

Soil Condition

This Chapter

This chapter summarises investments supported by the NAP and the regional component of the Trust that have a major focus on the Soil Condition matter for target. The first section of the chapter summarises the performance of investments to 30 June 2005. It also provides a summary of the type of activities supported by these investments and progress in the achievements of these activities to the 30 June 2005.

The second part of the chapter identifies the management action targets (MATs) and resource condition targets (RCTs) related to Soil Condition, and provides a summary of the progress of regions in addressing these targets.

Sections

[Investment summary](#)

[Activities](#)

[Achievements](#)

[Targets](#)

Investment summary

Figure 4.1 shows the regions addressing Soil Condition through investments funded through the NAP and the regional component of the Trust, while Table 4.1 details the reported expenditure by these regions.

Expenditure related to priority funding and regional investments based on accredited regional plans has been detailed by region. For these investments, information is provided in relation to the types of activities undertaken, and the outputs achieved by these activities.

Commencing this year in 2004-05, priority action funding and regional investments will be jointly reported.

Figure 4.1 Regions with investments having a major focus on Soil Condition

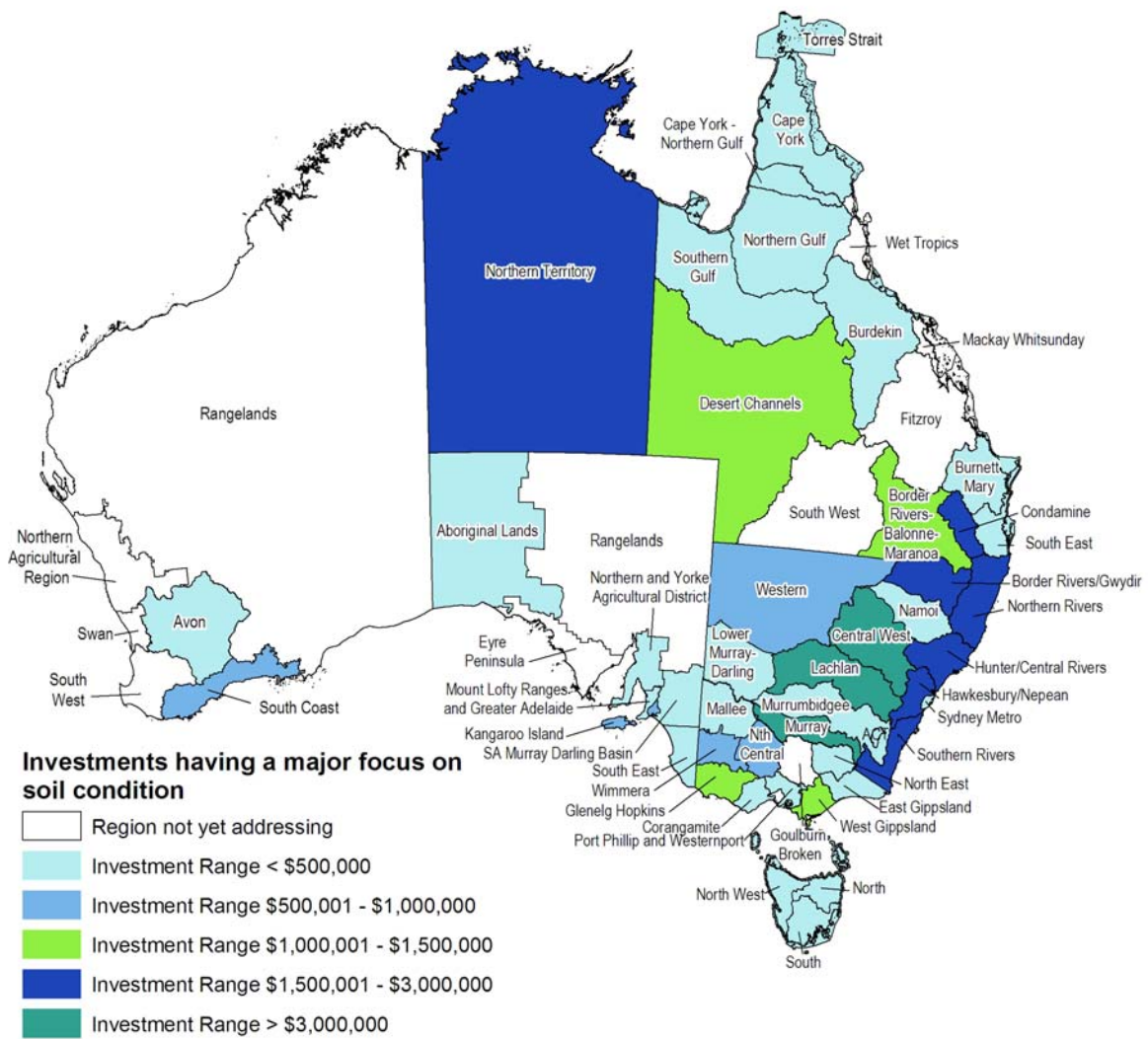


Table 4.1 Reported expenditure for investments having a major focus on Soil Condition

Region	Activity Expenditure (\$)			
	July 04 - June 05		Total to June 05	
	NAP	Trust	NAP	Trust
Australian Capital Territory				
Australian Capital Territory		262,620		386,085
New South Wales				
Border Rivers - Gwydir		45,000		45,000
Central West	203,619		203,619	
Hawkesbury - Nepean		251,209		476,209
Hunter - Central Rivers		287,245		287,245
Lachlan	301,057		301,057	
Murray		133,000		575,545
Murrumbidgee	99,518		99,518	
Namoi	87,721		87,721	
Northern Rivers		316,171		489,571
Southern Rivers		65,000		65,000
Western	6,433		6,433	
Northern Territory				
Northern Territory		15,980		141,845
Queensland				
Border Rivers-Balonne-Maranoa	582,132	15,512	582,132	15,512
Burdekin	20,226	57,500	20,226	57,500
Cape York		64,522		64,522
Condamine	1,304,943		1,378,645	
Desert Channels		291,566		291,566
South East Queensland	26,650		26,650	
Southern Gulf		3,543		3,543
South Australia				
Aboriginal Lands		50,000		50,000
Kangaroo Island	11,500	56,031	594,751	75,044
Mount Lofty Ranges				340,000
Northern and Yorke Agricultural District				250,000
SA Murray Darling Basin		15,000		15,000
South East				66,488
Tasmania				
North West		104,600		204,600
South Tasmania	80,000		140,000	
State-wide		60,000		93,000
Victoria				
Corangamite				344,411
East Gippsland				94,277
Glenelg Hopkins	36,013		552,624	255,640
Mallee			56,135	63,000
North Central			412,500	78,778
North East		45,000		107,000
Port Phillip		62,000		172,250
West Gippsland		191,000		879,000
Wimmera	129,000	382,000	144,334	482,153
Western Australia				
Avon	510		510	
South Coast	344,788		344,788	
Total	3,234,110	2,774,499	4,951,643	6,469,784

Activities

Funding for the types of activities having a major focus on Soil Condition supported by the NAP and the regional component of the Trust, is shown in Table 4.2.

