

Appendix F: Common management actions used to address soil-based threats

Soil-threatening processes	Risk to Assets	Management Practice Options
Waterlogging	Waterlogging reduces production for dairy, cropping, broadacre grazing, horticulture and forestry-based industries.	<ul style="list-style-type: none"> • raised bed cropping • surface and sub-surface drainage
Soil Structure Decline	<p>Soil structure decline reduces production for dairy, cropping, broadacre grazing, horticulture and forestry-based industries.</p> <p>Soil structure decline increases the likelihood of erosion. Erosion may impact on water quality, infrastructure and biodiversity.</p>	<ul style="list-style-type: none"> • conduct regular soil tests • land class fencing, including alleyways • stock and machinery traffic control • add gypsum to dispersive clays • restrict machinery and stock on wet soils • minimal/non-tillage • maintain and incorporate stubble
Soil Nutrient Decline	Nutrient decline reduces production for dairy, cropping, broadacre grazing and horticulture-based industries.	<ul style="list-style-type: none"> • conduct regular soil tests • carry out nutrient budgets • apply fertilisers according to the needs of the pastures/crops
Soil Acidification	Acidification reduces production for dairy, cropping, broadacre grazing and horticulture-based industries.	<ul style="list-style-type: none"> • conduct regular soil tests • apply lime where appropriate • grow perennial species with clover pastures
Soil Contaminants	Contaminants impact on agricultural production, land value, waterways, wetlands and biodiversity.	<ul style="list-style-type: none"> • monitor high-risk contaminated areas • clearly identify contaminated sites • conduct management practices according to the nature of contamination • store and maintain chemicals properly • follow OH & S recommended practices to reduce the risk to human health
Wind Erosion	Wind erosion impacts on agricultural production, air pollution, cultural heritage sites and water quality.	<ul style="list-style-type: none"> • maintain ground cover (perennial pastures) • retain or incorporate stubble • establish tree belts for windbreaks

Table F1: Risks to assets caused by threats, and management practices implemented to address these threats

Land Practice	Current adoption of best management practice by land manager	Risk to assets being addressed by the best management practice
Broadacre Grazing	Approx. 30% of broadacre grazing land grazed and spelled based on plant and soil needs.	Maintain agricultural production by reducing soil structure, nutrient and organic carbon decline.
	Approx. 10% of broadacre grazing soils appropriately limed and fertilised.	Maintain agricultural production by addressing soil acidification and nutrient decline. Also maintain water quality by reducing the likelihood of excess nutrients from fertilisers entering waterways.
	<5% of broadacre grazing land is currently fenced out according to land classes.	Maintain agricultural production, reduce sediments/nutrients entering waterways, protect biodiversity areas by reducing the likelihood of all soil-related threatening processes causing risk.
	Approx. 0.5% of broadacre grazing land has trees planted as windbreaks.	Maintain water and air quality, and agricultural production by addressing wind erosion.
Cropping	Approx. 10% of crop area in beds.	Maintain agricultural production by reducing soil structure decline and the risk from waterlogging.
	Approx. 20% of crop land appropriately limed and fertilised.	Maintain agricultural production by addressing soil acidification and nutrient decline. Also maintain water quality by reducing the likelihood of excess nutrients from fertilisers entering waterways.
	Approx. 5% of crop area under stubble retention.	Maintain agricultural production and water/air quality by addressing soil organic carbon and biota decline and erosion processes.
	Approx. 60% of cropping land being direct drilled or minimal tillage.	Maintain agricultural production by addressing soil structure decline.
Dairy	Approx. 45% of dairy soil appropriately limed and fertilised.	Maintain agricultural production by addressing soil acidification and nutrient decline. Also maintain water quality by reducing the likelihood of excess nutrients from fertilisers entering waterways.
	<5% of dairy land is managed to reduce sediment loss.	Maintain water quality, by reducing practices that encourage erosion.
	<5% of dairy land has machinery traffic control.	Maintain agricultural production, by addressing soil structure decline caused by compaction.
	Approx. 30% of dairy land is managed for waterlogged conditions.	Maintain agricultural production, by addressing waterlogging.
	Approx. 15% of dairy land is managed to reduce nutrient run-off.	Maintain water quality, by reducing the nutrient run-off.
Forestry	Approx. 15% of farm forestry land is managed to improve soil and catchment health.	Maintain agricultural production, water quality, infrastructure and other assets by reducing the likelihood of threats such as secondary salinity, erosion and landslides.
	Approx. 50% of private forest managers adopt 'Code of Practices' regularly. Approx. 90% of native public forests adopt 'Code of Practices'.	Maintain forest production, water quality and infrastructure by reducing the risk of erosion, soil structure decline and landslides.
	Approx. 65% of roads on private plantations and on farms designed, developed and maintained to reduce erosion and sediments entering waterways. Approx. 80% of roads in native public forests designed, developed and maintained to reduce erosion and sediments entering waterways.	Maintain water quality by addressing sediment loss (erosion process) from roads.

Table F2: Current adoption of soil health-based best management practices from asset managers in the Corangamite region