

Appendix F Specified Protected Matters impact profiles (including risk assessment)

Risk assessment framework

The risk assessment framework applied to the assessment of Specified Protected Matters in the impact profiles provided in this appendix is described below.

Likelihood criteria

With reference to *AS/NZS 4360:1999 Risk Management*, likelihood is defined as the chance of occurrence in terms of:

- Probability (the likelihood of a specific event or outcome, measured by the ratio of specific events or outcomes to the total number of possible events or outcomes) or
- Frequency (a measure of the rate of occurrence of an event expressed as the number of occurrences of an event in a given time).

The definitions provided in the table below are taken from *AS/NZS 4360:1999 Risk Management* and were applied when undertaking the risk assessment.

Score	Likelihood	Expected frequency
1	Rare	May occur only in exceptional circumstances
2	Unlikely	Could occur at some time
3	Possible	Might occur at some time
4	Likely	Will probably occur in most circumstances
5	Almost certain	Is expected to occur in most circumstances

Consequence criteria

Consequence criteria were applied separately to ecological communities and species as follows.

Consequence criteria – ecological communities

Proposed ‘vegetation community’ consequence definitions (based on the *MNES Significant Impact Guidelines*)

Element	Considerations	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Fragmentation of ecological community	Consider extent of existing fragmentation and impacts to fragmented habitat, example roadside reserve	No vegetation clearing required,	Minor clearing of disturbed and fragmented habitat, low spatial and temporal impact	Clearing of moderate to high quality habitat, moderate spatial and temporal impact. Mitigation effective	Clearing of high quality habitat, large spatial impact, long-term consequence, mitigation effectiveness low or unknown	Clearing of high quality habitat over large areas, long-term consequence, mitigation effectiveness unknown
Change to community structure and floristics	Refers to approved recovery plan for species and / or priority recovery actions	Does not represent on the identified threats nor is inconsistent with the recovery actions	Minor threats to identified recovery actions	Moderate threats to identified recovery actions, some inconsistencies with the actions	Major threats to identified recovery actions, some inconsistencies with the actions	Completely inconsistent with the recovery actions and represents all threats identified
Inconsistent with communities recovery	Refers to approved recovery plan for community and / or priority recovery actions	Does not represent any identified threats nor is inconsistent with the recovery actions	Minor threats to identified recovery actions	Moderate threats to identified recovery actions, some inconsistencies with the actions	Major threats to identified recovery actions, some inconsistencies with the actions	Completely inconsistent with the recovery actions and represents all threats identified
Interaction with ecological communities recovery	Refers to listed migratory species only. Important habitat refers to a site that supports an ecologically significant proportion of the population	Minimal impact on species migratory patterns, habitat is not important	Minor impact on species migratory patterns, habitat is not important	Moderate impact on species migratory patterns, expected important habitat	Major impact on species migratory patterns over short-term (one season), and known important habitat	Significant impact on migratory movements for over long-term (more than one season) in an area of important habitat

Consequence criteria – species

Proposed ‘species’ consequence definitions for each consequence ‘level’

Impact criteria	Considerations	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Impact on populations	Consider large or small population, local and regional, isolation or interconnected populations, species mobility and opportunity to avoid impacts	Minimal impact on local populations or highly mobile species	Large local or regional population, minor spatial and temporal impact on population, highly mobile species	Small or isolated population, low mobility, moderate impact on population	Small or isolated population, low mobility, major impact on population	Small and isolated with low mobility, population reduction may result in local extinction
Fragmentation or reduction in species habitat	Consider connectivity mitigation measures, are these known to be effective for target group	No vegetation clearing required	Minor clearing of habitat, low fragmentation, spatial and temporal impact low	Clearing of habitat, moderate spatial scale and low temporal impact. Mitigation effective	Clearing of habitat, large spatial impact, long-term consequence, mitigation effectiveness low or unknown	Clearing of habitat over large areas, long-term consequence, mitigation effectiveness unknown
Disruption to breeding cycle	Impacts on important resources and activity would occur during breeding cycle	Minimal impact on breeding cycle	Minor disruption to breeding cycle	Moderate impact to breeding cycle, including disruption during breeding period and reduction in resources	Direct impact to breeding cycle, leading to low to zero recruitment over the short term	Direct impact to breeding cycle leading to low to zero recruitment over long-term (more than one breeding period)
Change to habitat condition	Food resources, host species, floristic and structural diversity, shelter, refuge	Minimal impact on habitat, and not considered critical habitat	Minor decline in condition over short-term, good recovery potential, habitat not critical	Moderate decline in condition over short-term, potential for unassisted recovery to be moderate, known critical habitat	Major decline in condition over long-term, potential for unassisted recovery expected to be low, known critical habitat	Major decline in condition over long-term, unassisted recovery unlikely, known critical habitat
Inconsistent with species recovery	Refers to approved recovery plan for species and / or priority recovery actions	Does not represent any identified threats nor is inconsistent with the recovery actions	Minor threats to identified recovery actions	Moderate threats to identified recovery actions, some inconsistencies with the actions	Major threats to identified recovery actions, some inconsistencies with the actions	Completely inconsistent with the recovery actions and represents all threats identified

Impact criteria	Considerations	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Impacts to migration	Refers to listed migratory species only. Important habitat refers to a site that supports an ecologically significant proportion of the population	Minimal impact on species migratory patterns, habitat is not important	Minor impact on species migratory patterns, habitat is not important	Moderate impact on species migratory patterns, expected important habitat	Major impact on species migratory patterns over short-term (one season), and known important habitat	Significant impact on migratory movements for over long-term (more than one season) in an area of important habitat

Risk matrix

The risk matrix is a tool that combines the consequence and likelihood scores to analyse the risk. The outcome is an overall environmental risk ranking as shown in the table below, which was used for the purposes of the risk assessment.

Consequence (impact severity)	Likelihood				
	Almost certain (5)	Likely (4)	Possible (3)	Unlikely (2)	Rare (1)
(5) Catastrophic	Very High	Very High	Very High	High	High
(4) Major	Very High	Very High	High	Moderate	Moderate
(3) Minimal	High	High	Moderate	Moderate	Low
(2) Minor	Moderate	Moderate	Moderate	Low	Very Low
(1) Insignificant	Low	Low	Low	Very Low	Very Low