Table 4.2 Types of activities supported by investments having a major focus on Soil Condition

Activity Type	Activity Expenditure (\$)			
	July 04 - June 05		Total to June 05	
	NAP	Trust	NAP	Trust
Resource assessment	356,031	60,000	729,273	163,000
Planning	7,721	508,009	38,766	1,318,486
Capacity building	1,118,094	881,954	1,136,064	1,946,985
On-ground activities	1,752,264	1,324,537	3,047,540	3,041,313
Total	3,234,110	2,774,499	4,951,643	6,469,784

Funding for investment activities having a major focus on Soil Condition supported by the NAP and the regional component of the Trust are described in Table 4.3.

Table 4.3 Funding for activities having a major focus on Soil Condition

Region	Activity Title	Activity Expenditure			
		July 04 – June 05		Total to June 05	
		NAP	Trust	NAP	Trust
Australian Capital Territory					
Australian Capital Territory	Barrier and Remnant Fencing				60,000
	Soil Conservation				60,000
	Soil health coordinator support, capacity building and regional engagement in on-ground actions		237,856		241,320
	Soil health target setting, monitoring, evaluation and reporting to track on-ground delivery of investment		24,765		24,765
New South Wales					
Border Rivers - Gwydir	Drought and Groundcover in the NSW Border Rivers Catchment		45,000		45,000
Central West	Indigenous Involvement in Sustainable Land Management.	7,635		7,635	
	Management of Sodic Soils	2,776		2,776	
	Soil Health Program in Croplands	182,437		182,437	
	Soil Health program in Pasture Lands	10,771		10,771	
Hawkesbury - Nepean	Best Practice Grazing Management for Agriculture, Biodiversity and Water Quality in the Warragamba Catchment		222,154		447,154
	Moss Vale Community Support Officer		12,424		12,424
	Regional Landcare Awareness and Training Program		16,631		16,631
Hunter - Central Rivers	Soil Health and Land Capability		287,245		287,245
Lachlan	Soil Acidity Management	36,967		36,967	
	Soil Erosion Prevention Program	264,090		264,090	
Murray	On-ground Works for the South West Slopes Management Unit.		133,000		575,545

Region	Activity Title	Activity Expenditure			
		July 04 – June 05		Total to June 05	
		NAP	Trust	NAP	Trust
Murrumbidgee	Benchmarking and Understanding Soil Chemistry to Better Manage Acidity Salinity Sodicity and Soil Structure	99,518		99,518	
	Healthy Soils-Healthy Landscapes - Land Managers Diagnosing Soil Problems and Implementing Solutions		167,862		167,862
Namoi	Property Planning to Address Soils	7,721		7,721	
	Soil Facilitation and Coordination	80,000		80,000	
Northern Rivers	Integrated Landuse - Land Management Project, Northern Rivers		231,171		404,571
	Richmond Floodplain Acid Sulphate Soils Project		47,000		47,000
	Tweed Acid Sulphate Soils Project		38,000		38,000
Southern Rivers	Reduction of Acid Sulphate Discharge into the Shoalhaven/Crookhaven Estuaries		65,000		65,000
Western	Sustainable Grazing Best Management Practice	6,433		6,433	
Northern Territory					
Northern Territory	Looking After Our Soils: Better Outstation and Road Development on Aboriginal Lands		15,980		59,925
	Remote Area Landcare Knowledge and Skills Development Projects				81,920
Queensland					
Border Rivers-Balonne-Maranoa	Land and Soils program	582,132	5,000	582,132	5,000
	Saving our Soils		10,512		10,512
Burdekin	Land, Soils and Agriculture	20,226		20,226	
	Property level Rangeland grazing targets for the northern Brigalow belt		57,500		57,500
Cape York	Property management Planning		64,522		64,522
Condamine	Building Capacity through Integrated Area Wide Management	1,030,459		1,048,429	
	Repair of unacceptable degradation	274,484		330,216	
Desert Channels	Land		70,365		70,365
	Sustainable management and Conservation of Grazing Lands in Queensland's Rangelands		221,201		221,201
Fitzroy	Acid sulphate soil risk mapping Central Queensland		108,815		108,815
South East Queensland	Productive Landscapes	26,650		26,650	
Southern Gulf	Sustainable Grazing Management and On-ground Works		3,543		3,543
State-wide	Soil Erosion and Soil Condition Hazard Maps		124,289		124,289
South Australia					
Aboriginal Lands	Dust Mitigation - ALT, MT, Yalata		30,000		30,000
	Dust mitigation - APY		20,000		20,000

Region	Activity Title	Activity Expenditure			
		July 04 – June 05		Total to June 05	
		NAP	Trust	NAP	Trust
Kangaroo Island	Healthy soils - Waterlogged soil management techniques	11,500		11,500	
	Land Management Support Program (Building a Sustainable Future)		56,031		75,044
	Salinity and Water Quality Management through management of water repellent sands			102,600	
	Salinity and Water Quality Management through on-ground works and surface water monitoring			480,651	
Mount Lofty Ranges	Land Management Programme (LMP) - Community Capacity Building in the Mount Lofty Ranges				340,000
Northern and Yorke Agricultural District	The Northern and Yorke Agricultural District Soil Conservation Boards Project				250,000
SA Murray Darling Basin	Integration of conservation management with pastoral production - Chowilla		15,000		15,000
South East	Providing on going Landcare Support to the South East Community				66,488
Tasmania					
North West	Operational Whole Farm Planning		104,600		204,600
South Tasmania	Productive Use and Rehabilitation of Salt Effected Land (pursal).	80,000		140,000	
State-wide	Soil Condition Evaluation & Monitoring		60,000		93,000
Victoria					
Corangamite	Agro forestry and Integrated Land Management Project				63,511
	Ensure effective regional application of Net Gain - Regional Native Grasslands Officer				60,000
	Landcare Facilitators for Corangamite - Hetyesbury District				90,900
	Marine Education and Foreshore Rehabilitation Projects - Apollo Bay Skenes Ck Stormwater Management and Foreshore Reclamation				55,000
	Southern Otway Revegetation Initiative 2003 'Continuing the Success'				75,000
East Gippsland	Gippsland Lakes infill gully sediment and capture revegetation trials				94,277
Glenelg Hopkins	Geomorphic Investigations of the Ararat Hills to identify priority gullies for protection			62,629	
	Glenelg Hopkins Soil Health Action Plan			11,180	
	Land Capability Study - Aiming to Align land use to more appropriate environment/economic outcomes			192,837	
	Landcare support to implement RCS			218,920	

