

BACK OF BOURKE:
A STUDY OF THE APPRAISAL AND SETTLEMENT OF THE
SEMI-ARID PLAINS OF EASTERN AUSTRALIA

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VOLUME II



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NOTES TO THE TEXT

NOTES TO THE INTRODUCTION

1. See Walter Prescott Webb: The Great Plains, Ginn and Co., Boston, 1931; W.L.G. Joerg (ed): Pioneer Settlement: cooperative studies by twenty-six authors, American Geographical Society Special Publication No.14, New York, 1932; W.A. Mackintosh and W.L.G. Joerg (eds): Canadian Frontiers of Settlement, (9 vols.), Macmillan, Toronto, 1938; James C. Malin: Winter Wheat in the Golden Belt of Kansas, a study in adaptation to subhumid geographical environment, University of Kansas Press, Lawrence, 1944, and The Grassland of North America, prolegomena to its history, By the author, Lawrence, 1947 and 1956; and a recent study in Australia, D.W. Meinig: On the Margins of the Good Earth, the South Australian Wheat Frontier 1869-1884, Monograph No.2, Assoc. Amer. Geogrs, Chicago, 1962.
2. Passing mention was usually made in the references cited in note 1 above, but more specific work has been done by few authors. Ernest Staples Osgood: The Day of the Cattleman, Phoenix Books, Chicago, (reprint of original edition 1929); E. Louise Peffer: The Closing of the Public Domain, disposal and reservation policies 1900-50, Stanford University Press, Stanford, 1951; and Phillip O. Foss: Politics and Grass, the administration of grazing on the public domain, University of Washington Press, Seattle, 1960, cover some aspects of pastoral occupation on the plains and basins of the Rocky Mountains, but the definitive study has not yet appeared.
3. John K. Wright: "Terrae Incognitae: the Place of the Imagination in Geography", Annals, Assoc. Amer. Geogrs., XXXVII, September 1947, p.12.
4. My M.A. thesis was entitled "The Historical Geosophy of Two Nebraska Counties: A study of opinion on the land with particular reference to land appraisal data", unpublished thesis at the University of Nebraska, June, 1959.
5. An indication of the complexity of the geomorphological history of the plains is given by T. Langford-Smith's article: "The Dead River Systems of the Murrumbidgee", Geog. Review, I, 1960, pp.368-389. The dead river systems or "prior streams" are shown to bear little relation to the present drainage pattern.

NOTES TO CHAPTER 1

1. "Memorial respecting New South Wales" by Jno Hunter. (MS 714, Alnwick Castle Library), A.N.U. Library.
2. Sidney Smith: Where to go, and whither?, John Kendrick, London, 1849, p.45.
3. James Collier: The Pastoral Age in Australasia, Whitcombe and Tombs Ltd., London, 1911, p.284.
4. Bernard Smith: Place, Taste and Tradition, Ure Smith Pty. Ltd., Sydney, 1945, p.55.
5. Smith, op. cit., p.110. The Heidelberg School was concerned with "the rendering of transparent and colourful shadow, the atmospheric effects of heat-haze, the subtle colour variations that force an horizon-line to recede into the painting, the colour modifications of foliage under conditions of blinding sunlight." (Smith, p.115).
6. James Atkinson: An Account of the State of Agriculture and Grazing in New South Wales, J. Cross, London, 1826, pp.5-6.
7. Atkinson, op. cit., p.7.
8. J. Beete Jukes: A Sketch of the Physical Structure of Australia, T. & W. Boone, London, 1850, p.3.
9. R.H. Cambage: "Notes on the Botany of the Interior of New South Wales" (Part 1), Proc. Linnean Soc. NSW, XXV, 1900, p.603.
10. Margaret Kiddle's study of the Western District of Victoria, although beyond the boundaries of our study area, has relevance here. She found that the initial optimism of the pioneers was soon suppressed by the "weird melancholy" of the plains, and the tediousness and silence of the bush "broke the endurance of master and man alike". See Margaret Kiddle: Men of Yesterday: A Social History of the Western District of Victoria 1834-1890, Melbourne University Press, Melbourne, 1961, pp. 46-47 and 58.
11. Australian Literature, by E. Morris Miller, edited by F.T. Macartney, Angus and Robertson, Sydney, 1956.

12. "Lawson hates the bush; he is blind to its beauty, deaf to the cheerful strain heard continually through the sighing of the wilderness. His six months journey to the Queensland border in 1892 - the basis of all he has written of Australia 'outback' - was like the journey of a damned soul swagging it through purgatory" is the comment of the critic A.G. Stephens, quoted in Miller, op. cit., p.282. Lawson's heroes, Mitchell and Joe Wilson, were, however, equal to the trials of the Bush.
13. Their controversy was carried on through the medium of The Bulletin's columns in the 1890s.
14. Vance Palmer introduced the 1952 edition of W. Ogilvie's poems:

It was easy to believe that the grassy stock-routes along which Clancy of the Overflow /Paterson's outback hero/ had ridden singing had vanished for ever; that crows hovered expectantly over the hordes of workless swagmen outback, and that the country that held our deepest loyalties had had its day.

Then the author of Fair Girls and Grey Horses /published 1898/ cantered onto the scene with his gay, lilting ballads and his spirit of light-hearted gallantry. It was just the tonic we needed. The vision of a dried-up world from which all the rich juices had gone lost its terror, and our gusto for day-to-day living returned.

W. Ogilvie: Saddle for a Throne, R.M. Williams, Adelaide, 1952, p.xiii.

15. J.P. Thomson described the vegetation of western Queensland in 1897:

In many parts the land is covered with several varieties of dense low forests of acacia, A. homalophylla, A. harpophylla, and other varieties of 'scrubs', as they are locally called. Where these occur they impart to the landscape a most agreeable and picturesque aspect, while the umbrageous protection they afford from the solar rays renders their presence everywhere welcome.

"Queensland", Scot. Geog. Mag., November 1897, p.565.

16. It is interesting to note that Patrick White used the theme of Leichhardt's last expedition in his novel Voss to give dramatic effect to "the discovery of man's true nature, the battle between pride and humility" (Geoffrey Dutton: Patrick White, Lansdowne Press, Melbourne, 1961, p.34). The setting of this "battle" in the semi-arid plains of western Queensland possibly reflects the continued recognition of the uncertain character of the plains themselves.
17. T.J. Maslen: The Friend of Australia, Hurst, Chance & Co., London, 1830, p.294.

Perhaps the most thorny problem of semantics in the interior has been the definition and use of the term "desert". In 1848 in an article "Are the Interior Waters of Australia Navigable?" (Simmonds Colonial Magazine, 1848, p.266), the readers were warned against comparing the Australian desert with those of the Old World, for "The Australian desert may ... abound with patches of good country, hilly and table-topped, intersecting the sterile wastes". The ramifications of the controversy on the "desert" character of the interior are examined in sections 2 and 3 of this Chapter, but a useful summary of the scientific controversy is given in Ann Marshall: "The Size of the Australian Desert", Aust. Geog., V, June 1948, pp.168-175.

18. Maslen, op. cit., pp.294-295.
19. John Thompson, Kenneth Slessor and R.G. Howarth (ed): Australian Verse, Penguin Books, 1958, p.16.
20. Jukes, op. cit., footnote to pp.37-38.
21. Jukes, op. cit., pp.64-65. Since the advance into the interior came from the east via the headwaters of the rivers flowing into the plains, the early optimism based upon the size of the headwater streams was quite logical from European experiences. The uneven distribution of settlement on the plains owed much to the uneven distribution of water along the rivers which crossed them.
22. H. Beresford de la Poer Wall: Manual of Physical Geography of Australia, George Robertson, Melbourne, 1883, p.62.

