

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

1. BACKGROUND

The **PDLA Natural Resource Management Strategic Plan** is a guide to coordinate actions by natural resource managers in the Parkes and District Landcare Area (PDLA) that:

- assesses the NRM situation in the PDLA,
- identifies NRM issues and their location in the PDLA,
- prioritises NRM issues and their location in the PDLA, and
- proposes strategic actions to improve NRM in the PDLA.

The **NRM Strategic Plan** was prepared to:

- *improve local understanding of the natural resources of the PDLA, the NRM issues threatening the sustainable use of these resources, and the relative priority of these issues;*
- *enable limited financial and human resources to be directed to best effect;*
- *expand investment in NRM from private, commercial and government sources (including via Lachlan and Central West Catchment Management Authorities CMAs);*
- *help the 25 Landcare and other groups in each of the 18 subcatchments to prepare:*
 - subcatchment NRM plans,
 - integrated property management plans,
 - specific NRM investment proposals.
- *enable the two CMAs covering the PDLA to devolve relevant portions of their 3-Year Investment Programs to local resource managers in the PDLA; and to*
- *support the thrusts and priorities of existing NRM plans, including:*
 - the Lachlan Catchment Blueprint (covering the Lachlan portion of the PDLA)
 - the Lachlan 3-Year Investment Program implementing the Lachlan Blueprint
 - the Central West Catchment Blueprint (covering the Bogan portion of PDLA)
 - the CW 3-Year Investment Program implementing the CW Blueprint
 - the Lachlan Water Sharing Plans
 - the Mid Lachlan Regional Vegetation Management Plans (covering most of PDLA)

The **NRM Strategic Plan** provides:

- *Landcare groups and others managing the natural resources of the PDLA with the means to direct and coordinate NRM activities and investments for maximum impact.*
- *Farmers in the PDLA intent on improving NRM with information for planning and implementing NRM actions on their properties, and for seeking investment support.*
- *Sponsors supporting improved NRM in the PDLA with increased likelihood that their investments will have maximum environmental impact.*
- *Everyday people in PDLA towns with information about their local environment and what they can do to improve it.*

2. OVERVIEW OF PARKES & DISTRICT LANDCARE AREA

- *Extent: The Parkes & District Landcare Area (PDLA) covers 940,000 ha. It extends across the boundary of Lachlan and Central West Catchments and includes eighteen (18) subcatchments:*
 - 60% of the PDLA falls into the Lachlan Catchment (covering 9 subcatchments).
 - 40% falls into the Central West Catchment (covering the other 9 subcatchments).
 - Includes the towns of Eugowra, Forbes, Parkes, Alectown, Peak Hill, Tomingley, Tullamore, Fifield, Trundle and Bogan Gate.
- *Topography: Mostly gentle rises and flat plains except Hervey Range (to 700 m), Jemalong Range (300 m), Gobondery Mountains (300 m) and other isolated ridges.*
- *Climate: Temperate and continental.*
 - Average rainfall ranges from 600-460 mm east to west. Rainfall is spread across the year with more rainy days in winter and fewer but higher-intensity falls in summer.
 - Temperatures are hot in summer (average daily max. 32°C) and cool in winter (average daily min. 4°C) with frosts.

