Points to Ponder

Decision support for AdaptLog using scalable hierarchies of information

A product from Climate Systems National Environmental Science Program (NESP) project 2.7

Climate-effective management for threatened species and protected places.

Thinking about adaptation?

Overarching decision-making principles that recognise the role of rightsholders and knowledge holders, true engagement of people affected by decisions made and creating opportunities for benefits and collaborations.

When establishing objectives, you may consider what you are trying to achieve ecologically and mechanistically.

Ready to start?

The Adaptation Catalogue for Conservation (AdaptLog)

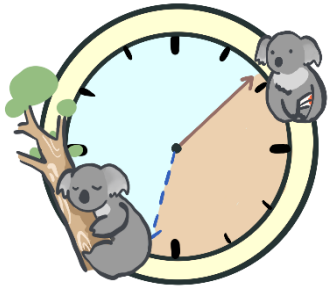
Example user tasks

<1 hour	Browsing, finding new ideas, understanding how many options there might be to consider.	1 **THE PROBLEM** (entry point) – Target, Threat, Intervention Category.
Few hours	Sorting through carefully to tailor the outputs to needs.	2 **THE EXPLORATION** (looking through search results) – scanning search results, exploring relevant returns in more detail, export full record pages for further reading.
Few days	Comparing between types of interventions, thinking about implementation, prioritising actions.	3 **THE CONSIDERATIONS** (wheels) – relative importance of context-specific considerations, unique for each Intervention category. → Consideration wheels
Few weeks	Deeply considering implementation and what might be involved.	4 **THE POINTS TO PONDER** – additional considerations that vary based on species/ location/threat/judgement etc and can't be summarised. → Points to ponder

Points to ponder

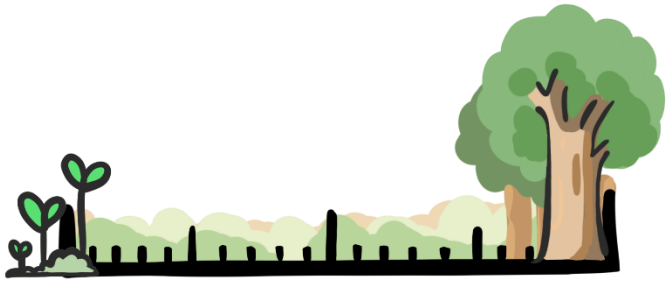
This document forms part of the decision support resources for users of AdaptLog – an Adaptation Catalogue for Conservation. This **Points to Ponder** step comes after selecting some options using AdaptLog and the Consideration Wheels.

You have likely used our **Consideration Wheels** – considerations that have generalised at the scale of an **Intervention Category**. Below, we provide some **Points to Ponder** which are further considerations that emerged from our research that are less easy to quantify and categorise. Many points to ponder require deep critical thinking and expert knowledge of the local context – things that demand time and wide consultation. To illustrate this, we provide some examples of how different locations, contexts, objectives, and species can change how these considerations play out in planning and implementing adaptation interventions in conservation.



Time-to-impact

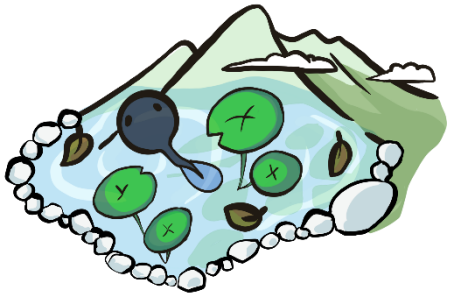
- Time-to-impact is concerned with **how long after implementation it takes for an intervention to have its full effect** on the target species or ecological community. Some interventions have an immediate effect (e.g. supplementary feeding), while others have a delayed effect (e.g. planting a tree). This broad categorisation of short or long can be done quickly using common sense, but any further classification requires a bit more thinking.
- One example would be an intervention in the category of *In-situ reproductive or survival manipulation* that increases the hatching rates of turtle eggs (e.g. removing 4WDs from the beach, altering sand microclimate). The two different time-to-impacts to consider would be (a) an immediate effect on the turtle eggs of question, and (b) the long-term effect of increased recruitment into the population would be the breeding age of those hatched eggs (10+ years) [1].



- A second example could be an intervention in the category of *Fire management* that has an immediate effect on the burn site, but a 7-8-year time-to-maximum impact post-burn needed to grow suitable habitat for orange-bellied parrots [2].

