

# Managing the impacts of deer on riparian vegetation

Project D2:  
Deer

This project will increase the understanding necessary to develop a comprehensive deer control strategy consistent with the Healthy Waterways Strategy.

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Introduced deer populations and their impacts are increasing across Australia. Deer, including sambar, red deer and fallow deer present a high risk of introducing pathogens to Melbourne's drinking water supply by faecal contamination and cause significant impacts to native vegetation and revegetation efforts within catchments managed by Melbourne Water.

Melbourne Water are committed to eradicating deer populations in its closed (fenced) water storage catchments, and to a reduction of the deer population in its large, open forested water supply catchments.

Deer control is extremely expensive and must be maintained long-term and generally at a landscape scale to be effective. However, deer density and impacts do not necessarily follow a linear association, and deer control programs often do not meet their primary objective to reduce deer impacts because the method of control, location of control, or control frequency and intensity are lacking.

#### Aim

This project will use a predictive spatial model to prioritise assets for protection, identify locations for control, and adaptively manage control programs to reduce risks to priority assets.

#### Methodology

The project has already developed a model that maps deer abundance and impacts across the Melbourne Water region, using it to identify ecological values at highest risk from deer impact.

This year, the project will seek to both apply the model to support management actions, as well as refine and strengthen

the model through compiling additional data and investigating potentially important predictors. Specifically, the project will:

1. Use the model to inform the efficient targeting of deer control within Melbourne Water's water supply catchments and along priority waterways.
2. Use the model to efficiently assess the effectiveness of deer control within the Upper Yarra catchment.
3. Process LIDAR data for select areas within the MW region to assess associations between deer density and changes in vegetation structure.
4. Refine the deer impact model to better represent the spatial as well as temporal relationships between deer density and impact.
5. Conduct field assessments of deer density and impacts for critical areas to the west of Melbourne.

#### Expected Outcomes

- Improved ability to control or reduce the impacts of deer.
- Improved understanding of the distribution of deer in riparian zones across Victoria.
- Improved knowledge of MW assets most at risk from deer impacts, including water quality, threatened species, riparian vegetation and revegetation.
- Improved understanding of the level of effectiveness of deer control programs.