

APPENDIX IX

Prioritisation Process

Introduction

In summary, prioritisation is first applied to a list of “key NRM issues” (Attachment One), which then provides the foundation for prioritising management action targets (MATs) generated at sub-regional level. This is **Phase I** of the process.

Phase I is undertaken by each of the sub-regional groups, as these are the arrangements that have been established by the Rangelands NRM Coordinating Group to advise it on priorities in each of the sub-regions.

Phase II of the process will see specific assessment and prioritisation of MATs, with consideration given to a number of issues such as cost and time of implementation, capacity of people to undertake the action, technical and logistical feasibility, and social and economic impacts of undertaking the action. This work will provide the basis for comprehensive investment planning.

Process

Phase I

Phase I prioritises the “key NRM issues” using a multi-criteria analysis and aligns MATs to the issues they primarily address.

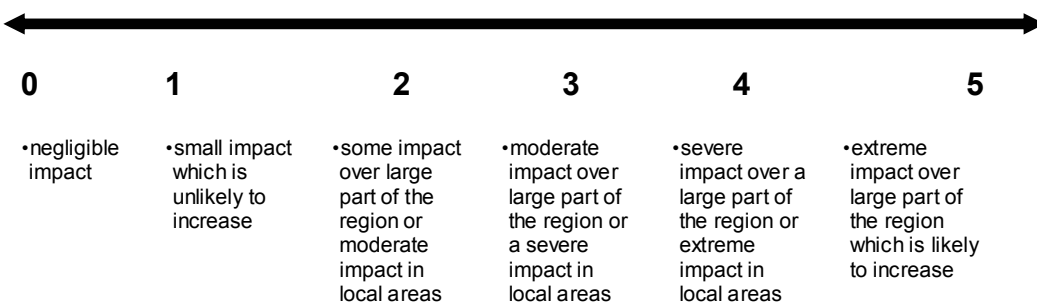
Step 1

Each sub-regional group prioritises the list of “key NRM issues”, with each issue given a score in terms of its overall impact on a number of social, economic and environmental criteria (Attachment Two). When scoring each criterion, sub-regional group members need to bear in mind:

1. impacts over time;
2. extent of the impacts;
3. severity of the impacts; and
4. likelihood of the impacts occurring.

The process requires group consensus on each score, and on-going discussion about the four issues above. Based on a trialling this process in the Goldfield-Nullarbor, it is likely that the process would take an entire day.

A score between zero and five is assigned to each factor, where zero is “negligible impact” and five is “severe impact”, as shown below.



Step 2

After each sub-region has prioritised the issues, the sub-regional scores will be collated to provide a whole-of-rangelands ranking of issues. A weighting will be applied to the scores to reflect the 10 areas of activity of the extension of NHT, and as such the general intent of the strategy. The weighting is:

1. Environmental: 50
2. Economic: 25
3. Social: 25

However, it is recognised that a range of funding sources will be targeted to implement actions in addition to NHT.

Step 3

Once issues have been ranked for the whole-of-rangelands, they will be assigned thresholds for priority (1st, 2nd, 3rd - see Figure 2). Thresholds will be used to group issues of like concern to NRM and remove some of the complexity when dealing with large numbers of MATs. The Strategy Team, taking into consideration the scores from the sub-regions and the above dot points of impact, extent, severity and likelihood, will base the setting of thresholds on consensus decision. Endorsement will be sought from the Strategy Executive on the final threshold groupings.

Step 4

The final step in Phase I involves determining which MATs primarily address which issues and linking them. It is recognised that some MATs will likely address several issues, however to minimise complexity a decision must be made as to which issue each MAT will most contribute.

Phase II

Phase II provides more rigorous assessment of MATs than simply whether or not they address issues that people believe are of greatest importance. It makes use of strategic questions on a number of issues related to capacity, cost, feasibility and timing to determine priority.

Step 1

After having determined which MATs relate to which issues, MATs are further prioritised using a dichotomous decision key, from which they are assigned either:

- **Priority “A”** – Considered time critical and an important first step in achieving RCTs and/ or building critical capacity for NRM.
- **Priority “B”** –
 - a. An important part of a program and/ or in achieving RCTs, and can be undertaken immediately.
 - b. A MAT with “B” meets the criteria of category “A” but is considered to have low feasibility, but emerging new technologies or management practices are highly likely to increase feasibility in the near future.

- **Priority “C”** – Considered important but less of a priority for implementation in the immediate to short term. Dependant on the achievement of priority “A” and “B” MATs.

