



ADAPTATION & THE CLIMATE-READY TOOL



Managing biodiversity in a changing climate is challenging. We need new concepts and tools to prepare and plan for a range of possible futures given uncertainty about how the climate may change and how biodiversity might respond to those changes.

Sydney Coastal Councils Group (SCCG) recently commissioned CSIRO to develop a tool to help councils develop 'climate-ready' biodiversity conservation projects and policies. The tool, known as the Climate-Ready Biodiversity Management Tool, aims to

build the capacity of local government officers undertaking plans, strategies and biodiversity projects, to prepare for a changing climate. The tool can be applied to existing and proposed projects and introduces new ways to think about planning for biodiversity in a changing climate. This fact sheet describes the key components of the tool and explains the concepts behind the approach.

"...working through the workshop process using the tool helped me to feel less daunted by the challenge of biodiversity. I feel like I can see a way forward now that I couldn't before."

—Biodiversity Planner, Local Government



Climate-Ready workshop approach

The Climate-Ready Biodiversity Management Tool is a workshop-based approach that guides people through a series of steps based on two key adaptation concepts. These two concepts form the basis of a new approach for thinking about biodiversity conservation in a changing climate.

In the medium to long term it is likely to become necessary to focus management on those aspects of biodiversity that have some chance of persisting, while allowing other aspects to change naturally even if they are valued.

1. Conservation programs should seek to preserve aspects of biodiversity that are valued and not subject to inevitable change.

Climate change is influencing the ways species and ecosystems function and move across the landscape. These changes will increase significantly over the next 30-50 years, leading to significant ecological change. Planning for this dynamic future is challenging, with lots of uncertainty about a range of aspects of future change.

Many current approaches assume a relatively static future climate and

seek to preserve a narrow set of values. In reality, multiple aspects of biodiversity are valued for a wide range of 'head' and 'heart' reasons. Understanding what is valued by whom and why is a critical step in moving towards a climate-ready approach. By understanding those values it is possible



to link their delivery to particular attributes of biodiversity.

Sometimes those values are very tightly linked to a specific attribute of biodiversity, for example, when someone values a particular species of orchid. Other times those values may only be loosely connected to particular attributes of biodiversity. In the case of viewsapes, for example, it often does not matter exactly which species of Eucalypt can be seen in the view for that view to be enjoyed, it is simply that trees cover the majority of the landscape. However, if a particular species of Eucalypt (for example) is



Broad-headed snake, [berichard](#) CC-BY-3.0



highly valued, then its persistence in the landscape is important. Identifying the range of values held by stakeholders and the specific attributes of biodiversity that deliver those values is an important first step. It is possible to focus future management efforts where they are likely to be most successful by recognising which of these values are likely to be lost under climate change (despite management efforts) and which are likely to persist.

2. Managers should focus on preparing to make future decisions while investing in current actions

The climate-ready tool focuses on simultaneously preparing to make decisions regarding biodiversity management while investing in current actions. A range of factors enable and constrain future decisions: decision makers have the ability to choose among certain options, but some technically effective paths may not be socially or institutionally feasible. These factors, called the decision context, can be summarised as spanning knowledge, values and rules (Figure 1). When these factors align sufficiently,

all the decisions within that space are available; when they don't, managers may be constrained. The climate-ready tool focuses on embedding actions in current management approaches that align the future decision context so that required future decisions are possible.

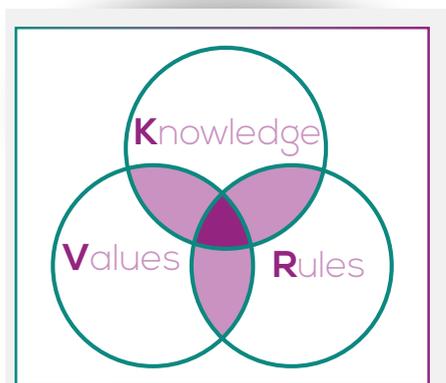


Figure 1: The VRK framework for exploring the decision context. The values (V), rules (R) and knowledge (K) that shape decision making are the product of many processes and people in society. **Decision makers have agency to choose among options where V, R and K intersect.** Options outside the intersection would require changes in the decision context to make them become available.

(Dunlop & Ryan 2016)

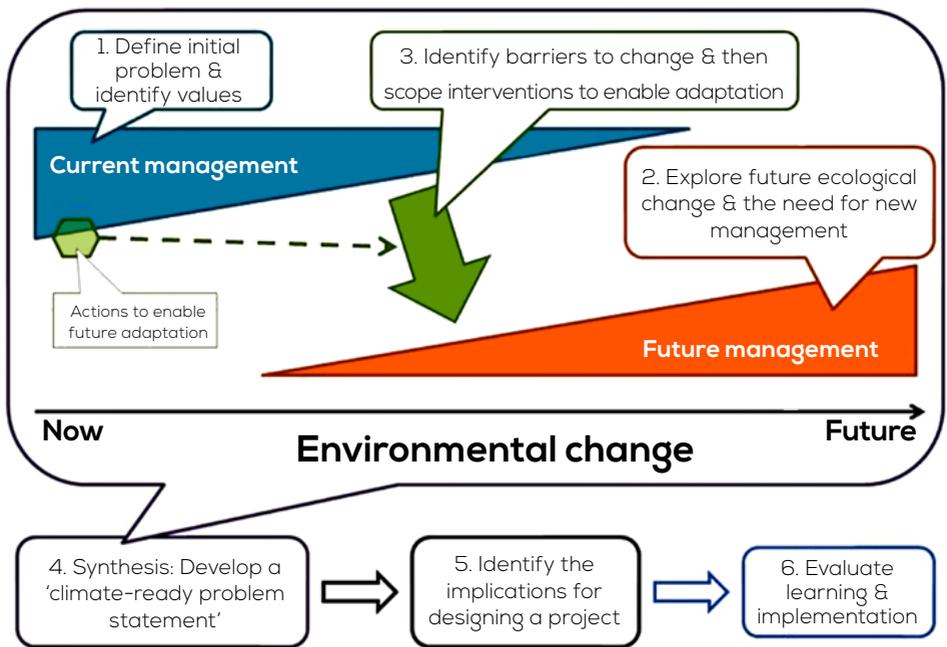


Figure 2: A schematic representation of the elements of the Climate-Ready Biodiversity Management Tool

Climate-Ready Steps

Together the concepts of the tool provide the basis for a series of steps that:

1. define the problem and identify the full range of values held by stakeholders about a particular site or aspect of biodiversity;
2. explore the range of possible ecological futures under climate change and discriminate between inevitable change and undesired, but manageable changes;
3. identify possible barriers (particularly in relation to knowledge, values and rules) in the current system that would prevent future actions being taken and scope interventions that could be undertaken in near term projects to overcome those barriers;
4. develop a synthesised 'climate-ready problem statement' reflecting the long-term objective, and interventions to remove barriers to

implementation while accepting the inevitable changes identified;

5. review the full range of implications for project design, ensuring the project addresses both current and future needs;
6. evaluate the process and feed learning back into future project designs.

The key concepts and these steps move us towards a climate-ready approach to biodiversity conservation.

Please see the full [Climate-Ready Biodiversity Management Tool document](#) for further details. Your council can organise a facilitated Climate-Ready Workshop by contacting Dr Michael Dunlop at CSIRO (Michael.Dunlop@csiro.au).

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