

SOCIAL ATLAS:  
WESTERN CMA LANDHOLDER  
BENCHMARKING SURVEY

June 2009

Report prepared for:  
Western Catchment Management Authority  
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## 1. INTRODUCTION

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The Western Catchment Management Authority (WCMA) is one of 13 regional NRM bodies in NSW. The CMAs were established in 2004 and each CMA has developed a Catchment Action Plan (CAP) and investment strategies to support the management of natural resources and achievement of NRM targets within each region.

The CAP developed by the WCMA identifies a series of catchment (resource condition) targets and management targets across four natural resource management themes which includes: (i) rivers and groundwater, (ii) land and vegetation, (iii) biodiversity and (iv) community. These targets provide the direction for natural resource management and the allocation of future funding in the Western CMA region of NSW over the next 10 years.

In addition to assessing community awareness of the Western CMA, the core objectives of this project were to provide baseline information for two CAP management targets which were:

*Management Target 1:* Sustainable agriculture management practice carried out by 50% of landholders by 2016.

*Management Target 12:* There is a continual increase in land managers' awareness, knowledge, and skills in NRM and adoption of practices which improve natural resource outcomes..

Data included in the social atlas is based on a survey of 381 rural landholders within the Western CMA region and shows the spatial variation in landholder responses to specific survey questions. An additional report<sup>1</sup> which accompanies the social atlas provides a more detailed description of the survey methodology and non-spatial analysis of landholder responses to survey questions.

The social atlas provides the basis for benchmarking the existing level of landholder practices, attitudes, beliefs and involvement in natural resource management in the Western CMA and will form a reference point for ongoing monitoring and evaluation of management targets 1 and 12.

## 2. SOCIAL ATLAS

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The social atlas is an additional report to the main project report which describes the project methodology, analysis and findings in greater detail<sup>1</sup>. The social atlas is based on the data as presented in the main report and presents the key variables<sup>2</sup> spatially across the Western CMA region.

When examining the variables presented in the atlas, it is important to recognise that no assessment has been undertaken to determine whether the spatial variation that is presented is 'accurate'. To a large extent an assessment of the accuracy of the spatial representation of individual variables will be dependent upon the more detailed local knowledge of CMA staff and others with knowledge of the region.

For instance, Map 11 shows the variation in property sizes within the Western CMA region and indicates that larger properties are found in the Unincorporated and Central Darling Local Government areas and relatively smaller properties are found in the Brewarrina and Walgett Local Government areas. While the spatial variation presented in Map 11 appears to accurately represent the spatial variation evident in the region, the accuracy of the spatial variation presented in other maps is not always as clear. Judgments of 'accuracy' would in all cases be dependent upon additional local knowledge of each variable.

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<sup>1</sup> Fenton, D.M. and Rickert, A. (2009). *Western Catchment Management Authority community target monitoring: Social benchmarking survey*. Western CMA, Dubbo, NSW.

<sup>2</sup> Only those variables which show a reasonable level of spatially variation across the Western CMA region are presented in this report. Much of the information in relation to cropping is not presented in the atlas as cropping is specific to certain geographic areas within the region.

For example, Map 29 shows the spatial variation amongst landholders who had ‘heard of the Western CMA’. As shown in this map, relatively high levels of awareness of the CMA are found in the Bourke Local Government area and relatively low levels of awareness in the Central Darling. However, the ‘accuracy’ of the spatial variation as presented in Map 29 can only be assessed by those with some understanding and knowledge of the type and range of activities undertaken by the Western CMA throughout the region, which may or may not support the findings as presented in Map 29.

As there were no meaningful sub regions or sub catchments identifiable within the Western CMA region, the thematic analysis is based on bioregions and Local Government Authority boundaries.

The sampling frame consisted of all rural landholders or property owners in the Western CMA region. No specific sampling strategy was used to select landholders and an attempt was made to contact all landholders within the Western CMA region.

Multiple sources were used in compiling a list of telephone numbers for landholders within the Western CMA region. This included the identification of telephone numbers from:

1. Postcodes within the WCMA region based on the last publically available digital listing of telephone numbers (May, 2004);
2. Web based listings of agricultural businesses and stations within the region;
3. The Western CMA contact database of landholders; and
4. Available local telephone directories from throughout the region.

Station names were often associated with landholder telephone numbers. Eastings and northings were generated for the station names and this information was used to assign landholders to specific bioregions and Local Government areas. In addition, all landholders were asked to identify the nearest town to their property and the road distance between the property and town. This information was also used to ensure landholders were assigned to the appropriate bioregion and Local Government area.

Table 1 shows the sample counts for each bioregion and Local Government area used in the sample. Where the sample size is low greater caution should of course be used in interpreting the results. This is particularly the case for the Channel Country and the Murray Darling Depression bioregions.

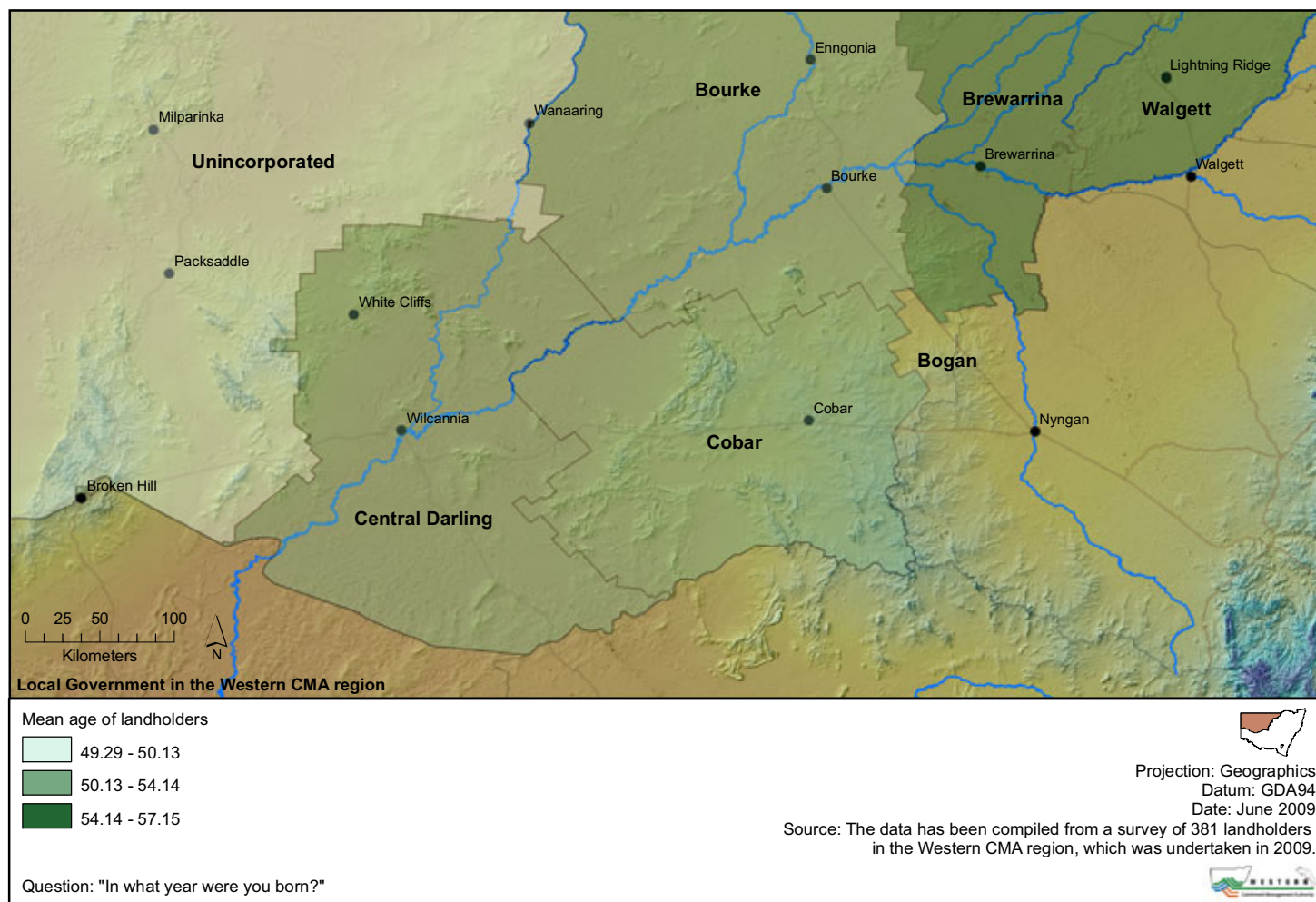
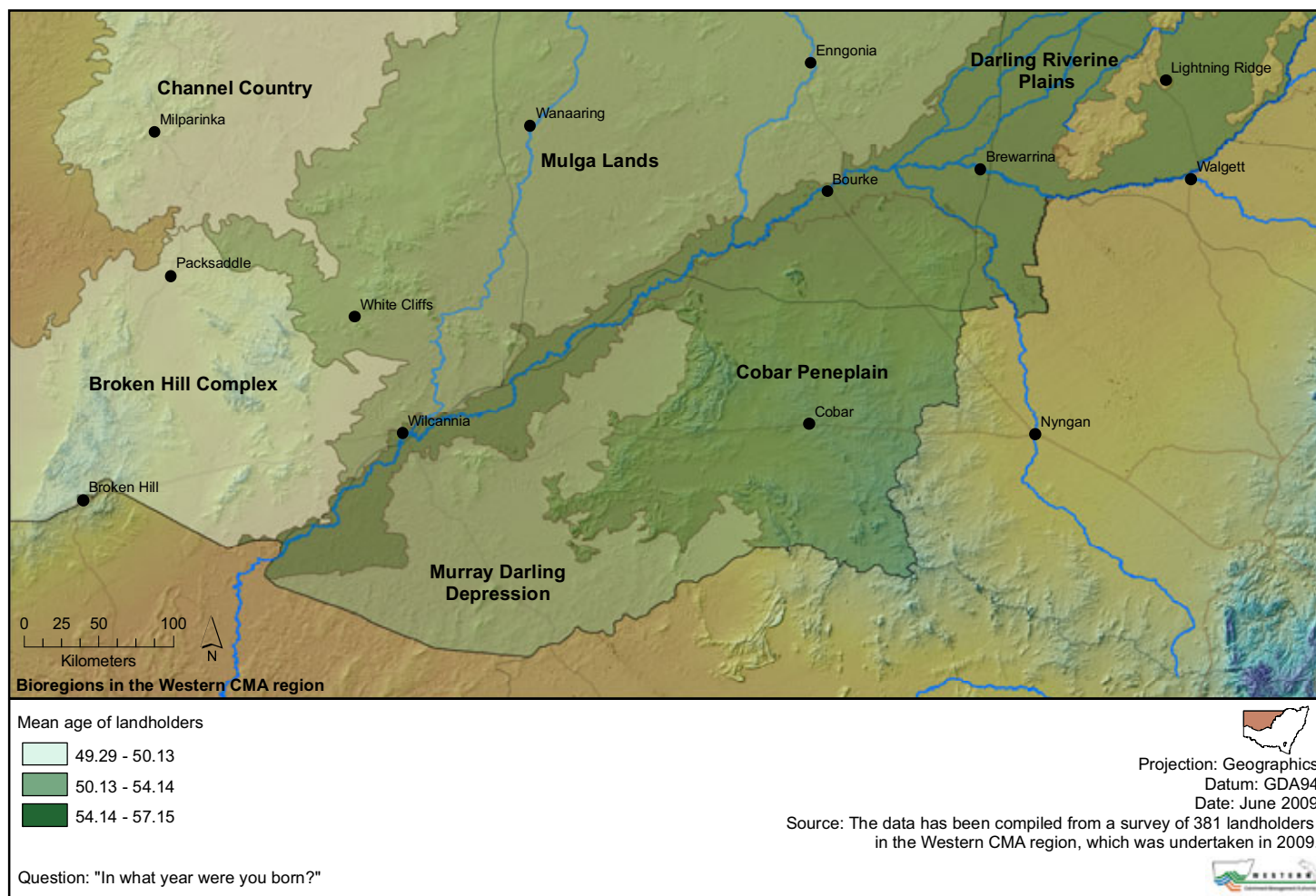
Table 1. Sample sizes for spatial units

Spatial unit	Sample Size	Percent
<b>Bioregions</b>		
Channel Country	16	4.2
Broken Hill Complex	40	10.5
Mulga Lands	75	19.7
Darling Riverine Plains	132	34.6
Murray Darling Depression	23	6.0
Cobar Peneplain	85	22.3
Total	381	100.0
<b>Local Government Areas</b>		
Unincorporated	78	20.5
Central Darling	40	10.5
Bourke	69	18.1
Cobar	72	18.9
Brewarrina	69	18.1
Walgett	45	11.8
Total	381	100.0

*Note:* Brigalow Belt South and the Simpson Strzelecki Dunefields bioregions and the Bogan and Broken Hill Local Government areas were not included as the sample size for landholders within these regions was insufficient for any meaningful analysis.

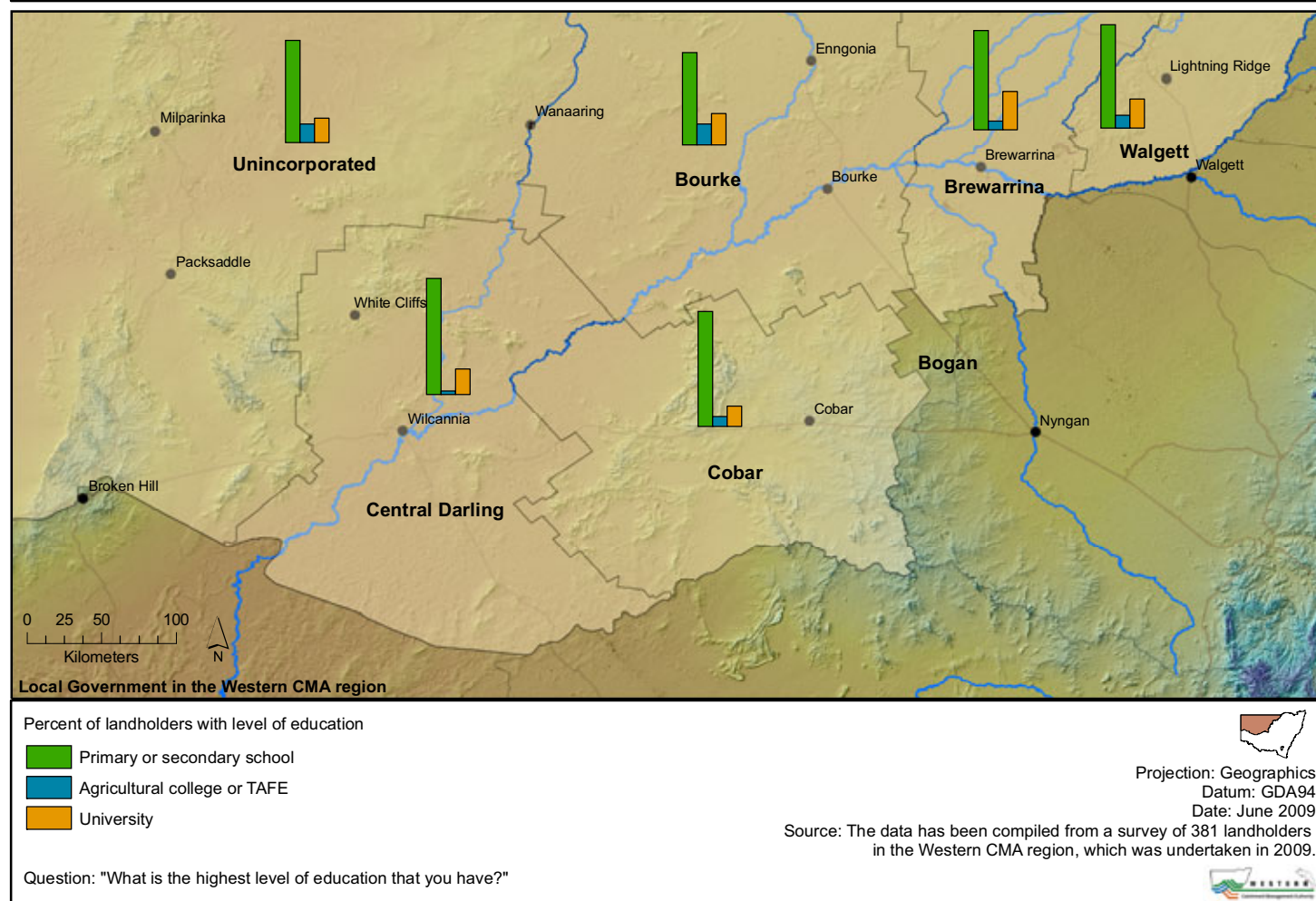
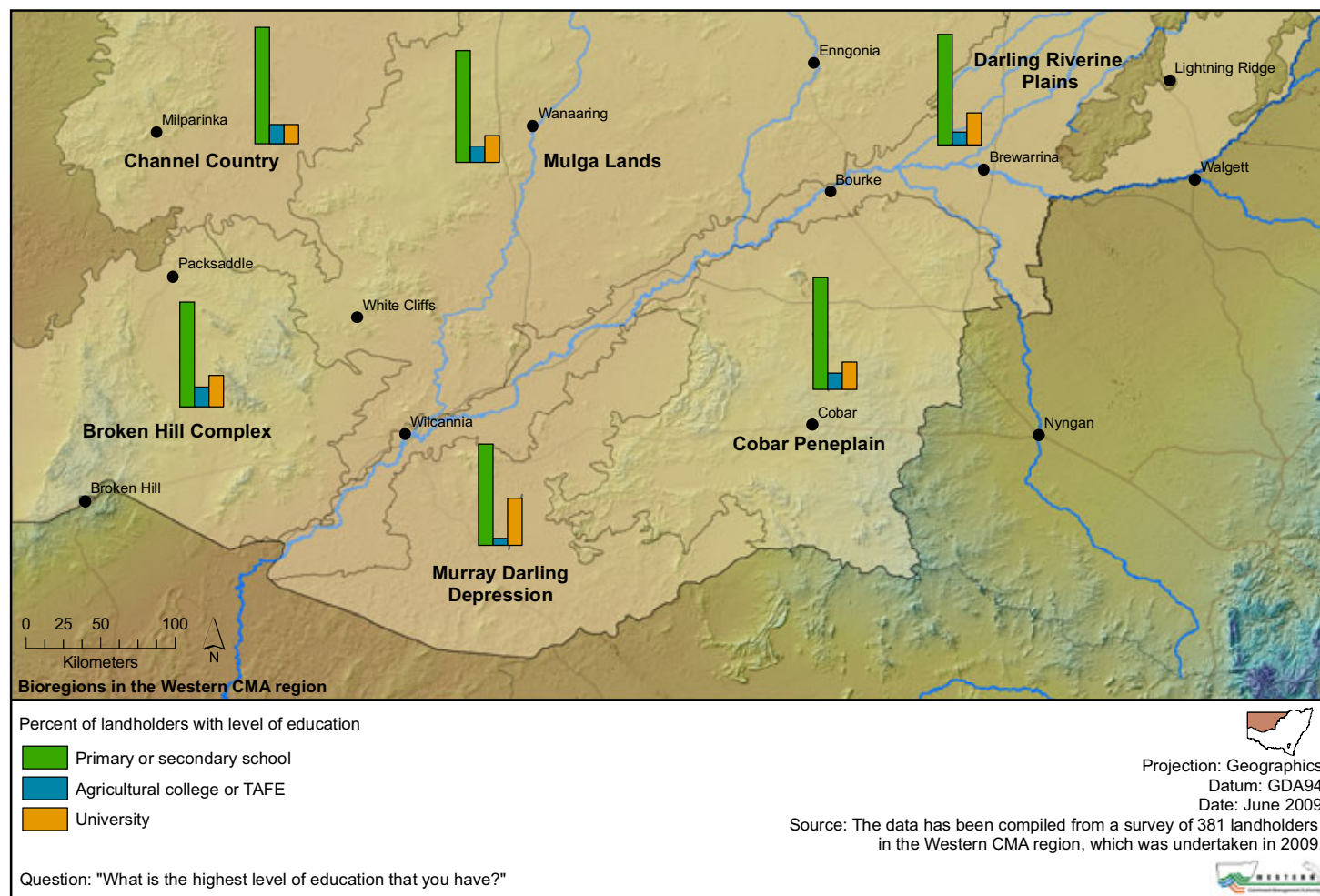
*Source:* EBC (2009).

# 1. AGE OF LANDHOLDERS



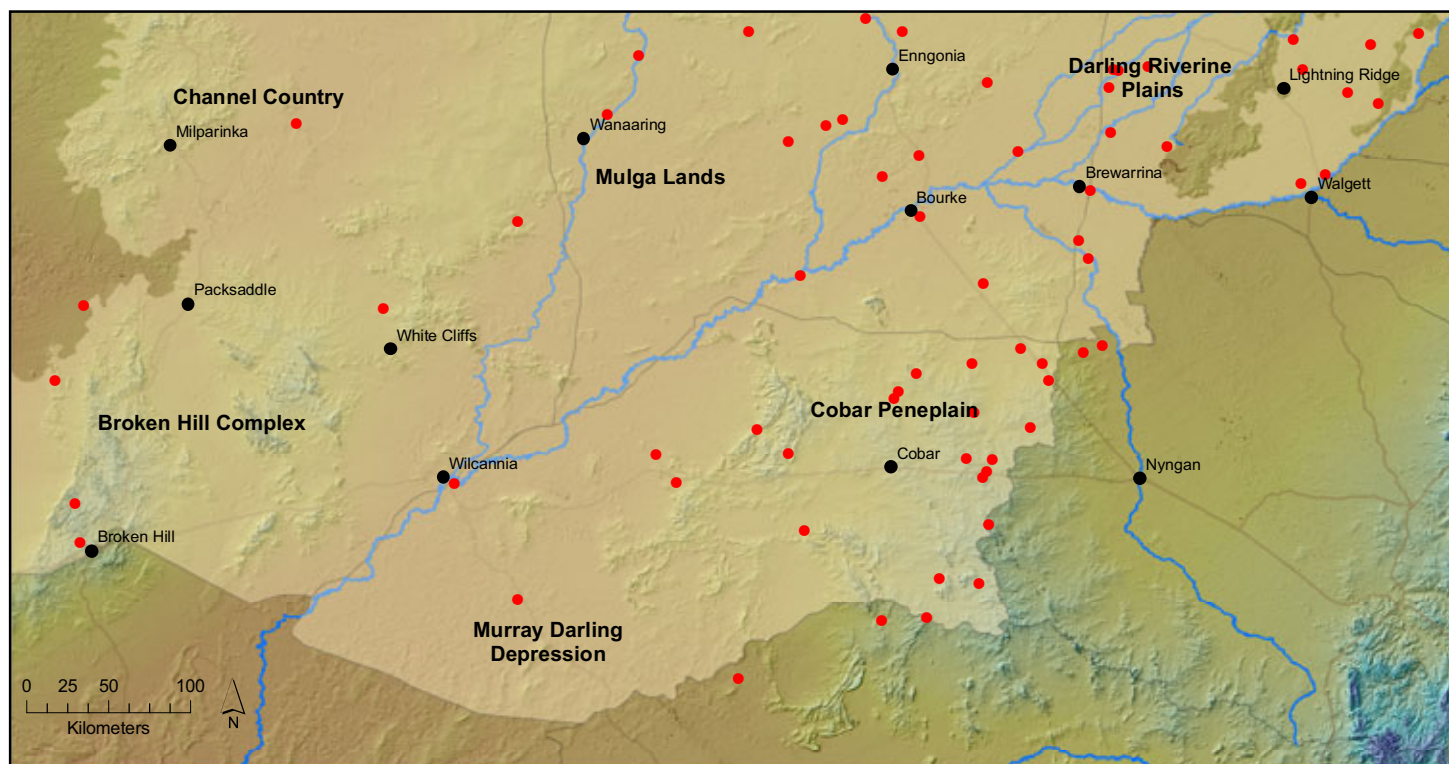


## 2. HIGHEST LEVEL OF EDUCATION AMONGST LANDHOLDERS





### 3. ADEQUATE ACCESS TO THE INTERNET



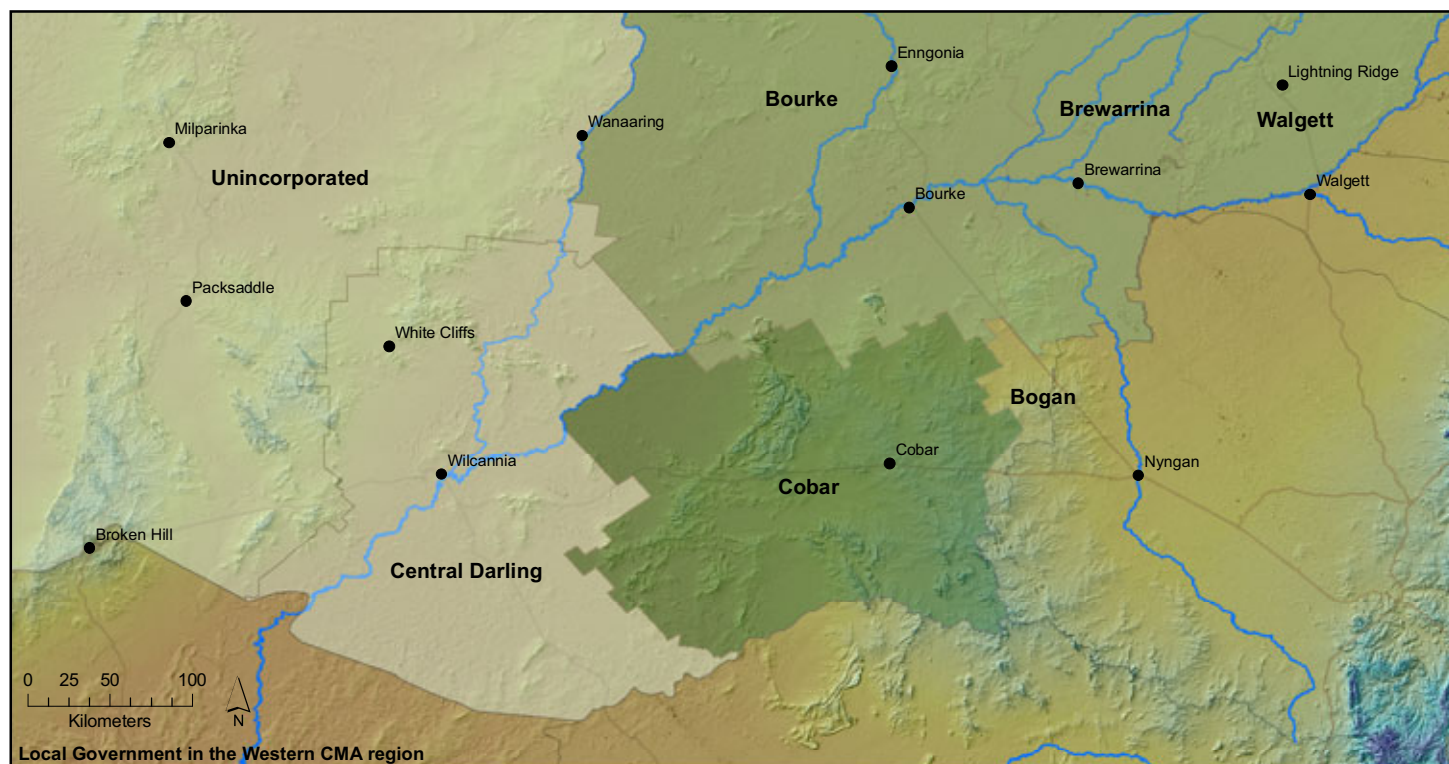
Landholders without adequate access to the internet

• Access to internet not adequate

Projection: Geographics  
Datum: GDA94  
Date: June 2009

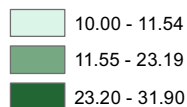
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you have adequate access to the internet on your property?"



Local Government in the Western CMA region

Percent of landholders without adequate access to the internet



Projection: Geographics  
Datum: GDA94  
Date: June 2009

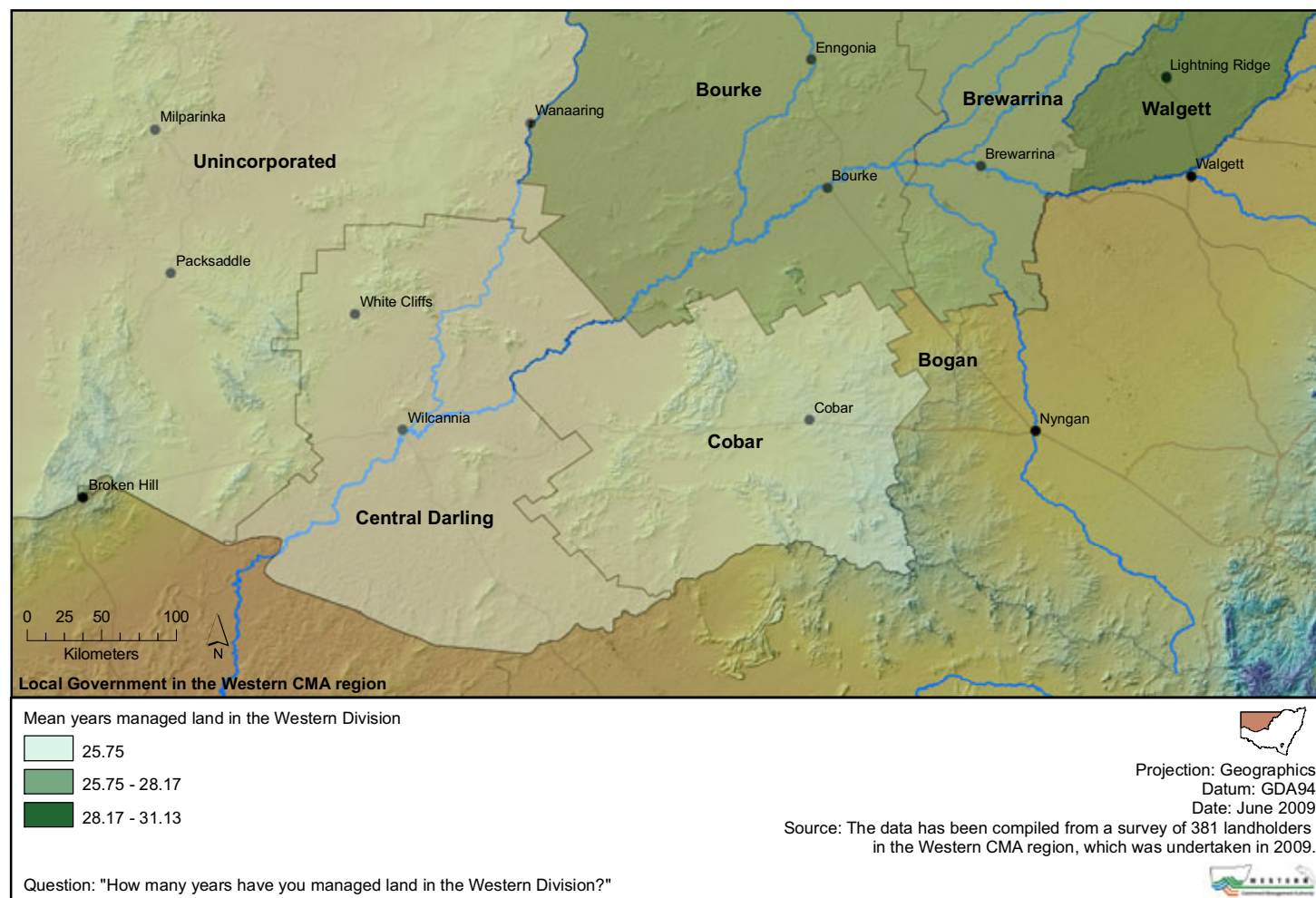
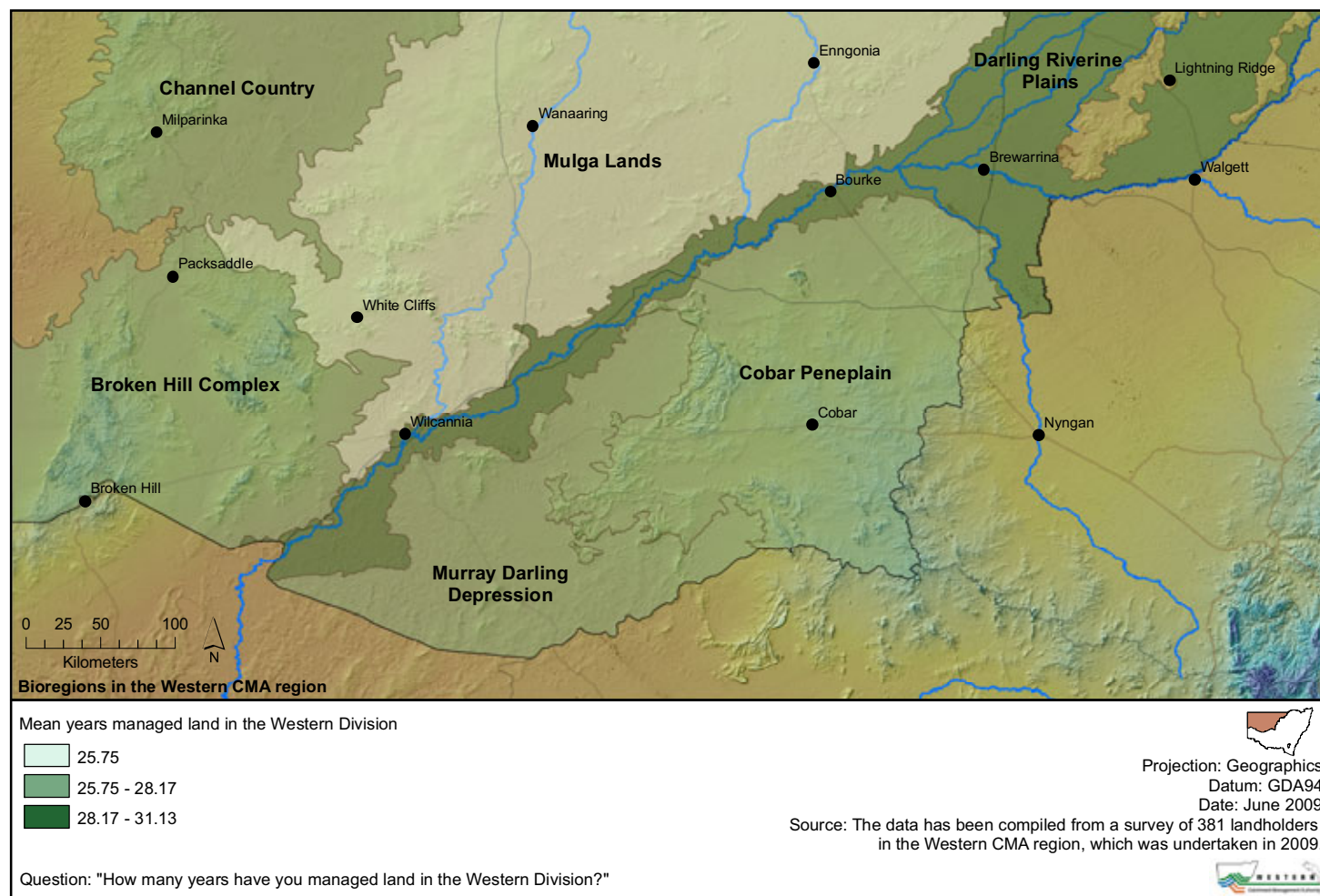
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you have adequate access to the internet on your property?"