23. Maslen, op. cit., p.12.
24. W.C. Wentworth: A Statistical, Historical, and Political Description of the Colony of New South Wales, G. & W.B. Whittaker, London, 1819 (1st editn), pp.77-78.
25. Wentworth, op. cit., 1820 (2nd editn), pp.111-113 footnote.
26. Map opposite p.1 in Maslen, op. cit.
27. "It is impossible to contemplate the works of a Bounteous Creator, and believe that any imperfection can exist on the face of our planet, which would certainly be the case if such a continent had no outlet for its waters; or at least it would be a great physical defect". Maslen, op. cit., p.136.
28. Charles Sturt: Two Expeditions into the Interior of Southern Australia, Smith, Elder & Co., London, 2 vols., 1834, I, pp.lxxx and 2.
29. An expedition by a Mr. T. Jamison and party in August, 1827. Maslen, op. cit., p.viii.
30. Quoted in Lieut. Breton: Excursions in New South Wales, Western Australia and Van Diemens Land, Richard Bentley, London, 1833, p.157.
31. T.L. Mitchell: Three Expeditions into the Interior of Eastern Australia, T. & W.Boone, London, 2 vols., 1838, I, p.2.
32. "All the rivers which flow to the westward are said to disappear in the marshes; but some writers still imagine there must be an extensive inland sea, into which they flow, and from which they are discharged by one stream of considerable size". Breton, op. cit., p.156 footnote.
33. Sturt, op. cit., published 1834; Mitchell, op. cit., published 1838.
34. Sir George Gipps: Despatch ... to the Secretary of State for the Colonies, 28 September 1840, House of Commons, May, 1841, pp.6-7.

35. Moreton Bay Courier, of 22 August 1846, quoting from Braim's New South Wales.
36. John Thomas Bigge: Report of the Commissioner of inquiry on the state of agriculture and trade in ... New South Wales, House of Commons, March 1823, p.10.
37. Robert Dawson: The State of New South Wales, Joseph Cross, London, 1830, p.357.
38. Jukes, op. cit., pp.43, 59 and 81.
39. Map opposite p.65 in J. Henderson: Excursions and Adventures in New South Wales, W. Shobel, London, 2 vols., 1851.
40. William Gardner: Productions and Resources of the Northern and Western Districts of New South Wales, MSS, 2 vols, 1854, (ML A 176-1, 176-2), p.252.
41. R.S. Hall: The State of New South Wales in December 1830, Joseph Cross, London, 1831, p.4.
42. Atkinson, op. cit., p.10. See also the article mentioned in reference 17 above.
43. "Removed from society, and the refinements of life", the squatter "becomes careless of his appearance and manners" and "heedless even of those comforts of life which are within his reach". (Henderson, op. cit., pp.271-272). For some, however, it had its attractions:
- Many of these people [bushmen] are much attached to their way of life, which, though secluded and lonely, affords them full opportunity of gratifying their vagrant and idle habits, and that passion for the pleasures of the chace [sic] so common to human nature.
- (Atkinson, op. cit., p.68)
44. Capital needed to be conserved since "it is this want of a reserve ... that has ruined two thirds of the settlers". To combat solitude "a cheerful and contented spirit is most necessary". (Henderson, op. cit., pp.270-271 and 292).

45. From Samuel Prout Hill's poem "Australia" written in 1847 and reproduced in the introduction to W.H. Wells: A Geographical Dictionary; or Gazetteer of the Australian Colonies, Effingham Wilson, London, 1851.
46. Chas H. Allen: A Visit to Queensland and her Goldfields, Chapman and Hall, London, 1870, pp.81-82.
47. Richard Daintree (the immigration agent for Queensland in London) commented in the early 1870s:

It is extremely probable that all the "Carpentaria District", and all the "Western Interior", will remain the uninhabited domain of the squatter for many years, as the climate is such that, without irrigation, there could be no expectation of any kind of agriculture being carried on with success.

(Queensland, Australia, G. Street, London, n.d., [1873?] p. 47.)

48. Quoted in Charles Robinson: New South Wales, Gov. Printer, Sydney, 1873, pp.27-28.
49. F.B. Gipps: "On the Importance of a Comprehensive Scheme of Water Storage and Canalization for the Future Welfare of the Colony", Journal RSNSW, XV, 1881.
50. H.C. Russell: "The River Darling - the water which should pass through it", Journal RSNSW, XIII, 1879, p.170.
51. Reports of the "Royal Commission on the Conservation of Water" in NSW VP, 1885, VI, pp.387-982 and NSW VP, 1887 (2nd) V, pp.715-1028.
52. Charles Lyne: The Industries of New South Wales, Gov. Printer, Sydney, 1882, p.202.
53. Sydney Morning Herald, 23 November 1901.
54. J.W. Gregory: The Dead Heart of Australia, John Murray, London, 1906, p.224.
55. David John Gordon: Conquering the Desert, W.R. Thomas & Co., Adelaide, 1907, pp.6 and 17. He was aware of

the work of American scientists on desert problems, E. Hilgard's work on the character of desert soils; J.W. Powell's proposals for land systems in the desert and Campbell's dry-farming techniques on the Great Plains.

56. See the Sydney Morning Herald, 27 August and 9 November 1921; 10 May, 5 July, 13 and 14 August, 1924; 14 March and 4 April, 1925, and 9 May, 1927. The Melbourne Herald, 17 January, 1927; the Sydney Sun, 22 June, 1923; 12 May, 1924; 25 May, 1925, and 30 April, 1926, also covered the dispute.
57. J.J.C. Bradfield, an engineer, offered a scheme for the development of western Queensland in 1938. His paper "Queensland, The Conservation and Utilization of Her Water Resources" was forwarded to the Queensland Prime Minister and "proposed to divert the waters of the Tully and Herbert Rivers, combine them with the waters of the Upper Burdekin, and pass the whole across the Great Dividing Range with the object of utilising them in a vast irrigation project in Western Queensland". After investigations, however, most of his proposals were found to be either physically impossible or too costly to implement (Appendix to Annual Report, Queensland Bureau of Investigation, 1946-1947). A year later the officers of the Bureau commented:

During recent years ill-informed but enthusiastic authors of a number of vast but impracticable schemes for watering the inland have succeeded in confusing the public regarding the actual extent and value of the water resources of the State.

(Appendix B, to the Annual Report for 1947)

58. Jock H. Pick and V.R. Alldis: Australia's Dying Heart, Melbourne Univ. Press, 1944 (1st editn. 1942) and F.R.V. Timbury: The Battle for the Inland, (the case for the Bradfield and Idriess plans), Angus and Robertson, Sydney, 1944, were two leading propagandists. The introduction to Pick and Alldis reads:

War has come to Australia. The danger is real indeed but, I say it deliberately, not more real than the insidious threat by an enemy we have had with us for years [soil erosion]....

A wise Federal Government, which can, and does, take great executive powers under National Security regulations during these troubled times, would lose no opportunity to study the Dust Bowl of America and exercise similar powers to prevent the possibility of that appalling waste ever being duplicated here.

59. George Ranken: Colonisation in 1876, Turner and Henderson, Sydney, 1876, p.7.
60. G.H. Reid: An Essay on New South Wales, Gov. Printer, Sydney, 1876, p.5.
61. Collier, op. cit., p.25.
62. Edward Shann: An Economic History of Australia, Cambridge Univ. Press, 1948 (1st editn-1930), p.200.
63. W.E. Abbott: "Ringbarking and its Effects", Journal and Proc. Roy. Soc. NSW, XIV, 1880, pp.97-102. Also "Forest Destruction in New South Wales and its effects on the flow of water in watercourses and on the rainfall", Journal and Proc. Roy. Soc. NSW, XXII, 1888, pp.59-76. His experiments were on land in the Hunter Valley, but he applied them to a wider context.
64. Charles H. Barton: Outlines of Australian Physiography, Alston and Co., Maryborough, 1895, p.177. This was echoing earlier sentiments in the United States, see Henry Nash Smith: Virgin Land, the American West as Symbol and Myth, Vantage Books, New York, 1957, pp.208-213.
65. One of the effects of occupation of the plains had been an increase in the extent of scrubs at the expense of the open forest grazing land and carrying capacities for stock. Mitchell had suggested that the open forests had been a function of aboriginal burning and the grazing of the kangaroos, laws against the burning of scrub being cited as evidence of the misunderstanding of the ecology of the plains (Sir T.L. Mitchell: Journal of an Expedition into the Interior of Tropical Australia, Longmans, London, 1848, pp.412-413). Ross thought that ringbarking was responsible for the scrub and there were ideas that the scrub denoted increasing

rainfall (A. Ross: "On the Influence of the Australian Climate and Pastures upon the growth of Wool", Journal RSNSW, XVI, 1882, pp.235-242). The conclusion was:

All practical and experienced men are agreed that during the past twenty years [1872-1892] the plains have diminished in stock bearing capability twenty or thirty per cent., and that the diminution continues year by year.

