed into single sentences (e.g. L31-34 & L64-67), which would benefit from unpacking more carefully. Some information assumes pre-existing knowledge of the study system rather than being broad 'background' (L39-42). Again, given the focus on it, it would be good to provide an idea of how the result might be useful for management.

The general methods are clear and the approaches selected appropriate. With statistical model design it wasn't clear to me if the possibility of pairs (out of the three possible sub-populations) had been considered within the AIC model comparison framework (e.g. hinds and calves, or hinds and stags). I would also encourage some thought as to whether body weight is truly a confounding variable or a mediator, as this would affect choices about the statistical model.

The proposed timeline is sensible, and the risk mitigation correctly identifies that as a data-based project this is relatively low risk. The logic behind a large sample size alone addressing some of the challenges identified isn't clear to me.