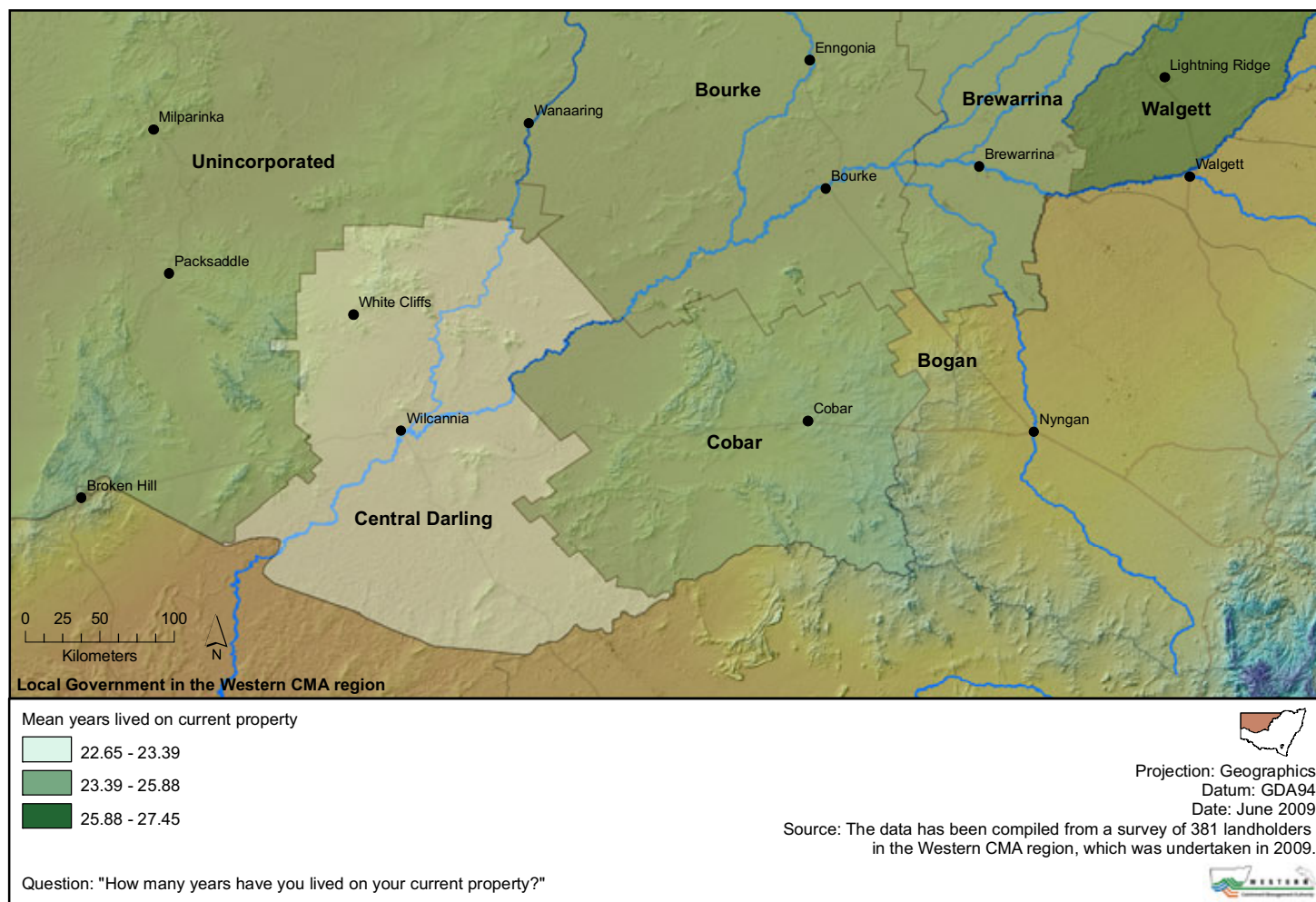
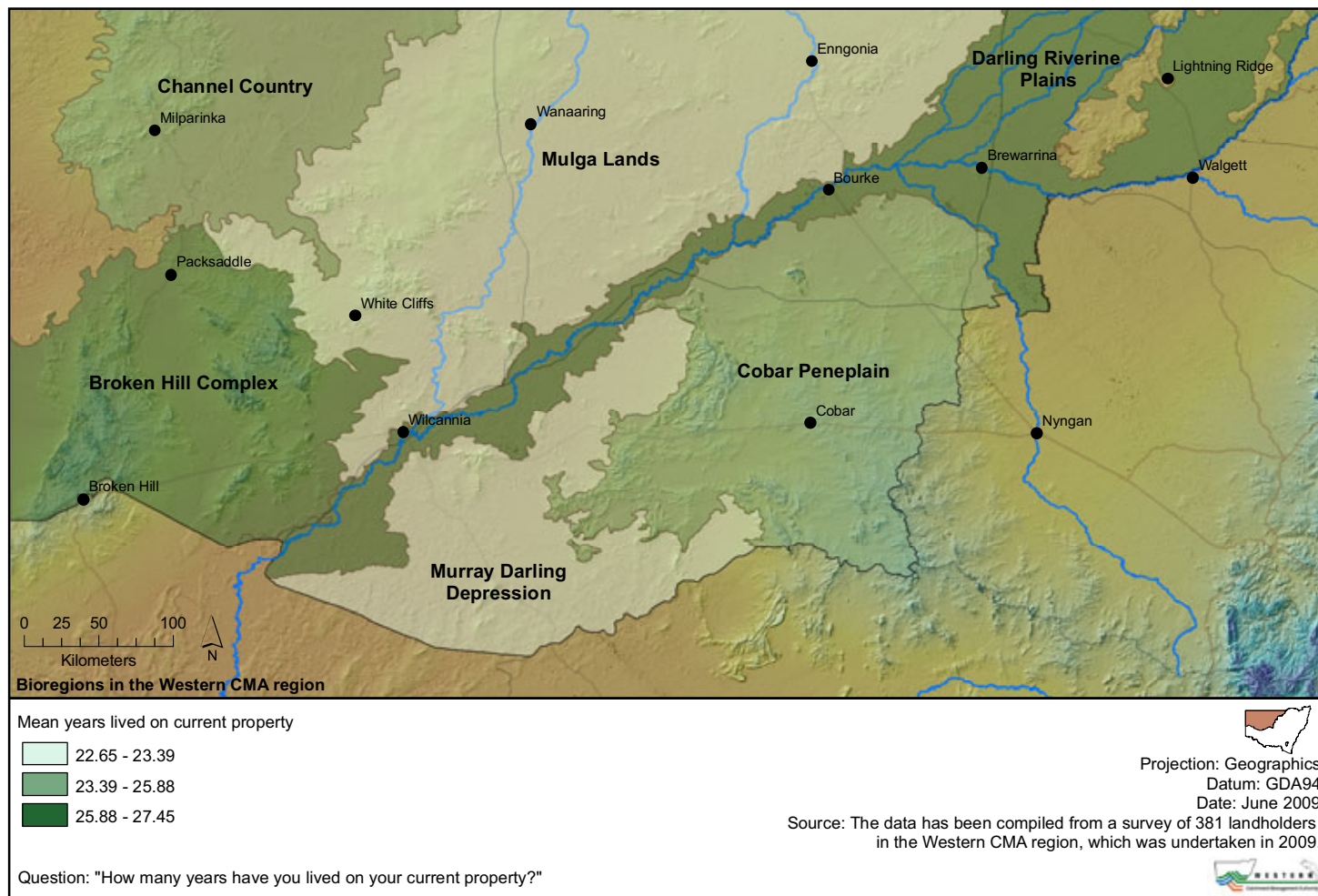


## 4. YEARS MANAGED LAND IN THE WESTERN DIVISION



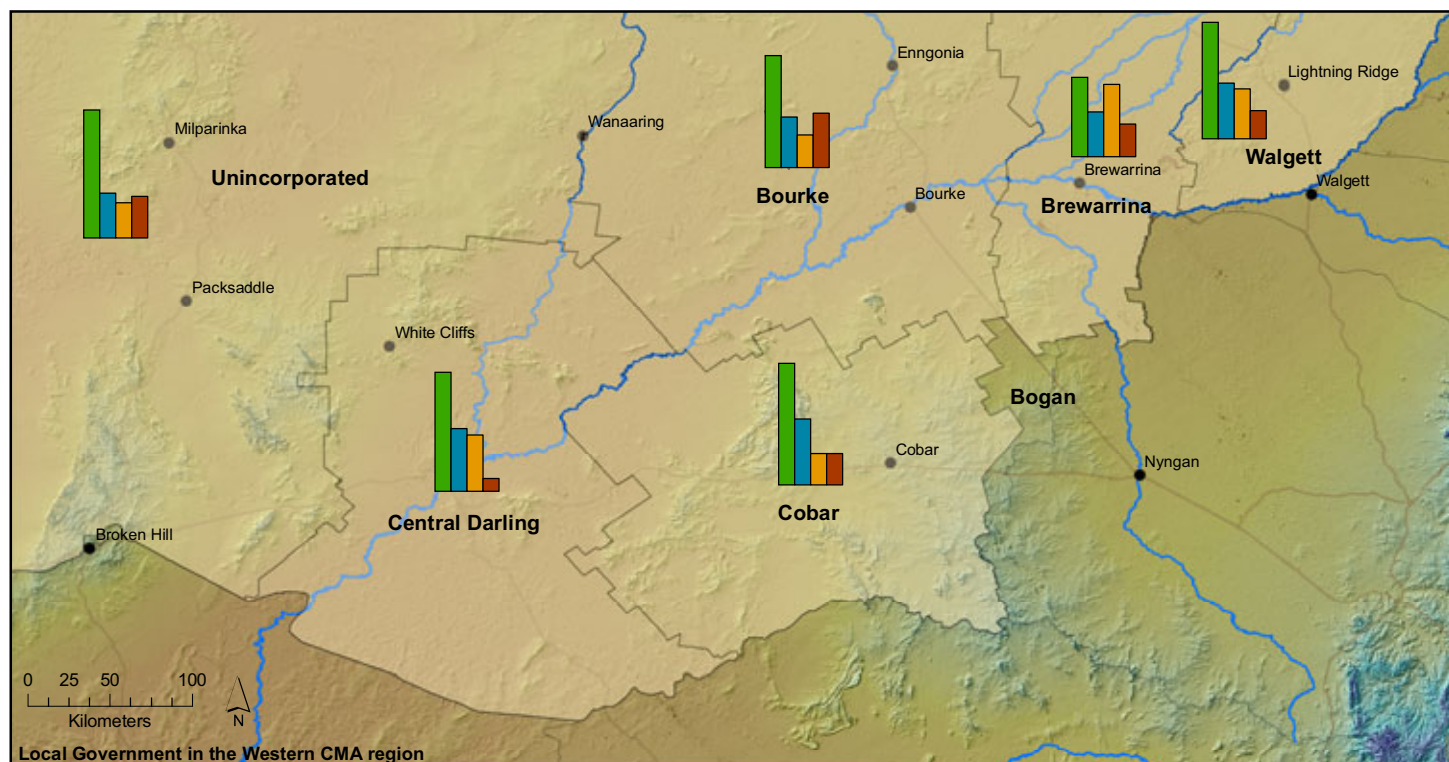
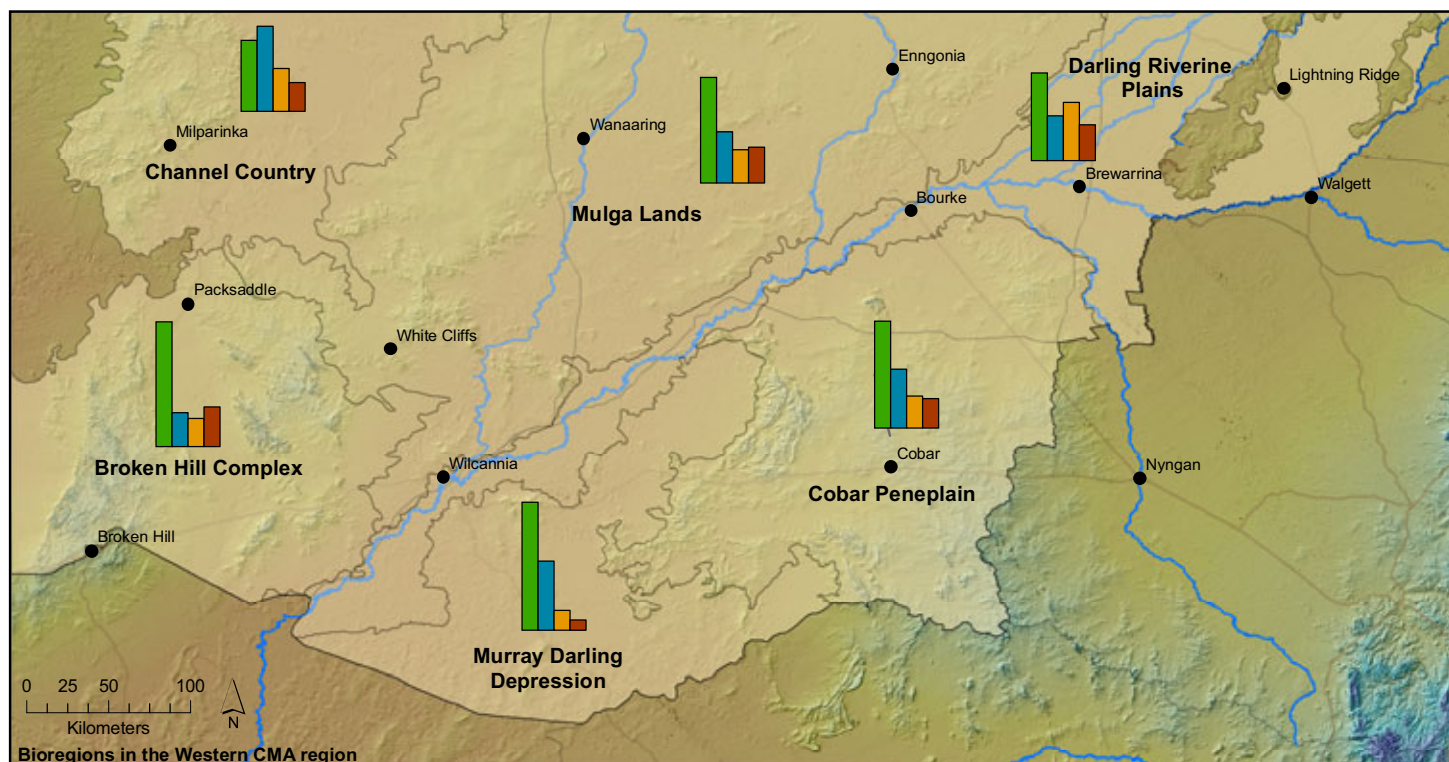


## 5. YEARS LIVED ON PROPERTY



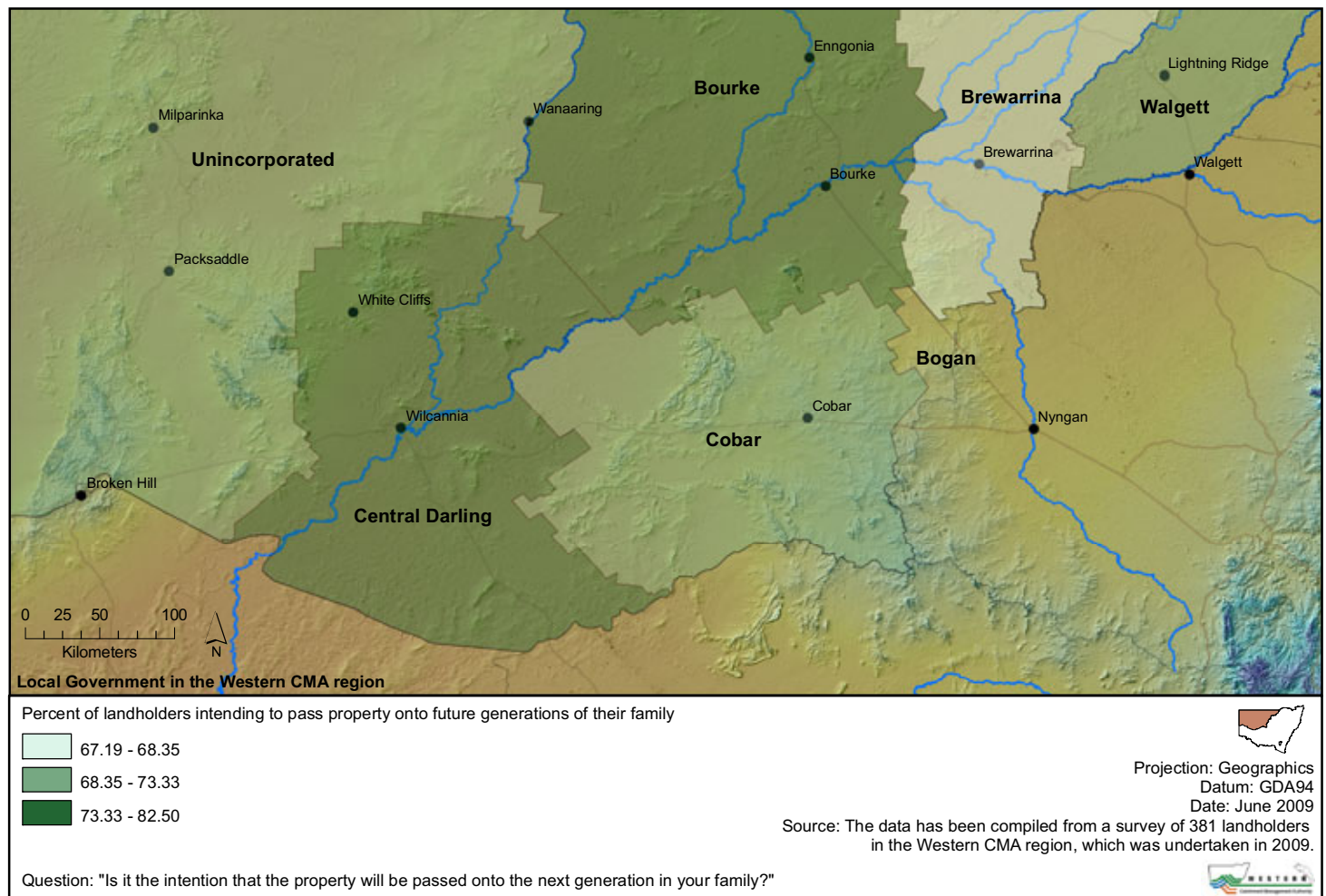
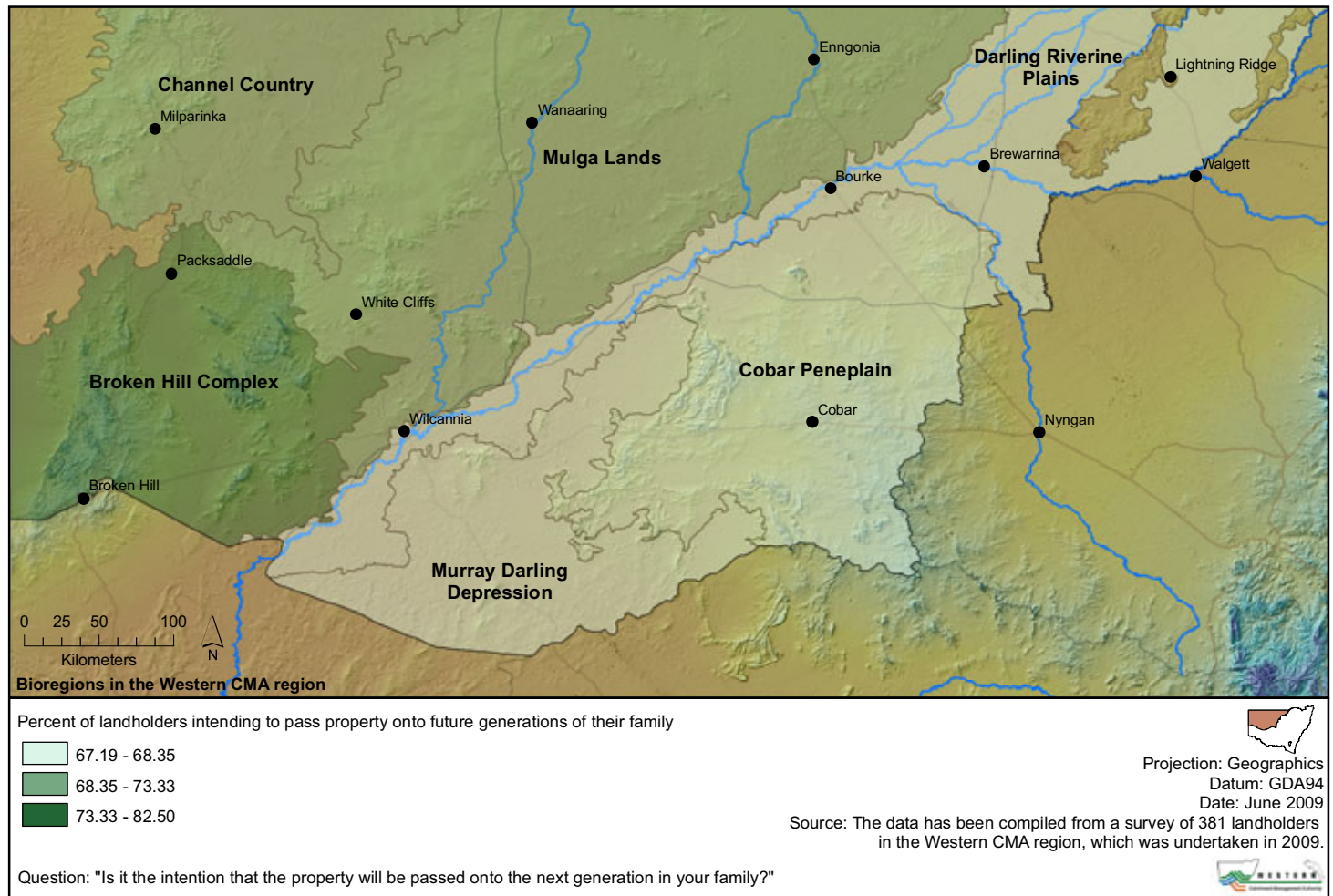


## 6. NUMBER OF FAMILY GENERATIONS ON PROPERTY



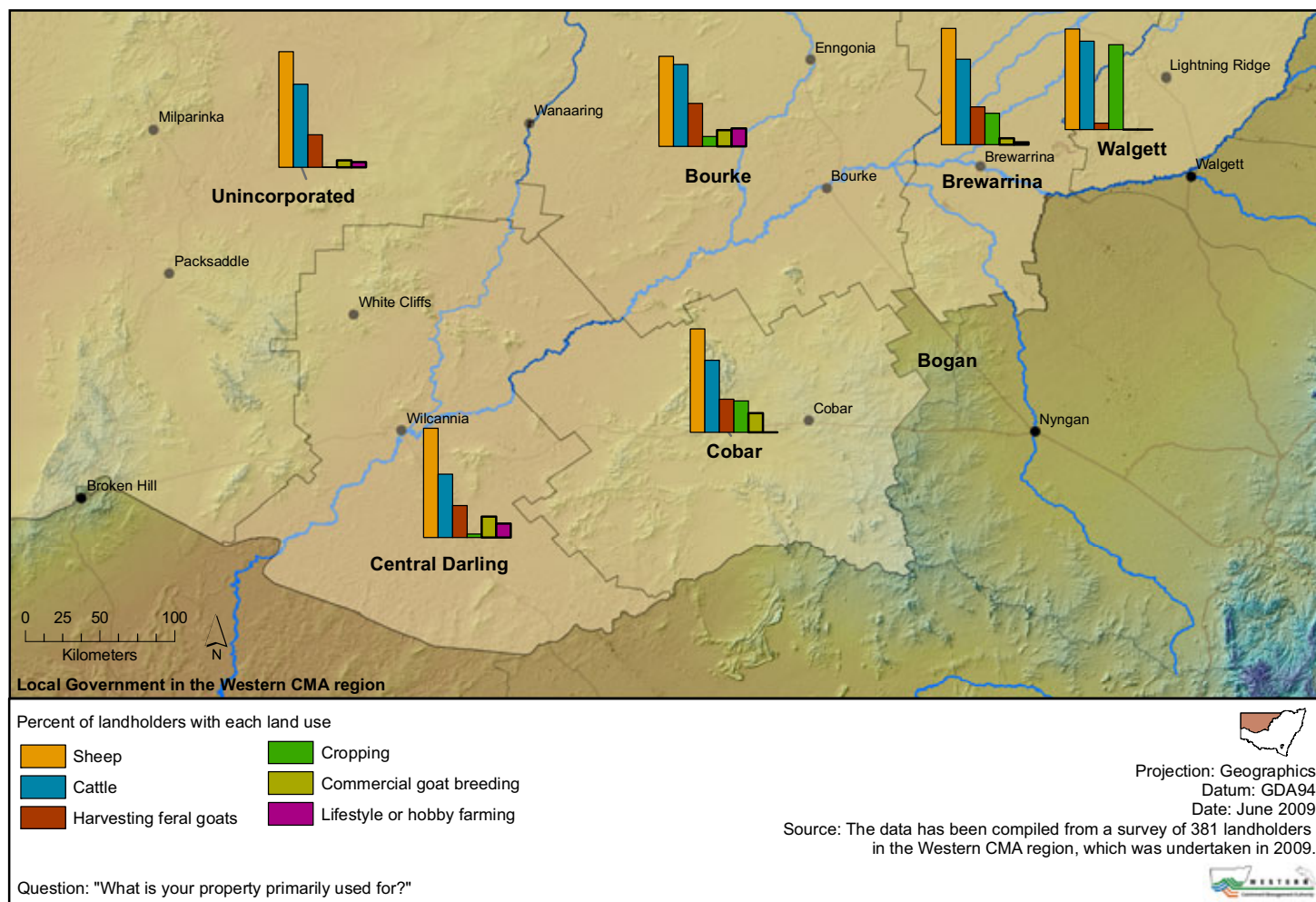
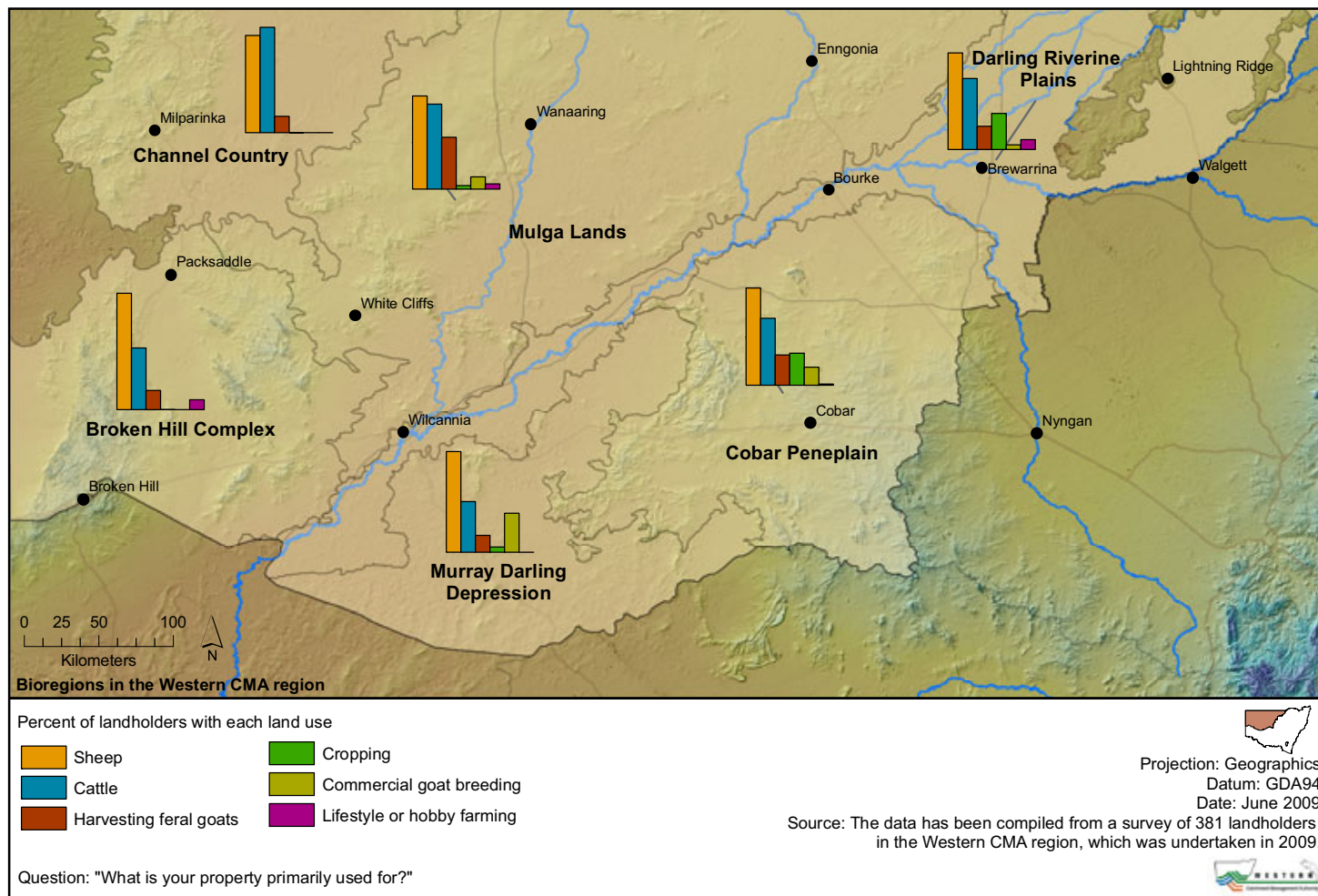


## 7. INTENTION TO PASS PROPERTY TO FUTURE GENERATIONS



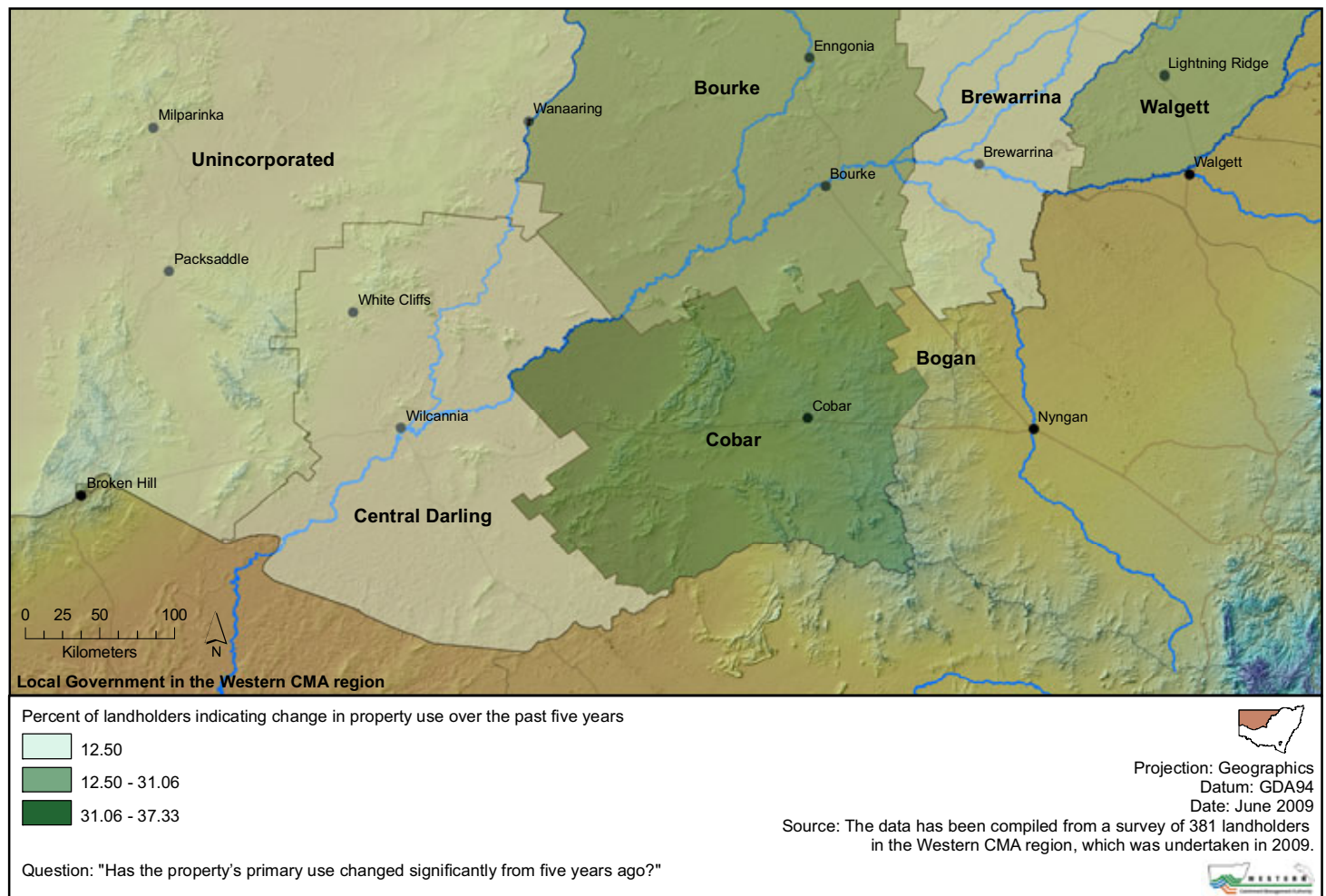
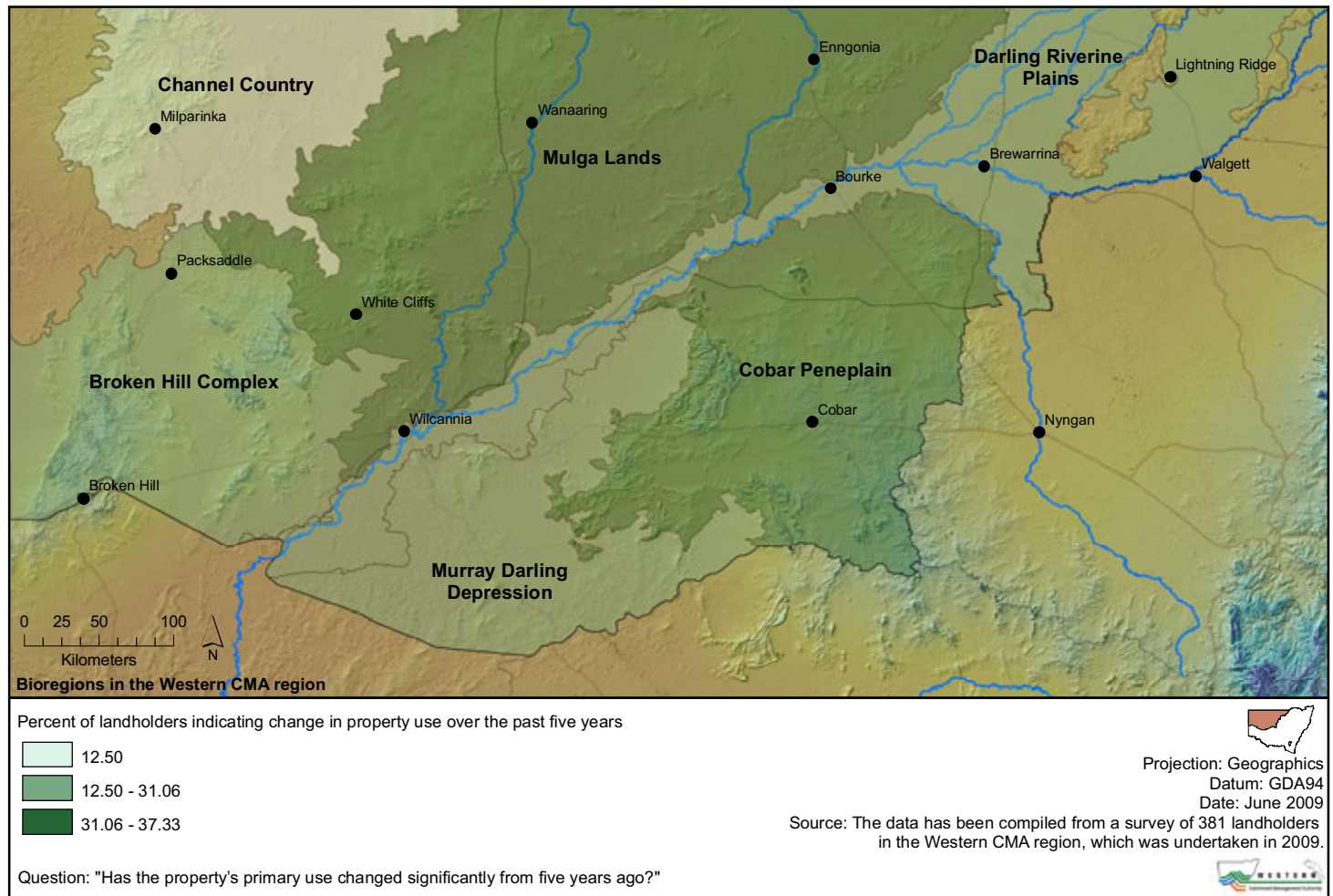