(A.G. Hamilton: "On the Effect which Settlement in Australia has produced upon Indigenous Vegetation", Journal RSNSW, XXVI, 1892, p.211.)

66. The result of the agitation which followed the article was the New South Wales "Royal Commission to Inquire into the Condition of the Crown Tenants" of 1901. Previously, in 1897, the Queensland "Royal Commission on Land Settlement" had studied similar problems in the western plains. The results of these commissions, however, will be discussed in Chapter 2.
67. E.D. Millen's article "Our Western Lands" in the Sydney Morning Herald, 18 November 1899.
68. J.H. Maiden (Gov. Botanist): "The Sand-drift Problem in New South Wales", and Colin J. McMaster (Commissioner for Western Lands): "The Sand-drift Problem in Arid New South Wales", Journal RSNSW, XXXVII, 1903, pp.82-106 and 138-145. See also C.A. Benbow: "Interior Land Changes", Agric. Gazette NSW, October, 1901.
69. Marjorie I. Collins: "Studies in the Vegetation of Arid and Semi-Arid New South Wales", Proc. Linnean Soc. NSW, XLVIII, 1923, pp.229-226 and XLIX, 1924, pp.1-18.
70. F.N. Ratcliffe: Further Observations on Soil Erosion and Sand Drift, with special reference to South Western Queensland, CSIRO, Pamp. 70, Melbourne, 1937, p.27.
71. S. Wadham and Wood: Land Utilisation in Australia, Melbourne Univ. Press, 1939.
72. Hamilton, op. cit., p.178.

73. Maiden, op. cit., p.101.
74. Pick and Alldis, op. cit., Chapter 14.
75. Introduction to N.C.W. Beadle: The Vegetation and Pastures of Western New South Wales, Gov. Printer, Sydney, 1948.
76. The New South Wales Meteorologist, H.C. Russell, investigated claims that the destruction of forests was responsible for the droughts but could find no supporting evidence. The real reason he noted, the lack of monsoonal moisture, had no connection with settlement. (His "Report on the Cause and Effect of Droughts" was published in NSW VP, 1898 (2nd), III, pp.617-618).
77. "All the objects of sense are in a state of incessant flux. Change is the very groundwork and condition of life" (Barton, op. cit., pp.1-2).

Even Pick and Alldis accepted a limited concept of change:

There were droughts in those days pre-white men, possibly worse droughts than any that we have yet seen, but there was no problem of erosion. Nature had evolved a balance between fauna and flora, whereby the stability of the soil was maintained.

(Pick and Alldis, op. cit., p.94).

NOTES TO CHAPTER 2

1. There have been several studies of the exploration of Australia and it is not the intention here to duplicate their narratives but only to abstract such data from these studies and the original reports of the explorers as will illustrate the concepts involved. Relevant texts include:

Albert F. Calvert: The Exploration of Australia, London, 2 vols., 1895.

Ernest Favenc: The Explorers of Australia and their Life-work, Christchurch, 1908.

Ida Lee: Early Explorers in Australia, London 1925.

J.H.L. Cumpston: Thomas Mitchell, London, 1954.

_____ : Charles Sturt, Melbourne, 1951.

2. John Oxley arrived in Australia in 1812 and led expeditions in 1817 and 1818; Charles Sturt arrived in 1826 and led expeditions in 1828 and 1829; Thomas L. Mitchell arrived in 1827 and led expeditions in 1830-31, 1835, 1836 and 1846. The fourth, Edmund B. Kennedy arrived in 1840 and led his first expedition in 1847, being killed a year later on his second.
3. Contemporary exploration from South Australia northwards was more concerned with the interior of the continent and the area to the west of the plains (as defined in this study). For this reason Sturt's 1844 expedition to Cooper Creek has not been included here.
4. J. Oxley: Journals of Two Expeditions into the interior of New South Wales ..., London, 1820, p.vii et seq.
5. Oxley, op. cit., p.244.
6. Charles Sturt: Two Expeditions into the interior of Southern Australia, 2 vols., London, 1834.
7. Sir T.L. Mitchell: Journal of an Expedition into the Interior of Tropical Australia in search of a route from Sydney to the Gulf of Carpentaria, London, 1848.
8. Edmund B. Kennedy: "Despatch of the expedition to ascertain the course of the River Victoria", NSW GG, 24 January 1848.

9. Governor Gipps commented in 1840:

The long and expensive journies of Sir Thomas Mitchell in the years 1835 and 1836, though highly interesting, led to no discoveries which could be turned to profit, with the exception perhaps of the fertile land of Australia Felix [in Victoria], which would surely have been reached by the ordinary advance of our graziers, even though he had never visited it.... consequently, the desire to penetrate into the interior is less ardent than it was.

(Despatch of 28 September 1840 to Secretary of State for the Colonies, printed 1841.)

In fact, although expensive, Mitchell's expeditions (organised on military lines) suffered less from the ravages of interior exploration than most of the others.

10. The surveyors appointed were MacCabe for the Lower Darling and part of the Lachlan Districts; Davidson for the Wellington District; Larmer for the Lachlan District; Townsend for Murrumbidgee; Galloway for New England and Gwydir Districts, and Gorman for the Bligh District. (SG-S, ML 4/5432, 1847/326).
11. Circular letter to all surveyors. (SG-S, ML 4/5432, 1847/311).
12. Surveyor MacCabe was criticised by the Secretary to the Surveyor General (Sir Thomas Mitchell) in 1849 because he had reported on the middle course of the Darling which Mitchell himself had described in 1835. The Secretary conceded that the seasons were different, but the duplication of work was deplored. (Pencilled note by "W.T." on MacCabe's report, S-SG, ML 2/1554, 14 November 1849).
13. The Surveyor General saw no need for proposed surveys west of the Darling in 1851, arguing that there was enough unfinished work east of the river. (SG-S, ML 4/5434, 1851/51.)
14. SG-S, ML 4/5432, 1848/204.

15. Mitchell used one of the dray wheels, but instructed Kennedy on his traverse of the Victoria River to count the paces of his horse as a rough guide to distances. He suggested about 950 paces to the mile and this method, combined with compass bearings, sufficed for the reconnaissance survey. (SG-S, ML 4/5432, 1847/42)
16. Surveyor Wener was authorised to use theodolite (or a circumferator) and chain on his survey of the 29th Parallel west from the Barwon River in 1859. (SG-S, ML 4/5444, 1859/11155). Surveyor Gregory used both perambulator and circumferator on his surveys of pastoral runs in southwestern Queensland soon after the separation of the colony. See the maps of his surveys in the Lands Department, Brisbane, including numbers W51 53 and M51 238.
17. In 1872, the New South Wales Surveyor General, Adams, gave evidence which illustrated the problem to the "Select Committee on the Administration of the Land Law":

The question of using the American survey system was brought to my notice ... by the Surveyor General (then Sir Thomas Mitchell) ... but I could not advise its adoption, neither did he think it advisable to adopt it. The good land here is so small in comparison to the desert that it would not operate well.