- *Landuse: The mix of landuse varies extensively across the 18 subcatchments:*
 - grazing is still the dominant landuse (about 60% of the PDLA), though
 - cropping (about 25%, mostly winter cereals and oilseeds) continues to increase,
 - horticulture, mining and urban areas occupy <1%, and
 - timber cover is down to only 11% of the PDLA (including Goobang National Park, various State Forests and Crown Lands). Only about 6% is timbered roadsides and private lands. The Plains are most denuded (<4% timber cover).
- *Land Management Units: seven major types are distinguished based on landform, soils and landuse:*
 - LMU 1: Ranges
 - LMU 2: Foothills
 - LMU 3: Hills & Rises
 - LMU 4: Plains
 - LMU 5: Lachlan Floodplain
 - LMU 6: Urban
 - LMU 7: Disturbed Terrain
- *Soils: Soil fertility is mostly low except on the Lachlan Floodplain and other alluviums:*
 - Plains soils are generally deep non-calcic brown & red earths with red & yellow podsols or grey clays in low-lying areas. Mostly slightly acid and often sodic.
 - Soils on the Hills & Rises are mostly red podsolics and brown earths with chocolate soils or red & yellow podsols near drainage lines.
 - Soils of the Hervey and Jemalong Ranges are poor, acidic, often sandy or rocky. They remain largely uncleared.
- *Water: Surface water in most creeks is seasonal (due to the low-moderate rainfall, mostly flat terrain and porous sediments).*
 - Groundwater is only moderately available (except on the Lachlan Floodplain), at varying depths and mostly brackish (though usually suitable for stock).
- *Social: There are about 6,000 agricultural holdings, the majority in the south and east.*
 - Parkes and Forbes are the main centres providing commercial, education and health services (population about 10,000 and 8,000 respectively). Peak Hill (about 1,000) is a minor service town as are the other minor towns (each about 200).
 - Age distribution of the population is similar to State average: about 14% are more than 65 years old and 55% 20-64 years. There are more children in the 0-14 group and less in 15-19 group (due to out-migration for higher education & employment).
 - Aboriginality is claimed by about 4% of the population.

MAIN CATCHMENTS AND SUBCATCHMENTS COMPRISING THE PDLA

MAIN RIVER CATCHMENT	PDLA SUBCATCHMENTS			% of PDLA	
	No.	Name	Area (ha)		
CENTRAL WEST CATCHMENT Total Area: 92,200 sq.km.	1	Bullock Creek	69,128	7.4	
	2	Sandy Creek (Bogan)	48,147	5.1	
	3	Genaren Creek	58,886	6.3	
	4	Gundong Creek	49,158	5.2	
	4a	Lagoon Creek	21,027	2.2	
	5	Burrabadine Creek	18,9230	2.0	
	6	Ten Mile Creek	14,300	1.5	
	7	Burrill Creek	40,841	4.3	
	8	Upper Bogan	59,452	6.3	
Area of PDLA in Central West Catchment (4.12%)			379,869	40.5	
LACHLAN CATCHMENT Total Area: 84,700 sq.km.	9	Gunningbland Creek	66,212	7.1	
	10	Yarrabandai Creek	109,396	11.7	
	11	Lower Goobang Creek	131,768	14.0	
	12	Mid Lachlan River	72,958	7.8	
	13	Upper Goobang Creek	28,383	3.0	
	14	Billabong Creek	33,123	3.5	
	15	Bartleys Creek	17,827	1.9	
	16	Sandy Creek (Lachlan)	14,848	1.6	
	17	Mandagery Creek	84,514	9.0	
Area of PDLA in Lachlan Catchment (6.60%)			559,031	59.5	
TOTAL		18	Subcatchments	938, 901	100.0

3. NATURAL RESOURCE MANAGEMENT IN THE PDLA

3.1 Methodology:

The methodology adopted in preparing the NRM Strategic Plan for the PDLA involved:

- *Data collection including exhaustive NRM data gathering from government agencies, landowners and earlier study reports (including a core GIS data set from DIPNR).*
- *Data analysis using GIS to develop the PDLA and Subcatchment data layers.*
- *Consultation with stakeholders involving community meetings, workshops and questionnaires at key stages such as data collection, NRM prioritisation, finalisation.*
- *Planning Units differentiated included seven (7) major Land Management Units and eighteen (18) major Subcatchments.*
- *Prioritisation: A range of natural resource management issues were identified and assessed against economic, social and environmental criteria using a rigorous process of multi-criteria analysis (MCA) in consultation with stakeholders.*
- *The MCA prioritised major NRM issues in the PDLA and the areas where these are considered high priority by analysing each issue for each LMU.*
- *Subcatchments were then prioritised using MCA for apportionment of benefits from treating land degradation.*
- *Indicative salinity hazard ratings were developed for each Subcatchment by applying criteria formerly used by DIPNR in salinity risk assessment of larger catchments.*