Region	Activity Title	Activity Expenditure			
		July 04 – June 05		Total to June 05	
		NAP	Trust	NAP	Trust
	Landcare Support to implement the Regional Catchment Strategy				255,640
	River Health ecological health assessments.	36,013		36,013	
	Sustainable Land Management Communication			31,045	
Mallee	Digital Elevation Modelling extension			56,135	
	Sustainable Mallee Agriculture				63,000
North Central	North Central Region Landcare Coordination				78,778
	Sustainable agriculture			412,500	
North East	Soil Conservation-extension and implementation				62,000
	Whole Farm Planning in the North East		45,000		45,000
Port Phillip	Farm Forestry Facilitator		62,000		62,000
	South Gippsland Landcare				110,250
West Gippsland	Encouraging integrated catchment protection on private land in the West Gippsland region		191,000		191,000
	Support for Landcare Networks				688,000
Wimmera	Building Community Capacity and Stakeholder Partnerships		292,000		292,000
	Communities and NRM Industries Report			13,693	
	Implementing sound rural drainage management in the Millicent Coast Basin			1,641	
	Increased uptake of technology advances to improve soil management and sustainable farming systems				70,000
	Promoting best practice in Wimmera Soil Management				30,153
	Wimmera Land Resource Assessment	129,000		129,000	
	Wimmera Sustainable Agriculture		90,000		90,000
Western Australia					
Avon	Coordination of Engineering Activities to Address Salinity in the Avon (Landcare Community Coordinator - Avon Region)	510		510	
Rangelands	Building Partnerships to Improve Rangeland Management and Pastoral Profitability in Semi-Arid Australia		220,000		220,000
South Coast	Lake Toolbrunup Integrated Surface Water Management Plan	5,124		5,124	
	Salinity Management in the West River Catchment	339,664		339,664	

Achievements

The delivered outputs, or products and services produced by these activities, are grouped according to the types of outputs they deliver. Summaries of the outputs related to resource assessment, planning, capacity building and on-ground activities are shown in Table 4.4.

Table 4.4 Priority action and regional investment outputs related to Soil Condition

Outputs	July 04 - June 05			Total to June 05		
	NAP	Trust	Joint	NAP	Trust	Joint
Resource assessment						
Baseline, trend or condition studies for targets						
Number of studies undertaken		4		4	6	
Number of sites monitored	19	210		19	210	
Decision support tools						
Number models, information management systems and other decision support tools developed		13			14	
Investigations (survey, inventory and mapping and data analysis)						
Number undertaken	2	230	10	2	280	10
Area (hectares) surveyed	2.00M	2,200		2.00M	4,250	
Research and development studies						
Number undertaken	24		2	24		2
Planning						
Improved practice codes or guidelines						
Number developed		35	2		36	2
Integrated catchment or sub-catchment plans						
Number developed	2,010	35	9	2,010	36	9
Property management plans						
Number completed		99			320	
Capacity building						
Awareness raising activities						
Number of demonstrations, field days, study tours and other non-training forums held	45	540		51	550	
Number of participants in person-days at demonstrations, field days, study tours and other non-training forums	770	2,440		780	2,670	
Number of brochures, newsletters, displays and other non-training products developed	37	380	1	38	390	1
Quantity of brochures, newsletters, displays and other non-training products distributed	21,680	25,960		21,680	49,460	
Number of media opportunities including websites developed	20	160		20	160	
Facilitation motivation and support activities						
Number of active positions (FTE) supported	5	14		7	21	
Number of community groups or projects assisted	130	520		170	560	
Skills and training activities						
Number of training sessions, workshops seminars and other events held	10	270	9	11	320	9
Number of participants in person-days at training sessions, workshops seminars and other events	410	2,040		420	2,260	
Number of workbooks, course notes and other key materials developed	8	42		10	82	
Quantity of workbooks, course notes and other key materials distributed	170	2,380		170	2,380	

Outputs	July 04 - June 05			Total to June 05		
	NAP	Trust	Joint	NAP	Trust	Joint
On-ground activities						
Conservation by agreements						
Number of conservation agreements or covenants established	65	50		65	50	
Area (hectares) covered by conservation agreements or covenants		34,800			34,800	
Indigenous vegetation protected by fencing						
Area (hectares) protected	200	360		380	490	
Length (km) of streambank protected	20	6		60	10	
Indigenous vegetation enhanced/rehabilitated						
Area (hectares) enhanced or rehabilitated	190	190		190	230	
Length (km) of streambank enhanced or rehabilitated		19			19	
Revegetation with indigenous vegetation						
Area (hectares) revegetated	54	280		54	400	
Length (km) of streambank revegetated	15			15		
Revegetation with exotic vegetation						
Area (hectares) revegetated	2,560	980	4,470	4,230	1,210	4,470
Riparian and waterway health						
Length (km) of stream bank or stream bed stabilised	8	13		8	14	
Number of off-stream (alternative) watering sites installed	6			6		
Wetlands health protected or enhanced						
Area (hectares) of wetland protected or enhanced		10			10	
Management of significant species or ecological communities						
Area (hectares) of habitat management		50			50	
Significant pest plant control						
Area (hectares) of pest plant control	200	500		200	510	
Significant pest vertebrate control						
Area (hectares) of pest animal control		500			500	
Soil management						
Area (hectares) treated for soil erosion	5,970		112,810	5,970	270	112,810
Number of soil erosion treatment sites	23	4		23	4	
Area (hectares) of treatment for acid sulfate soils		80			160	
Area (hectares) of soil treatment for other than erosion, salinity or acid sulfate soils	171,630			171,630		
Salinity control measures						
Area (hectares) of land treated for rising groundwater through surface or sub-surface drainage	10			10		
Length (km) of surface or sub-surface drain	1			1		
Water contaminant management						
Number of treatment plants or sites	4			4		
Number of treatment plants or sites	4			4		
Water use efficiency						
Number of on-farms reuse systems	2			2		

Soil Condition targets

Approved investment strategies detail management action targets (MATs) and resource condition targets (RCTs) targets having a major focus on Soil Condition.