Q 211-Has not recent discovery shown that we have been mistaken as to the quantity of desert land in the interior, as represented by explorers?

It is a question of degree. If our land were worth 5s. an acre all round it would pay to survey it on the American system, but if not, that system would be of no advantage to us.

(NSW VP, 1872, II, p.159.)

18. Surveyor General Mitchell's letter to MacCabe, SG-S, ML 4/5434, 51/50.
19. T.J. Maslen: The Friend of Australia, London, 1830, frontispiece map.

20. Surveyor MacCabe noted that on the lower and middle Darling River, the land available for pastoral use was limited (not more than a strip three miles wide on the east of the river below the present site of Menindie) and back from the river beyond this was "an apparently desert region". (S-SG, ML 2/1554, 16 January 1849, and S-SG, ML 2/1554, 14 November 1849 respectively.) The "desert" country carried "Eucalyptus dumosa", some pine, "Callitris pyramidales", with mimosa and oak.
21. Between the Lachlan and the Darling rivers, MacCabe reported:

There are many inconsiderable and unconnected sand elevations of a chocolate color approaching to red which are more or less timbered with Pine or Callitris pyramidales. These sand hills have been found to yield luxuriant crops of wheat, potatoes, and garden produce of all kinds.

(S-SG, ML 2/1554, 16 January 1849.)

22. Whether we accept the standard text-book interpretation of the importance of Edward Gibbon Wakefield as the originator and leader of this body of opinion, or support June Philipp's recent claim that Wakefield merely adopted existing conditions in USA and Canada, there can be no doubt of the importance of the ideas as background to the Regulations of 1831 which set up the minimum sale price for Crown Lands. Typical of the thinking produced by this influential opinion, was a despatch from Lord Goderich (Secretary of State for the Colonies in England) to Governor Darling, dated 23 March 1831:

Nothing could be more unfortunate than the formation of a race of men, wandering with their cattle over the extensive regions of the interior, and losing, like the descendants of the Spaniards in the Pampas of South America, almost all traces of their original civilization.

(Quoted in June Philipp: "Wakefieldian Influence and New South Wales, 1830-32", HSANZ, IX(34), May 1960, p.176.)

23. Philipp, op. cit. p.174. See also Figure 5, "The Approach to the Warrego Country".
24. Despatch of 10th October 1835 to Lord Glenelg, quoted in S.H. Roberts: The Squatting Age in Australia 1835-1847, Melbourne, 1935, p.89.
25. Governor Gipps's Despatch...Report of the Progressive Discovery and Occupation.../of New South Wales/, 28th September 1840, London, 1841, p.3. Two years later he commented in a further despatch to England:

Your Lordship is aware, that hitherto the Graziers and Flockmasters of New South Wales, have been allowed the utmost possible facilities in the occupation (for pastoral purposes) of unsold Lands of the Crown; and that this system, which may be called one of very extensive squatting, has not only been allowed to grow up, but has been fostered, encouraged, and regulated, by successive Governors of this Colony, and by successive Acts of the Legislature; and that this has been done, not only in the conviction that such easy occupation of Crown Land is essential to the prosperity of the Colony, but that it is wise to sanction and regulate that which the Government has no power to prevent, even if it were disposed to do so.

(Quoted in the SMH, 14 May 1842)

26. The "Crown Land Sales Act of 1842" provided that half the funds raised by sales of land should go towards cost of bringing immigrants to the colonies. (W. Epps: Land Systems of Australasia, London, 1894, pp.17-18.)
27. Gipps considered that "the persons who form these stations beyond the settled areas are the real discoverers of the country, and they may be said to be in Australia (what the backwoodsmen are in America) the pioneers of civilization". (Despatch, 1840, op. cit. p.4.)
28. Gipps asked the Crown Land Commissioners:

to consider maturely and report as to assimilating licenses to leases, the quantity of land which would suffice for 500 head of cattle or 5000 sheep, and the limitation of runs for each of which a separate license was to be taken, the encouragement of cultivation by giving an occupier a kind of right to purchase a portion of his run or otherwise to obtain secure possession for a term of years after occupation as a tenant at will for a fixed term, --say for five or seven years-- and the prevention of irregular transfers or sales.

(Quoted in Epps, op. cit. p.18.)

29. Enforcing the 1846 Waste Lands Occupation Act passed in Britain by the Home Government.
30. The assessment was on the number of stock held, but where less than the minimum stock (4,000 sheep or equivalent cattle) were on the run, the assessment was upon the nominal minimum so that in fact the assessment became a rent upon the area of the run itself. The 1858 Act (see Appendix II) incorporated this principle later.
31. G.S. Lang, a grazier with a large personal investment in pastoral properties on the plains, complained to the Sydney Morning Herald in 1850 that the 1847 Regulations had enabled city men to apply for runs without actually stocking them, since, provided that the minimum stock assessment was paid, there was no legal compulsion to stock the land. Once a lease had been obtained, it could be sold as a speculation in the city financial circles and Lang claimed that this speculation effectively prevented settlement and made nonsense of the principle "that simple occupation gave a right to the land against all but the Crown". (SMH, 23 April 1850) Epps, op. cit. pp.22-23 also has a summary of the evils of such speculation at this time.
32. The relevant expeditions were undertaken by F. Walker, who searched the country from southeast Queensland to the Barcoo River and Gulf of Carpentaria in 1861, and W. Landsborough, who searched the Gulf country,

Barkly Tableland and the plains of central west Queensland in 1861-62.

33. See F.H. Bauer: Historical Geographic Survey of Part of Northern Australia, Part I, CSIRO, Canberra, 1959. Landsborough's account in his Journal of Landsborough's Expedition, Melbourne, 1862, was instrumental in promoting the settlement of the west of Queensland in the 1860's.
34. By 1863, the location and trends of the main drainage systems of the plains had been established, along with general ideas on the type of vegetation the pastoralist could expect to find there. Significantly, Favenc (op. cit.) ends the first part of his book, concerning the exploration of eastern Australia, in 1863.
35. The Queensland surveyors were instructed that:

As far as practicable, the general character of the adjacent country is to be noted especially in reference to the character of the soil, grass and timber, also water supply and other matters affecting the grazing capabilities.

(SG-S, QSA Letterbook of Surveyor General 1865, letter 65/2503, dated 18 December.)

Many of the early traces survive in the map collection at the Department of Public Lands, Brisbane.

36. SG-S, ML 4/5451, 1864/14225. The conditional purchases under the 1861 Act ranged in size from 40 to 320 acres, but were normally square in outline. The public reserves as a result tended to be elongated rectangles stretching away from the watering point approximately at right angles in order to prevent any restricted access through encirclement by a conditional purchase.
37. In New South Wales the appraisals of pastoral rents following the 1875 Act had involved detailed surveys of the holdings concerned, but this Act did not affect as large an area as that surveyed in 1884, and the appraisers were not always required to produce a map of the holding.

38. The bulk of the Queensland surveys still exist, filed with the general correspondence of the holding in the Land Office, Brisbane. There have been fewer survivals in New South Wales, but enough remain in the Western Lands Office, Sydney, to illustrate the type of information which was made available to the authorities, often for the first time. Their bulk did not permit an overall survey of these sources, but in the consideration of the Warrego Country proper, they will be used to illustrate the contemporary conditions of a portion of the plains.

39. A copy of the map is filed in the Mitchell Library (ML M4 817 gbp, 1885, 1).

40. River navigation:

will give a fixed and civilized character to a society which has been up to the present time comparatively rude and nomadic. Under such improved circumstances families will be found where previously a male population only existed, and towns will arise as commercial depots, and as stations for laborers and mechanics, from which in due time Churches and Schools will each dispense their own peculiar blessings.

(NSW VP, 1858, III, pp.708-709.)