## 8. PRIMARY LAND USE ON PROPERTIES



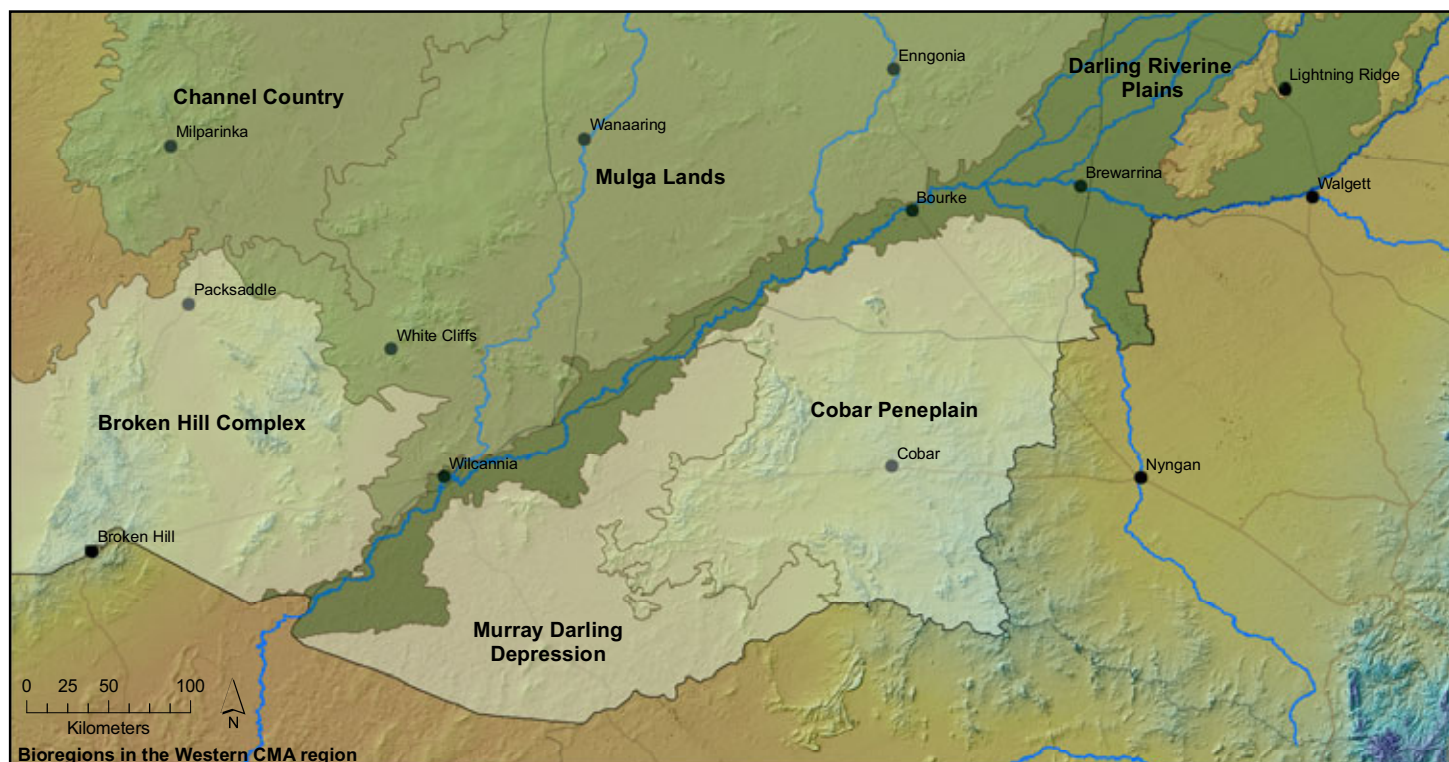


## 9. CHANGE IN PROPERTY USE

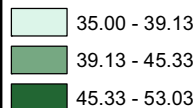




## 10. MORE THAN ONE PROPERTY IN THE DISTRICT



Percentage of landholders with more than one property in the district



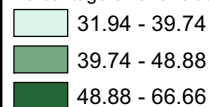
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you have more than one property in the district?"



Percentage of landholders with more than one property in the district



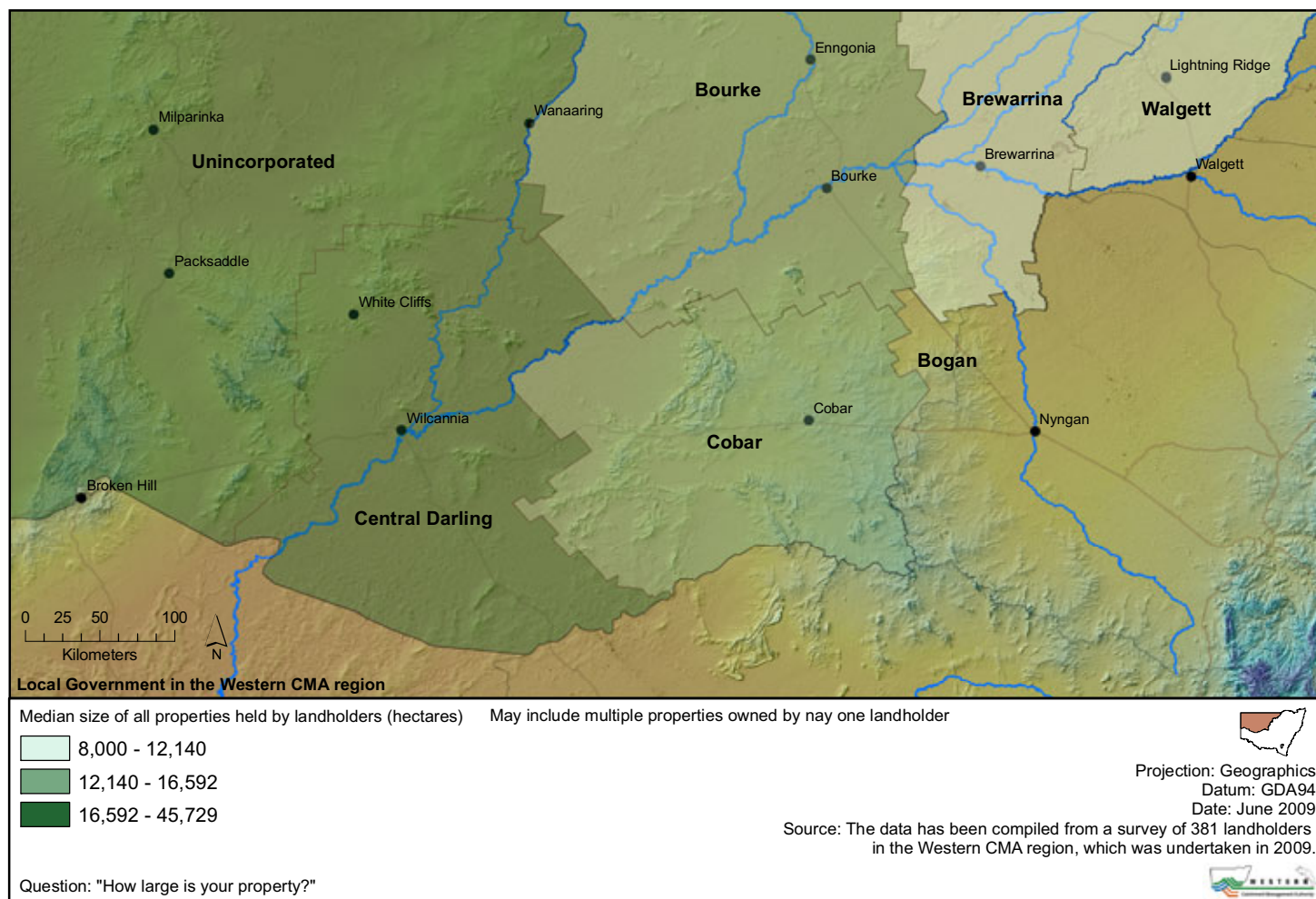
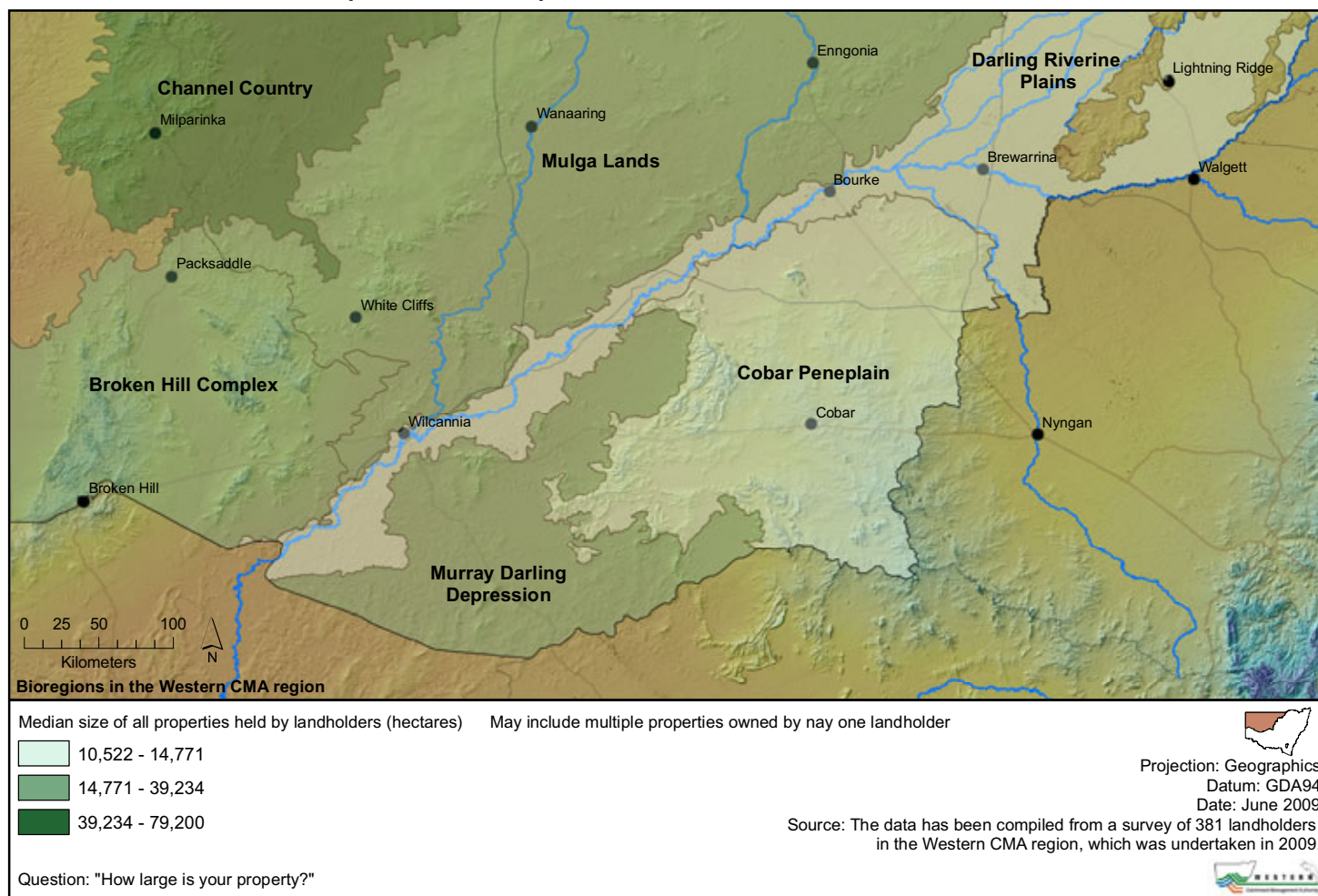
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you have more than one property in the district?"

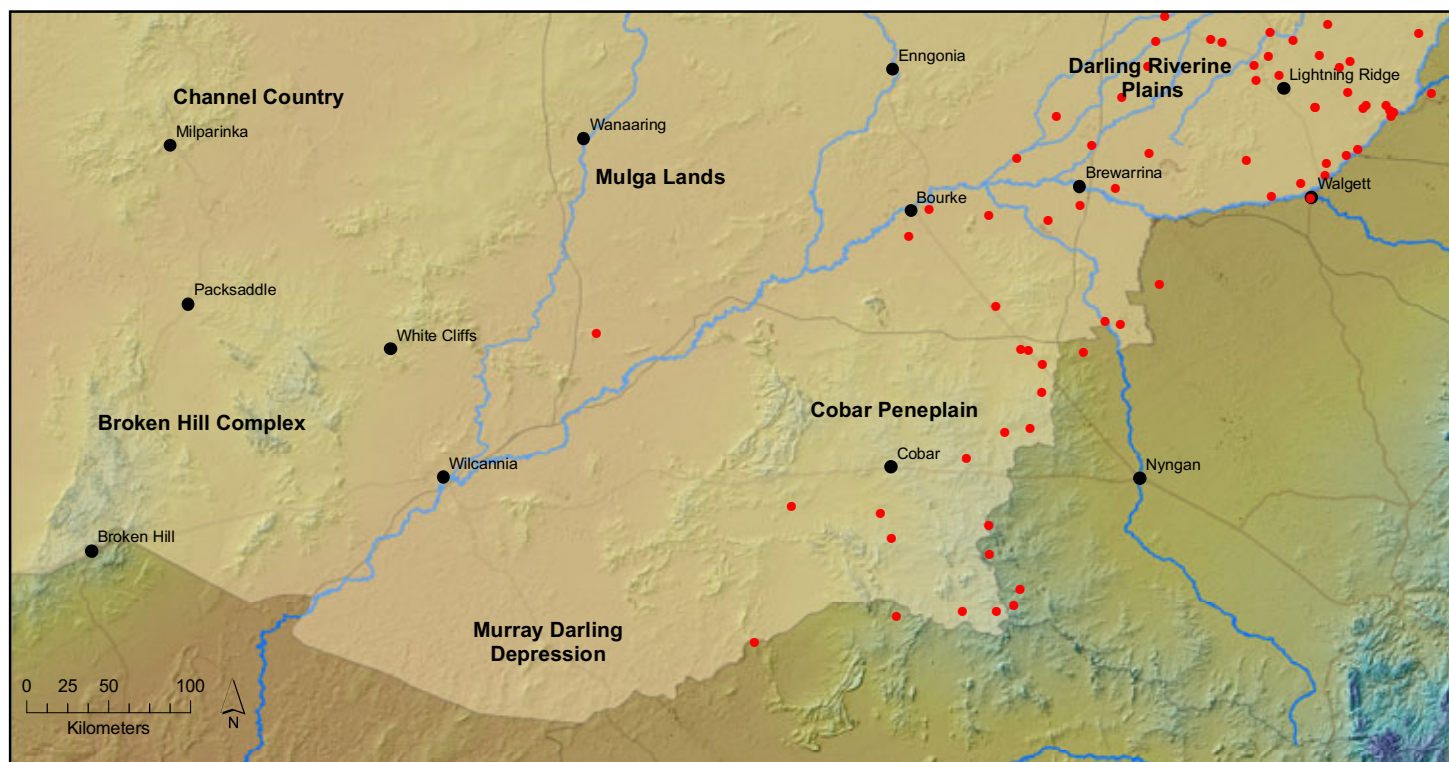


## 11. PROPERTY SIZE (HECTARES)





## 12. LOCATION OF LANDHOLDERS WHO UNDERTOOK CROPPING ACTIVITIES



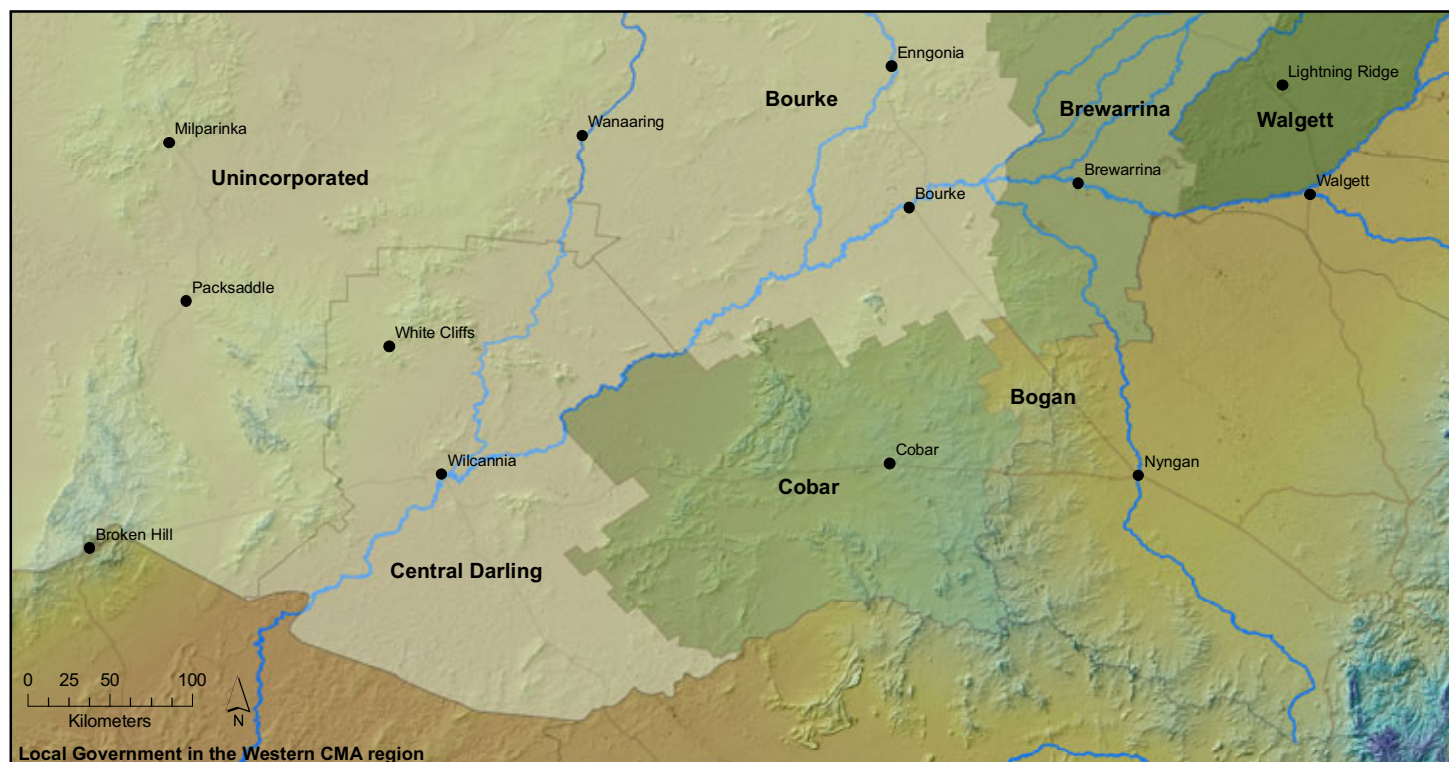
Location of landholder who undertook cropping activities in the last two years

- Landholders undertaking cropping activities

Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Did you undertake any cropping activities in the last two years on the property?"



Percentage of landholder undertaking cropping activities in the last two years

- 0.00 - 8.70
- 8.71 - 29.00
- 29.01 - 64.40

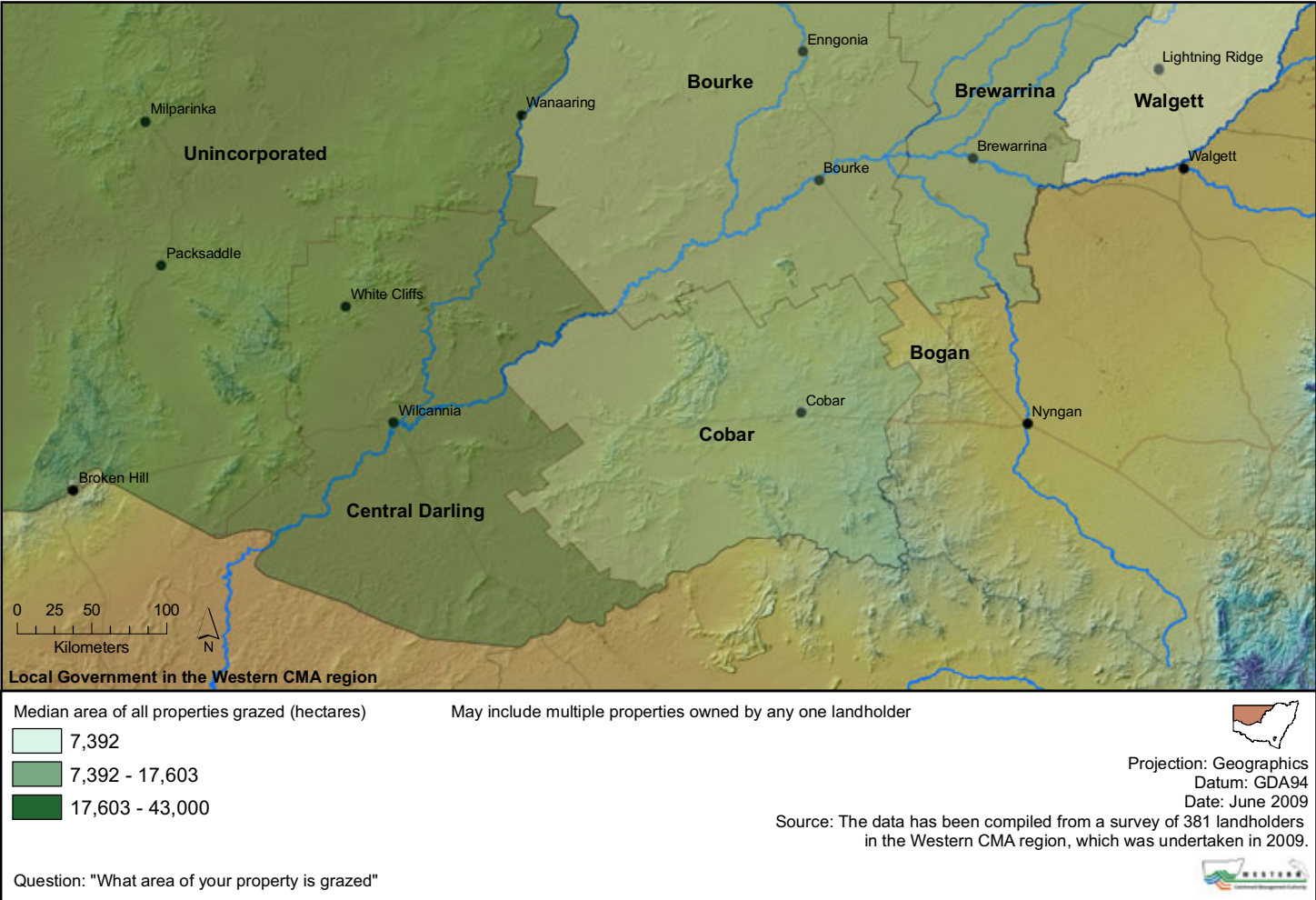
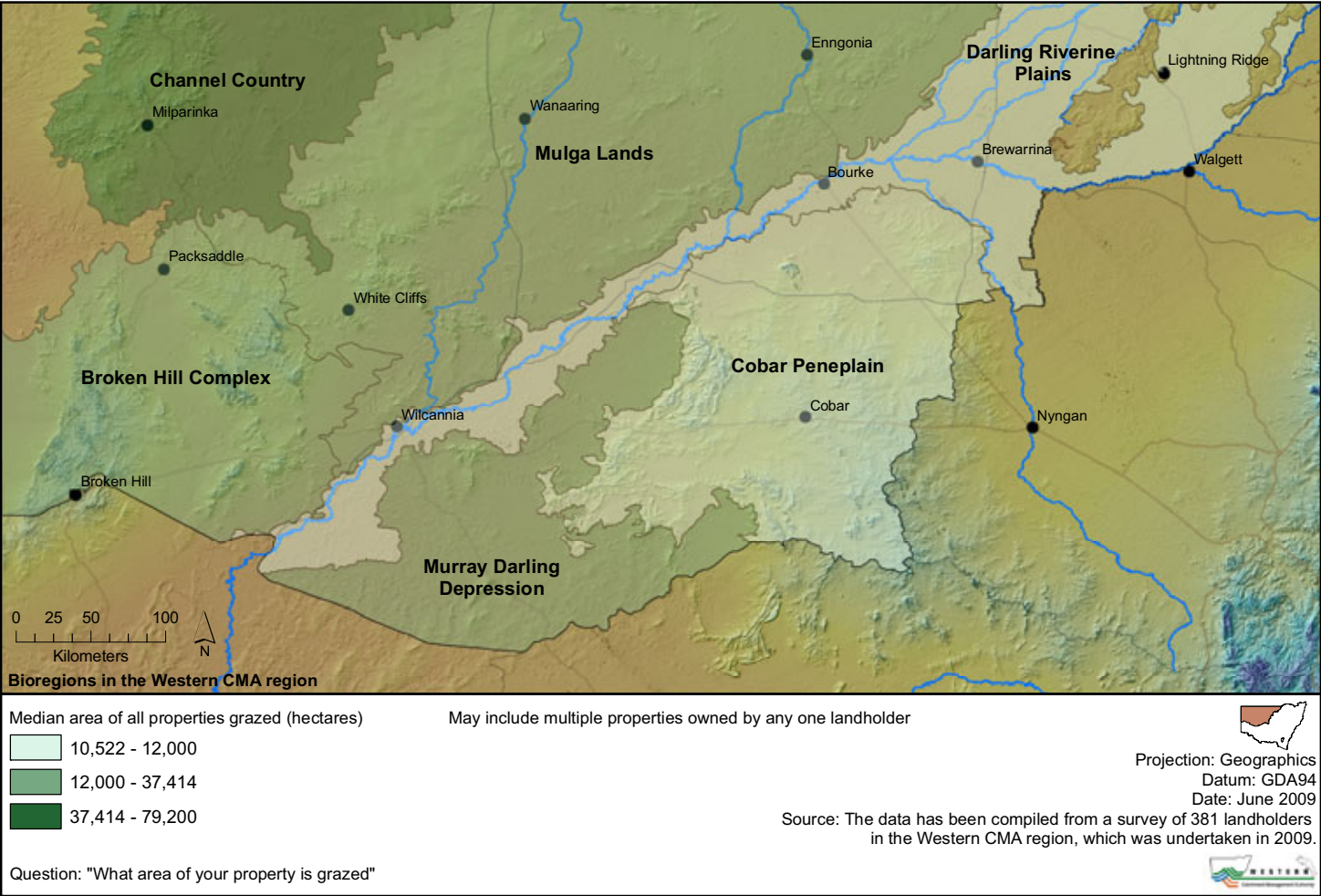
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Did you undertake any cropping activities in the last two years on the property?"

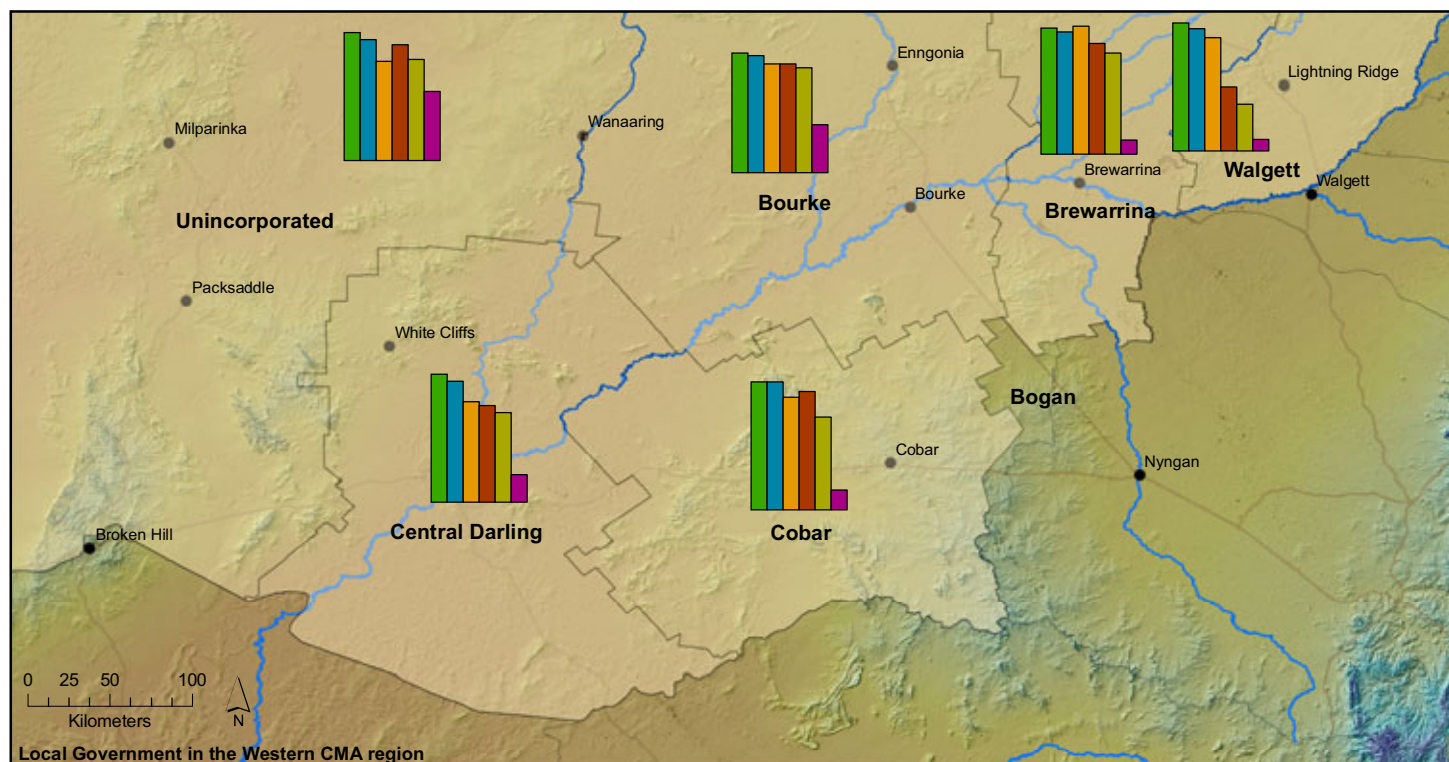
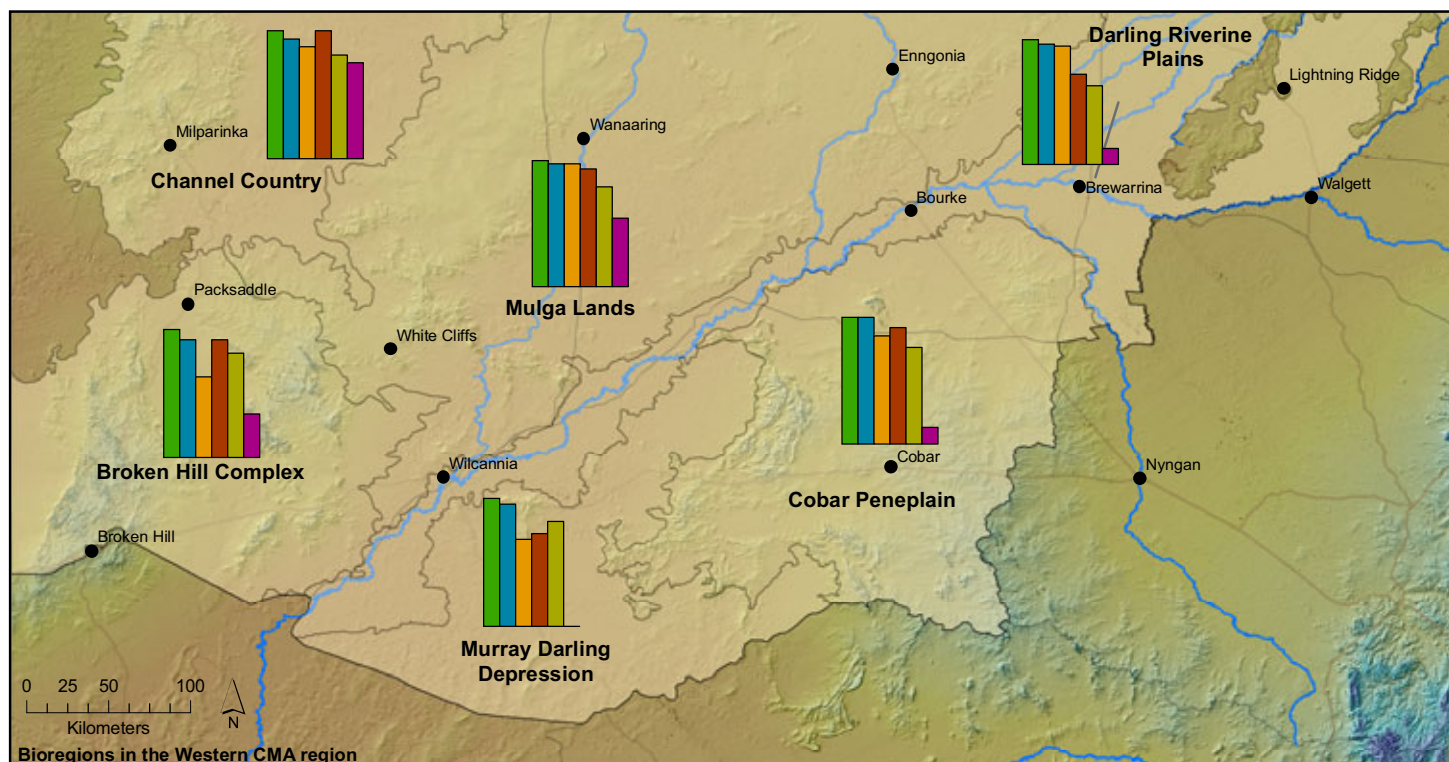