3.2 NRM Priorities:

Across the PDLA the top three priority NRM issues determined during Plan development are:

- *Management of native vegetation and soil, and the impact of these on dryland salinity;*
- *Vegetation management, gully & streambank erosion are prevalent issues in many parts of the landscape;*
- *Sheet & rill erosion are common issues in higher parts of the landscape with cropping landuse and traditional tillage practices;*
- *Salinity and soil health are issues in lower portions of the landscape (i.e. the Plains, which represent the majority of the PDLA);*
- *Protection of remnant vegetation and biodiversity are issues in all agricultural areas; and*
- *Control of weeds, feral and pest animals are often localised in "hotspots".*

3.3 Landscape Priorities:

The priority NRM issues in specific parts of the landscape are outlined in the following table:

Landscape	1 st Priority Issues	2 nd Priority Issues	3 rd Priority Issues
Ranges LMU 1	<ul style="list-style-type: none"> ▪ Native veg. management ▪ Gully & streambank erosion 	<ul style="list-style-type: none"> ▪ Sheet & rill erosion 	<ul style="list-style-type: none"> ▪ Weeds
Footslopes LMU 2	<ul style="list-style-type: none"> ▪ Native veg. management ▪ Gully & streambank erosion 	<ul style="list-style-type: none"> ▪ Dryland salinity ▪ Sheet & rill erosion 	<ul style="list-style-type: none"> ▪ Weeds ▪ Pest & feral animals
Hills & Rises LMU 3	<ul style="list-style-type: none"> ▪ Dryland salinity ▪ Gully & streambank erosion ▪ Sodicity ▪ Native veg. management ▪ Weeds 	<ul style="list-style-type: none"> ▪ Sheet & rill erosion ▪ Soil acidity 	<ul style="list-style-type: none"> ▪ Wind erosion ▪ Pest & feral animals
Plains LMU 4	<ul style="list-style-type: none"> ▪ Dryland salinity ▪ Wind erosion ▪ Gully & streambank erosion ▪ Sodicity ▪ Native veg. management 	<ul style="list-style-type: none"> ▪ Weeds 	<ul style="list-style-type: none"> ▪ Soil acidity ▪ Sheet & rill erosion
Floodplain LMU 5	<ul style="list-style-type: none"> ▪ Dryland salinity ▪ Irrigation salinity ▪ Gully & streambank erosion ▪ Land clearing 	<ul style="list-style-type: none"> ▪ Weeds ▪ Sodicity 	<ul style="list-style-type: none"> ▪ Sheet & rill erosion
Urban LMU 6	<ul style="list-style-type: none"> ▪ Native veg. management 	<ul style="list-style-type: none"> ▪ Urban salinity 	<ul style="list-style-type: none"> ▪ Wind erosion ▪ Gully & streambank erosion ▪ Weeds

3.4 Subcatchment Priorities:

The seven high priority subcatchments (1, 4, 10, 11, 12, 16 & 17) are located on the Plains, the Lachlan Floodplain, or in the steeper southeast.

- *The sustainability of landuse within these subcatchments is threatened by:*
 - very limited areas of remnant vegetation, which are currently suffering decline;
 - significant cropland and grazing land degradation (sometimes due to non-conforming landuse on steeper footslopes);
 - an overall high dryland salinity hazard (particularly Subcats 12, 16 & 17); and
 - limited previous investment in NRM activities (and the need to retain important cultural values).
- *Five of the seven medium priority subcatchments (2, 3, 4a, 8 & 9) are also located on the Plains with similar NRM challenges but at lower intensity.*
- *The two other medium priority subcatchments (6 & 7) in the north-east are challenged by high salinity hazard and land degradation.*
- *The four low priority subcatchments (5, 13, 14, & 15) rise in the north and central Hervey Ranges and exhibit:*
 - a high salinity hazard rating but support low levels of production;
 - more timber cover (23-50%) including significant remnant native veg. communities;
 - relatively few agricultural holdings (particularly 5 & 14); and/or
 - significant investment already made in improving NRM (e.g. Subcat 13 and 15).
- *The larger subcatchments tend to have higher priority, so do subcatchments with a number of land degradation issues.*