Regions were asked to make an assessment of progress towards the achievement of the targets using the available evidence.

Progress towards achieving each MAT was assessed using the following five-point scale:

- Target achieved or exceeded.
- Progress and on track.
- Progress, but not on track.
- No progress, but some progress was expected.
- No progress, but none expected at this time.

Management action targets (MATs) are shown in Table 4.5

Table 4.5 Management action targets for Soil Condition

Region	Management action target
Australian Capital Territory	
Australian Capital Territory	By 2006, a minimum of 90% groundcover for twelve months of the year on land classes IV, V and VI achieved/maintained
	By 2006, all ACT rural land used according to its land capability class
	By 2006, current soil acidity relative to natural levels of soil acidity will be benchmarked and a target for soil acidity will be developed
	Maintain a minimum of 70% ground cover for nine months of the year on land classes I, II, and III
	Soil fertility maintained to support perennial pastures in order to prevent erosion, and by 2006 a target for soil fertility will be developed
New South Wales	
Central West	By 2012, 50% of low productivity arable pasture land will have a desirable perennial plant component greater than 20% of pasture composition
	By 2012, 50% of pasture land will have a desirable perennial plant component greater than 40% of pasture composition
	By 2012, 80% of cultivated lands managed under minimum tillage
	By 2012, the area of bare and degrading sodic soils is reduced by 25%
Hawkesbury - Nepean	By 2012, there is a 20% (approximately 40,000ha) reduction in the area of historic moderately to severely degraded land and 10% (77km) of priority degraded streambank is stabilised
	By 2012, there is no further degradation of the catchment as measured by a cumulative index of land degradation
Hunter - Central Rivers	2001 level of native vegetation in areas of highly erodible spoils is retained for soil conservation purposes by 2012
	250 ha of active erosion on highly erodible soils are stabilised and revegetated by 2012
	4200 ha of identified high priority acid sulphate soil areas are rehabilitated by 2012
	550ha (approximately 1%) of highly erodible soils exposed to erosion in 2001 are stabilised by 2012
	A gain of 4850 ha of native revegetation on highly erodible steep land by 2012
	An improvement in soil health as indicated by a 20% increase in organic carbon in grazing land soils by 2012
	At least 70% ground cover is maintained to control sheet and rill erosion on all grazing land

Region	Management action target
	At least 70% groundcover is maintained on more than 93% (469,000ha) of grazing land on highly erodible soils by 2012 (representing a 3% increase over an estimated long term average of 90%)
	Net gain of 5000ha (approx 8%) of native vegetation cover on highly erodible soils on steep land by 2012
	No net increase in highly erodible soils; minimum of 50ha of exposed highly erodible soils in priority areas are stabilised and/or revegetated by 2012
	Progressive development, adoption & implementation of BMPs for rural activities
	Rezoning to urban use is limited to land of slope 20% or less
Lachlan	25% of degraded sodic soils have an improvement in soil structure
	50% of permanent pastures to have a desirable perennial plant component greater than 60%
	At least 49% of land managers have property plans that support the move towards the implementation of best management practices
	Increase pH in soils which have induced soil acidity and maintain to prevent further deterioration in naturally acidic soils
	Reduce the extent of bare/cultivated long fallowed lands to indicated levels
Lower Murray Darling	Ameliorate soil erosion
Murray	Increase by 50% the current number (2001) of landholders who will be actively managing soil acidity as part of their whole farm management by 2012
	To increase the current level of perennial pasture (including natives) cover by 249,000 ha in cropping and grazing systems in selected areas by 2012
Murrumbidgee	For farmed sands and sandy loams west of Wagga Wagga, lift and maintain a minimum of 50% groundcover for nine months of the year
	Increase adoption of best management practices to achieve 80% water efficiency
	To lift the percentages of perennials in the pasture phase of farming systems (land classes I to IV) from 10% to 50%; and non arable land (land classes V to VII) from 40 to 80% except for farming systems west of Narrandera
	To lift to and maintain a minimum of 70% groundcover for nine months of the year on land classes I, II, and III.
	To lift to and maintain a minimum of 70% groundcover for ten months of the year on land classes IV, V and VI
	To lift to, and maintain topsoil at pH 5.0 (using Calcium Chloride test) on land classes I, II, III and IV
Namoi	By 2010, increase the percentage of landholders using conservation management practices from 25% to at least 75%
	By 2010, increase the percentage of resource managers implementing integrated property management plans on their properties from 5% to at least 20%
	By 2010, increase the percentage of resource managers using land within its capability throughout the catchment to 60% and an area of 18600 sq km and in identified hazard areas to increase the adoption rate to 80%
Northern Rivers	100% of land in all targeted Hotspots operating under an active management program by 2009
	1260 Ha of Degraded land rehabilitated in priority areas by 2007
	60% of land in specific problem sites operating under an active management program by 2012
	A 5% increase in the area of agricultural land in priority areas managed in accordance with Best Operating Practice to improve soil health by 2007
	By 2012, reduce by 10% the area of substantially cleared lands with a high erosion risk on the Tablelands, Escarpments and Ranges and Coastal Hills landscapes through the establishment of permanent native vegetation
	Modify flood mitigation and drainage works and implement land management practices over 10,000 hectares of Acid Sulphate Soil (ASS) Hot Spots and Black Spots by 2007
Southern Rivers	By 2006, prepare an alpine erosion rehabilitation plan, identifying priority areas
	By 2012, 80km extreme/serious gully erosion and 60km minor/moderate priority erosion will be rehabilitated and stabilised using proven soil conservation techniques
	By 2012, a sustainable soils strategy will have been developed and implemented that aims to enhance soil quality
	By 2012, control and remediate all exposed acid sulphate soils
	By 2012, the baseline for soil acidity will be established and maintained at year 2001 levels
	By 2012, there will be a reduction in the area of moderately to severely degraded land