13. AREA OF PROPERTIES GRAZED (HECTARES)



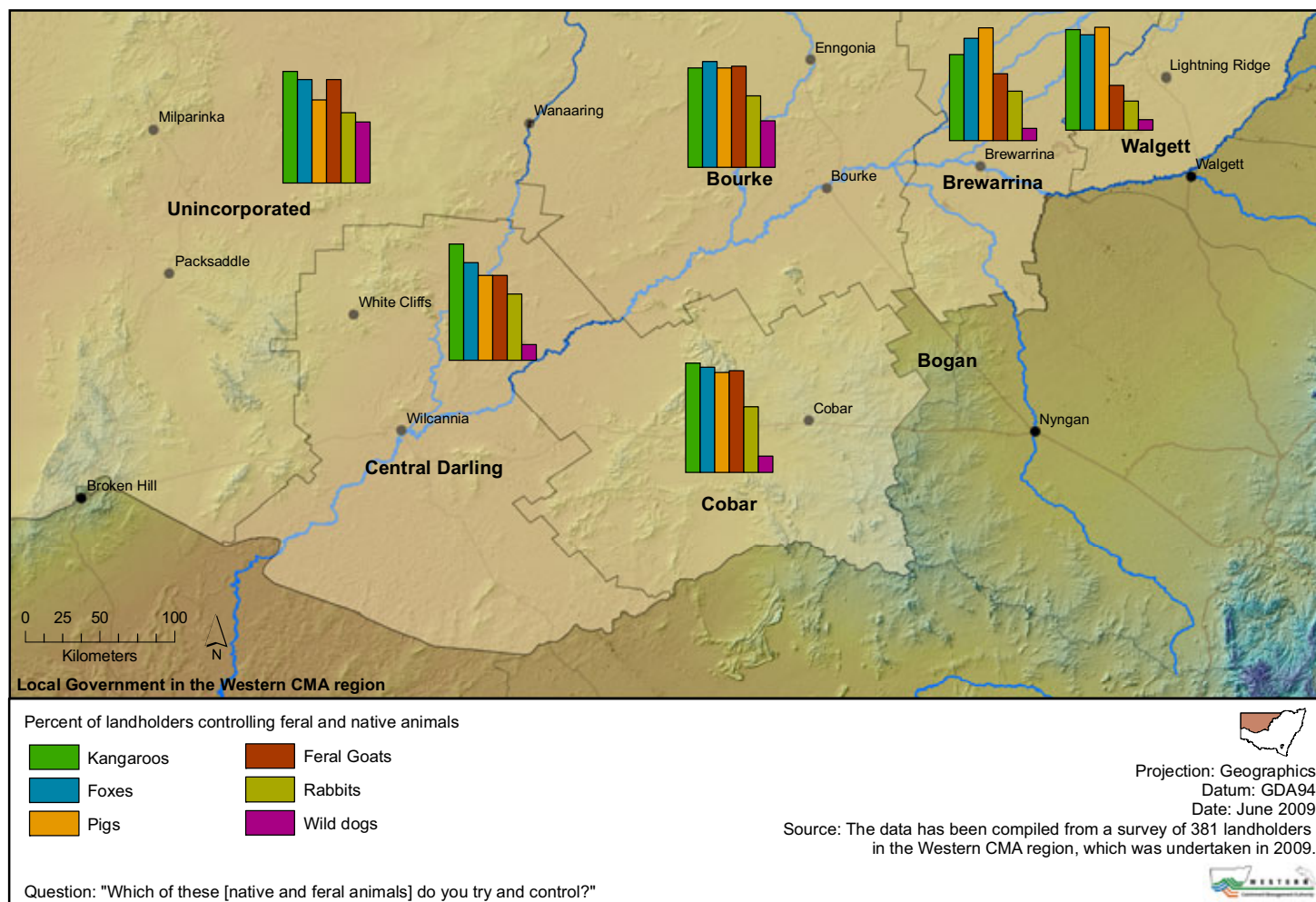
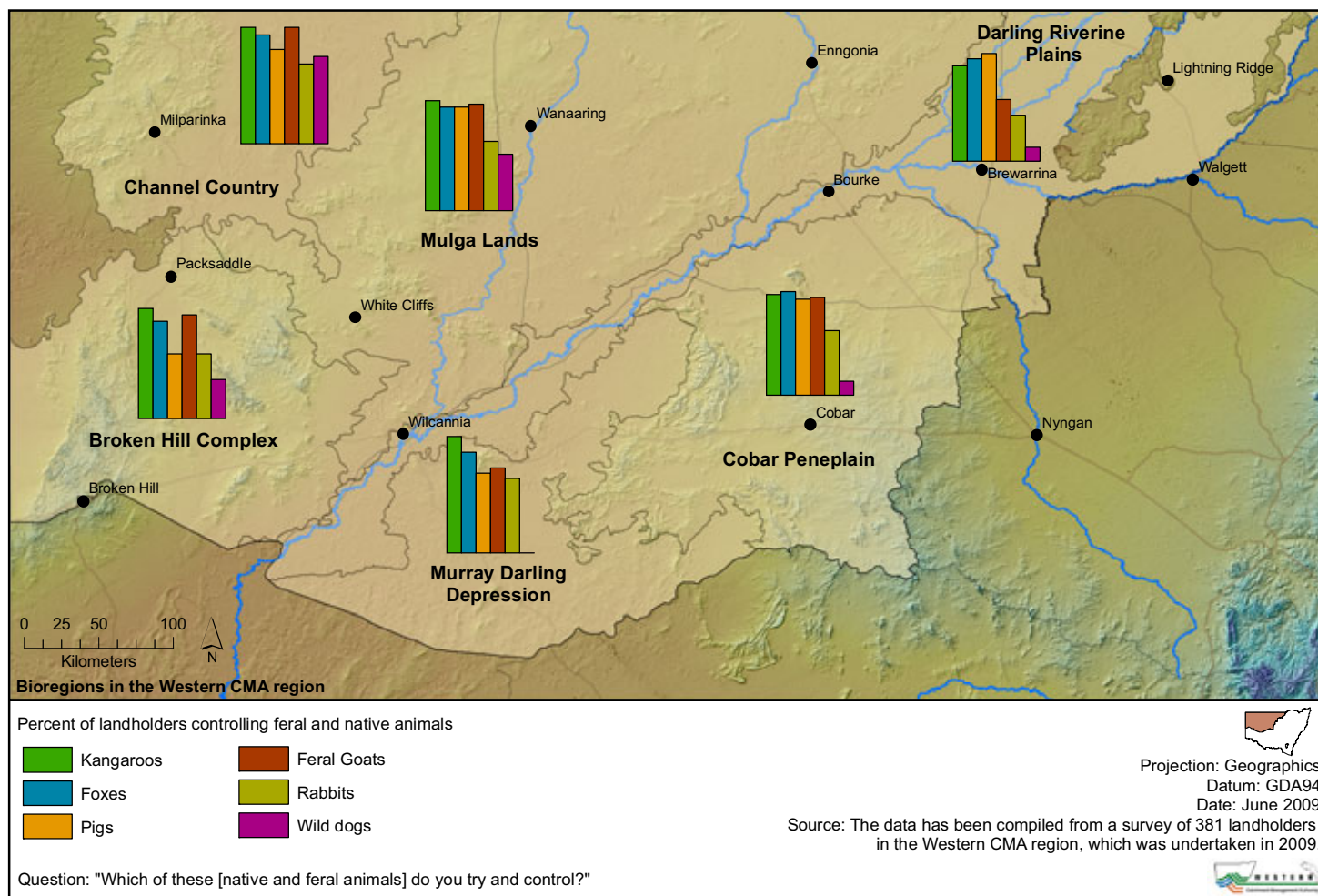


## 14. NATIVE AND FERAL ANIMALS ON PROPERTY



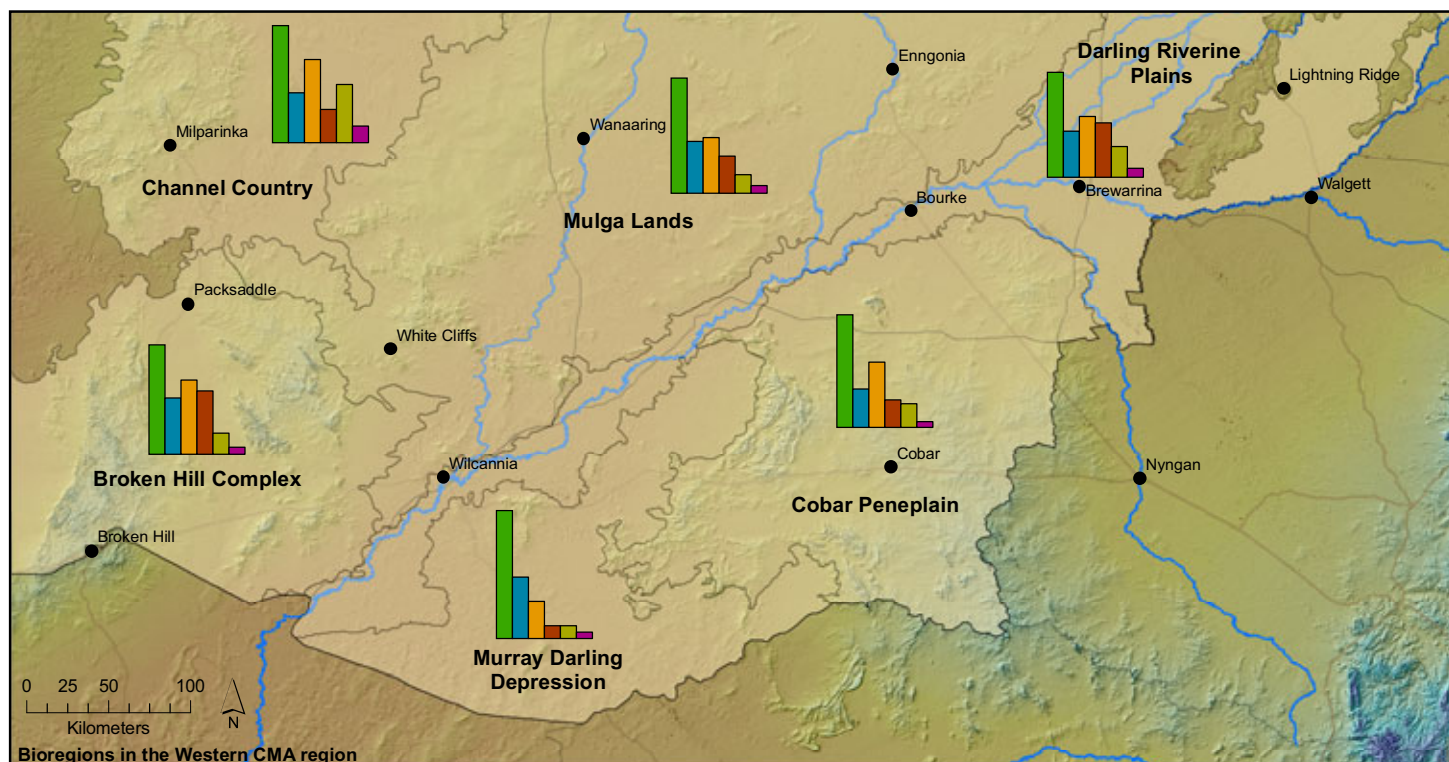


## 15. CONTROL OF FERAL AND NATIVE ANIMALS

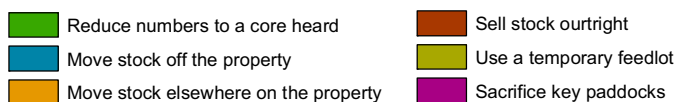




## 16. MANAGING PASTURES DURING DROUGHT



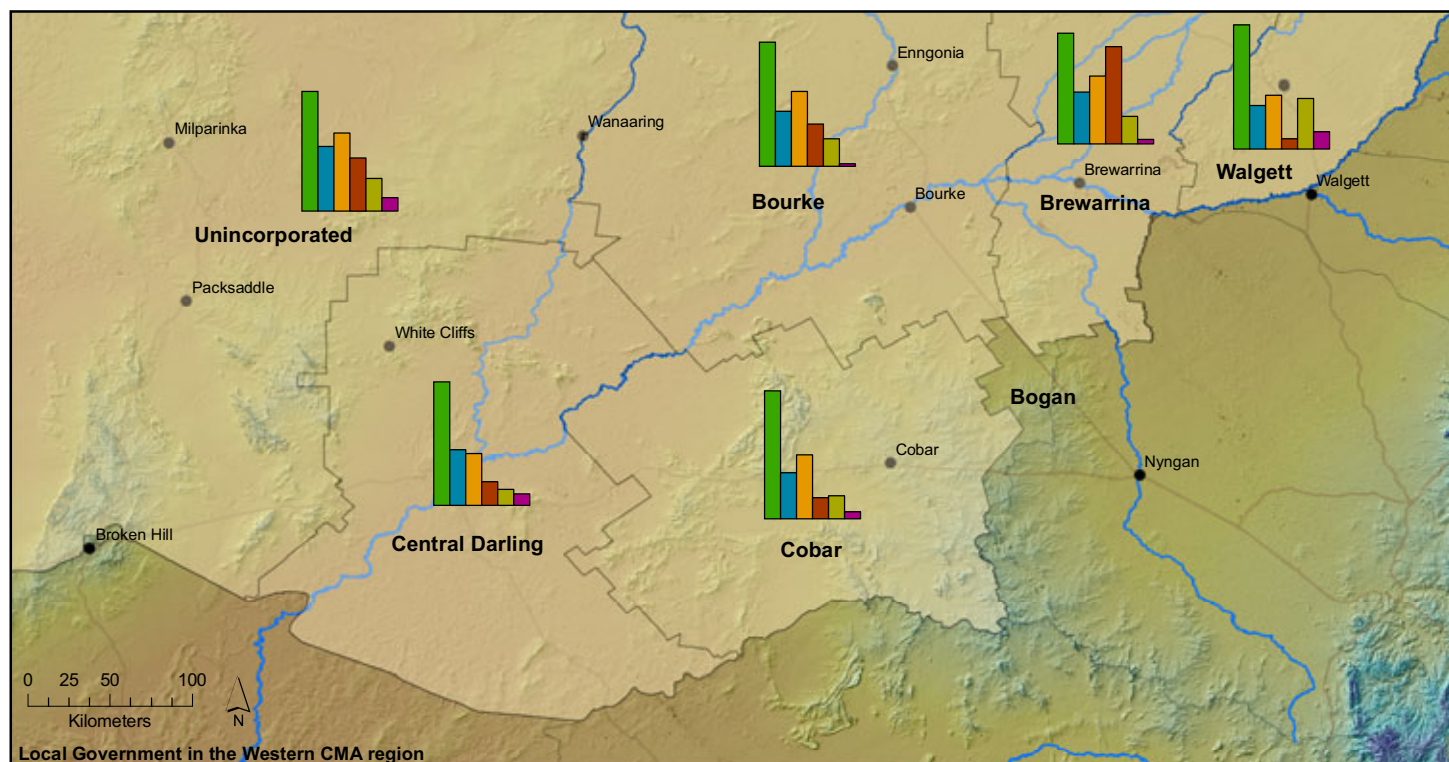
Percent of landholders using different management practices



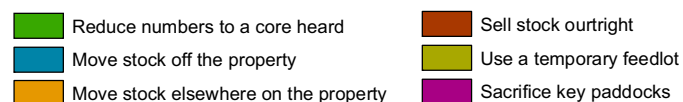
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "How do you manage your pastures in times of drought?"



Percent of landholders using different management practices



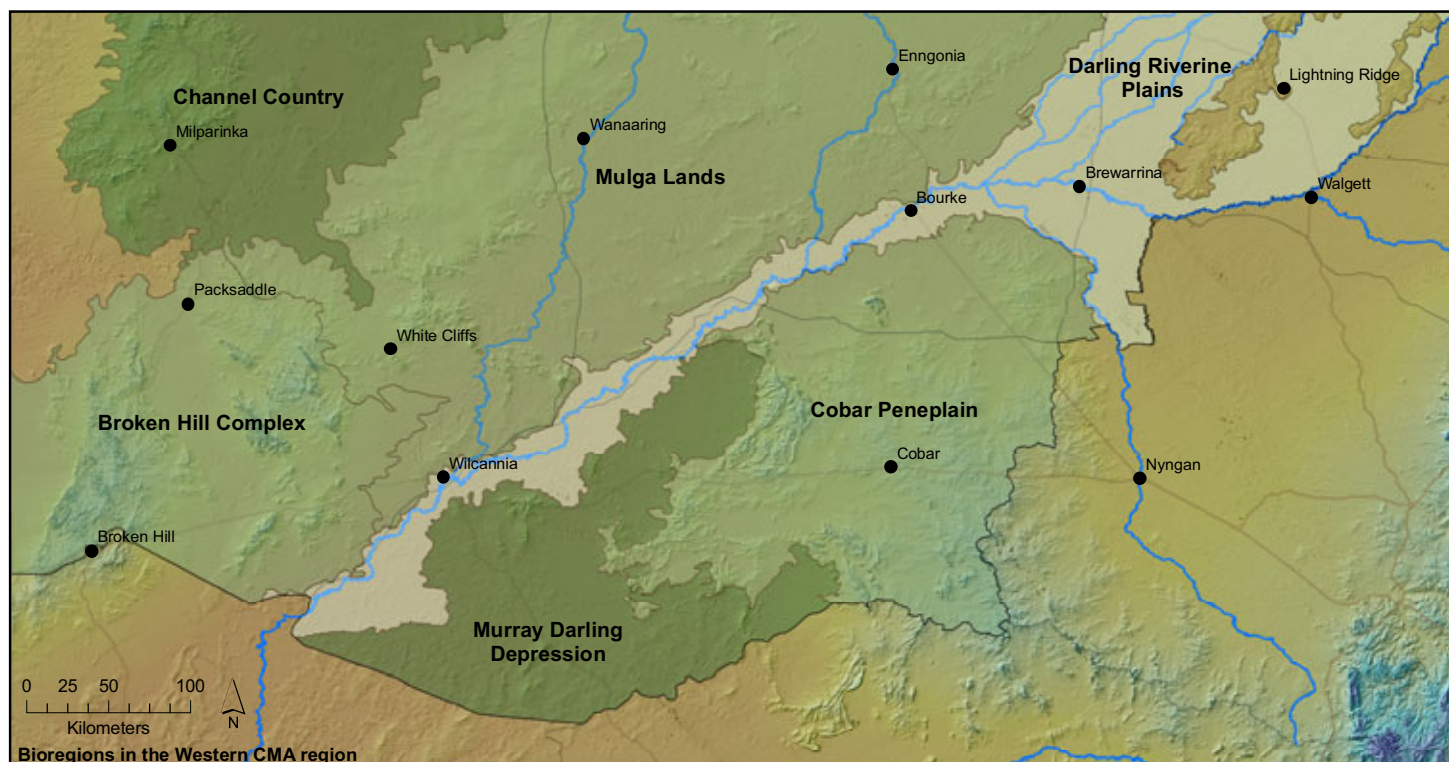
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "How do you manage your pastures in times of drought?"

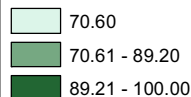


## 17. MANAGING TOTAL GRAZING PRESSURE



**Bioregions in the Western CMA region**

Percent of landholders restricting grazing of feral and native animals in managing total grazing pressure



Projection: Geographics  
Datum: GDA94  
Date: June 2009

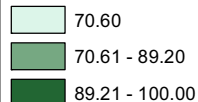
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "In managing your total grazing pressure do you try to restrict the grazing of feral and native animals?"



**Local Government in the Western CMA region**

Percent of landholders restricting grazing of feral and native animals in managing total grazing pressure



Projection: Geographics  
Datum: GDA94  
Date: June 2009

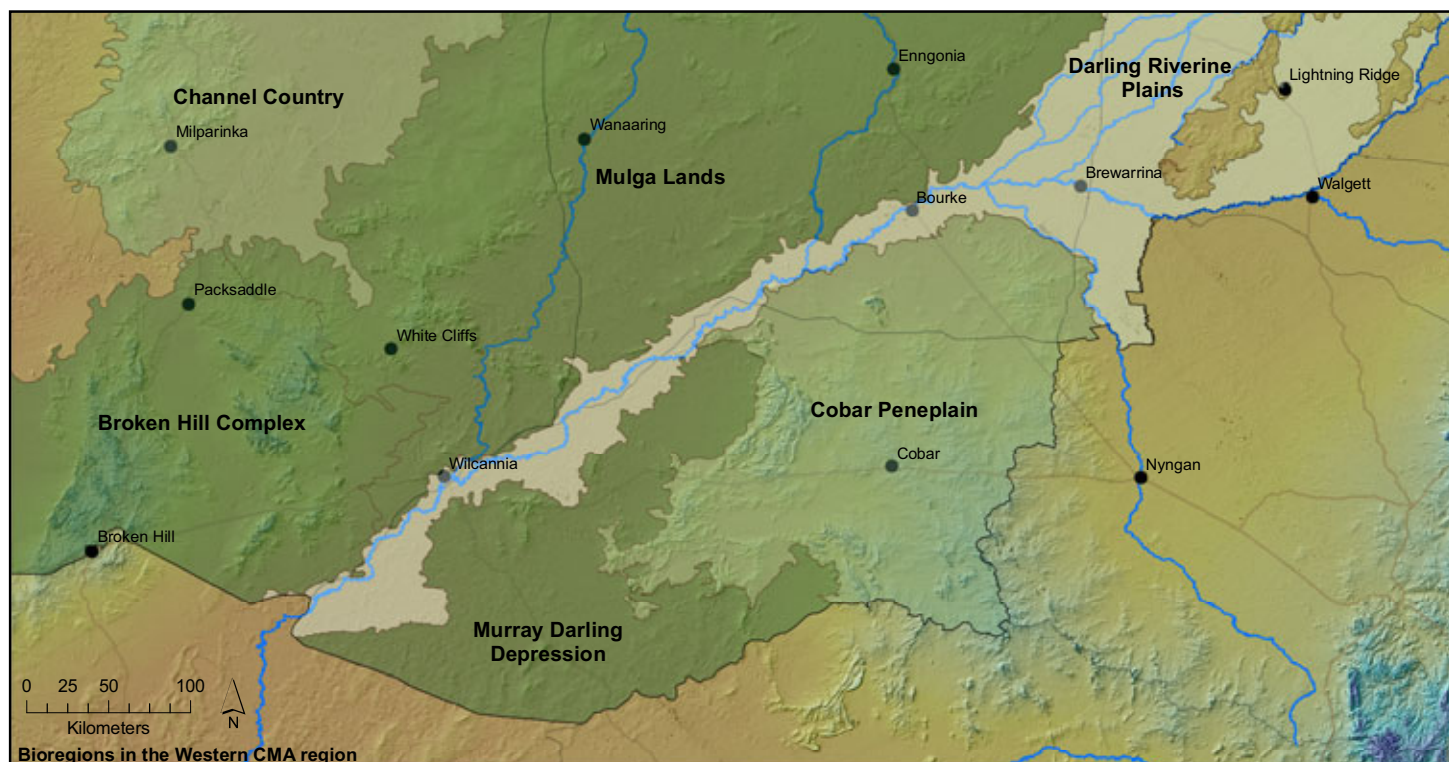
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "In managing your total grazing pressure do you try to restrict the grazing of feral and native animals?"

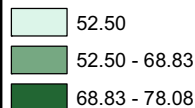




## 18. MANAGEMENT OF STOCK ACCESS TO WATERING POINTS



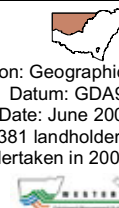
Percentage of landholders that manage stock access to watering points



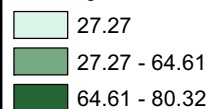
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you manage or control stock access to watering points as part of your management of domestic or feral stock?"



Percentage of landholders that manage stock access to watering points



Projection: Geographics  
Datum: GDA94  
Date: June 2009

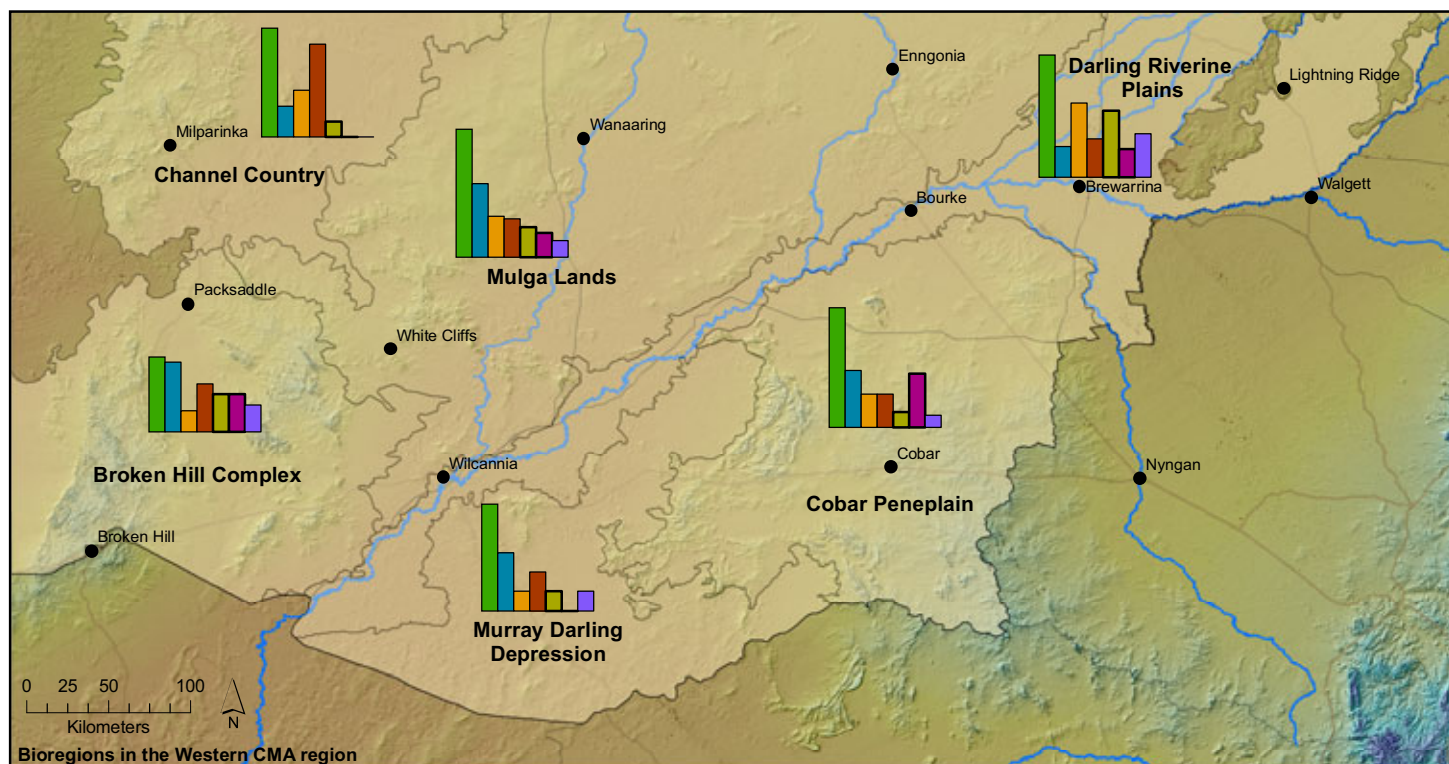
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Do you manage or control stock access to watering points as part of your management of domestic or feral stock?"

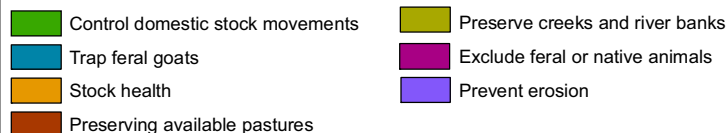




## 19. REASONS FOR CONTROLLING STOCK ACCESS TO WATERING POINTS



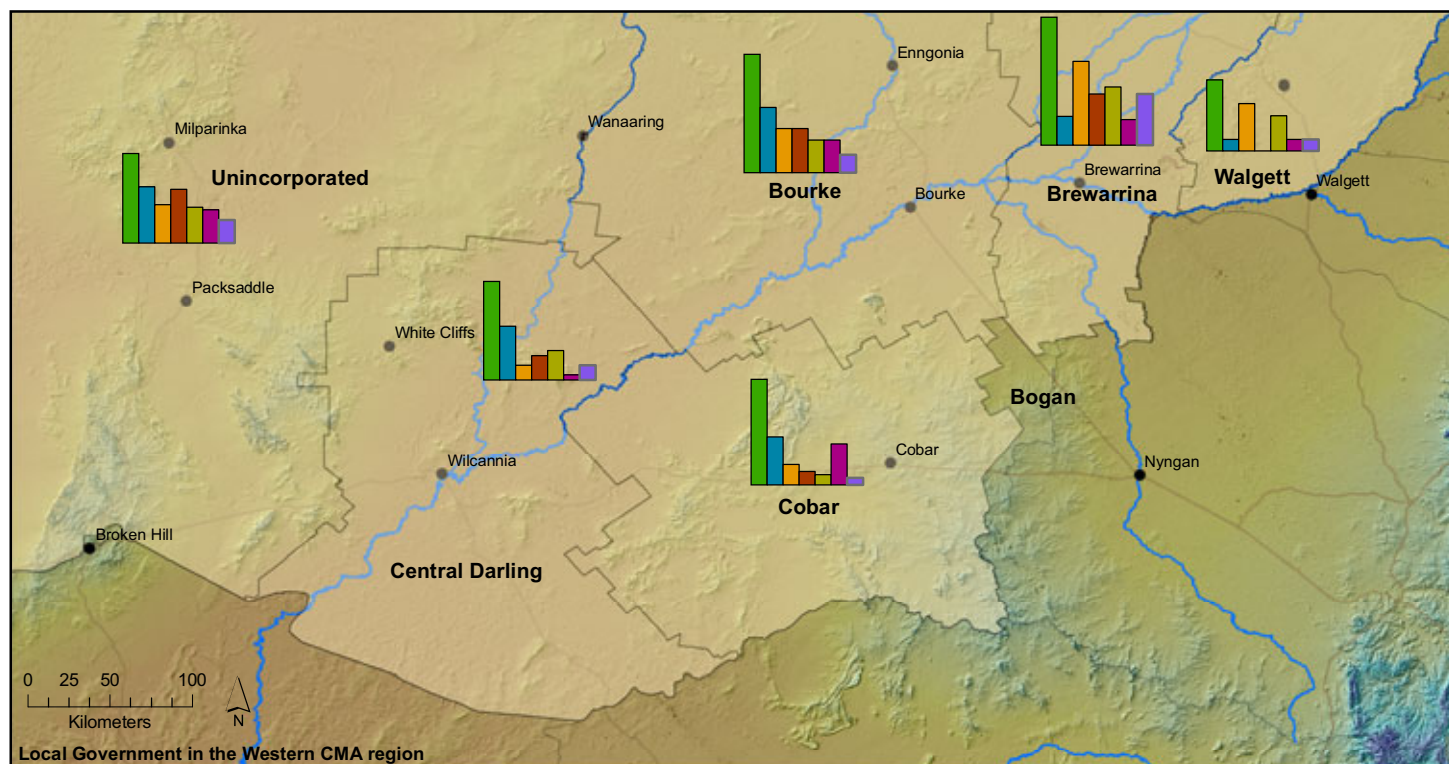
Percent of landholders reporting different reasons for controlling stock access to watering points



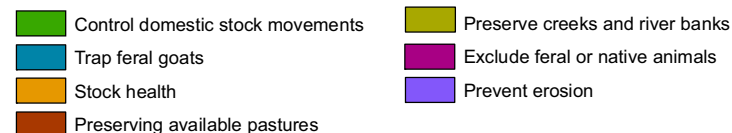
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "What are your main reasons for controlling stock access to watering points?"