41. NSW VP, 1885, VI, p.399.

42. QLD VP, 1897, III, p.911.

43. NSW VP, 1901, IV, p.136.

44. General surveys in the sense of inquiries into conditions did exist, see Appendix III, but there was less emphasis upon unofficial sources for knowledge of the environment.

45. Samples of such investigations on the plains are as follows:

- 1937 F.N. Ratcliffe: "Further Observations on Soil Erosion and Sand Drift, with special reference to South Western Queensland", CSIRO Pamphlet No.70, Melbourne.
- 1945 R. Roe and G.H. Allen: "Studies on the Mitchell Grass Association in South-Western Queensland", CSIRO Bulletin No. 185, Melbourne.
- 1947 "The Channel Country of South-West Queensland", Queensland Bureau of Investigation, Tech. Bulletin No.1, Brisbane.
- 1948 N.C.W. Beadle: The Vegetation and Pastures of Western New South Wales, New South Wales Department of Conservation, Sydney.
- 1952 S.L. Everist and G.R. Moule: "Studies in the Environment of Queensland. 2. The Climatic Factor in Drought", Queensland Department of Agriculture and Stock, Div. of Animal Industry, Bulletin No.7, Brisbane.
46. The relevant legislation to which reference will be made in this section is listed in Appendix II. To preserve continuity footnotes to the relevant Acts will be kept to a minimum.
47. C.J. King's study An Outline of Closer Settlement in New South Wales reflects this problem in his chapter headings:
- Chapter 3. Responsible Government 1856.
 4. The Pastoral Hegemony and Land Tangle of the Eighties.
 5. The Turn of the Century: 1885-1895.
 6. Problems in Land Settlement: Crown Lands and Contingent Legislation, 1895-1906.
 7. The Western Lands Act, 1901.
 8. Closer Settlement: The Closer Settlement Acts of 1904-1906.

9. Water Conservation and Irrigation.
10. Crown Lands Legislation, 1901-1955:
Brief Summary of the Principal
Features.

His chapters 3 to 6 follow chronologically but in the face of an increasing complex situation he abstracts from the chronological sequence the 1901 Act, the initiation of closer settlement legislation, and the beginnings of conservation and irrigation policies. The result is not a particularly happy development of the theme, but as a pioneer study it has not yet been surpassed.

48. Once decided upon the location, the pastoralist could lease the land in "runs" of 16,000 acres at ten shillings per annum, or if necessary, purchase a portion at £1 per acre.
49. A "Ballad on Land Reform" current at this time voiced the popular opinion:

Not squatters rich or mines of gold,
Can make Australia flourish;
But horny hands the plough that hold,
Its surest wealth can nourish:

•••••

The rulers wise, regard the cries
Of thousands seeking toil;
Unlock the lands--and thriving hands
Shall dress a happy soil.

(M. Clark: Sources of Australian History, Oxford, 1957, pp.354-355.)

50. NSW PD, 7 November 1883, p.327.
51. The selector could pay only five shillings per acre and the interest at five per cent on the outstanding 15 shillings per acre. The pastoralists, in contrast, had their leases reduced to five years.
52. As late as 1881, ideas for the promotion of one form of settlement at the expense of the other were still being considered. An agent of the Australian Agricultural Company, wrote to the manager that "there is a possibility of Selection areas in New South Wales"

being increased to say 5,000 acres for one individual so as to create a class of 'yeoman Sheep Farmers' -- I first heard that idea mooted by a gentleman, who is more than an acquaintance of Sir John Robertson and who has been placed in the Council by Sir John's Government". (WPC-651, letter from James Nisbet to Jesse Gregson, 6 June 1881.)

Not all officials supported the Government's policy. An official surveyor, with experience in the country on and beyond the Darling River, suggested in 1883 that "leaseholds in areas from 25 miles upwards represent the only kind of settlement practicable". (Address by Surveyor Donkin, reported in SMH, 7 November 1883)

53. Sydney Express, editorial 20 October 1883, quoted in King, op. cit. p.99.

Sir John Robertson protested vigorously that the official agents, Messrs Morris and Ranken, "were, no doubt, intended to frame a land bill for the Government, and the whole thing had ended in the miserable fiasco which we might well have expected Probably not half-a-dozen members would take the trouble to read the report. No one who knew Morris and Ranken so well as he knew them would think of doing so." (NSW PD, 1 May 1883, p.1927.) Sir John, however, was twenty years out of date.

54. See Appendix II; the "Land Code" resulted from the Acts of 1860. Specific reference is to Our First Half Century, Government Printer, Brisbane, 1909, p.57.
55. The Queensland lessees had 12 months in which to stock their runs to a quarter of the nominal capacity of 100 sheep per square mile, whereas New South Wales lessees had only six months (18 months if no water was available on the run) to stock with a quarter of the nominal 160 per square mile (4,000 on 16,000 acres).
56. T.A. Coghlan: Labour and Industry in Australia, 1788-1901, Oxford, 1918, p.979.
57. The 1876 Act in Queensland attempted agricultural settlement on the resumed portions of pastoral holdings

on the Darling Downs east of the plains proper, allowing enlarged selections up to 5,120 acres.

58. In 1883 the proportions of land held under the various tenures was as follows:

<u>Tenure</u>	<u>New South Wales</u>	<u>Queensland</u>
Area under pastoral leases	51.0	72.8
Area alienated (Freeholds)	26.4	15.3
Area in public reserves	10.8	1.2
Area still unoccupied	<u>11.8</u>	<u>10.7</u>
	<u>100%</u>	<u>100%</u>

Sources: "Statistics of Queensland", 1883, QLD VP, 1883, II, pp. 447-449.
 "Report on the State of Public Lands", NSW VP, 1883, II, p.78.

59. In 1845, when the size of pastoral runs had been stabilised at units of 16,000 acres or sufficient area to carry 4,000 sheep, the existing runs were pruned to size by the Crown Commissioners for Land, who were instructed to consult the occupier as to which portion he wished to retain, "taking care however, that the Run be made as compact as it reasonably can be, that it be not allowed to comprise more than a fair share of water frontage... and that it be made to include land of fair average quality, not comprehending all the good land and rejecting the bad". (CS-CCL, 21 July 1845, ML 4/3661.) The principle of resumption of portions of existing leases and the extension of tenure on the remaining portion was under discussion in the 1860s in New South Wales. P.R. Gordon, a sheep inspector, published in 1867 a pamphlet on Fencing as a means of Improving our Pasture Lands, in which he noted:

Many free selectors have expressed to me their decided opinions, that until the principle of withdrawal from lease of large areas for free selection was incorporated in our Land Bill, giving undisturbed possession of the remainder on grazing leases for a definite period, and, in like manner, guaranteeing to the free selector undisturbed possession of his grazing right for a fixed term...free selection in the

unsettled districts would continue to be an unpleasant and unprofitable undertaking.
(Sydney, p.30.)

In Queensland, the 1869 Act made provision for resumptions in return for a new lease of 21 years.

60. The concessions were virtually limited to extensions of the leases, since any reduction in the rent of large holdings was objected to by the Treasury, and there seemed no other way in which large leaseholds could be encouraged except to increase their security of tenure.
61. The Queenslander in 20 October 1883, commented that the New South Wales Bill was "really an adaptation of our own system". Farnell admitted that many of the innovations had their origin in USA (NSW PD, 7 November 1883).
62. A speech at Springsure (Queensland) on 24 November 1883, reported in SMH, 20 December 1883.
63. The details of the leases offered are summarised below:

<u>Title</u>	<u>Date first offered</u>	<u>Area of lease</u>	<u>Conditions</u>
Scrub Lease	1884	Maximum 10,240 acres	Removal of thick scrubs.
Special Lease	1884	320 acres	Used only to protect improvements on the property (dams, etc.)
Inferior Land Leases	1889	Varied	Varied according to the particular problem.
Artesian Well Leases	1889	10,240 acres	Lessee to search for and locate water.