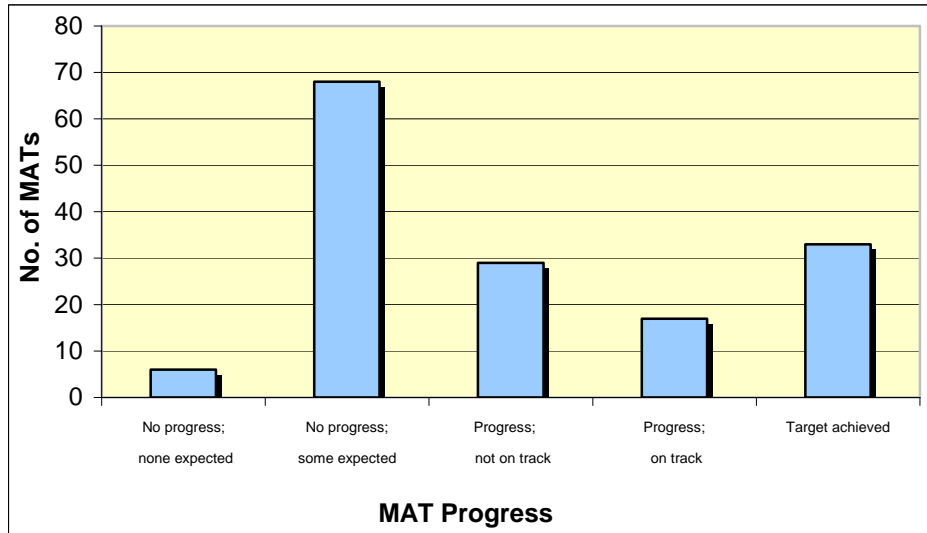
Region	Management action target
Sydney Metro	By 2010 all high hazard areas support land uses that are within their capability. These will focus on acid sulphate soils, soil salinity, bushfire risk, contaminated land, mass movement, tidal inundation and coastal hazards
	By 2012, identify areas of biologically active native topsoils in the Board area and develop and implement strategies for no net loss
Western	Sustainable Farming Management Practice carried out by 100% of landholders within 10 years of Blueprint approval
	To regenerate and rehabilitate 25,000 ha of land that has suffered soil erosion and/or pasture loss within 10 years of Blueprint approval
Queensland	
Border Rivers- Balonne- Maranoa	Current Recommended Practices developed for major industries by 2006
	Develop and promote methods for sustainable reuse of wastes from intensive animal industries by December 2007
	Feedlot, piggeries, dairies and aquaculture license conditions to avoid adverse environmental impacts from effluent irrigation to pastures and crops by 2005
	Prepare and implement Trade Waste Management Plans and infiltration/inflow management plans by the end of 2005
	Prepare effluent and sludge management plans for seweraged towns by the end of 2005
	To develop a statement of soil condition by 2005 and develop the soil condition RCT by 2007
Condamine	Finalise and develop CRPs including soil health targets for cropping and grazing industries by 2008
	Stakeholders agreeing on soil health resource condition targets for cropping and grazing landscapes by 2007
	Strategic partnerships with R&D Corporations developed to deliver coordinated R&D into soil health by 2006
	Work with industry, Local Government, Landcare and agencies to support extension programs to increase adoption of CRPs within a subcatchment planning framework in urban and rural environments
South East Queensland	100 percent of the catchment assessed and mapped for landuse capability/suitability by 2007
	3750ha (5 percent) of identified priority hillslope erosion risk areas managed appropriately by 2010 (1000ha by 2006, 2000ha by 2008, 3750ha by 2010)
	60 percent of planning schemes incorporate relevant issues and actions from Healthy Land – Our Future and other regional strategies by 2008
	Increased stabilisation of 20km of gully erosion sites by 2010 (5km by 2006, 15km by 2008, 20km by 2010)
	No GQAL rezoned for other land purposes except in accordance with SPP 1/92 'Development and the Conservation of Agricultural Land' and the SEQ Regional Plan
	Set resource condition target for soil loss through erosion processes by 2005
	Soil health hazard and risk assessment map for the region completed by 2008
South West	Current Recommended Practices developed for major industries by 2006
South Australia	
Aboriginal Lands	Commence implementation of soil erosion control strategy, including revegetation and stock management, in at risk areas by June 2008
	Complete implementation of soil erosion control strategy by June 2011
	Develop a regional soil erosion control strategy for dust mitigation by June 2005
	Map the distribution of all unstable or eroding land systems in the Yalata IPA and establish monitoring by June 2006
Eyre Peninsula	15 % increase in the number of landholders managing their land according to land capability or property management plans
	60,000 ha of priority erosion prone or affected sites managed to mitigate erosion by 2009,
Kangaroo Island	Assist land managers in applying appropriate prevention & treatment methods for priority waterlogged areas with clear targets by 06/05. 2A
	Assist land managers in applying appropriate prevention & treatment methods for soil acidity, with 20% increase in use of prevention & treatment methods by 06/08. 1A
	Build upon existing monitoring program for soil health through the collation of existing data & by identifying gaps in existing knowledge at the property & regional level to establish clear benchmarks and targets by 06/05. 1A
	Conduct research into making local limesands more effective (ie grinding to increase fineness) & ways of cost effectively getting lime to depth to counteract subsoil acidification by 06/05. 1B