Percent of landholders reporting different reasons for controlling stock access to watering points



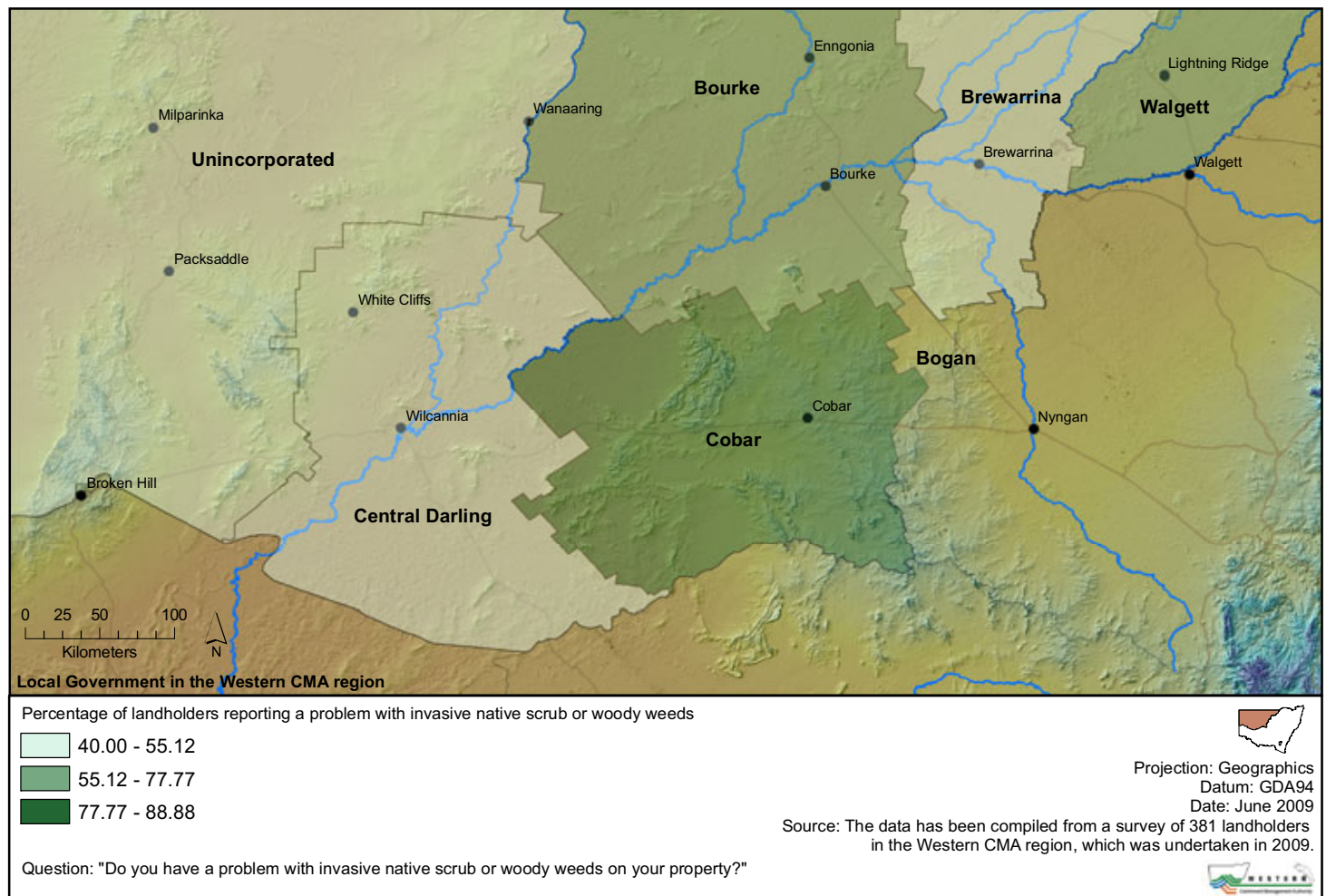
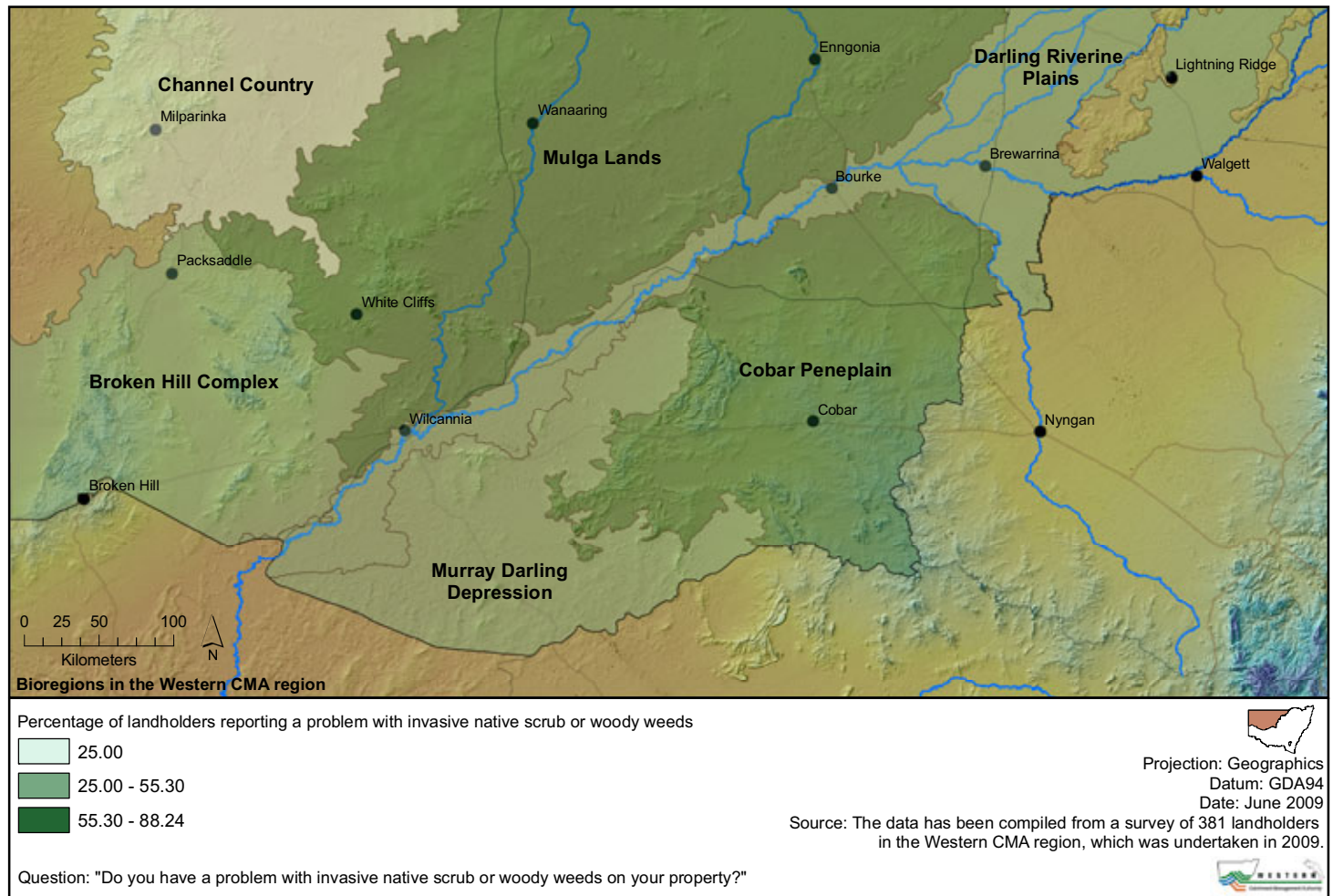
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "What are your main reasons for controlling stock access to watering points?"

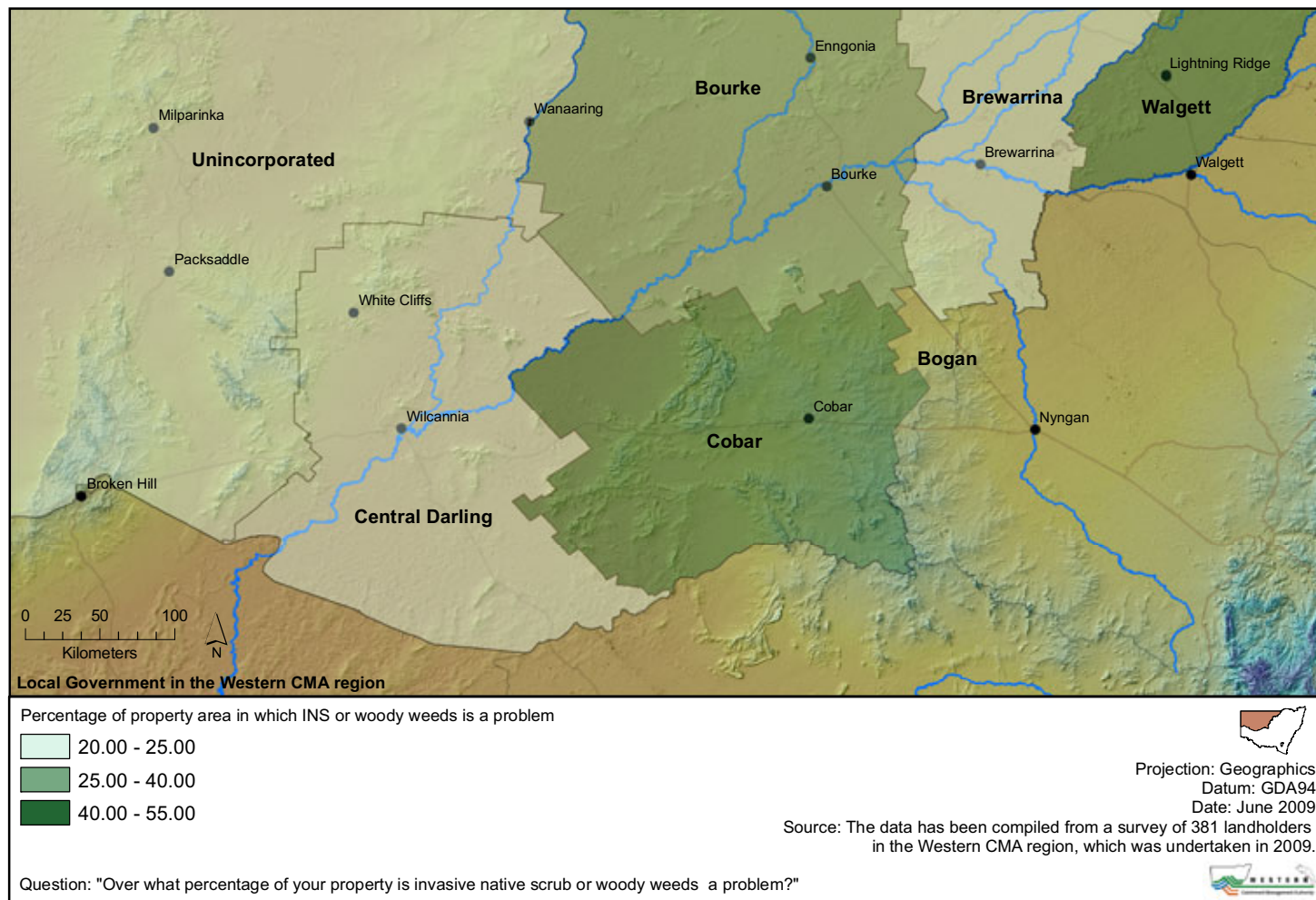
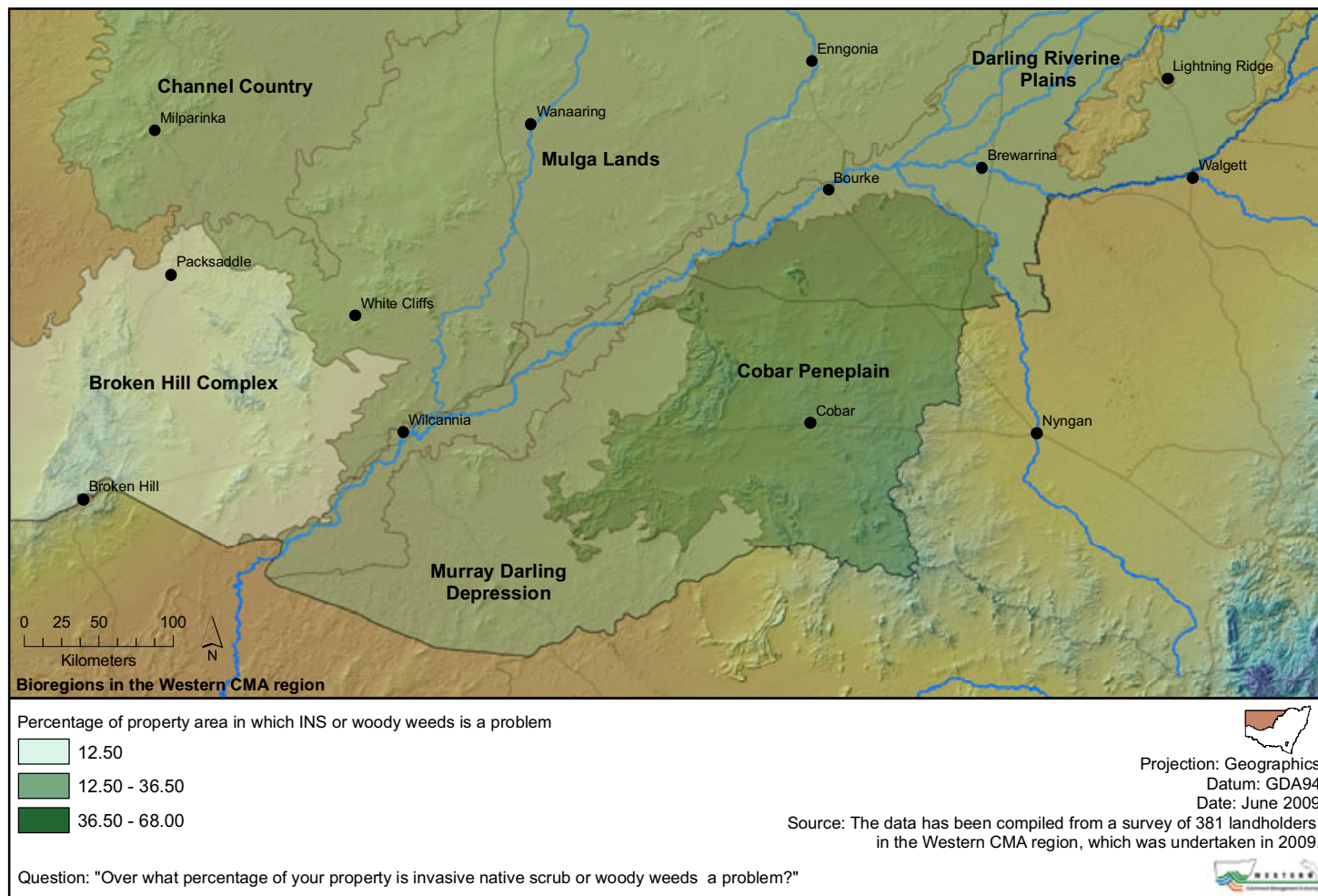


## 20. PROBLEMS WITH INVASIVE NATIVE SCRUB OR WOODY WEEDS



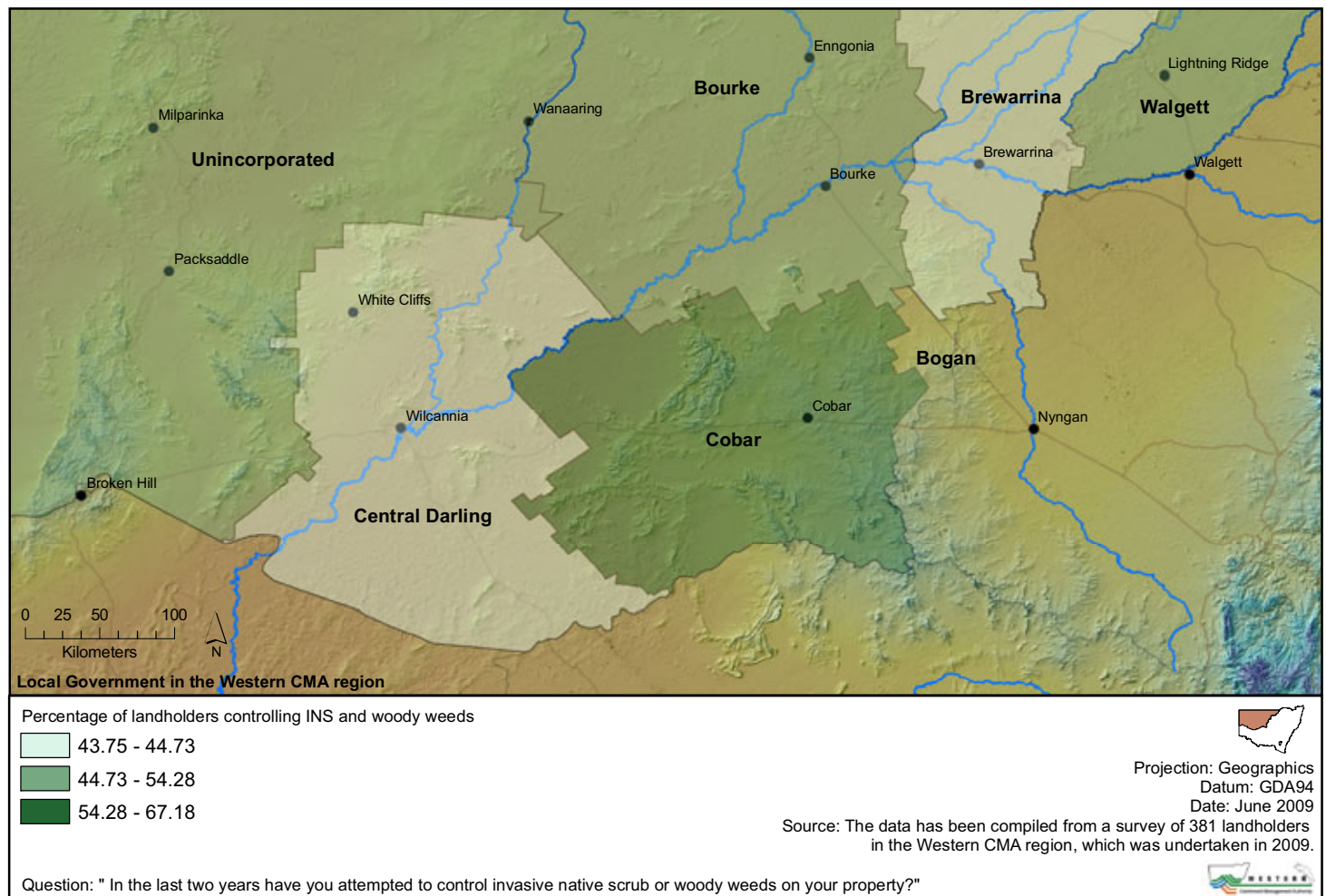
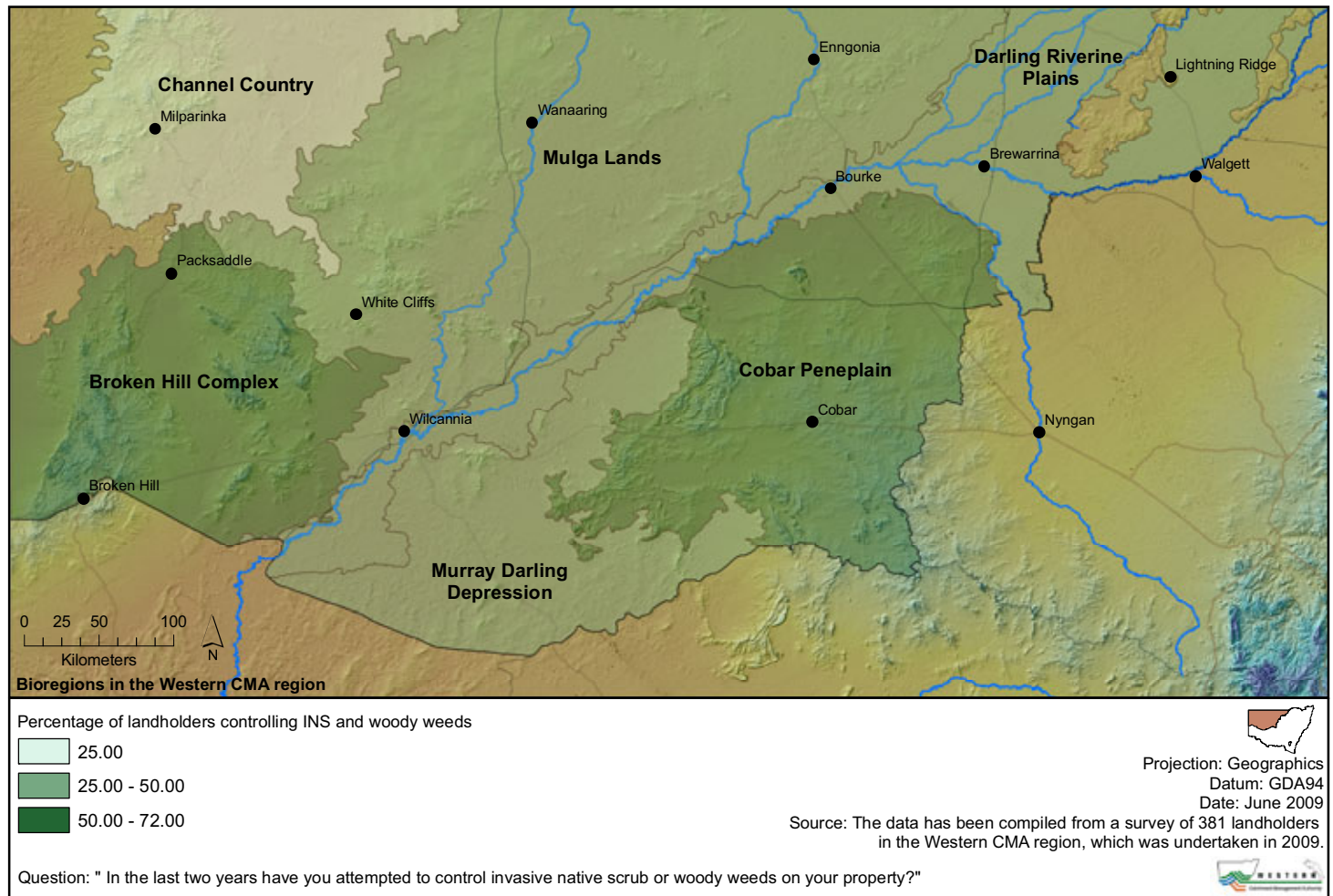


## 21. PERCENT OF PROPERTY WHERE INS OR WOODY WEEDS A PROBLEM



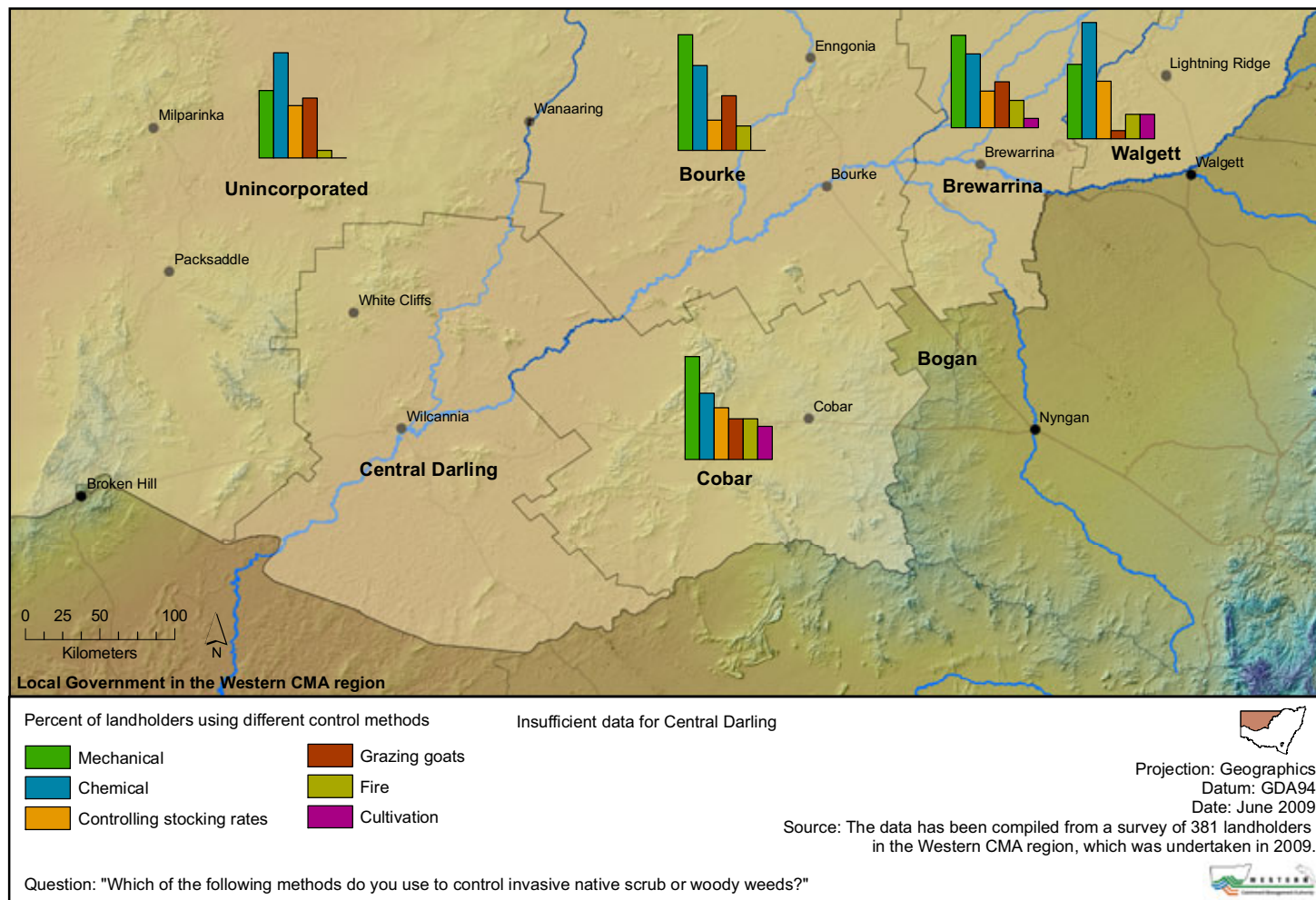
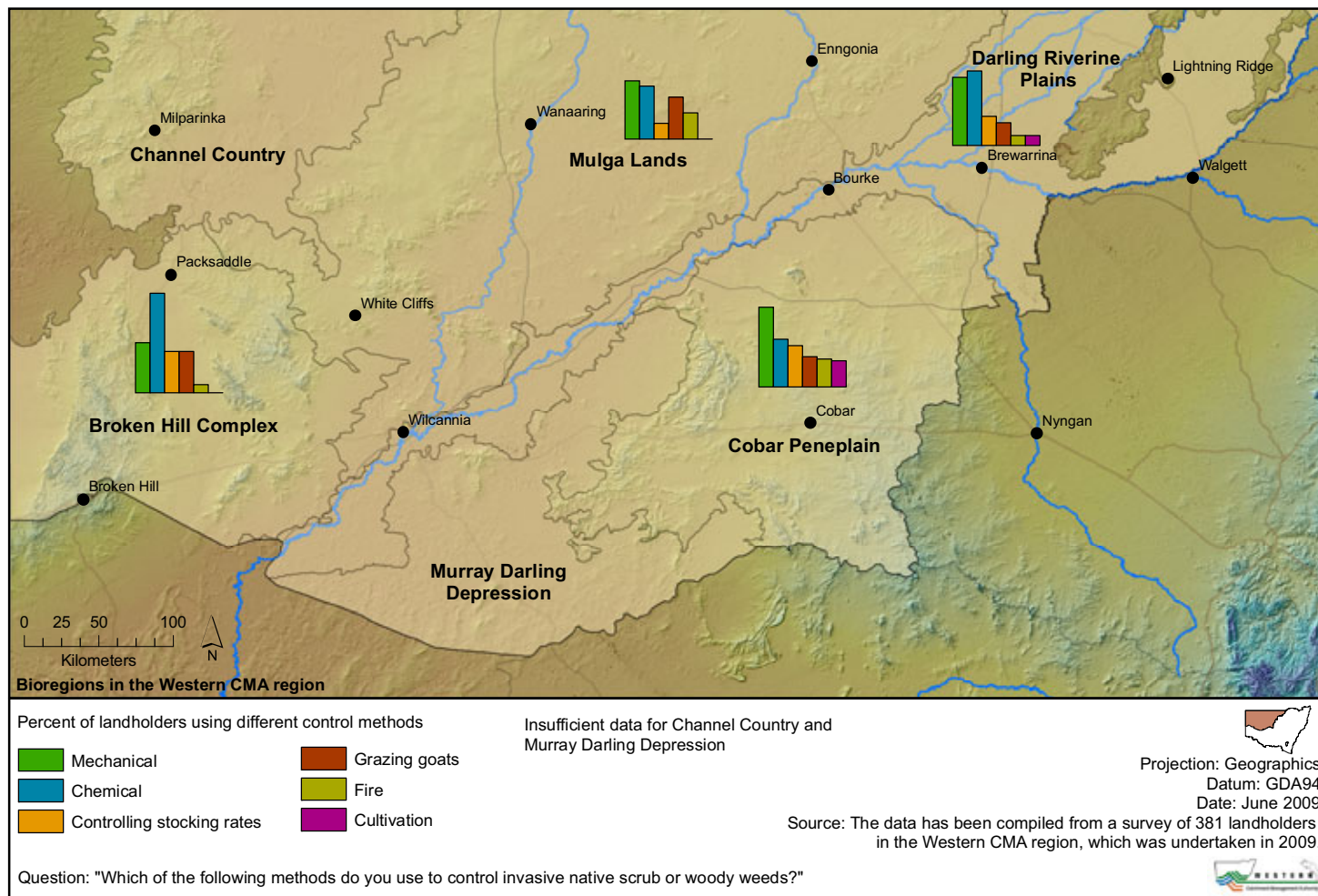


## 22. PERCENT OF LANDHOLDERS CONTROLLING INS AND WOODY WEEDS



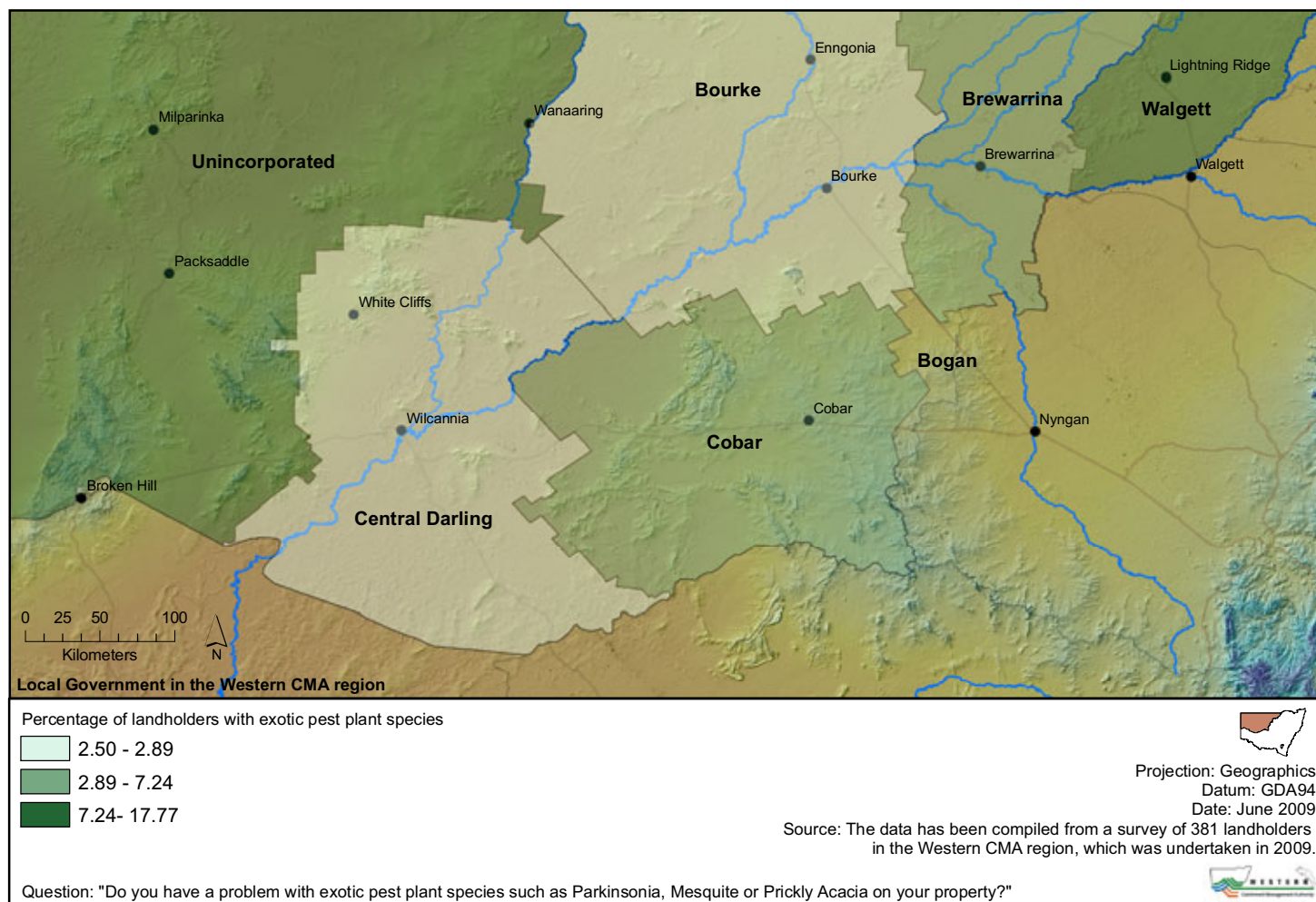
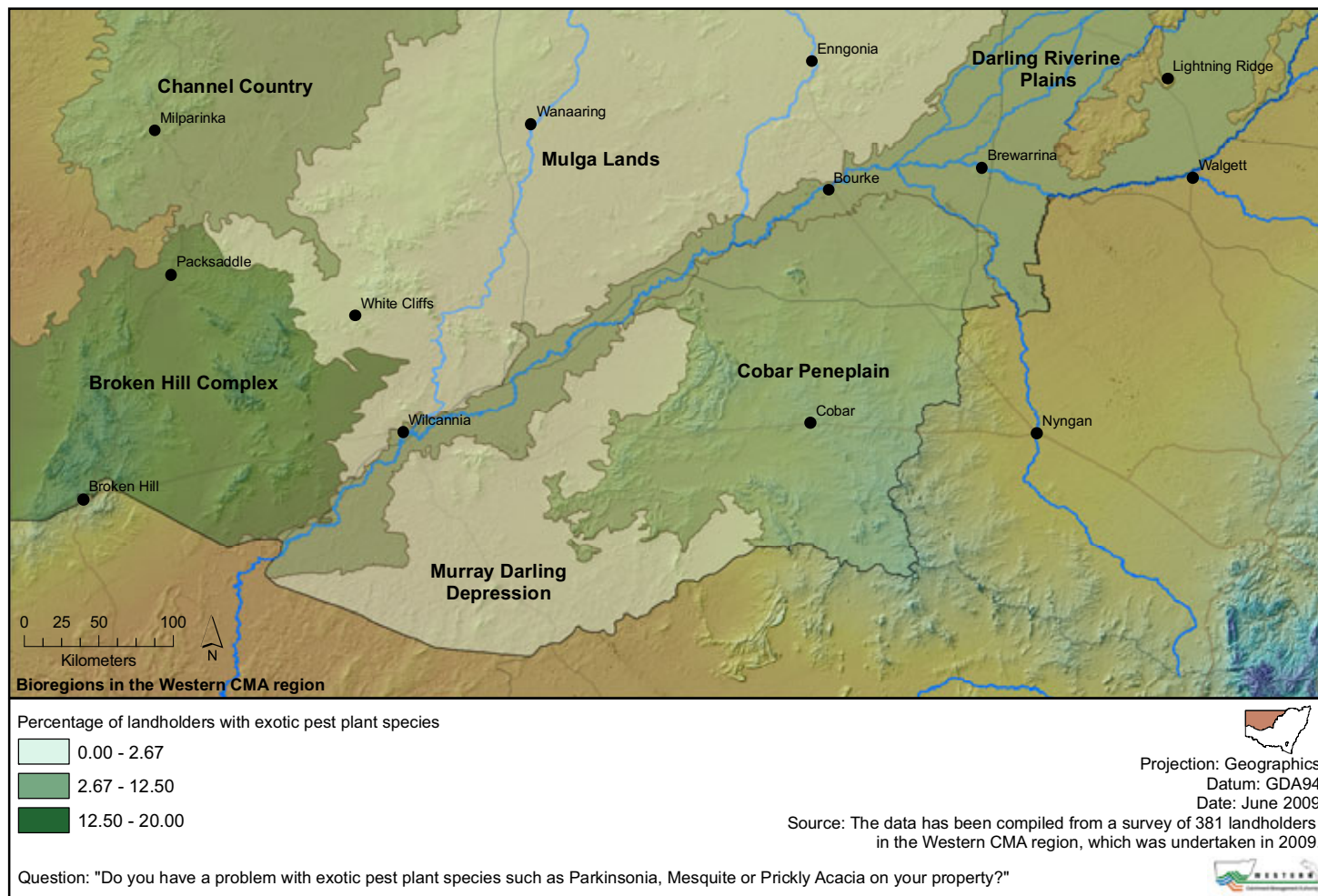