<u>Title</u>	<u>Date first offered</u>	<u>Area of lease</u>	<u>Conditions</u>
Settlement Leases	1895	10,240 acres	Could be used as supplementary grazing provided vermin were controlled.
Improvement Leases	1895	20,480 acres	Granted for the expenditure of certain amounts on improving water facilities, etc.

64. S.H. Roberts: History of Australian Land Settlement, Melbourne, 1924, p.292.

65. King, op. cit., pp.163-164.

66. See N. Cain's chapter "Companies and Squatting in the Western Division of New South Wales, 1896-1905" in Alan Barnard (ed): The Simple Fleece, Melbourne, 1962. A rough indication of the reduced overseas capital inflow is given by the following table from the Quarterly Review (London), 1907, CCVII, pp.249-253 and 263-264:

British Capital Investments (including shipping)

<u>Locality</u>	<u>Amount (£millions)</u>	
	<u>1897</u>	<u>1907</u>
Australasia	323	346
Americas	750	1,167
Africa	265	468
Asia	280	436
Europe	265	201
	<u>2,400</u>	<u>3,150</u>

Compared with other localities, investments in Australasia virtually stagnated from 1897 to 1907.

67. The New South Wales Royal Commission of 1901 mentioned proposals by the companies to write off their debts if the mortgagors could obtain longer leases. In Queensland in 1902 a deputation represent-

ing British capitalists and the Scottish Australian Investment Co. in particular, asked the Premier for relief to safeguard their investments.

68. In 1927 the Queensland Under-Secretary for Lands noted that agitation for extension of leases was strongest when drought coincided with the imminent fall-out of leases. Such had occurred in 1902 and 1927, but in a more severe drought of 1914-16 (when leases were secure) agitation had been absent. (LSAB, 19 September 1927, pp.70-71.)
69. QLD VP, 1902, III, pp.1-59.
70. Ibid., p.8.
71. The Queensland Minister pointed out that the minimum rent in New South Wales would be on much inferior land to the minimum rent in his State.
72. The demand for land in New South Wales was claimed to be less than in Queensland, and the New South Wales resumptions would not suffice for more than two years' settlement at the contemporary rate in Queensland. (QLD VP, 1902, III, p.9.)
73. NSW PP, 1904, IV, p.543.
74. QLD PP, 1906, II, pp.1-96.
75. "Annual Report of the Department of Public Lands for 1911", QLD PP, 1911-12, II, pp.671-739; "Report of the Western Land Board for 1910", NSW PP, 1910 (2nd), I, pp.197-284.
76. Queensland "Land Act" 1910 (No.15) and New South Wales "Crown Lands Consolidation Act" 1913 (No.7).
77. NSW VP, 1901, IV, pp.136-139.
78. The spread of myxomatosis was most spectacular during the years 1950-53 when three-quarters of the rabbit population was claimed to have been destroyed. (Australian Encyclopaedia, 1958, VII, "Rabbits", pp.340-347.)

79. Prickly Pear Leases had been offered in Queensland in 1901 and prickly pear had been denoted a noxious plant by the Queensland Act of 1897. The New South Wales Prickly Pear Act of 1924 incorporated many of the provisions of the Queensland Acts of 1912, 1916 and 1923. Effective control of the plant came after the release of Cactoblastis cactorum in 1928-30 and was complete by 1940, (Australian Encyclopaedia, 1958, VII, "Prickly Pear", pp.276-279).
80. The Western Land Board Report for 1921 noted that most of the stock in the Western Division had either died or been removed because of the drought.
81. One of the recurring themes in the Western Land Board Reports was the need for improved transport facilities in the Western Division. This problem was mentioned in 1903 and repeated in 1908:

The construction of railways in the Western Division has been consistently advocated by us for the last six years...with sufficient facilities for the removal of stock--fat or otherwise--the safe carrying capacity of the vast areas of leased lands...will be greatly increased, while at the same time the serious deterioration of the country that must of necessity be taking place under existing conditions will be prevented.

(NSW PP, 1908, I, p.70.)

In 1917 the "Royal Commission on Rural, Pastoral, Agricultural and Dairying Interests" supported this claim, suggesting that transport facilities should precede fodder as drought relief measures (NSW PP, 1917-18, pp.157-498).

The impact of the motor truck upon pastoral operations had official recognition in 1926 "Report of the Western Land Board" and three years later had been recognised as easing some of the problems posed by the drought. See NSW PP, 1926, I, p.185 and NSW PP, 1929-1930, I, p.109.

82. The Pasture Protection Boards had existed, in some cases,

since the 1884 Act, but their duties had been consolidated by the "Pastures and Stock Protection Act of 1898". Its object "was the protection of pastures and livestock from the depredations of noxious animals /and the re-establishment of Local Pasture Protection Boards/.It was the business of the board to see to the destruction of noxious animals". The board could order control of the pests or control them itself and charge the owner of the infested land. The same provisions were incorporated in the "Pasture Protection Act of 1902", and the "Native Dogs Destruction and Poisoned Baits Act of 1902" (F.A.A. Russell (ed): The Pasture and Stock Acts, Sydney, n.d./1902?/).

83. The 1931 Act replaced the local boards of control, which had been in existence since before 1900, by District Improvement Boards which were to coordinate local control of animal and plant pests. The construction of barrier fences, begun in the nineteenth century, was still in progress in 1956.
84. Experiments at Gilruth Plains Experimental Station (Queensland), under Dr. J.H. Riches.
85. "Land Act Amendment Act of 1931", Section 4. See also 1929 Act, Section 6.
86. LSAB, 19 September 1927, p.19. Even at the height of the drought in 1902, the Queensland Premier had refused extensions beyond those of the relief Act, since to grant the requests of the pastoralists, "would be to go back on their consistent policy of so shaping their land legislation as to encourage in every possible way closer settlement in the pastoral districts" (Pastoral Tenure in Queensland, Brisbane, 1902, p.29).
87. The 1952 Act in Queensland similarly allowed an extension for 30 years in return for a definite expenditure on improving the property.
88. NSW PD, 27 November 1901, p.3716.
89. QLD PD, 4 November 1902, p.1039.

90. In 1932 two English companies asked for permission to invest capital in pastoral leases to be formed from the amalgamation of adjacent Grazing Selections. The Chairman of the Land Administration Board welcomed investment "provided it was spent in acquiring and developing lands that are not already fully productive" but to convert Grazing Selections to pastoral leases "would be regarded as a retrograde step". He went on to say:

The whole policy of the late Government and the present Government is directed to ensure that the first class sheep lands of the State should be settled by grazing selectors rather than by pastoral lessees. In another ten or fifteen years, therefore, it is unlikely that any pastoral leases will be in existence on the really first class country. They will be confined to the second-class sheep lands and cattle country.

(LSAB, 14 November 1932, letter from W.L. Payne.)

91. The failure in 1918 was the result of the cost of compensation which would have had to be paid to the lessees, who in this area had invested large amounts of capital in their properties. (Evidence to the "Select Committee on Land Development", NSW PP, 1919, I, pp.899-936.)
92. The perpetual leases were generally limited to "home maintenance areas" and were not given on areas much larger.
93. The concept of a minimum area had been inherent in 1884 in the size of the Homestead Leases in New South Wales, and the Grazing Selections in Queensland.
94. The detailed analysis of this concept belongs in Chapter 3 and is only briefly noted here.
95. "Land Acts Amendment Act" 1953.
96. In 1909 Elwood Mead, an American irrigation engineer, surveyed Queensland's irrigation potential at the request of the Government but was cautious of the prospects on the plains:

The great profits and attractions of agriculture and stock-raising on areas which do not require irrigation, joined to the lack of skilled irrigators or of farmers who understand intensive methods of cultivation; render it unwise, at present, to attempt to establish irrigation on a large scale.

(QLD PP, 1910, III, p.845.)