The dichotomous decision key used to assign A, B or C to MATs is:

1. **Does MAT address root cause/s of threat/s to natural resource assets?**
Y – go to 4
N – go to 2
2. **Does MAT build or expand baseline data of key assets or threats?**
Y – go to 4
N – go to 3
3. **Does MAT build community/stakeholder capacity in key areas of NRM?**
Y – go to 4
N – Priority Category “C”
4. **Is MAT a first essential step and/or considered time critical in achieving RCT/s?**
Y – go to 6
N – go to 5
5. **Is MAT an important component of a program or achieving RCTs and can be undertaken immediately but is not considered to be time critical?**
Y – go to 8
N – Priority Category “C”
6. **Is MAT currently technically of logistically feasible?**
Y – go to 7
N – go to 10
7. **Is there community and/or stakeholder support to implement MAT?**
Y – Priority Category “A”
N – Priority Category “B”
8. **Is MAT currently technically or logistically feasible?**
Y – go to 9
N – Priority “C”
9. **Is there community and/or stakeholder support to implement MAT?**
Y – Priority Category “B”
N – Priority Category “C”
10. **Is it likely that emerging new technologies or management practices in the near future will increase the feasibility of achieving MAT?**
Y – go to 9
N – Priority Category “C”

Step 2

Once A, B or C has been assigned to a MAT, a matrix (Figure 1) can be prepared showing priority MATs in terms of:

1. the priority issues they address; and
2. how they faired when subjected to the questions above.

The process is further summarised in Figure 2.

Figure 1: Matrix showing linkages between Key priority issues and key priority MATs

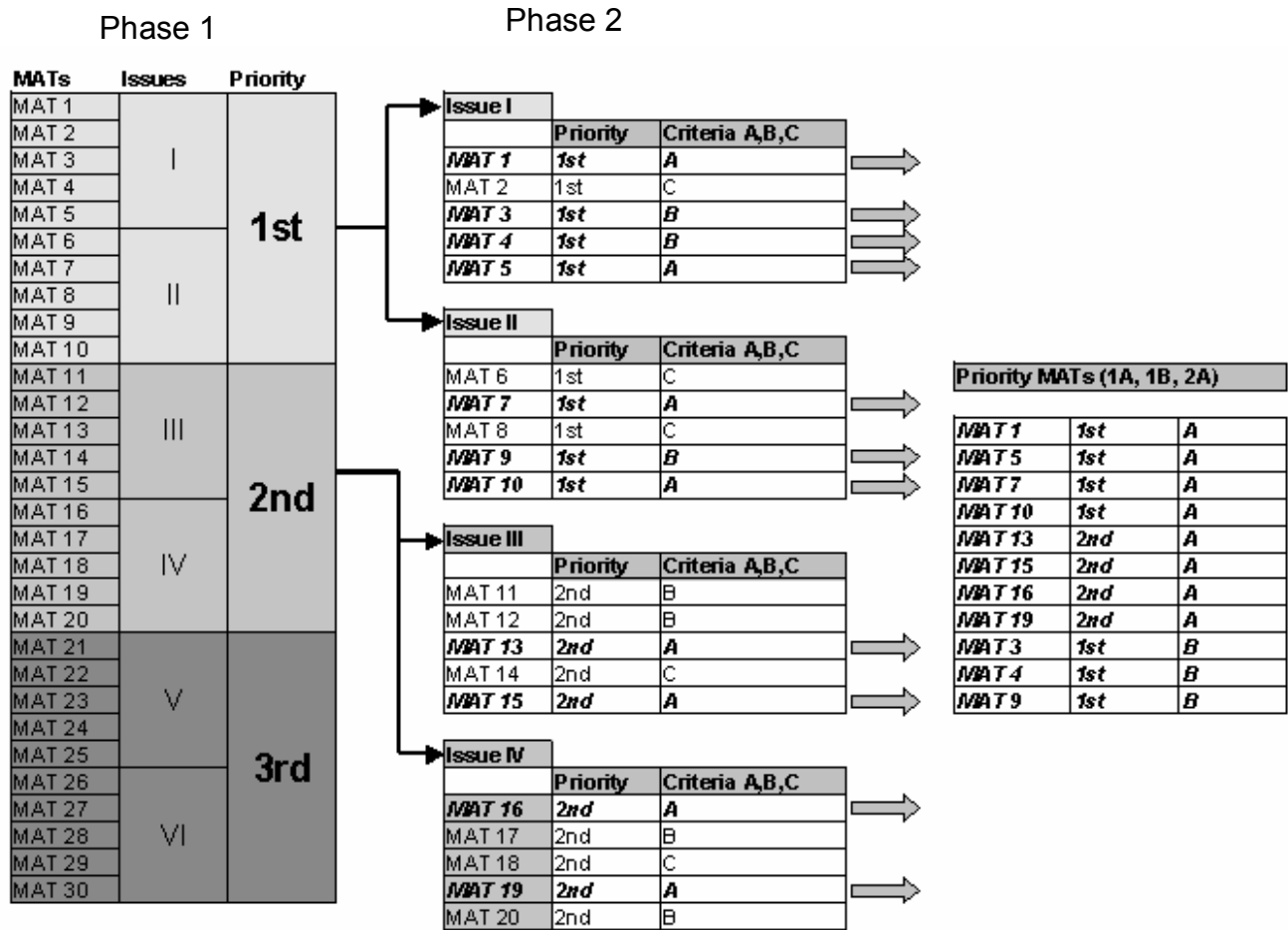
Key Priority MATs (root cause, adequate knowledge, NRM capacity, feasibility, willingness – further definition below)