Region	Management action target
	Conduct research/investigations into: applicability of raised beds in saline areas; new &/or existing crop/pasture species with water logging tolerance; new &/or existing crop/pasture species with high water use, by 12/06. 2B
	Develop & promote regional program for the monitoring, prevention & treatment of soil acidity. Encourage land managers to monitor subsoil acidity levels as well as topsoil by 06/08. 1A
	Develop programs to encourage innovation & adoption of primary production management practices (pasture, crops, engineering) to improve soil health by 06/06. 2B
	Develop programs to encourage innovation in pasture, cropping & other primary production management practices for improved soil health & sustainability by 06/06. 1B
	Develop programs to improve soil fertility levels & structure by 06/08. 1B
	Establish additional trials to demonstrate stubble, crop & pasture management in key areas by 06/06. 1B
	Establish representative soil nutrient monitoring programs and benchmarks at the property & regional level by 06/05. 1A
	Establish representative soil waterlogging monitoring and benchmarks at the property & regional level and investigate effective treatments by 06/06. 2A
	Facilitate innovation in pasture, cropping & other primary production management practices for improved soil health & sustainability with clear targets by 06/05. 1B
	Implement 750 ha clay spreading on non-wetting sands to improve the soil nutrient holding capacity & reduce nutrient run-off by 06/05. 1B
	Implement 750 has clay spreading on non-wetting sands to improve the soil nutrient holding capacity & reduce nutrient run-off by 06/05. 1B
	Implement a range of programs to maintain & improve soil health in accordance with Soil Conservation Board by 06/06. 1A
	Investigate the effectiveness of deep placement of nutrients by 06/07. 1B
	Promote programs to encourage landholders to maintain/improve soil health by 06/06. 2A
	Reduce runoff from targeted areas to help reduce waterlogging in low-lying areas with clear targets identified by 06/05. 2A
Mount Lofty Ranges	Apply land management practices to limit the development of erosion in known at-risk areas by June 2005 and other sites identified through audit: by Dec 2006 (1A)
	Ensure regional support programs are in place to support land managers in treatment of existing and potential erosion sites: by June 2005
	Ensure that regional support programs are in place to assist land managers in reviewing options for treatment of soil acidity and in applying appropriate monitoring, prevention and treatment: by December 2005
	Rehabilitate priority erosion sites through fencing, revegetation and other required works: with targets established by 2006
Northern and Yorke Agricultural District	Adequate surface cover maintained over 80% of susceptible land for 10 months of the year
	Adoption of reduced / no tillage & stubble retention on 80% of cropping land at risk of erosion by 2010
	Continue erosion control works at known critical or strategic areas & develop clear targets for erosion control by 2006
	Erosion control structures protecting 50% of moderate – very high risk land by 2015
	Grazing managed to maintain adequate levels of surface cover on 75% of land at risk by 2010
	Identify thresholds for N, P, turbidity and other relevant / potential contaminants by 2007
	Progressive increase in the number of properties incorporating best practice mgmt to sustain & enhance soil health and to limit the onset of acidification with clear targets set by 2008
Rangelands	Guidelines developed and promoted for property management plans, for all land uses, that match land use/management practices to land capability/suitability by 2007
	Guidelines to reduce the impacts of developing or maintaining unsuitable infrastructure and inappropriate tourism or recreation activities reviewed, prepared and implemented by 2007
	Historic abandoned mining/petroleum sites currently causing degradation, identified and rehabilitation plans prepared and implemented by 2008
	Regional strategies for managing total grazing pressure produced and adopted by 2006

Region	Management action target
	Regional strategies to manage changes to vegetation communities developed and adopted by 2007
	Review of research and data collation needs to improve the understanding and management of soil degradation, completed by 2006
SA Murray Darling Basin	1000 dryland farmers to have attended a workshop or field day by 2007
	20% reduction in long term eroded land by 2009
	5% increase in area of class VII dunes managed according to capability by 2007
	An integrated extension program to encourage adoption of holistic dryland farming systems developed by 2005
	Benchmark levels for dryland farming systems established by 2005
	By 2006, investigate the extent and severity of sand drift problem areas and management techniques.
	By 2008, an additional 20% of currently eroding lakeshore is stabilised.
	By 2008, implement management for sand drift problem areas.
	Complete the consolidation of farms into more viable units with the re arrangement of 1000 ha and retirement of non viable land (approx 1000 ha) from irrigation
	Establishment of trials and investigations to adopt sustainable farming systems at the local level by 2007
	Monitoring framework for collection of data from dryland farming systems developed by 2005
	Review existing projects and set up demonstration sites by 2005
	Soil Conservation Plans updated every 3 years.
	To develop a series of EMS technical support documents and a generic toolkit for landholders by June 2007
	To have developed and implemented plans for controlling shoreline and coastal erosion by 2006.
Victoria	
Corangamite	By 2004, determine an appropriate monitoring and evaluation program for soil health.
	By 2004, identify key infrastructure areas at risk from flooding, erosion and salinity.
	By 2005, improve the Regional knowledge base on the condition of soil pH and the regional significance of soil acidity.
	By 2005, integrate Regional soil data records with GIS.
	By 2008, Implementation of specific targets as per the Corangamite Soil Health Strategy.
	From 2003, stabilise gullies in an additional 200 km of streams by 2008.
Glenelg Hopkins	Meet soil and salinity aspirational targets through continuing to identify and manage soil erosion sites
Mallee	Improved understanding of the relationship between land management practices and soil organisms in order to minimise damage to soil invertebrates and micro-organisms.
North Central	Review fire hazard reduction practices and fire regimes on private land. Develop and implement appropriate regimes in conjunction with stakeholders across all local government areas by 2008.
	Review regional soil health issues. Conduct land resource assessment for North Central region. Prepare revised dryland soil health plan that evaluates need/case for public investment in a soil health program by end 2004. Plan is to include appropriate
North East	20% landholders apply lime according to best practice to 20% of their farm by 2009
	445 gullies repaired in the Upper Murray and Kiewa catchments by 2009
	5% low productive, irreversible acidic land taken out of agricultural production and revegetated by 2009
	Base-line data for the number of active gullies confirmed by December 2005.
	Soil pH monitoring and evaluation program initiated and implemented by December 2005.
Wimmera	Determine soil condition targets by 2004.
	Five per cent increase in recommended land management techniques including minimum tillage, controlled traffic and stubble retention to manage soil structure by 2007, measured by annual crop transect monitoring.
	Identify priority high risk erosion areas and develop control targets by 2004.
	Increase landholder participation in extension activities such as Topcrop (currently 20 per cent) by 2005.
	Increase number of landholders who have prepared an integrated property plan (currently 20 per cent) by 2007.

Region	Management action target
	Land capability mapping at 1:100,000 scale across the Wimmera Region processed and developed to link with property management plans by 2007.
	Survey Wimmera landholders to assess changes in values and practices by 2007.

