**First Pass: Broadly define the research question and background**

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| What exactly is your research question? Be as precise as possible.  |  |
| What are the objectives of your study?Provide a comprehensive list of what you aim to achieve. Get back to this list at the end of the planning process, and double-check whether the objectives have changed, and whether you have addressed them all.  |  |
| Why is your question relevant? And to whom?  |  |
| Has anyone already tried to answer a similar research question?How did they do it, could it be improved? How will yours be different to previous studies? (note there is great value in repeating studies on different populations / systems / regions).  |  |
| Will this be a manipulative and/or observational study (or still unknown)? i.e., are you interested in causality or associations? |  |
| Will this be a laboratory, or a field, study?What are the advantages and disadvantages of either approach?  begin to think about what factors you might be able to manipulate, and which you might notHow will this influence your question and your experiment?Can the obtained data be used to generate conclusions about processes in nature, or are they limited to specific laboratory conclusions? |  |
| What are the environmental drivers that may affect your study? Brainstorm and prioritise relevant environmental drivers that may limit and co-limit your system. |  |
| What is the prerequisite biological knowledge for designing a study to answer your research question? Is that knowledge already available?e.g. for manipulative studies: biological requirements for successful husbandry: food, current, temperature & light requirements; for field studies: approximate densities and depth/distribution ranges, time required to search for them, natural variability, etc. |  |