3.5 Summary:

50% of the PDLA land area requires treatment of land degradation. The priority NRM issues in the priority subcatchments relate to:

- *improving soil management* to maintain the value of crop and livestock production and the number of agricultural holdings by reducing:
 - the impact of soil erosion (gully, streambank, sheet and wind erosion);
 - the impact of soil sodicity and soil structure decline; and
 - the extent of non-conforming landuse.
- *Improving vegetation management* to maintain biodiversity, environmental services and amenity values by:
 - controlling further land clearing;
 - retaining all priority native vegetation (particularly plains and riparian communities),
 - strategically expanding native vegetation; and
 - controlling invasive weeds.

These initiatives will also reduce *the extent and severity of dryland salinity* in the PDLA.

4. IMPLEMENTING THE NRM STRATEGIC PLAN

4.1 Objective

The Plan sets out a strategic framework for improving NRM in the PDLA over next 10 years.

- *to improve agricultural productivity and environmental and socio-economic sustainability across the PDLA;*
- *to improve the capacity of landowners and other stakeholders to manage the natural resources of the PDLA at property, subcatchment and regional levels;*
- *to sustain the natural resource base of the PDLA for future generations.*

4.2 Strategies

The Plan's Core Strategy is 'learning-by-doing' to ensure:

- *those directly responsible for managing natural resources at property, subcatchment, and regional levels are fully involved in each step of the purposive NRM process:*
 - situation assessment;
 - planning and work programming;
 - implementing local NRM activities and monitoring progress;
 - reviewing and evaluating their own work programs; and
 - re-planning based on local experience and lessons learned.

- *continuous improvement in natural resource management across the PDLA; and*
- *individual and institutional capacity to successfully manage natural resources of PDLA*
- *The Plan details seven support strategies that focus on:*
 - Improving understanding of NRM in the PDLA by widely promoting the Plan.
 - Establishing a central NRM database for all resource managers in the PDLA.
 - Promoting wide-scale participation of local landholders in preparation of NRM Subcatchment plans, property management plans, and action plans.
 - Promoting coordinated NRM planning at regional, subcatchment and property levels that supports Catchment Blueprints, CMB 3-Year Investment Programs, RVMP, etc.
 - Supporting preparation of local NRM investment proposals addressing priorities of the Strategic Plan and promotion to private, commercial and government sources.
 - Supporting regular community-driven review, evaluation and re-planning of NRM activities at all levels in PDLA in collaboration with agencies and Landcare groups.
 - Improving implementation and management of NRM activities by communities in the PDLA and building capacity through 'learning-by-doing'.

4.3 Key Actions:

- *Use the NRM Strategic Plan and its 18 Subcatchment Profiles to broaden understanding of NRM and increase involvement in Landcare and other NRM groups.*
- *Plan and implement practical actions and demonstrations addressing NRM issues in priority Subcatchments in collaboration with Landcare, other community groups, local governments and support agencies.*
- *Utilise these practical actions and demonstrations for extension and training of other groups with similar NRM issues.*
- *Actively support integrated property management planning as a means of addressing priority NRM issues in the PDLA.*
- *Establish a central NRM data bank and regularly update with new data from agencies and from monitoring NRM activities.*
- *Seek investment from private and government sources within and outside the PDLA to support NRM activities of Landcare and other groups that address priority NRM issues.*
- *Establish a local monitoring framework for groups managing NRM activities, utilise it to continuously improve NRM and build local capacity to sustain this improvement.*