Figure 4.2 Progress towards achieving Soil Condition management action targets

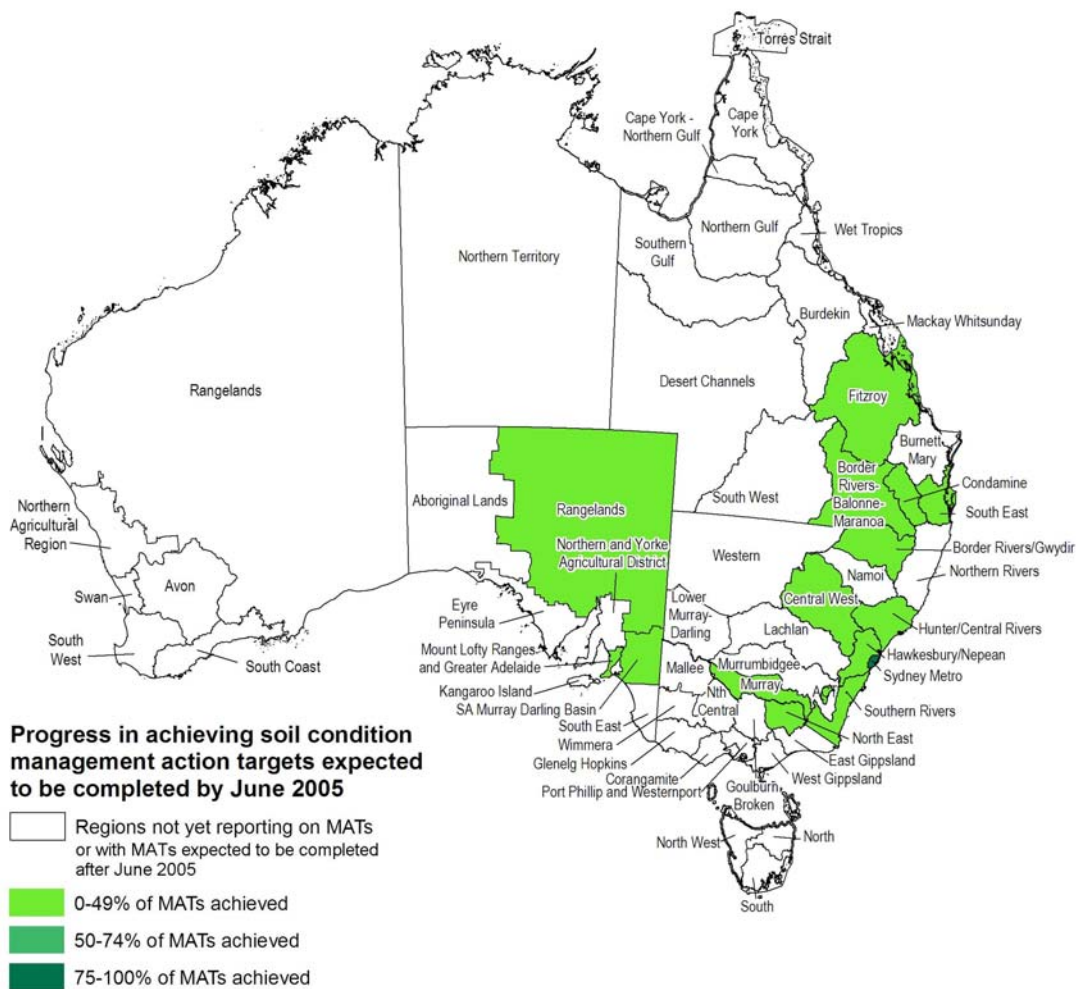


Of the MATs that were expected to be completed this year, the percentage completed has been presented using the following scale:

Percentage (%) Achievement rating

0-49	LOW
50-74	MEDIUM
75-100	HIGH

Figure 4.3 National summary of progress towards achieving Soil Condition management action targets



Progress towards achieving each RCT was assessed using the following five-point scale:

- Evidence of target achieved or exceeded.
- Evidence of progress.
- Evidence of no progress.
- Evidence of regress.
- Insufficient evidence to assess.

Resource condition targets (RCTs) are shown in Table 4.6

Table 4.6 Resource condition targets for Soil Condition

Region	Resource condition target
Australian Capital Territory	
Australian Capital Territory	By 2012, improve soil health across the ACT by: Determining the land class of all agricultural land and by 2006 ensuring at least 70% groundcover throughout the year
	By 2012, improve soil health across the ACT by: No net increase in erosion
	By 2012, improve soil health across the ACT by: Quantifying the extent of acid soils and taking remedial action in accordance with the target (target to be determined by 2006)
New South Wales	
Border Rivers - Gwydir	By 2010, use land in the catchment within its capability and rehabilitate at least 82,972 ha (10%) of the land affected by areal erosion (829,720 ha) in strategic, priority locations throughout the Gwydir catchment
Central West	Land use which meets critical thresholds 80% of the time for a range of landscape specific criteria in the catchment by 2012
Hawkesbury - Nepean	By 2012, 65% (85% by 2020) of all lands are used within their capability and suitability
	By 2012, existing and new developments and activities are moving towards sustainability as measured by the following indicators: All land use incorporates sustainable best practice
	By 2012, existing and new developments and activities are moving towards sustainability as measured by the following indicators: All new development incorporates Ecologically Sustainable Development principles
Hunter - Central Rivers	By 2012, the area affected by soil degradation in identified high priority areas (benchmarked at 2001) is reduced by 9300 hectares
	Soil degradation in high hazard areas identified in 2001 is reduced by a minimum of 50 ha by 2012
	The area of degraded soil in priority areas identified in 2001 is reduced by 15,650 ha by 2012
Lachlan	By 2012, improve soil health across the catchment by herbage mass greater than 0.5 tonne per hectare 80% of the time in the plains
	By 2012, improve soil health across the catchment by herbage mass greater than 1 tonne per hectare 80% of the time in the tablelands and slopes
	By 2012, improve soil health across the catchment by improving soil organic carbon levels in the tablelands and slopes by 25%
	By 2012, improve soil health across the catchment by maintaining current soil organic carbon levels on the plains
Murray	To maintain or enhance soil health using soil acidity as an indicator to increase and then maintain the topsoil pH to 5 or greater (measured in CaCl ₂) from 58% to 61% of the area within the Murray Catchment by 2012
Murrumbidgee	By 2012 improve soil health across the catchment by: Increasing the adoption of perennial pasture by 40% across land used for agricultural production. Increasing the duration of groundcover levels above 70%, and 50% for sandy loams, by at least 0
Namoi	By 2010, regenerate and rehabilitate at least 4000 km ² (25%) of the land affected by areal erosion (16,000 km ²) throughout the Namoi catchment in strategic, priority areas
Northern Rivers	50% reduction in acid outflow from targeted hotspots and specific problem sites by 2011
	A 15% reduction in the area affected by land degradation within priority areas of target landscapes by 2012
	By 2012 identified degraded acid sulphate soil areas remediated and degradation in non-degraded areas prevented
	Natural resources (land, water and vegetation) in the rural environment managed sustainably and integrated within an appropriate land use planning framework to overcome three principles sources of conflict by 2012
Southern Rivers	By 2012, the rate of soil loss across the South East region will be reduced by 10% and the health of the soil resource will be maintained at current levels or enhanced
Sydney Metropolitan	By 2012, land areas are used within their capability to ensure the natural resources of the land are protected or enhanced
Queensland	
Border Rivers-Balonne-Maranoa	A progressive reduction in the rate of decline of soil condition. Specific RCT/s will be developed by 2007 to address soil condition (as defined in minimum matters for targets) for cropping, grazing and horticultural areas. (30% of RCT achieved throu