## 23. CONTROL METHODS FOR INS AND WOODY WEEDS



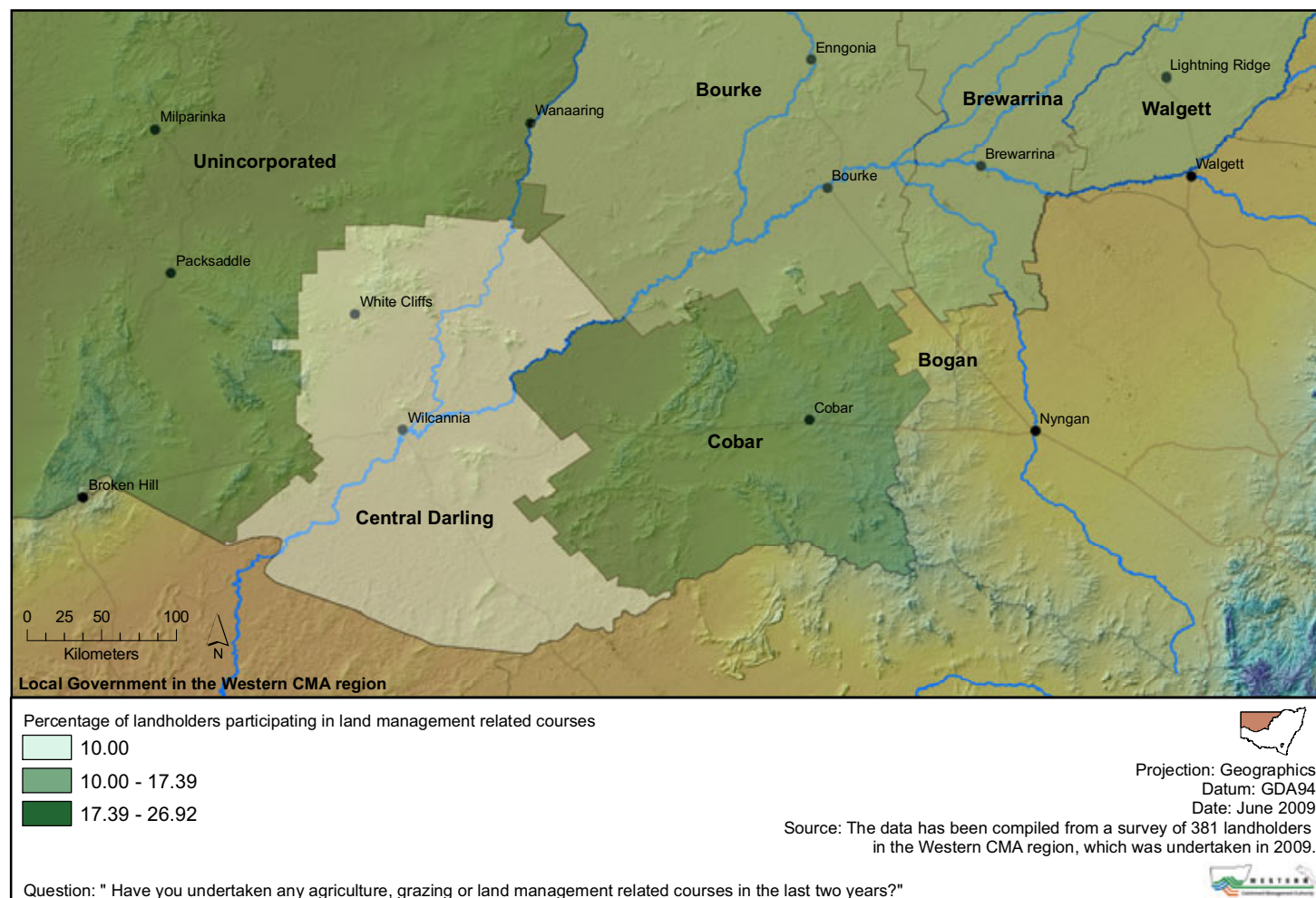
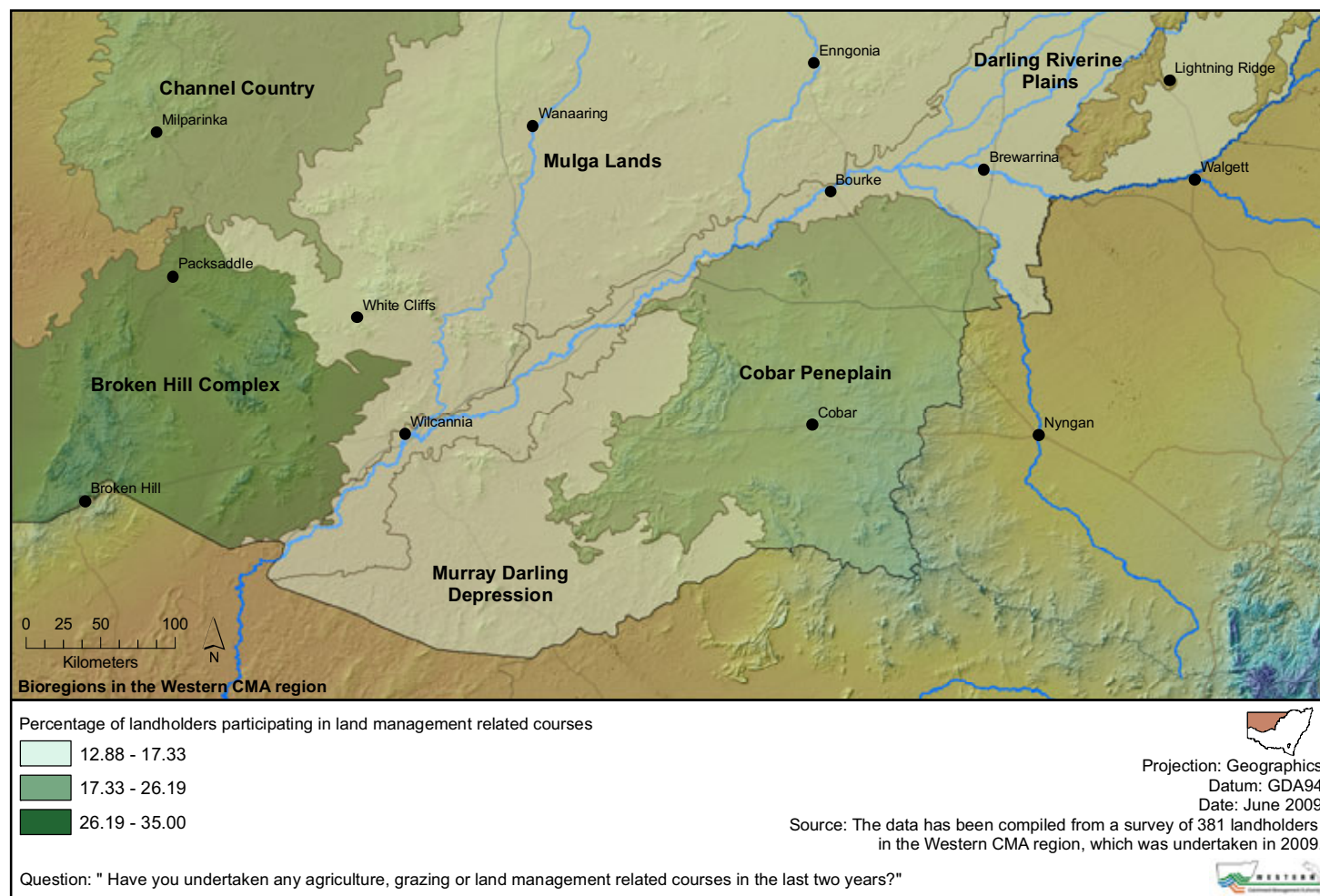


## 24. PERCENT OF LANDHOLDERS WITH EXOTIC PEST PLANT SPECIES



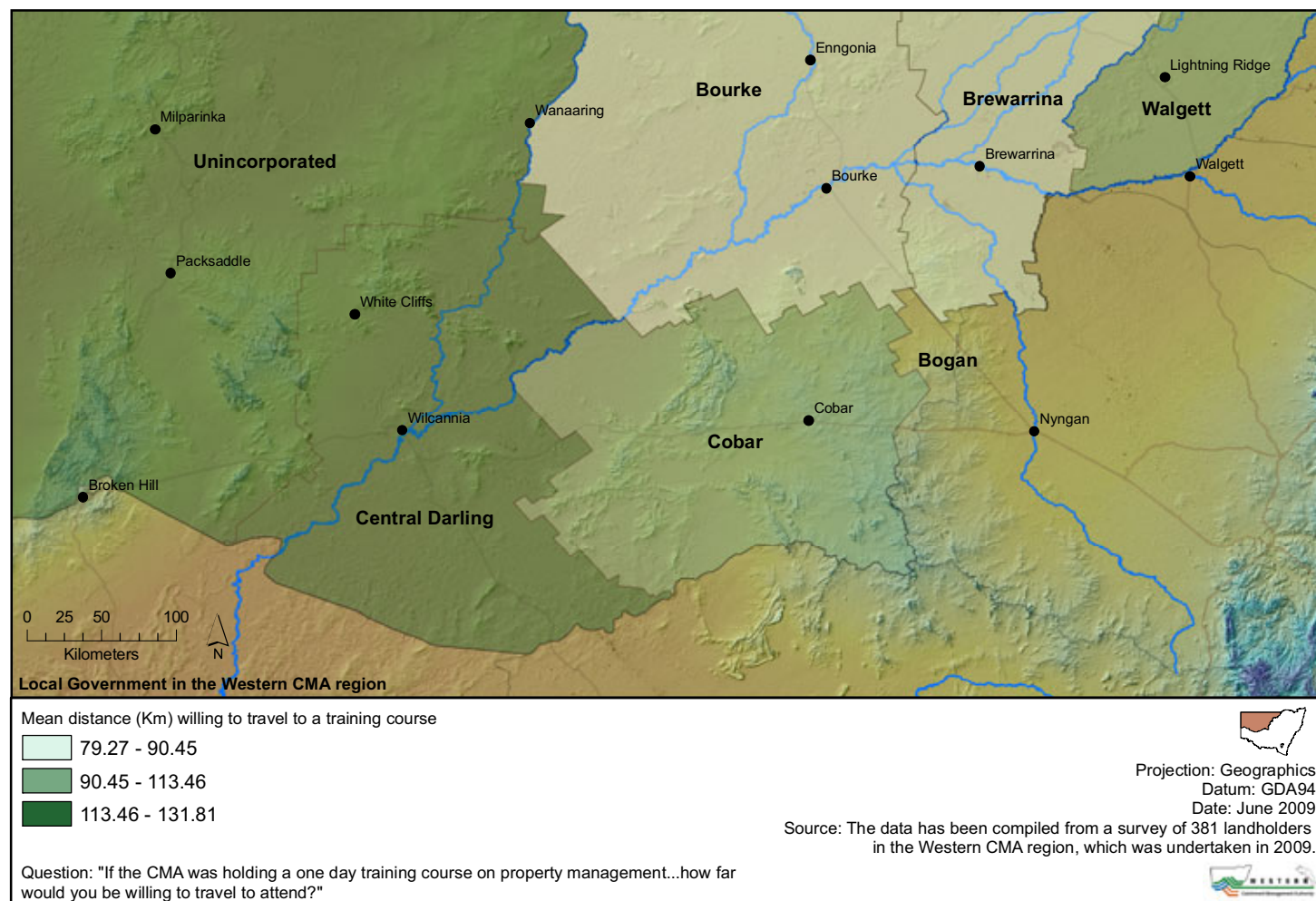
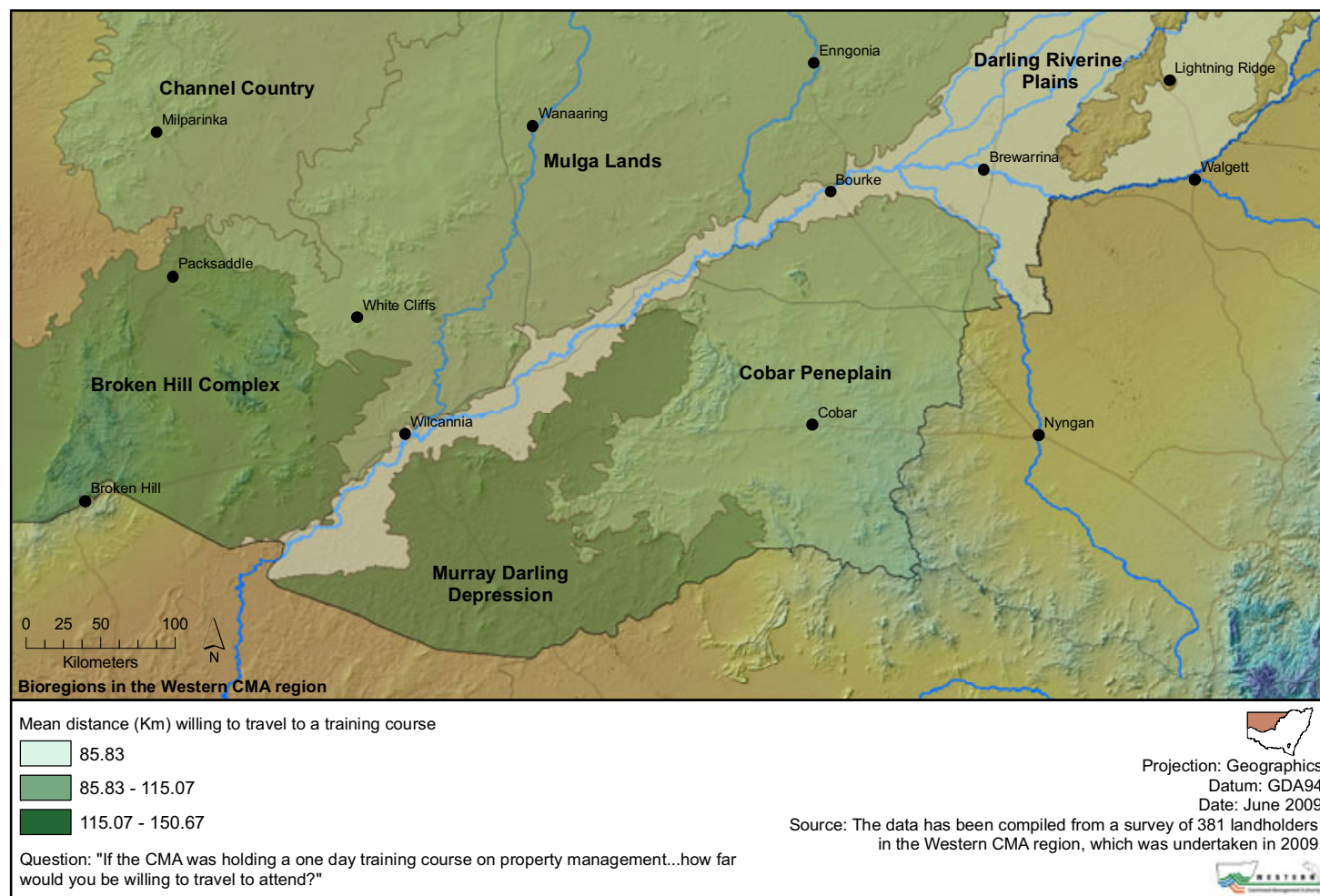


## 25. PARTICIPATION IN LAND MANAGEMENT RELATED COURSES



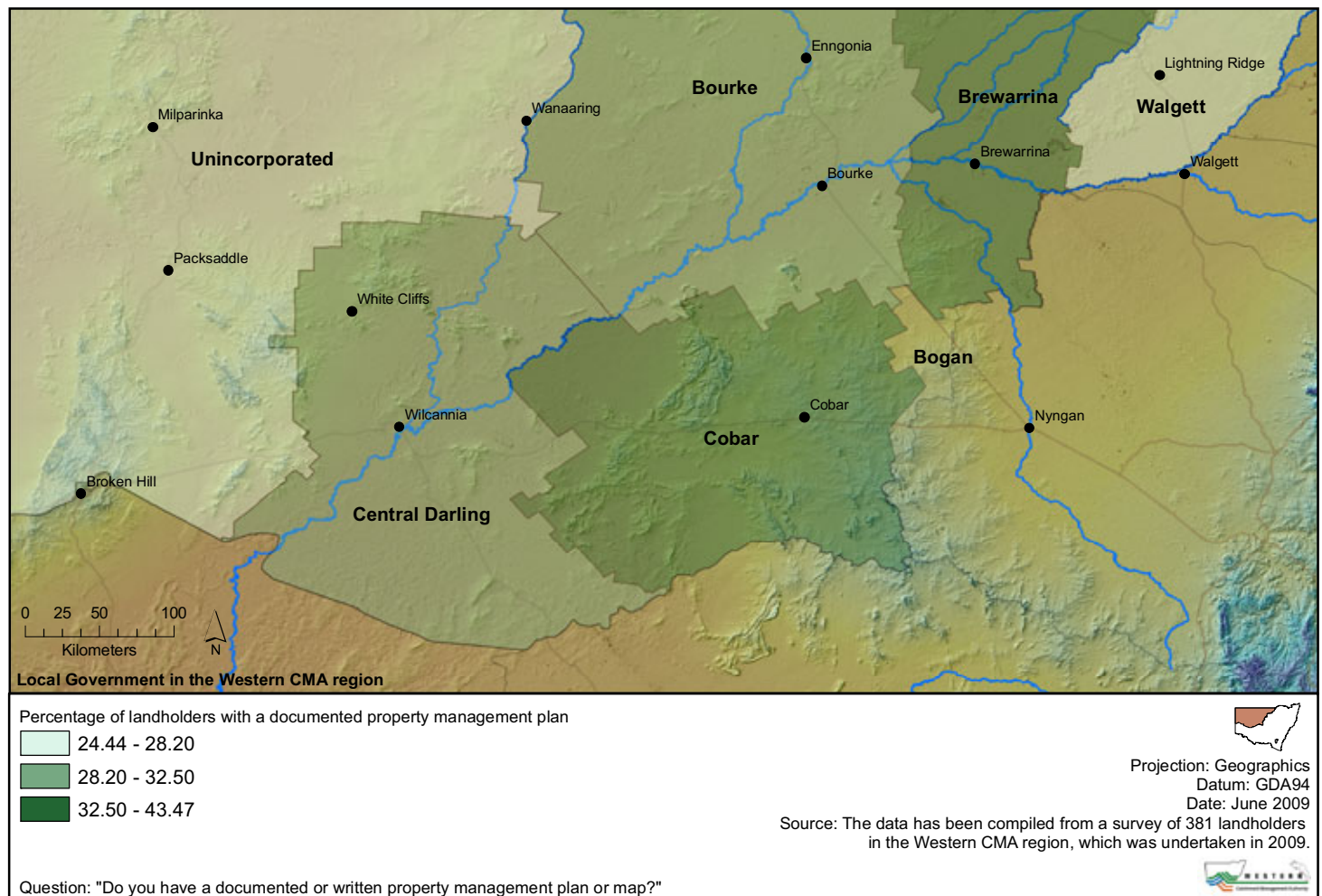
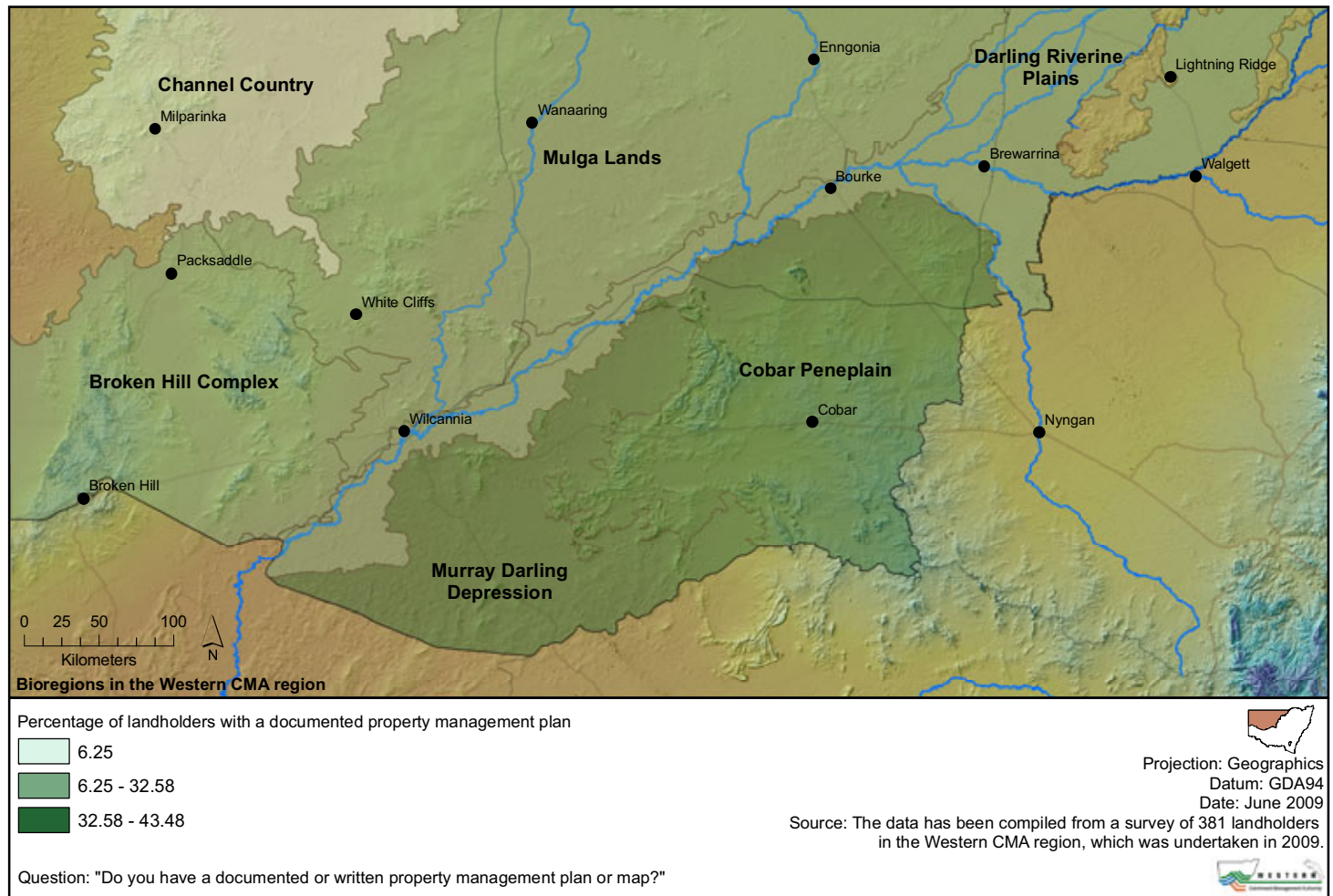


## 26. DISTANCE WILLING TO TRAVEL TO TRAINING COURSE



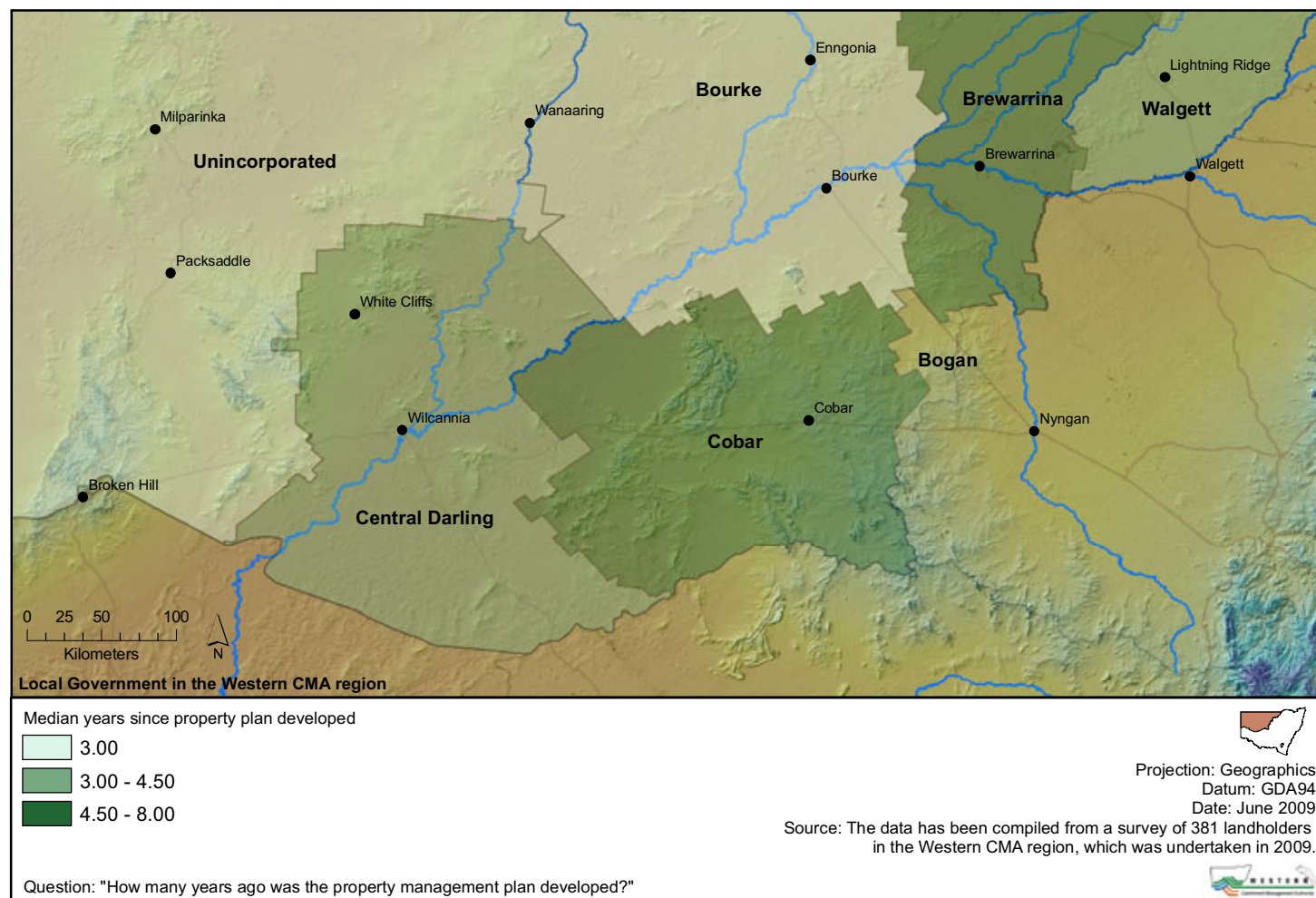
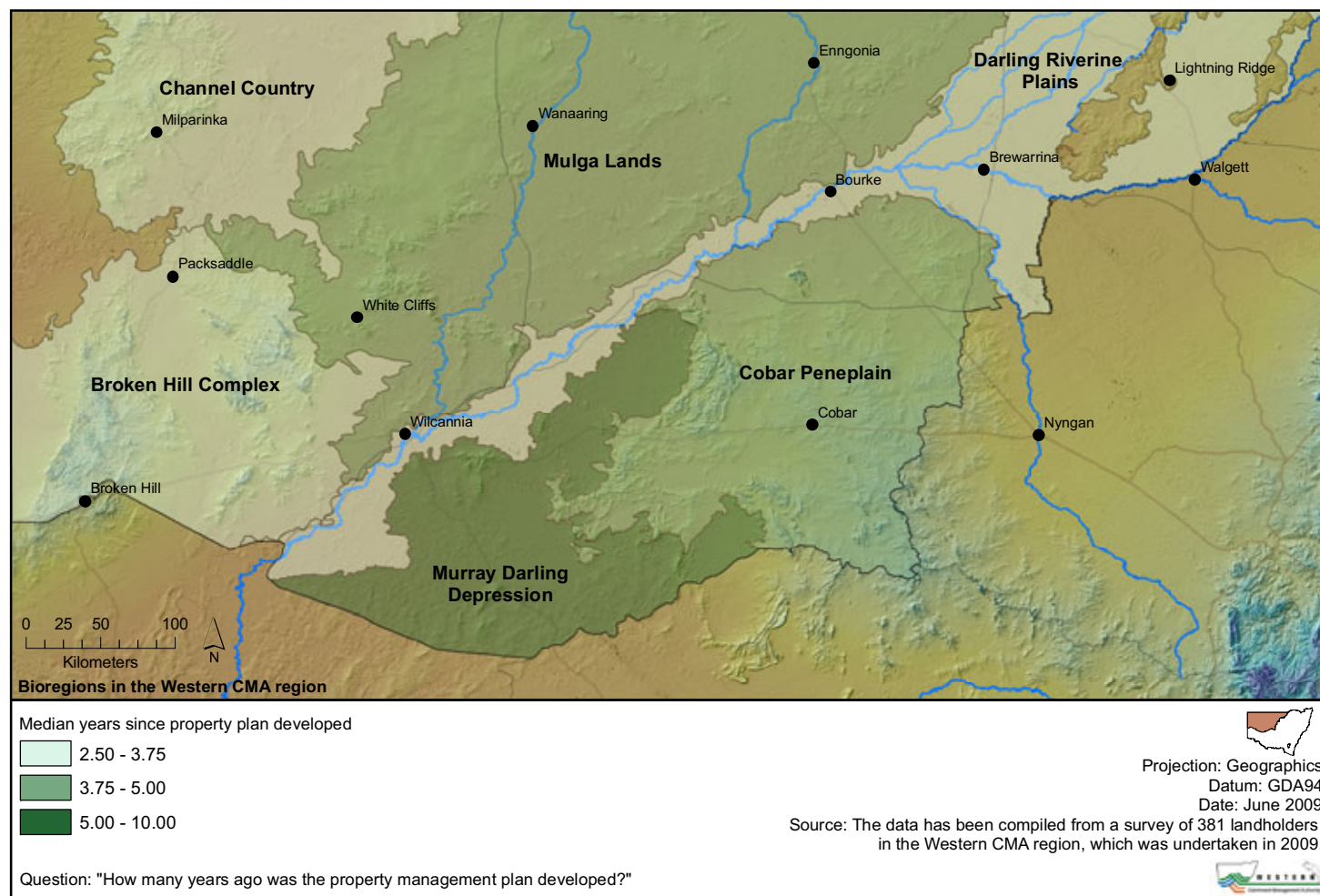