If not irrigation, there were hopes for "Dry Farming" which had been so successful in America. Neil Neilson reported to the New South Wales Assembly in 1913, on his return from a fact-finding tour of North America. The titles of the reports are self-explanatory:

"Handling of Grain in Bulk-The Elevator System in North America";
 "The Agricultural Development of Our Drier Lands. Dry Farming";
 "Irrigation" (two reports);
 "Ostrich Farming in America".

(NSW PP, 1913, I, pp.69-148.)

97. The 1917 "Royal Commission on Rural, Pastoral, Agricultural and Dairying Pursuits" examined, among many questions, problems of wheat farming on the eastern fringes of the plains in New South Wales. See Trevor Langford-Smith: "Landforms, land settlement and irrigation on the Murrumbidgee, New South Wales", Thesis, ANU, 1958, for a survey of this southern development.
98. "Select Committee on the Conditions and Prospects of the Agricultural Industry", NSW PP, 1921, I, p.109.
99. Various schemes for small-scale irrigation were begun after 1945 on the Dumaresq, Barwon and Balonne Rivers. All turned eventually to fat lamb production after unprofitable attempts at agriculture.
100. The practice of overstocking was decried and measures to control it were claimed as "necessary to safeguard the public estate" (NSW PD, 27 November 1901, p.3719). The Western Division was compared with Central Asia

whose advancing sands were similarly held to be threatening civilisations (Ibid., p.3730). About the same time as the 1902 Act was under discussion in the Queensland Assembly, a member introduced a motion for the provision of surveys of the water resources of the State to enable them to be conserved (QLD PD, 6 November 1902, pp.1090-1094).

101. Legislation in New South Wales in 1875 had made the ringbarking of trees an offence without a permit and in 1884 had imposed penalties for offences. In Queensland the Minister for Public Lands could control the numbers of stock on land held by annual lease after 1884 but not until the "Report of the Inspector of Forests" in 1901 was the need to control ringbarking recognised, and then only on forested eastern areas where water supplies would be affected by deforestation (QLD VP, 1902, III, p.50). Ringbarking was controlled after the 1910 Act.
102. Part III of the Queensland "Land Acts Amendment Act" of 1931.
103. "Land and Water Resources Development Act" of 1943 , Section 7.
104. His address, "Reconstruction and Development", envisaged conservation of water and soil resources, development of irrigation, rural electricity, transport, rural settlement, secondary industry, and decentralisation of government. (NSW PP, 1943-44, I, pp.1114-1120.)
105. "First Report of the Department of Conservation" 1945, NSW PP, 1945-46, I, pp.41-44. The results from the Premier's travels in 1945 were published and included:

"Soil Conservation in the United States of America";

"Water Conservation and Irrigation in the United States...";

"The Tennessee Valley Authority (USA)".

Just as Neilson had sought inspiration from North America, so 30 years later, did McKell.

106. "Conservation Authority of New South Wales Act" of 1949, Sections 4 and 7.
107. Mead's "Report on the Control, Conservation, and Use of the Water Resources of Queensland", QLD PP, 1910, III, pp.843-850.
108. According to the Act of 1934, if overstocking should "substantially exceed the fair carrying capacity" the lease would be forfeit (Section 17c). The 1949 Act, Section 17ccc, gave the Minister for Lands power to prevent any stocking or control the density at will.
109. The discussion raised several thorny problems which apply to most conservation policies in some way or other. The Minister for Forests introduced the Bill thus:

We are not setting ourselves to deal with what one might term geological erosion, because that cannot be controlled....What we propose to do is to deal with the accelerated form of erosion which strips the earth of that layer of humus upon which we must depend for subsistence.

(NSW PD, 17 December 1937, p.390.)

Some members considered that certain forms of erosion could be beneficial and examples of the salutary effects of floods on the plains were cited (Members for Mudgee and Liverpool Plains, Ibid, pp.392-393 and 677). The Bill was generally supported, however, on the grounds that the occupier, as a trustee for future generations, must use the land with discretion. McKell (later as Premier the controller of New South Wales conservation policies) voiced this concept:

If he landowner of 50,000 acres or more⁷ deliberately wastes land he is guilty of a violation of the charter under which he holds it. The landholder is merely a trustee, and as a trustee he should carry out a trustee's duty and see that the interests of the beneficiaries are preserved.

(Ibid., p.695.)

NOTES TO CHAPTER 3

1. See Chapter 1, "Antecedents of Land Taxation in Australia" in J.M. Garland: Australian Land Taxation, Melbourne, 1934.
2. F.A. Fetter noted that the two decades after Malthus's treatise on population in 1798 showed an increasing interest in the twin problems of population and rent. ("Rent", Enc. Soc. Sci., XIII, p.290)
3. J.H. Clapham: An Economic History of Modern Britain, The Early Railway Age 1820-1850, Cambridge, 1950, pp.133-134. He went on to note the continued distress in the first half of the nineteenth century:

The gloom which hung over so much of rural England when the early railway age began 1820 deepened for five years, never lifted decisively, and when the age closed 1850 - with the corn laws repealed - was at its deepest.

(Ibid., p.455.)

4. T.R. Malthus: The Nature and Progress of Rent, London, 1815, pp.11 and 22-23.
5. Ibid., p.30.
6. Rent on land containing a variety of country would generally be higher than on land of uniform quality, according to R. Baker: The Art of Valuing Rents and Tillages, London, 1856, (7th editn), pp.16-17. (The original was written by J.S. Bayldon and published 1823.)
7. Baker gave two pages to the listing of factors to be considered and included climate, terrain, soils and geology. Yet he included marketing costs and the amount of investments in his list. (Ibid., pp.359-360.) For the United States, in 1891, F.A. Walker noted that rent was more than the difference between the best and the poorest land and was being affected by the mechanization of agriculture and continued investment of capital in rural development (Land and its Rent, Boston, 1891, p.21).

8. J. Laird in The Idea of Value, Cambridge, 1929, noted that "'Natural value'...may fairly be said to be logically antecedent to both money prices and to many other sorts of prices" (p.23).
9. "La rente...c'est l'avantage durable du degre de fertilite de chaque parcelle, avantage dont le proprietaire exige ou recoit le prix". (M. Glansdorff: Theorie Generale de la Valeur, Brussels, 1954, p.240.)
10. Fetter, loc. cit.
11. D. Ricardo: On the Principles of Political Economy, and Taxation, London, 1817, p.52.
12. A rent on produce would only be justified "when farming was in so primitive a state, as to have become applicable to all descriptions of soil alike; and as the routine of management was similar, and the return depending upon the soil more than upon management, would render a proportion of the produce a tolerably fair criterion for fixing the rent". (Baker, op. cit., p.61.)
13. Walker commented:

The American people, finding themselves on a continent containing an almost limitless breadth of arable land, of fair average fertility, having little accumulated capital and many urgent occasions for every unit of labor power they could exert, have elected...to regard the land as practically of no value, and labor as of high value; have...systematically cropped their fields on the principle of obtaining the largest crops with the least expenditure of labor...and caring little about returning to the soil any equivalent for the properties taken from it.

(Op. cit., pp.45-46.)
14. In the United States, the "Land Ordinance" of 1785 instituted sales at a minimum of one dollar per acre; the 1820 Act authorized sales of up to 640 acres at \$1.25 per acre and the 1862 "Homestead Act" kept the same price for a maximum of 160 acres. In the same year the "Morrill Act" used land grants to

the states to pay for agricultural colleges. There was considerable argument on the question in England, where the Colonial Land and Emigration Commissioners in 1840 opposed any form of land taxation unless the proceeds were allowed to encourage the introduction of capital to develop the "new lands", through the subsidy of an immigrant labour force, or individual capitalists (see "Report to the Secretary of State for the Colonies, 26 February 1840", quoted in Colonial Magazine, Fisher and Son, London, VII, 1842, pp.474-475). In this attitude were reflected many of the premises put forward in evidence by E.G. Wakefield, who was following up the ideas first proposed in his A Letter from Sydney, London, 1829.