		A	B	C
Key NRM Priority Issues	1st	Essential first step to achieve RCT/s and Time Critical	Essential first step to achieve RCT/s	Important to achieve RCT/s but dependant on A and B
	2nd	Important to achieve RCT/s and Time Critical	Important to achieve RCT/s but not time critical	Important to achieve RCT/s but dependant on A and B
	3rd	Important but low impact on achieving RCT/s	Important but low impact on achieving RCT/s	Of lesser importance in the immediate term

DRAFT

Figure 2: Conceptual diagram for prioritisation process of MATS

(note – this diagram is only for demonstration and does not represent the number of issues being considered)



DRAFT

ATTACHMENT ONE - KEY RANGELANDS NRM ISSUES

No	Key Issue	No	Associated Issues
1	Declining Soil Condition	1.1 1.2 1.3 1.4 1.5	Salinity Erosion (sheet, rill, gully erosion) Soil structure decline/ compaction, scalding (tiled roof effect) Loss of soil fertility Water logging
2	Native Vegetation Integrity	2.1 2.2 2.3 2.4 2.5 2.6	Loss of vegetation cover Clearing Structural modification (from fire regimes, excessive total grazing pressure) Altered nutrient levels Toxic contaminants Climate change
3	Declining Inland Aquatic Water Quality	3.1 3.2 3.3 3.4 3.5 3.6	Loss of riparian vegetation Altered nutrient levels Altered salinity levels Toxic contaminants Poor water clarity and turbidity Climate change
4	Altered Water Regimes	4.1 4.2	Altered hydrology (length, intensity and frequency of water flows) Altered erosion rates and sediment loading
5	Declining Water Quality Supply	5.1 5.2 5.3	Saltwater intrusion into groundwater Contamination of water supply Competing demands for water
6	Declining Marine Water Quality	6.1 6.2 6.3 6.4	Altered nutrient levels Toxic contaminants Poor water clarity and turbidity Climate change
7	Terrestrial Native Species and Communities Integrity	7.1 7.2 7.3 7.4 7.5	Habitat loss (includes habitat other than native vegetation) Exotic species/ pest native species Disease Traditional harvesting Climate change
8	Aquatic Native Species and Communities Integrity	8.1 8.2 8.3 8.4	Habitat loss Exotic species/ pest native species Disease Climate change
9	Marine Native Species and Communities Integrity	9.1 9.2 9.3 9.4 9.5	Habitat loss Exotic species/ pest native species Disease Commercial and recreational fishing Climate change
10	Decreasing Primary Productivity	10.1 10.2	Exotic species/ pest native species Unsustainable management practices
11	Low Community Capacity for NRM	11.1 11.2 11.3 11.4 11.5 11.6 11.7	Unsustainable tourism Insufficient knowledge and understanding Inability to access information Institutional inertia (lack of change) Transitional populations Lack of financial resources Lack of people resources
12	Deficient Planning for NRM	12.1 12.2 12.3	Unmanaged access in coastal areas Unmanaged access in other areas Inadequate stakeholder consultation during planning
13	Culture and Heritage	13.1 13.2 13.3 13.4 13.5	Insufficient knowledge and understanding of cultural/historical context Inability to access information Knowledge loss (indigenous, historical) Limited engagement in traditional practices that support NRM Degradation of culturally significant sites and objects
14	Air Quality	14.1 14.2	Blown dust and particulates Gaseous pollutants

DRAFT

ATTACHMENT TWO - SOCIAL, ECONOMIC AND ENVIRONMENTAL CRITERIA FOR SCORING ISSUES

SOCIAL

Factor	Explanation
Resource base	Impact on natural and developed assets affecting the quality of life of future generations.
Employment	Impact on jobs or job opportunities where degradation affects the viability of resource-based industries (quantity marketability, or demand for products and services).
Community viability	Loss of local industries or communities directly attributable to resource degradation as distinct from broad social or economic changes.
Health	Impact on community health with recorded health problems associated with environmental quality.
Cultural/ Recreational	Impact on amenity value or places with social, cultural or recreational significance.

ECONOMIC

Factor	Explanation
Primary production	Impact on the profitability of agricultural, forestry, mineral and/ or fisheries production.
Tourism	Loss in revenue to public and private tourism, and recreation operators (including accommodation, food and other services)
Public infrastructure	Increased costs of maintaining public services and amenities such as buildings, roads, pipelines, recreational reserves, and quantity and quality of public water supplies.
Other industries	Increase in costs to private industry associated with maintenance of infrastructure, and processes including product quality and availability.
Householders	Increased costs to urban and rural householders associated with maintenance of property (eg water supply septic systems) or general living requirements.

ENVIRONMENTAL

Factor	Explanation
Land	Impact on the landscape (including land forms, native vegetation and soils).
Inland waters	Impact on inland aquatic environments including environmental flows, water quality and riparian health.
Coastal, estuarine and marine	Impact on coastal and estuarine areas (including water quality and habitat condition).
Biodiversity	Impact on native flora and fauna of the region including one or more threatened species (or to a considerable proportion of their preferred habitat or food source).
Atmosphere	Impact on air quality.