## 27. PERCENT OF LANDHOLDERS WITH A DOCUMENTED PROPERTY PLAN



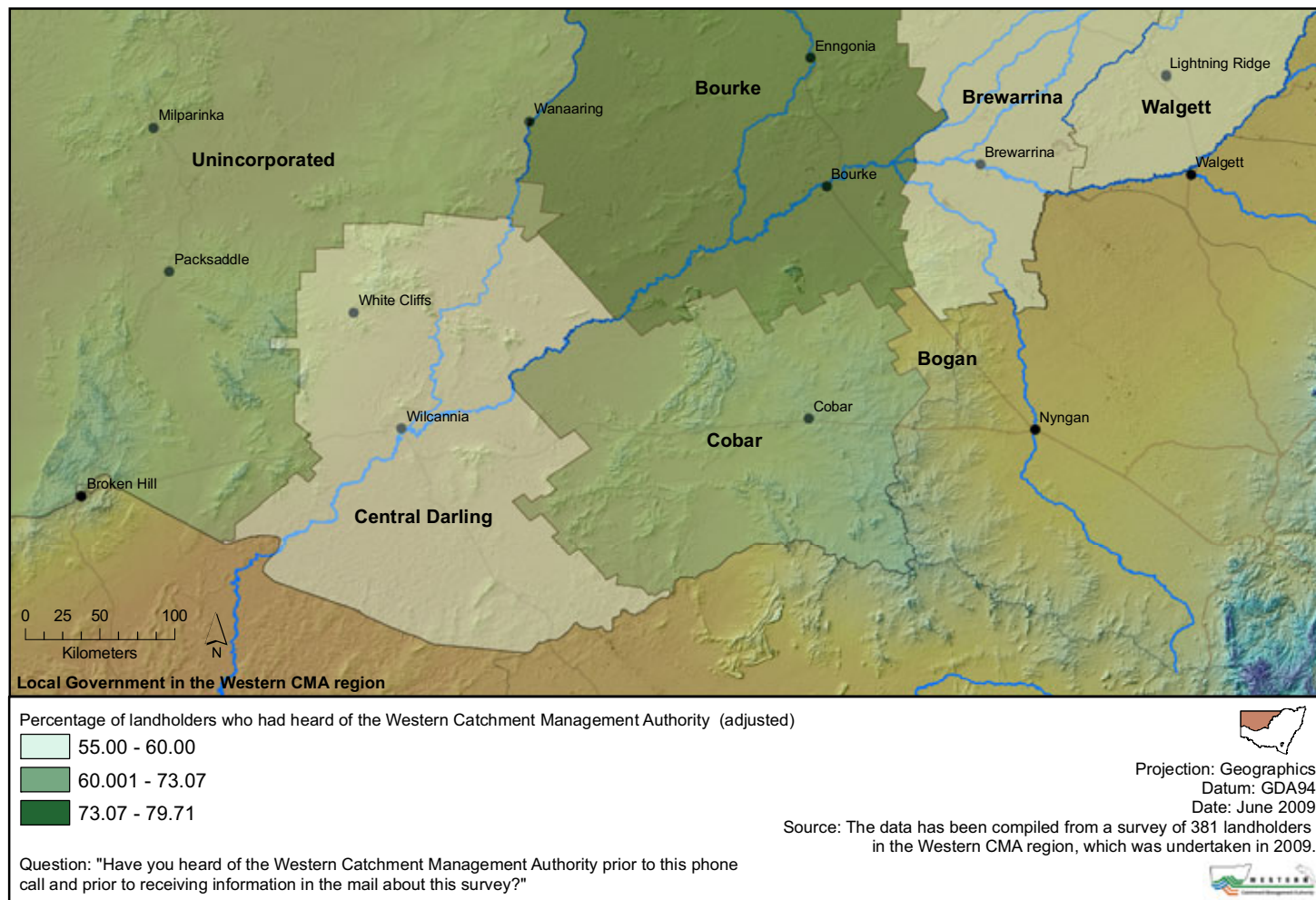
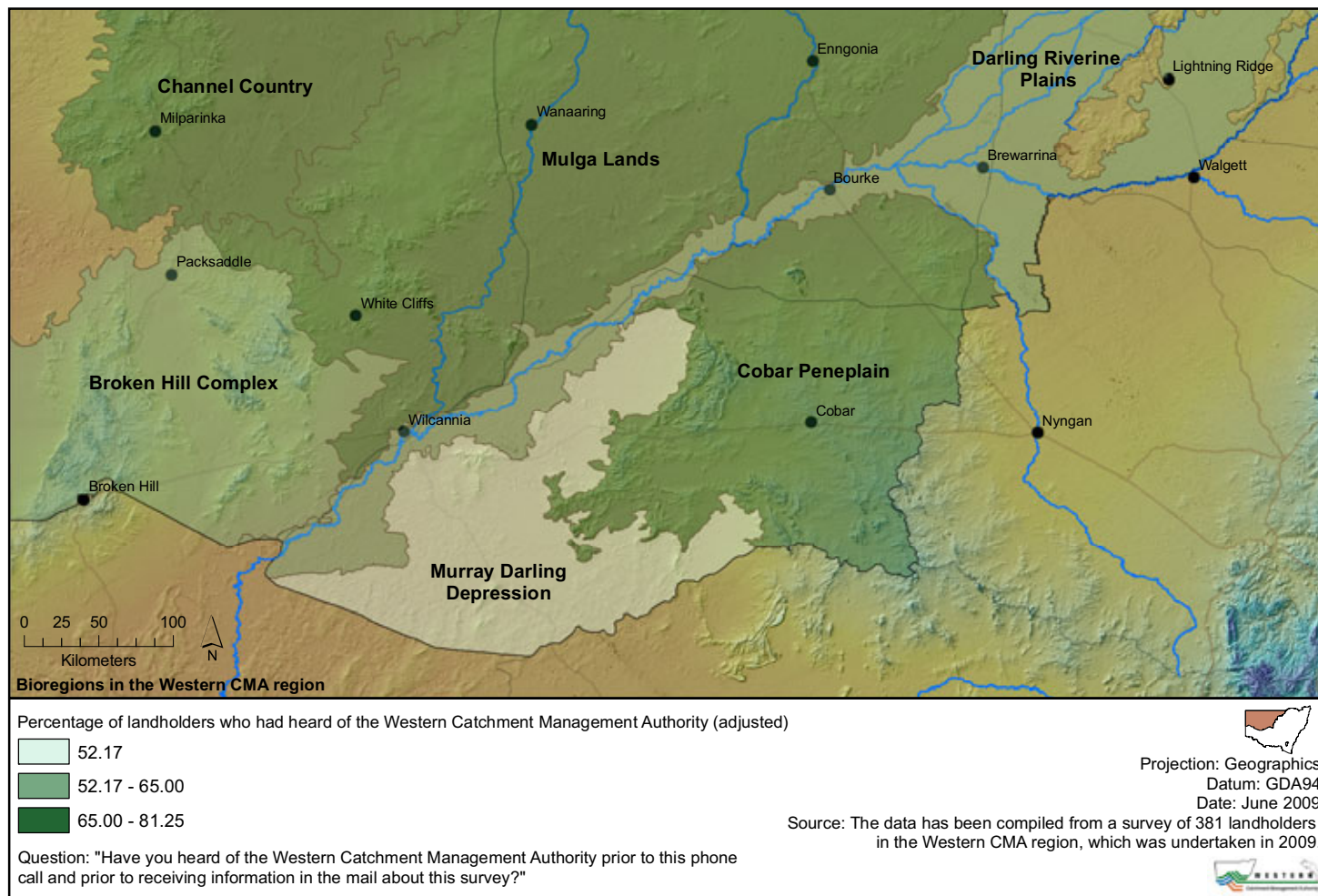


## 28. YEARS SINCE PROPERTY MANAGEMENT PLAN DEVELOPED



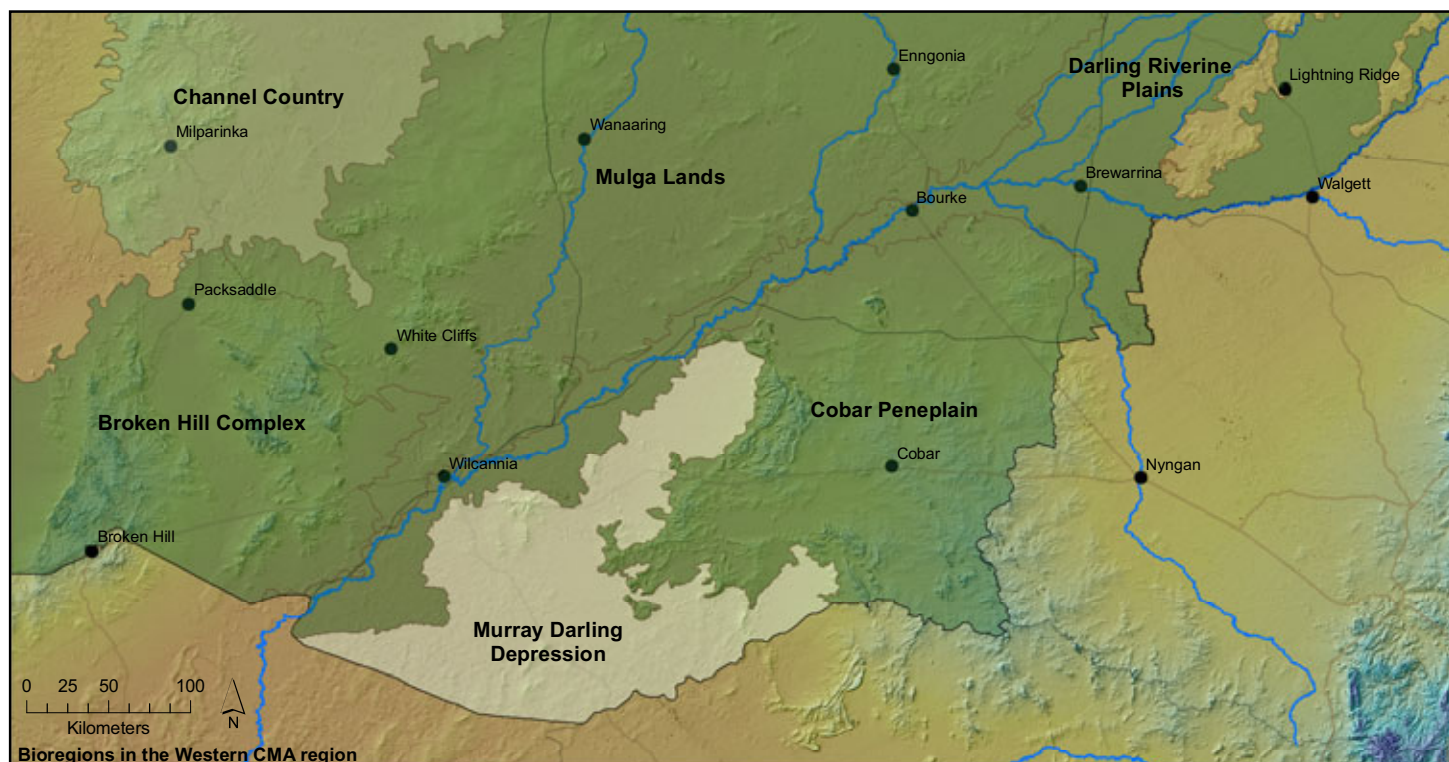


## 29. HEARD OF THE WESTERN CATCHMENT MANAGEMENT AUTHORITY



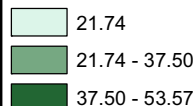


### 30. CONTACT OR COMMUNICATIONS WITH THE WESTERN CMA



Bioregions in the Western CMA region

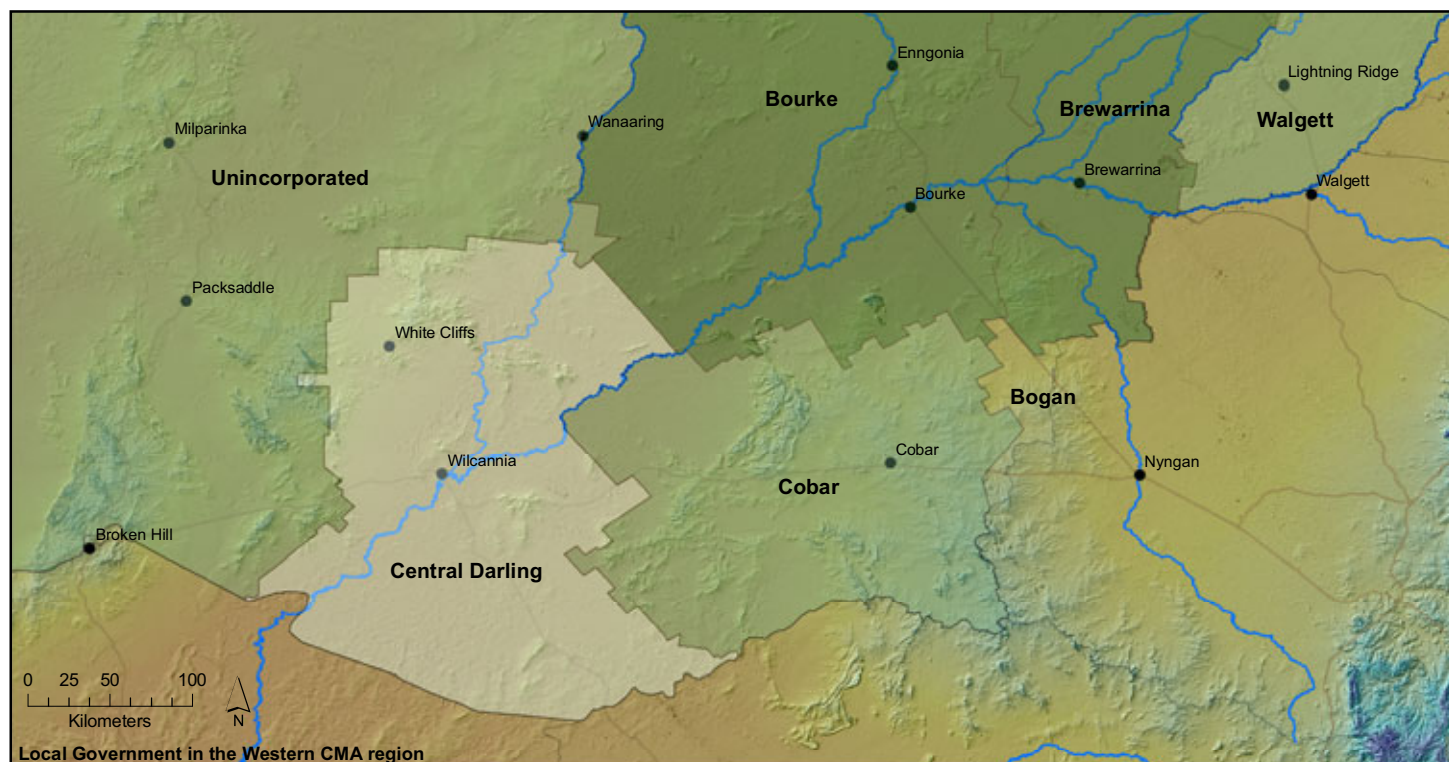
Percentage of landholders who had contact or communications with the Western CMA in the last 12 months



Projection: Geographics  
Datum: GDA94  
Date: June 2009

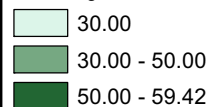
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Have you had any contact or communication with the CMA in the last 12 months?"



Local Government in the Western CMA region

Percentage of landholders who had contact or communications with the Western CMA in the last 12 months



Projection: Geographics  
Datum: GDA94  
Date: June 2009

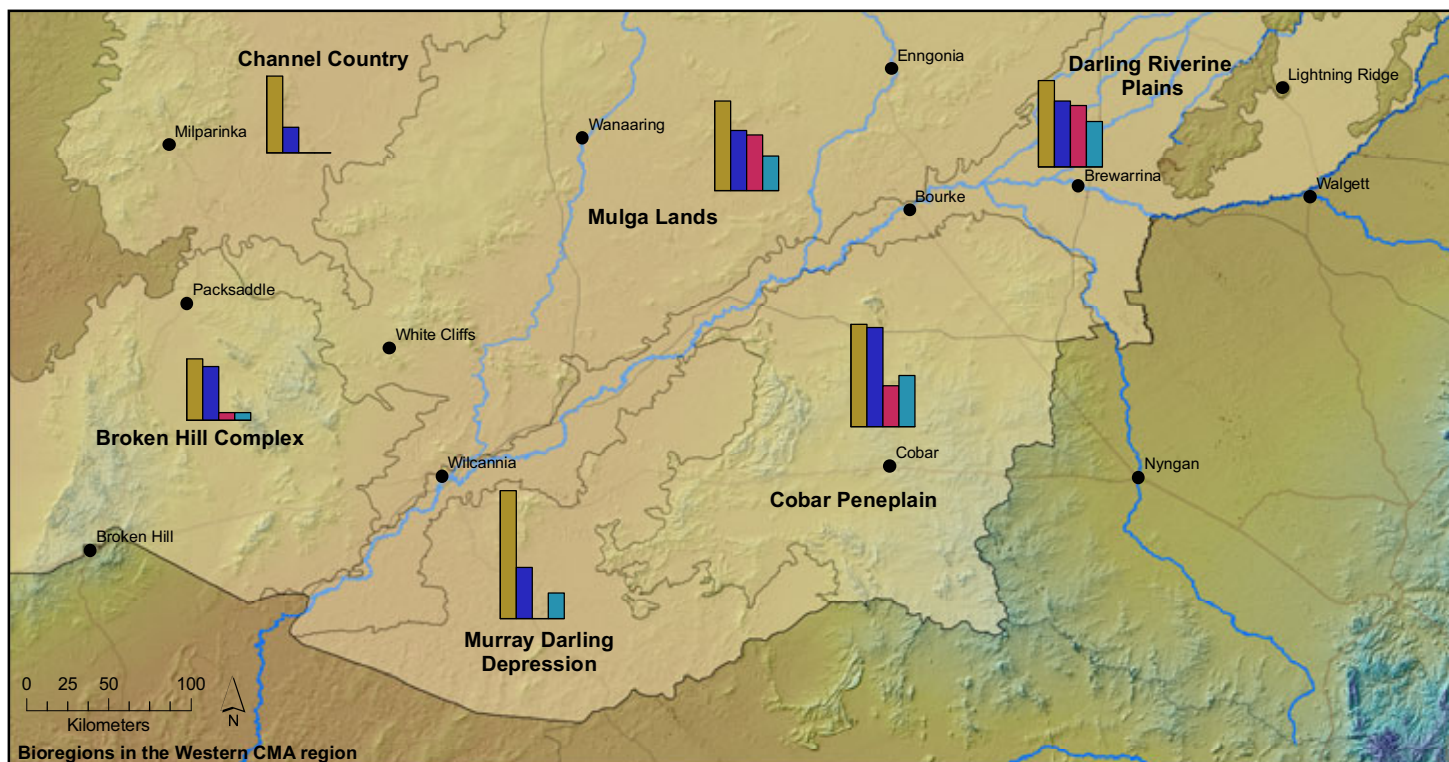
Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Have you had any contact or communication with the CMA in the last 12 months?"





## 31. MAIN TYPE CONTACT OR COMMUNICATIONS WITH THE WESTERN CMA



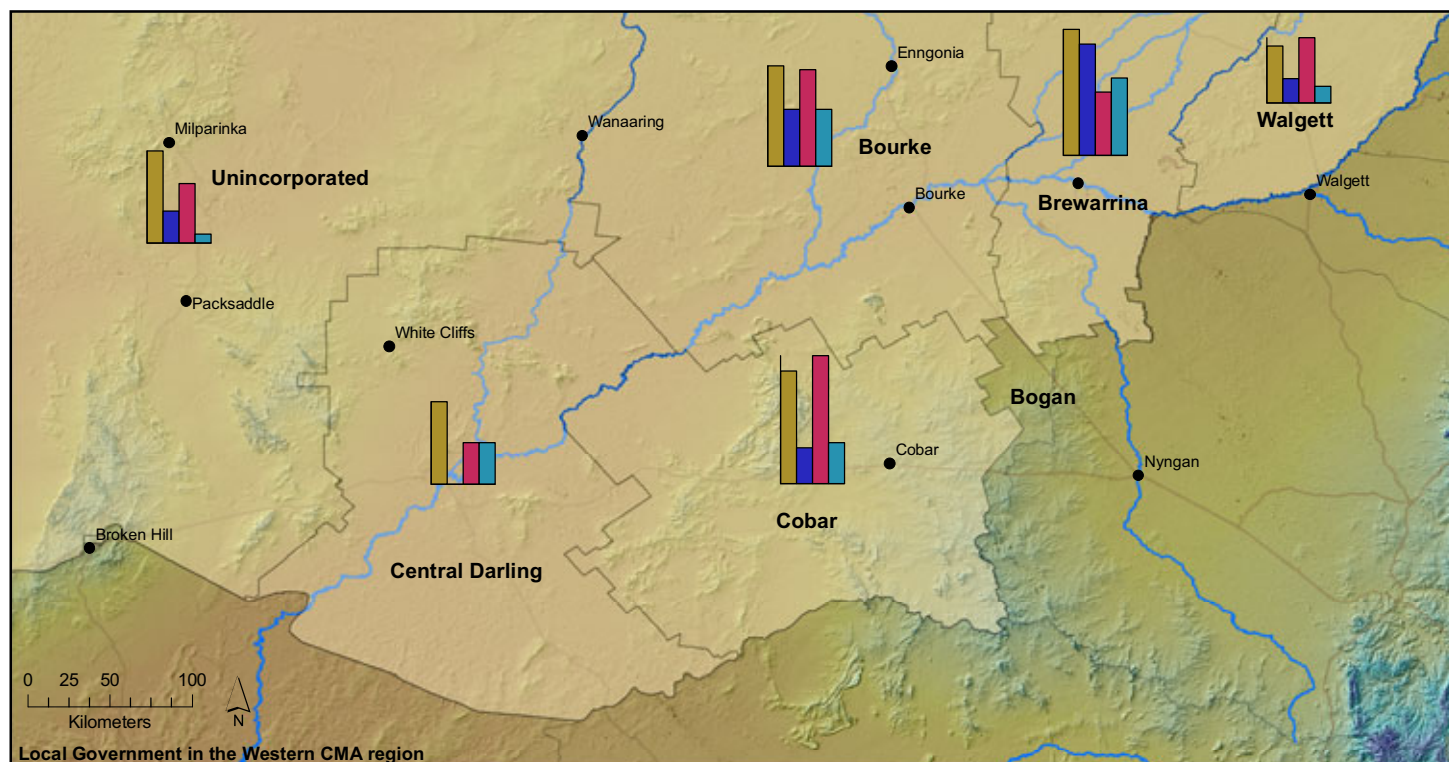
Percentage of landholders reporting four main types of contact or communications

- Applying for funding from the CMA
- Implementing a project on my property
- Contacting the CMA office for general advice
- A CMA staff member visited my property

Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Had you had any contact or communication with the CMA in the last 12 months ...was it through (only top 4 shown)"



Percentage of landholders reporting four main types of contact or communications

- Applying for funding from the CMA
- Implementing a project on my property
- Contacting the CMA office for general advice
- A CMA staff member visited my property

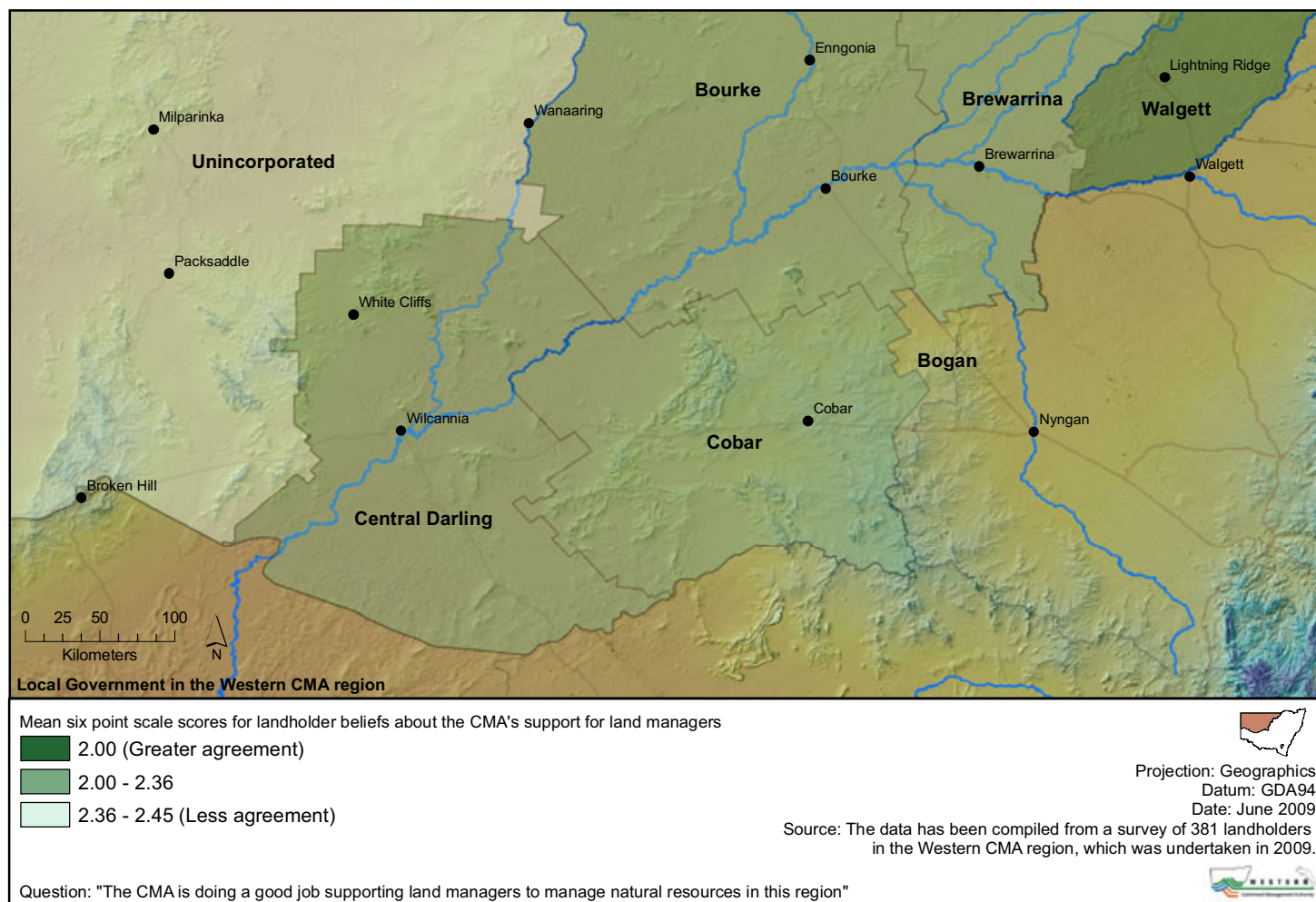
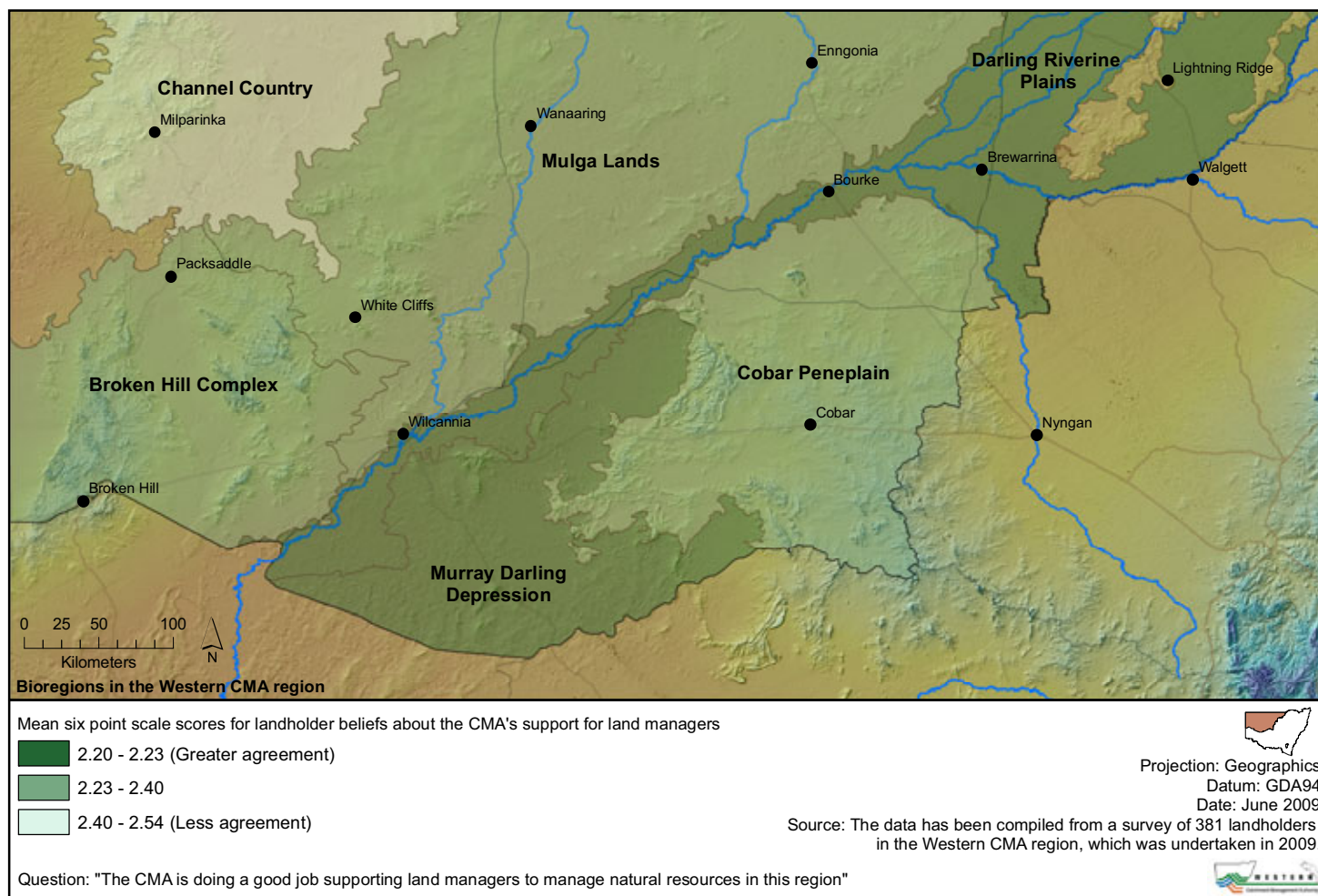
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "Had you had any contact or communication with the CMA in the last 12 months ...was it through (only top 4 shown)"

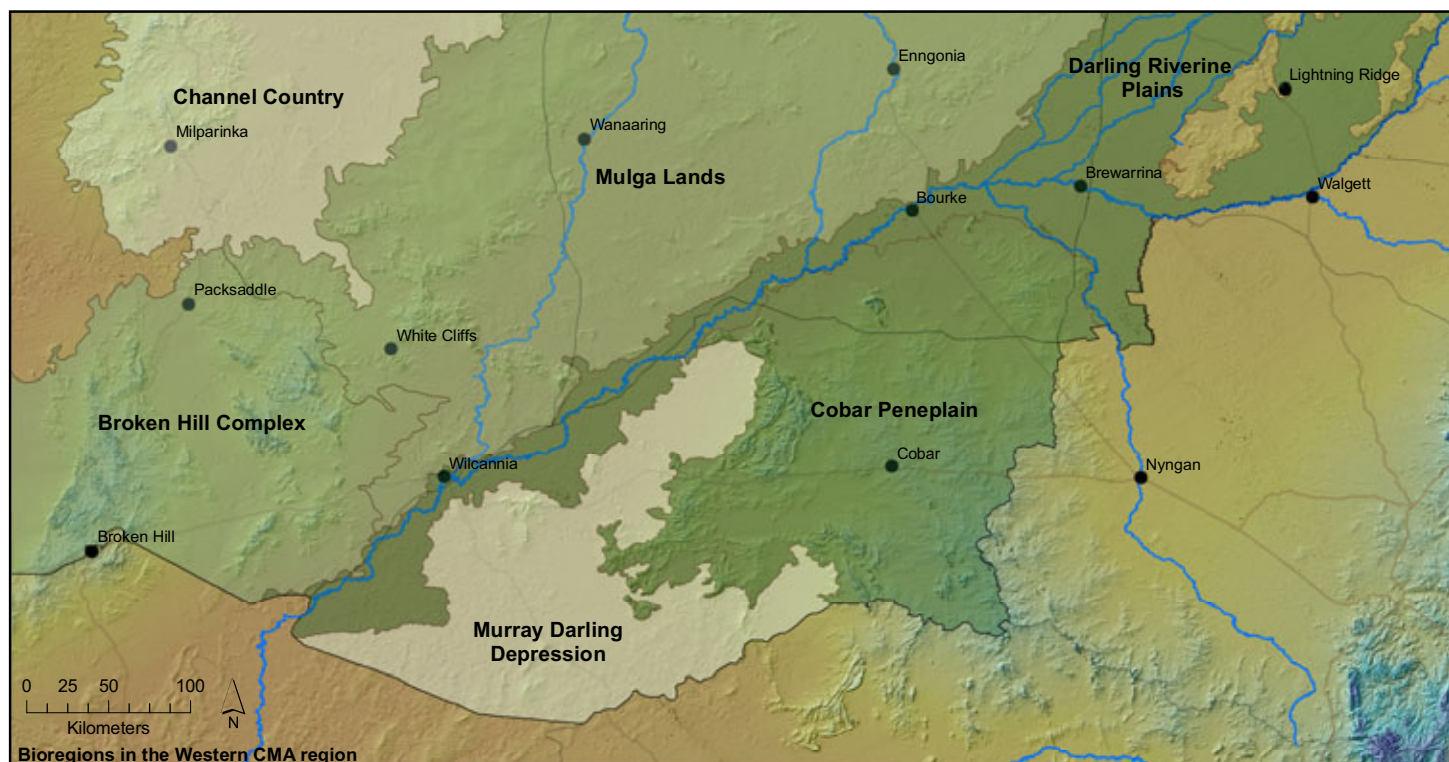


## 32. BELIEFS ABOUT THE CMA'S SUPPORT FOR LAND MANAGERS

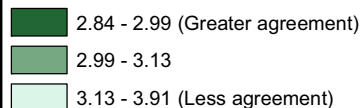




### 33. BELEIFS ABOUT THE CMA AND VEGETATION CLEARING



Mean six point scale scores for landholder beliefs about the CMA's responsibility for vegetation clearing



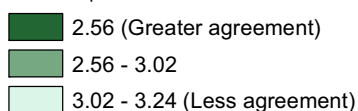
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "The CMA is responsible for controlling vegetation clearing"



Mean six point scale scores for landholder beliefs about the CMA's responsibility for vegetation clearing