Region	Resource condition target
Condamine	20% improved capacity above 2004 benchmarks (40% of land managers undertaking and implementing the sustainable use of natural resources by 2020
	Soil health in cropping and grazing landscapes achieving agreed targets (as defined in the indicators for matters for targets) as outlined in the CRPs by 2025
Fitzroy	Functionality of 20% of area affected by seawalls and ponded pastures restored within 15 years
	Minimise disturbance / drainage of land and natural groundwater levels on all acid sulphate soils within 10 years and ongoing
	Reduce off-site and on-site impacts of mining operations within 10 years
South East Queensland	25 % of land in the region used within its capability (land uses to be managed to the level of recommended practice), 15-20 year timeframe
	A reduction in the percentage of the catchment affected by soil health decline.
	All land susceptible to soil erosion, acidification, loss of structure, landslip and salinisation removed from damaging use or with appropriate prevention measures
	Land resources managed to capability to minimise soil loss through erosion processes by 2025
	No loss of Good Quality Agricultural Land (GQAL) in the western catchments region
	Soil health condition in priority areas improved by 2025
South Australia	
Aboriginal Lands	80% reduction in the area of dust-prone soils around at risk settlements by 2015
Eyre Peninsula	20 % reduction in loss of soil from erosion prone (804,000ha) or affected sites by 2009.
	Soil health in areas affected or prone to salinity, acidity or sodicity maintained or restored to optimal level to maximise production and minimise impact on biodiversity and water quality, with clear targets defined by 2005
Kangaroo Island	50% of acidic soils managed to an optimum pH range suitable for agricultural production by 2020
	50% of soils managed to maintain optimal soil nutrient levels suitable for agricultural production by 2020
	50% of waterlogged soil returned to a condition that allows for agricultural production &/or biodiversity outcomes by 2020
	Ongoing improvement in soil pH across agricultural soils by June 2006
Mount Lofty Ranges	A progressive reduction in area of land affected by soil erosion by water by 2017
	No nett increase in areas affected by acidification by 2022
Northern and Yorke Agricultural District	Reduce area of sand hills with potential drift problems by 50% by 2015
	Reduce incidence of sheet, rill & gully erosion events by 30% by 2015
	Soils managed to support diverse soil biodiversity & natural ecosystems by 2015
	Soils supporting primary production reflecting optimum capability by 2015
Rangelands	Overall land condition across the region will be maintained or improved by identifying priority issues and undertaking priority remedial works by 2020
SA Murray Darling Basin	By 2006 to have developed an RCT relative to irrigated and waterlogged land
	By 2020 groundwater resources will not have salinity impacts on land condition and will meet the needs of dependent ecosystems
	By 2020, reduce the area of agricultural land at risk of wind erosion during June each year by 40%
	Maintain and improve the stability of river banks, lake edges, sand dunes and cliffs by 2020
	Reduce recharge by improving dryland water use efficiency to 70% across the region by 2020
	To have an increasing trend in soil carbon levels in cropping soils leading to improved soil health by 2020
Victoria	
Corangamite	By 2010, ensure the integrity of management techniques for floods, fire, erosion and salinity across the Region are maintained and improved from 2003 levels.
	Ensure that land use is matched with land capability in agricultural, industrial and urban areas by 2020.
	Ensure that the land asset is managed in a sustainable and improved manner by 2020.
	Maintain and enhance soil condition for sustainable and productive landuse by 2020.
Mallee	A net reduction in the impact of salinity, groundwater and nutrients on ecological processes.

Region	Resource condition target
	Negligible erosion throughout the Mallee in 6 out of 10 years.
	Soil health maintained at yet to be determined benchmark levels.
North East	Improve surface soil (0-10cm) acidity levels of all agricultural land to better than 4.5pH (measured in CaCl ₂ extract) by 2023.
	Reduce the number of active gullies as at December 2005 in priority areas defined in the NESHAP (2001) by a minimum of 30% by 2023
	Target for soil erosion - Wind to be developed.
Port Phillip	Reduce the proportion of coast in the region where environmental values, recreational beaches, Indigenous cultural values and public infrastructure are at high risk from accelerated coastal erosion and other degrading processes.
Wimmera	Maintenance and improvement of soil health by levels to be determined by 2004.
	Reduction in wind and water soil erosion by levels to be determined by 2004.

Figure 4.4 Progress towards achieving Soil Condition resource condition targets

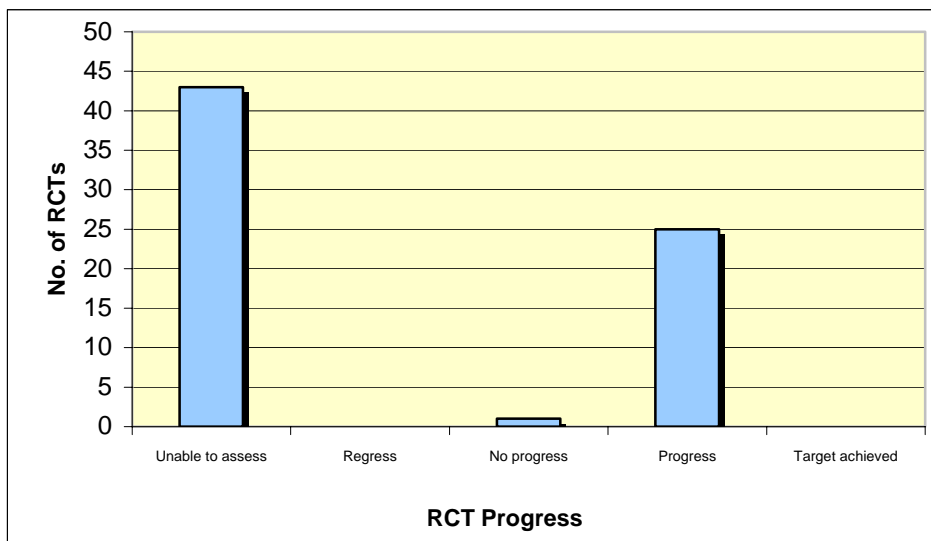


Figure 4.5 National summary of progress towards achieving Soil Condition resource condition targets

