8. NON-NATIVE SPECIES DESIGN CONSIDERATIONS

8.1 Deer

8.1.1 Purpose

8.1.2 Designs and structures

a) Exclusion fencing

b) Chemical repellents

c) Non-palatable species
8 NON-NATIVE SPECIES DESIGN CONSIDERATIONS

8.1 Deer

8.1.1 Purpose
- Deer are becoming an increasing issue on roads around Australia:
  - Negative impact on revegetation areas within road reserves.
  - High speed collisions with deer have the potential to be fatal.

8.1.2 Designs and structures

a) Exclusion fencing

*Design Requirements:*
- **General:**
  - Must allow for movement of native species, where appropriate.
  - Electric fences are expensive to operate and need frequent monitoring and maintenance. They are not recommended for long stretches of road, but may be considered locally where a high risk exists. They can also be used temporarily to train deer to change their habits after a new road is built.
  - Height is determined by species of deer:
    - Height sufficient to prevent deer jumping over it.
    - Red deer - minimum height 2.2 metres (preferably 2.6 – 2.8 metres).
    - Roe deer - minimum height 1.5 metres (preferably 1.6 – 1.8 metres).
  - **Mesh:**
    - Installed to prevent deer from passing through the openings and passing under the fence.
    - Wires have a diameter of at least 2.5 mm and consist of rust-free material.
    - The bottom wire is installed directly onto the ground and can be fixed to prevent young deer from pushing their way underneath. Burying the wire mesh 200-400 mm underground may be necessary in areas where species are known to dig and destroy fences.
    - Place mesh on the outside of the poles (away from the roadside) to prevent mesh becoming dislodged if a large animal crashes into the fence.
  - **Poles:**
    - Metal or wooden poles are suitable.
    - Poles are to be strong enough to withstand the impact of an animal in flight running into the fence. End posts should have a diameter of 60-65 mm (steel) or 100 x100 mm/120 mm diameter (wood). Middle posts can be slightly thinner.
    - Replace when damaged.
    - Ensure all posts are firmly embedded in the ground (at least 700 mm).
    - The distance between posts should be between four and six metres (up to 10 metres in flat areas).
  - **Considerations:**
    - Wire fences effectively stop the access of deer.
    - A dense row of unpalatable bushes planted close to the fence (non-roadside) can prevent animals from attempting to jump the fence.
    - Do not use plant species adjacent to the fence considered attractive to foraging deer.
• Maintenance:
  o Particular attention to be paid to maintaining:
    - Holes in fencing (to be repaired immediately).
    - Pole attachments.
    - Ground attachments.
    - Trails and hollows in vegetation which indicate the regular passage of animals under the fence.

b) Chemical repellents
• Olfactory repellents are a relatively new measure to prevent vehicular collisions with deer.
• In overseas use, natural or artificial substances, usually a mix of scents from humans, wolves and other predators, are injected into foam as a substance carrier and then applied to trees or posts in the vicinity of the road.
• They are only placed during critical periods, otherwise habituation to these scents may occur and reduce the overall effectiveness of this measure.
• Further research is required to determine efficacy.

c) Non-palatable species
• If possible, non-palatable plant species should be planted.
• Implement in consultation with an expert aware of species-specific preferences.
• Plant in conjunction with exclusion fencing.