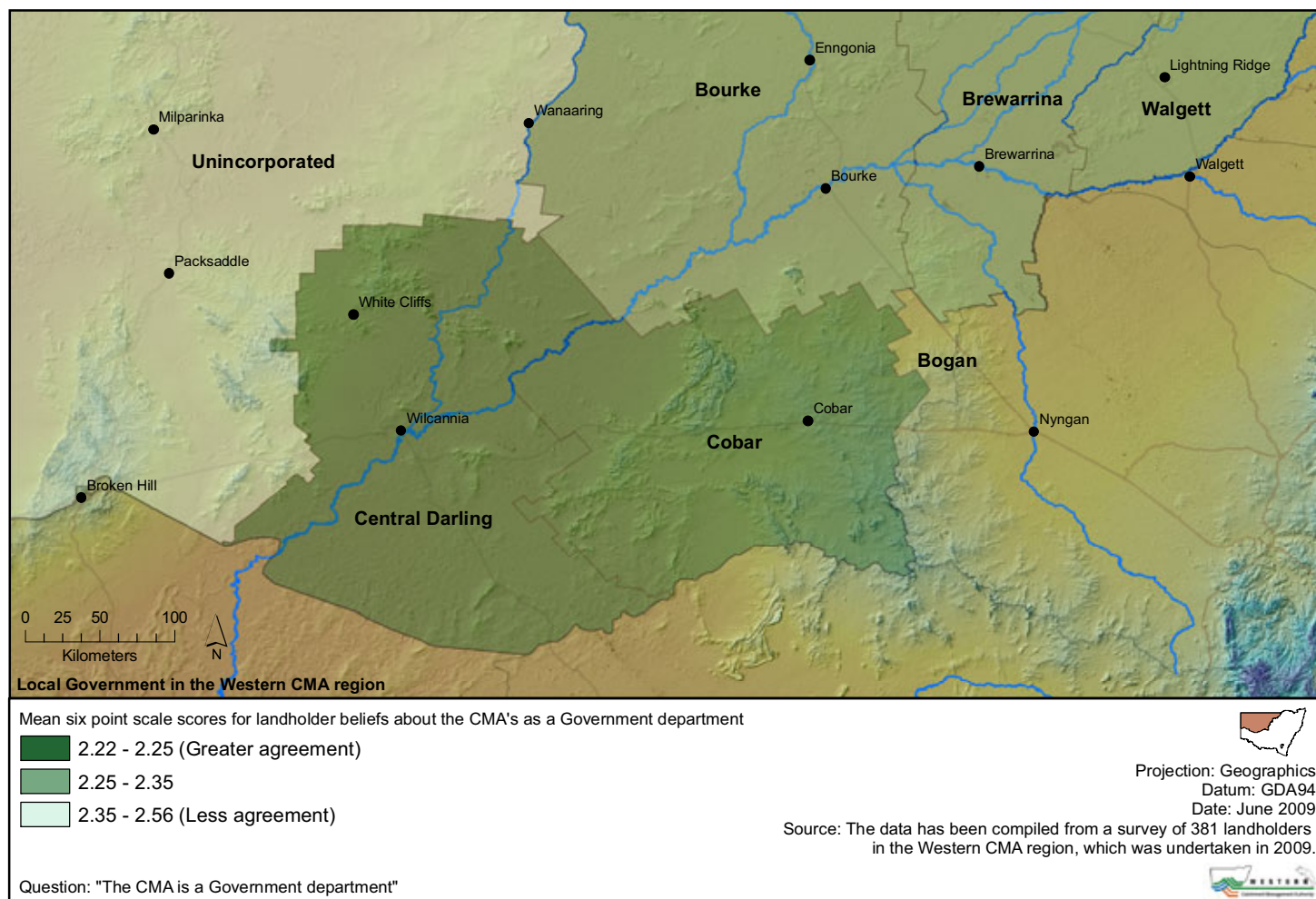
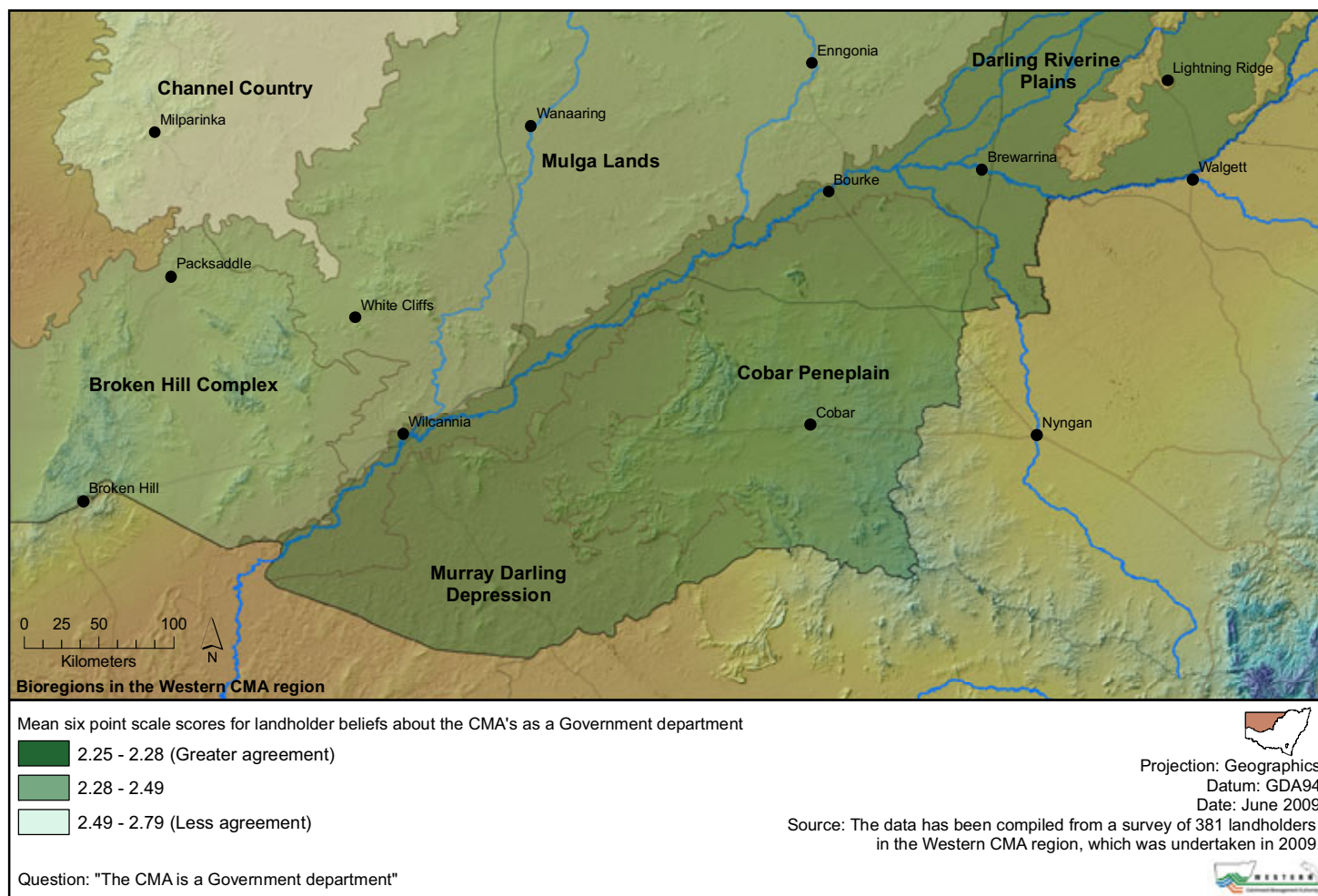
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "The CMA is responsible for controlling vegetation clearing"

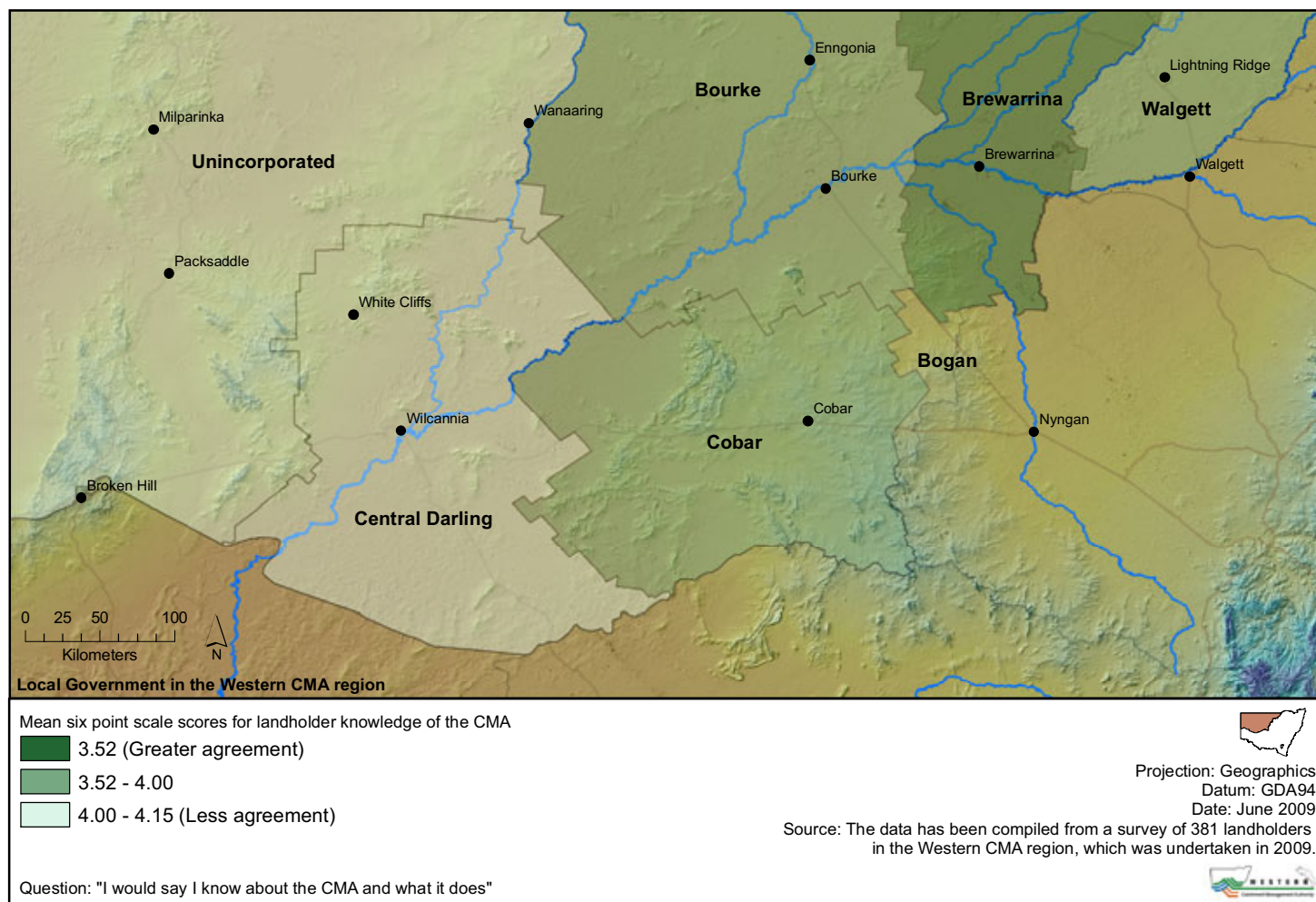
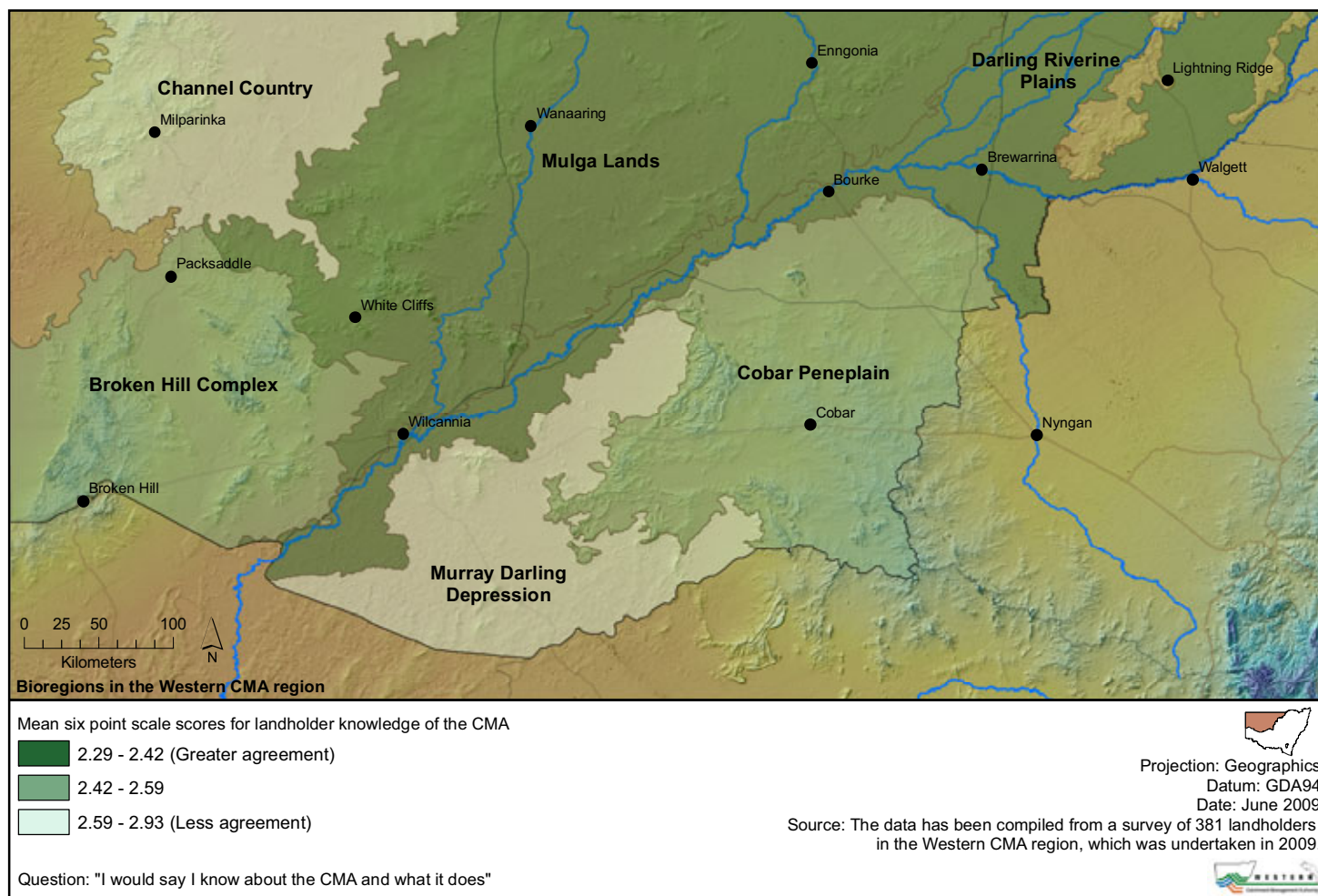


## 34. BELEIFS ABOUT THE CMA AS A GOVERNMENT DEPARTMENT



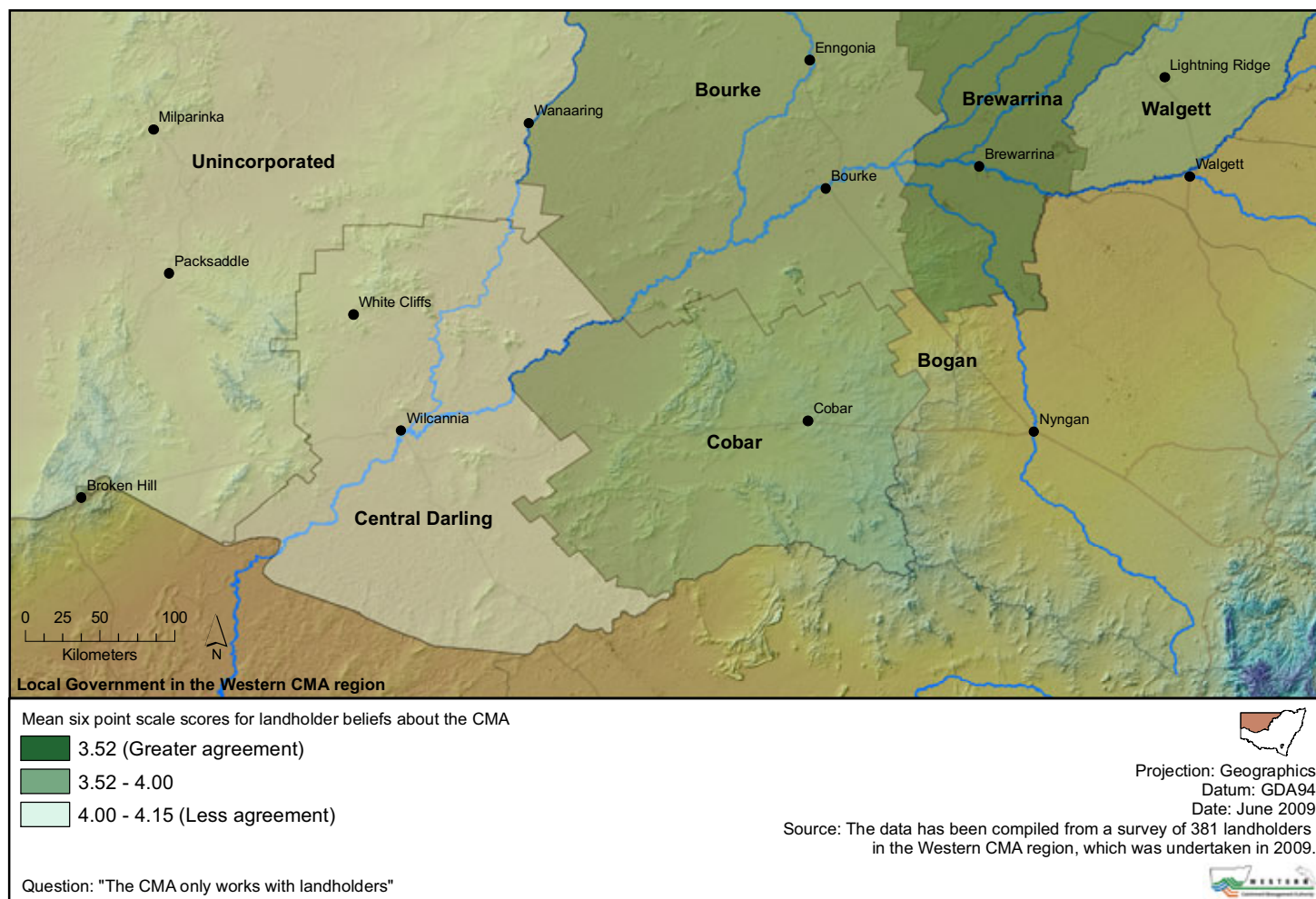
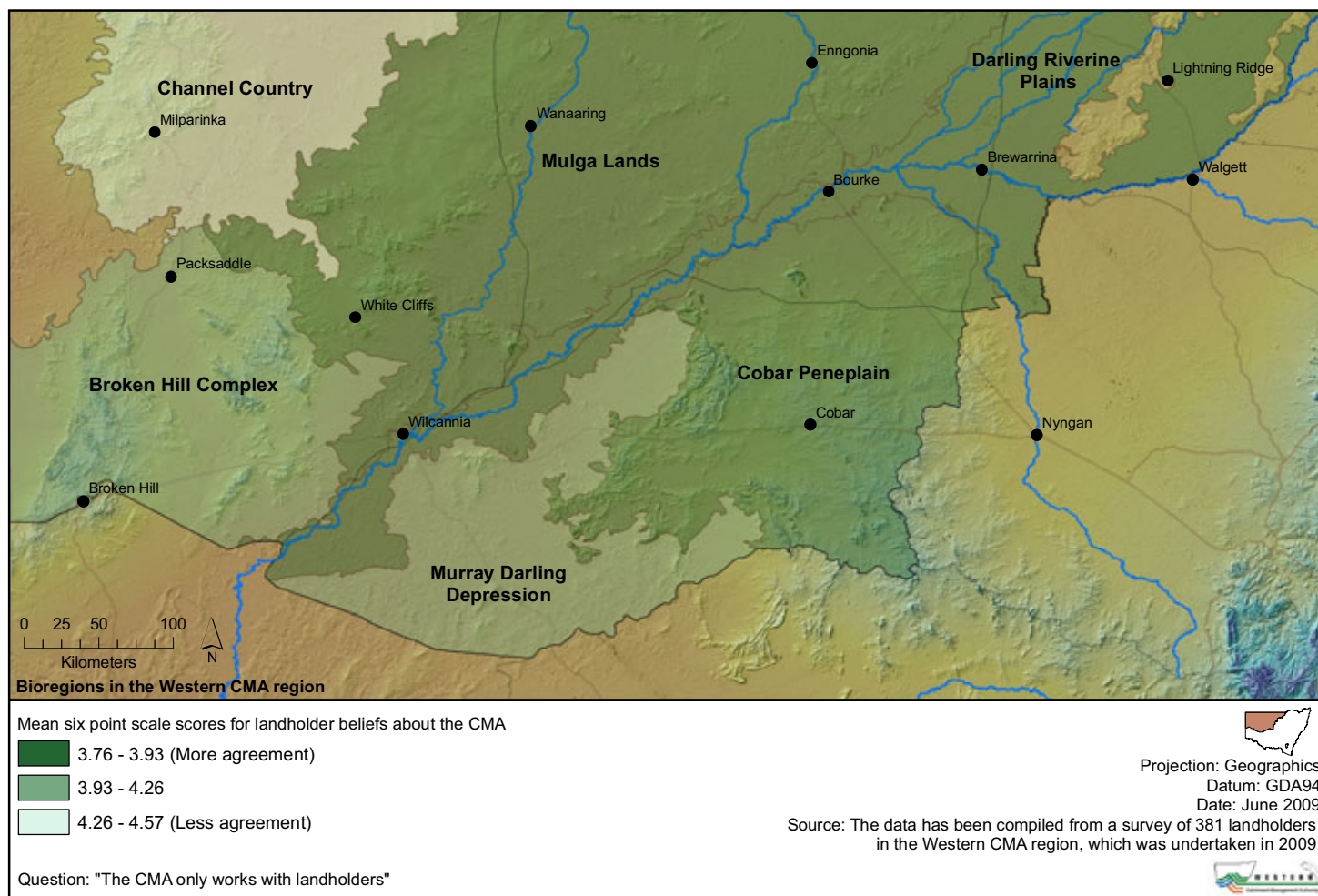


## 35. LANDHOLDER'S KNOWLEDGE OF THE CMA



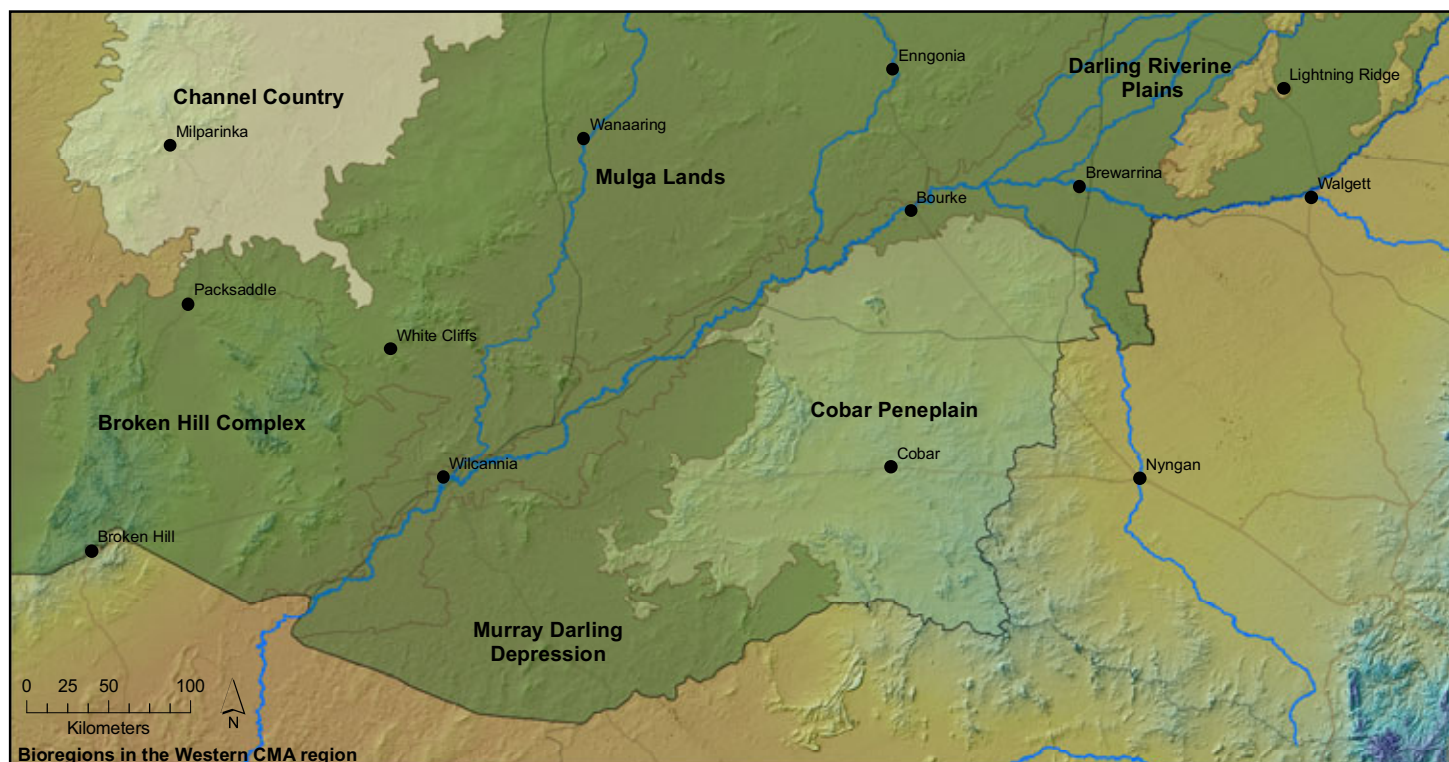


## 36. LANDHOLDERS' BELIEFS ABOUT THE CMA'S CLIENT GROUP

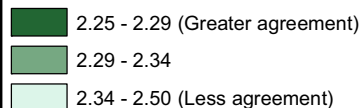




## 37. LANDHOLDER SUPPORT FOR THE CMA



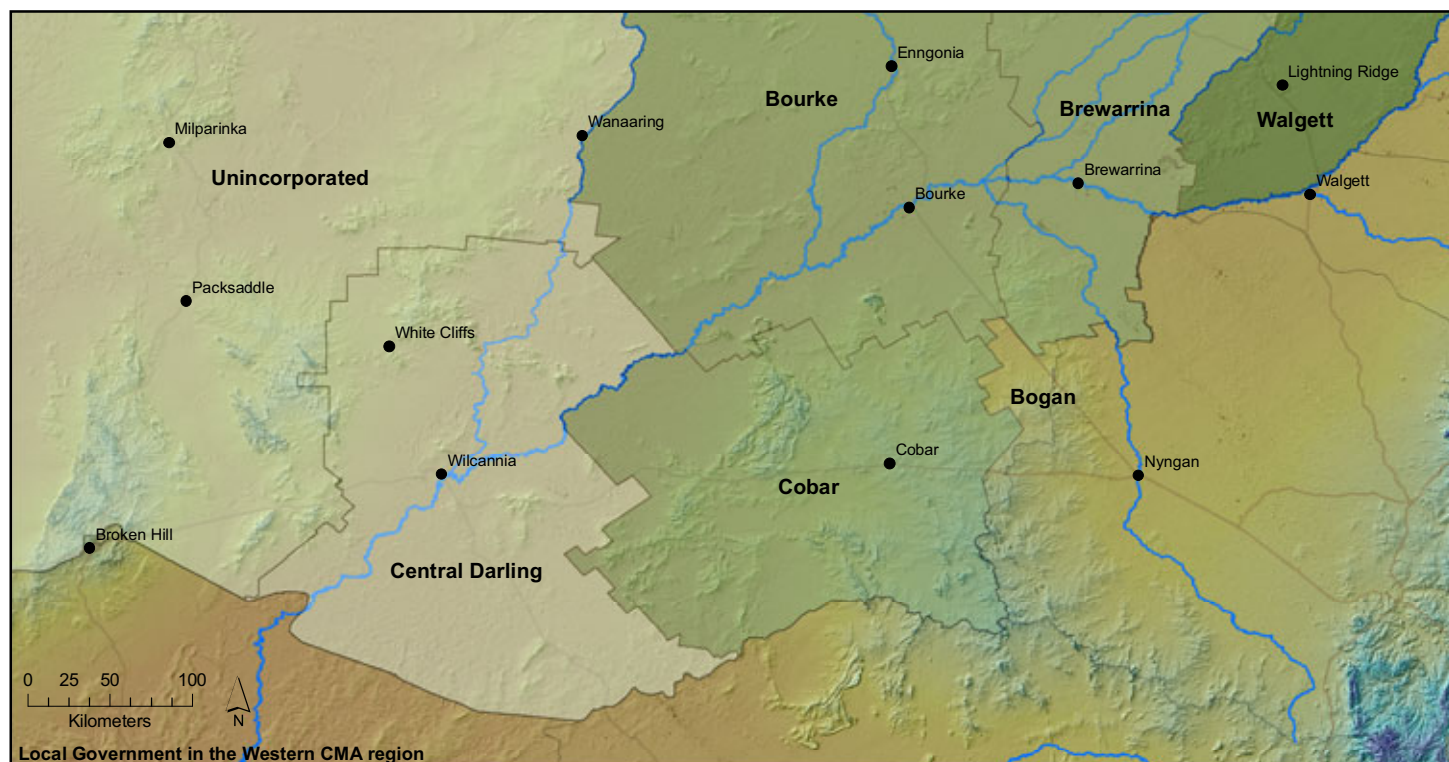
Mean six point scale scores for landholder support for the CMA



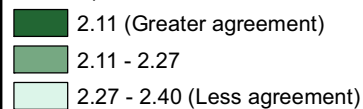
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "I am generally supportive of the CMA and what it does"



Mean six point scale scores for landholder support for the CMA



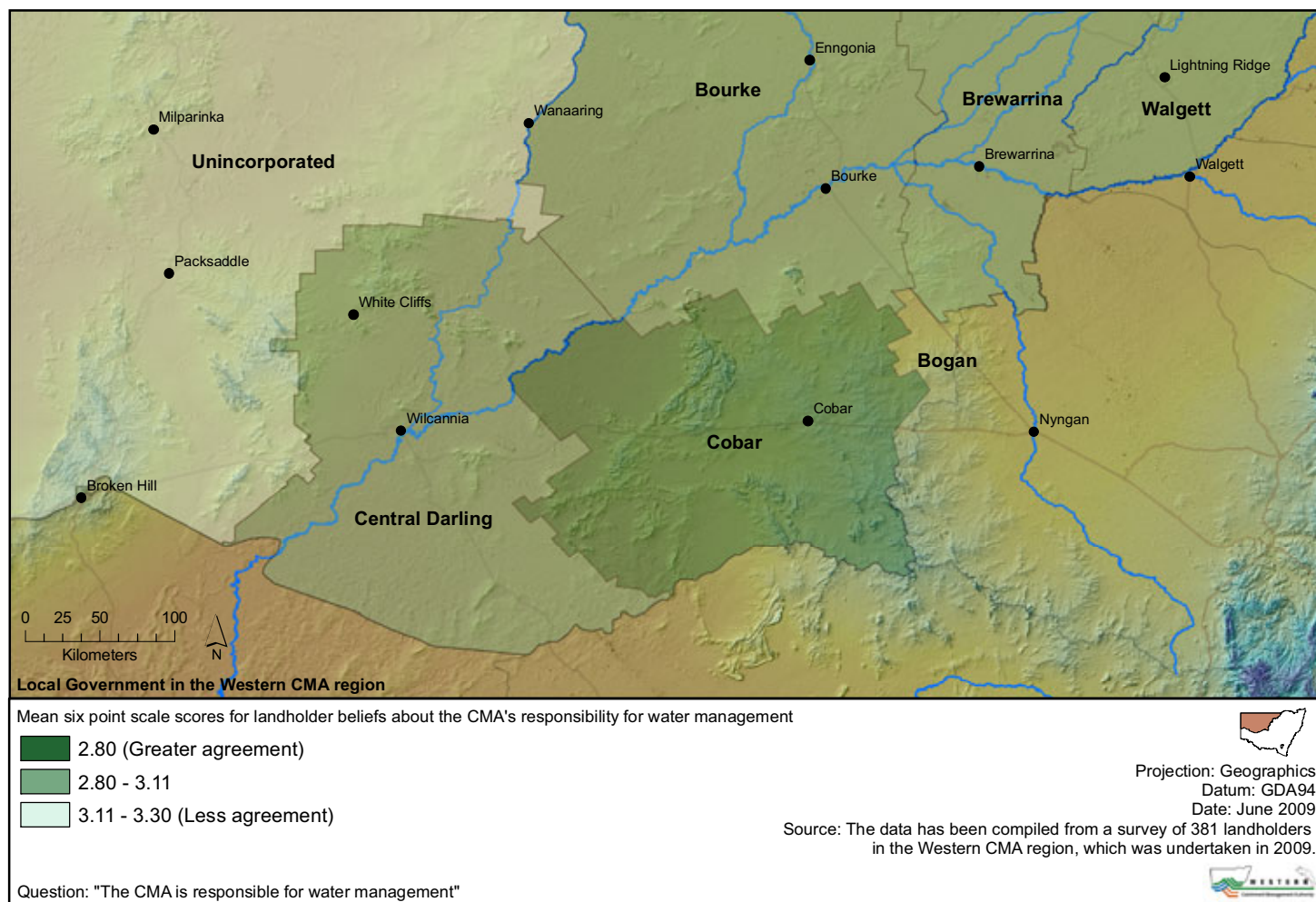
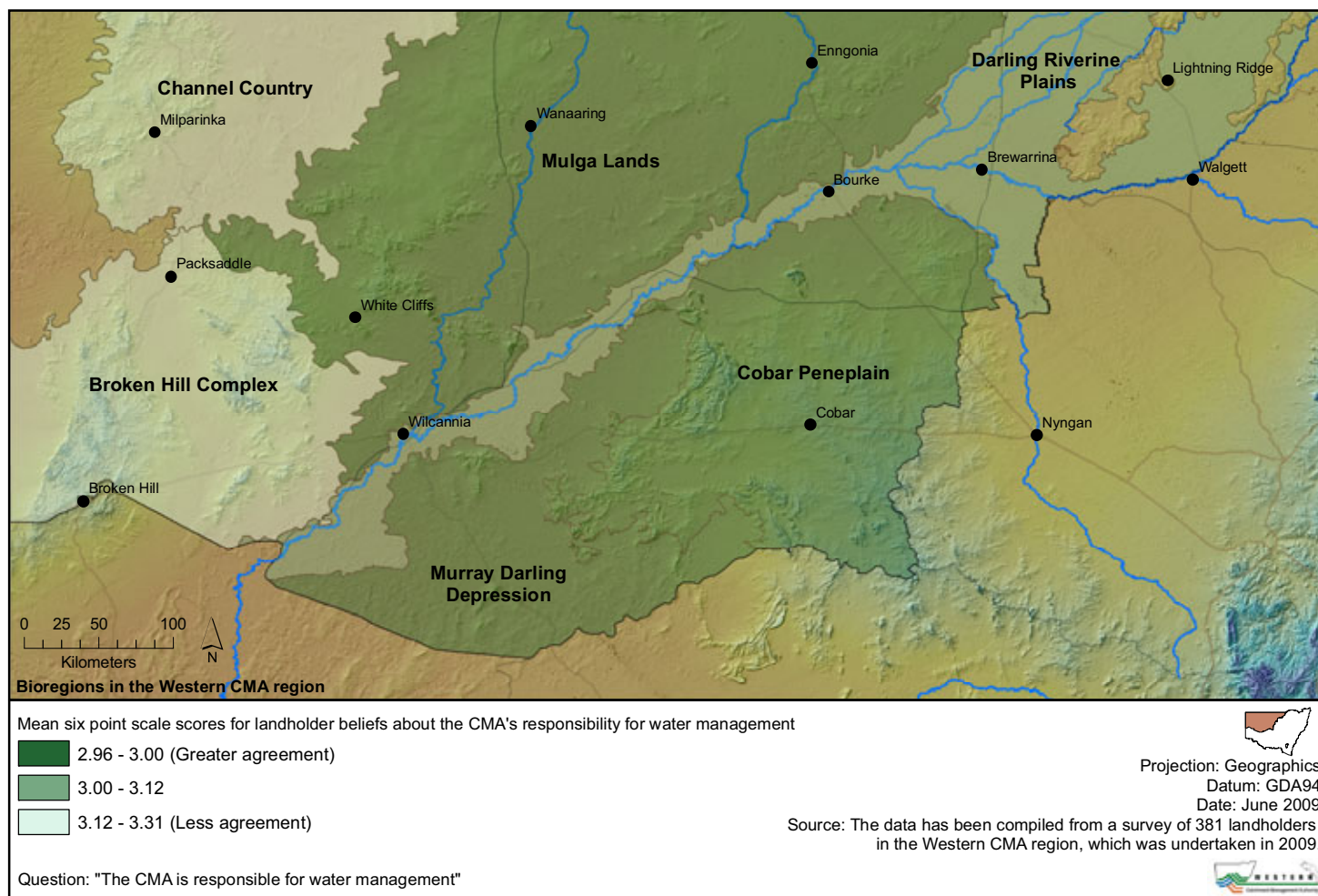
Projection: Geographics  
Datum: GDA94  
Date: June 2009

Source: The data has been compiled from a survey of 381 landholders in the Western CMA region, which was undertaken in 2009.

Question: "I am generally supportive of the CMA and what it does"



## 38. LANHOLDER BELIEFS ABOUT THE CMA AND WATER MANAGEMENT





## 39. PREFERRED METHODS OF CMA COMMUNICATION