Scale

- **Scale can be defined and measured in a variety of ways.** There is a lot of thinking to be done around scale when undertaking conservation interventions. These considerations are very project-dependent, as interventions can be done on many different spatial scales.
- Categorising the scale for different interventions gets confusing when you ask the question of what is big and what is small. Perhaps it depends on the biological entity you are interested in conserving. For example, if you were intervening for an invertebrate species, 1 hectare might be the largest scale needed, however, for a wide-ranging eucalyptus species, 1 hectare may be considered very small and not appropriate.
- Scalability is something else to consider. Some interventions are scalable such as restoration or interspecific species management. Others such as translocations and *ex situ* conservation, while effective for the local context or species, are less scalable and require significant resources, specialised knowledge, and have unique ecological or logistical challenges. Financing conservation so that positive benefits can be realised on meaningful scales requires solutions that can be tested and refined and then scaled up.
- Scale of impact is a consideration that we tackle in the “Effectiveness” Consideration as part of our **Consideration Wheels**.



Irreversibility

- Climate adaptation interventions can be discussed or classified in terms of their reversibility or irreversibility. However, this can still not be generalised for all contexts and projects. Other describing words would be “one-off” compared to “permanent”. The words of interest depend on what you are concerned with, whether you are interested in whether your decision to intervene is reversible in case you make a mistake, something changes, or you change your mind, alternatively, whether you are concerned with the costs and efforts of having to repeat an action to have impact over time, rather than a one-off solution.
- One example of this is an intervention in the category of *In-situ reproductive or survival manipulation* that artificially decreases egg and tadpole mortality. The intervention would be irreversible for the eggs and tadpoles that were directly affected by the intervention; however, this would not have a lasting impact on the population or landscape. The intervention isn't permanent landscape change, you would have to repeat this regularly to have an impact.
- A second example would be an intervention in the category of *Interspecific species management* where Strategic blackberry weed control is undertaken to provide shade to fish during the summer months. This action would be irreversible to the blackberries that are controlled or fish affected, but they will grow back, and it won't be a permanent landscape change.
- A final example would be a translocation intervention which you could imagine to be quite a “set and forget” compared to other intervention categories. However, there is a call in the literature for translocations to move towards the long-term thinking needed in this space [3].

Technical and financial feasibility

- Technical and financial feasibility is concerned with whether you as an organisation or individual have **adequate resources to be able to successfully implement the intervention in the appropriate way and at the right scale to have the desired impact**. Adequate resources could be whether the technology is accessible to you (barriers such as location, cost, technical expertise), whether you have the required skills in your human resources to undertake the action, and how much information you have about the species including where and how to undertake the intervention to ensure desired outcomes.
- An example of this would be planning an intervention on a species that has no funding streams available (low financial feasibility) and very limited knowledge of its biology and threats (low technical feasibility), compared to planning an intervention on a well-studied threatened species that have been identified as "priority" under the Threatened Species Action Plan (DCCEEW) and so a high chance of obtaining funds and strong evidence on the kinds of actions that would be effective (high financial and technical feasibility).
- There are various frameworks and methods for assessing different components of feasibility in the conservation literature including technical and financial feasibility [4,5]. This process needs to be completed within a project and include the local context and resources available.

Other relevant enabling factors for success

- This point to ponder is an important one for the field of conservation to acknowledge and consider. External to a conservation intervention and how successful it can be, there are a **variety of factors outside the realm of control for those implementing the action**. These factors will undermine the success of the project, regardless of how well the intervention performs. Another way of explaining is the things that you need to happen for a project to be a success, but do not have any control over inside the project.
- An example of a barrier could be a cryptic species where you do not understand what is causing their decline; land clearing on the neighbouring property, or in another country, which means that the population recovery cannot be achieved due to losing key habitat; or economic or political instability that means there is a lack of continuity or support for your activity.
- Enablers could be a technological advancement that makes it possible to undertake your desired action cost-effectively or improve the quality of information you can collect to understand the problem; increase public awareness of advocacy that drives community participation, political support and funding; or legal frameworks that support sustainable practices and the success of your activity.

What else have you thought of?

While you have been reading this fact sheet or exploring AdaptLog, you have likely thought of other factors that would influence the appropriateness and success of an intervention. We would love to hear from you and what you have discovered in your investigations as a user so we can pass on this information to others.

Illustrations by My Blue Planet Art & Design

References

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