15. The other category was "consumptive" good, e.g. residential land whose value declined immediately it was actually built on--i.e. was no longer available for building (E.W. Morehouse: "Land Valuation", Enc. Soc. Sci., IX, 1934, p.137).
16. G.O. Gutman: "Investment and Production in Australian Agriculture", Review of Mar. and Agric. Econ., XXIII, December, 1955, pp.254-255.
17. Garland, op. cit., p.7.
18. West recognised that the best lands would be taken up first and that relative to production, the inferior lands would require more capital investment for the same return. Investment on such inferior lands was therefore discouraged and as a result, rents bore a closer relation to natural productivity. Sir Edward West: The Application of Capital to Land, London, 1815, (reprint Johns Hopkins University, 1903, pp.7-8 and 28).
19. Garland, op. cit., p.2. Debates on land policy in both Queensland and New South Wales Parliaments in the later decades of the nineteenth century often contained references to Mill and George.
20. W. Epps: Land Systems of Australasia, London, 1894, p.15.
21. Gipps's note on the "Report" in NSW GD, 1844, XLVI, p.444, ML A/1235.

22. The Committee suggested:

Some parts of the Colony are mere deserts, no numbers of acres of which will feed a sheep; in others this may be done with little more than a single acre; in others the stations cannot be occupied more than a few months at a time, from want of water.

(NSW GD, 1844, XLVI, p.445.)

23. "Paper delivered to the Executive Council by the Lord Bishop of Australia on the Squatting Question", NSW GD, 1844, XLVI, pp.738-739.
24. NSW VP, 1878-1879, IV, p.531.
25. Wilcannia Pastoral Protection Association: The Land Act and the Rabbits, Sydney, 1887, p.20.
26. "Available" land was useful grazing land; "unavailable" land was thought to be useless for pastoral purposes. The basis for the distinction changed over the years and the details are examined in section b below.
27. NSW PD, 1879-1880, p.423.
28. Queensland 1860 Act (No.16), Section 3.
29. New South Wales 1875 Act (No.13), Section 26.
30. Queensland 1884 Act (No.28), Section 9.
31. One example of many is the New South Wales 1895 Act (No.18), Section 9, which allowed the reduction of rents if the environment had deteriorated as a result of "rabbits, depreciation of values or deterioration of grazing capacities".
32. In the "Annual Report" of the Queensland Department of Public Lands for 1909, the claim was made that the state was not obtaining its fair share of the prosperity of the pastoral industry because of the low rents in force since the assessments in the droughts of 1884 and 1901. (QLD PP, 1910, III, p.11.)

33. NSW VP, 1873-1874, III, pp.883-884.
34. The opinion of the Chief Officer of the New South Wales Department of Lands in Schedule 2 of a "Return of Appraisement of Runs", NSW VP, 1880-1881, II, pp.445-446. In his second "Annual Report" for 1881, he commented:

Under the old Regulations the "natural advantages and sources of profit" incident to a run could alone be taken cognizance of when determining an award. This restriction was removed by the omission of the term "natural" in the Regulations of 1880, and the increment named therefore contains the additional value considered to be due on account of progress of events and increased facilities afforded for the transit of stores and produce.

(NSW VP, 1881, III, p.442.)

35. Section 30(5) of the Queensland 1884 Act (No.28) expressed the hope that revenue would be increased as a result of technological improvements affecting the pastoral industry.
36. NSW VP, 1865, II, p.415.
37. The forms are "Report for Appraisement of Rent or Licence Fee, LLB 82", used in 1886; "Report for Appraisement, LLB 141, 91" used in 1891; and "Report for Appraisement, LLB 141, 95-6", used in 1896. These forms are held at the Western Lands Office, Sydney, in the files of the appraised properties.
38. New South Wales 1934 Act (No.12), Section 19B.
39. "The test of values is the amount which experienced graziers, with a full knowledge of all present difficulties, and with a mind free from any element of compulsion, would be willing to give for the subject lands" (C.M. Collins: The Valuation of Property Compensation and Land Tax, Sydney, 1949 (3rd), p.41).
40. Queensland 1884 Act (No.28), Section 30(5b).

41. See the debate in the Legislative Assembly, 16 November 1897, especially the speech of A.C. Gregory, QLD PD, 1897, p.1582.
42. A footnote to the Act in W.F. Wilson (ed.): The Land Acts, 1897 to 1905, Brisbane, 1907, p.35.
43. Queensland 1910 Act (No.15), Section 125.
44. QLD PP, 1928, II, p.154.
45. See the judgement of the President of the Land Court of 1 May 1951, quoted in QLD PP, 1951-1952, II, pp.192-193.
46. CCL-CS, 1 January 1846, 47/615, ML 4/2719.
47. The explorer Kennedy considered the area between the lower Warrego and Culgoa rivers to be useless for this reason. (NSW GG, 24 January 1848, p.101.)
48. W. Landsborough: Journal of Landsborough's Expedition, Melbourne, 1862, p.111.
49. An example from outside the plains is relevant here. A pastoralist complained to the Commissioner at Gayndah in 1859, that part of his run in the Burnett District (north of Brisbane) was covered in scrub which approached "in several places so closely to the creek as to circumscribe the available country very much, consequently, I consider that from six to ten miles frontage along the creek will be necessary to render a block capable of depasturing 4,000 sheep" (NSW VP, 1859, III, p.597). Presence of scrub curtailed the area available to access from the water frontage.
50. See James Nisbet: "Pioneering Days in Queensland, 1857-78", pp.96-97, MSS 1912, ML A/1533, for evidence of illegal classification of land as "unavailable".
51. Queensland 1863 Act (No.17), Regulation 14.
52. Queensland 1884 Act (No.28), Section 30(2).
53. An appraisal of a run near the Queensland border, north of Bourke in 1880, illustrated the problem.

"About half the run is fair grazing land", reported the surveyor, "the remainder consisting of spinifex, sand hills, and scrub, is quite unavailable for stock under any circumstances". As a result, the rent on the useful country was, in effect, £2 per square mile or twice what it would have been, if the whole area had been useful. (NSW VP, 1880-1881, II, p.451)

54. The basis of a "living area" or "home maintenance area" as it was generally accepted in the twentieth century, was established in two court cases in 1901 and 1903:

the word "home", in our opinion, denotes the maintenance, not of a bark hut or shanty with sordid surroundings to match, but a reasonably comfortable place of residence, with the means and resources derived from the holding on which it is situated, sufficient to maintain a wife, and to bring up and educate the members of an average family so as to take their place as respectable members of the community.

(Quoted in Collins, op. cit. p.225)

55. NSW VP, 1883, II, p.102.
56. Evidence of M.R. Dwyer of the Bourke Land Board, Q-243 of Evidence to Queensland "Royal Commission on Land Settlement", QLD VP, 1897, III, pp.869-1242.
57. Ibid., paragraph 32 of the "Report".
58. NSW VP, 1901, IV, p.151.
59. The Surat, Roma and Goondiwindi districts were to have selections of 20,000 acres, the St. George district 40,000 acres and areas to the west, 60,000 acres. (Queensland 1902 Act (No.18), Section 30.)
60. The minimum was 4,000 sheep or 1,000 cattle (LSAB, pp.4-5, QSA 30/66).
61. In the course of its investigations into the pastoral industry an Interdepartmental Committee of the Queensland Government in 1927 took a large

body of evidence, but as none was taken on oath the validity of the facts were disputed (Ibid., p.2).

The Land Settlement Advisory Board, which reviewed the discussion in its report for 1928, cautioned against undue regard for the public outcry, "Whatever mistakes we may in the future in land administration", the Board warned, "let us, at least, not be influenced by public ignorance or prejudice" (QLD PP, 1928, II, p.150).

62. "Report of the Wool Advisory Commission", QLD PP, 1939, II, p.645.
63. Queensland 1927 Act (No.17), Section 8.
64. QLD PP, 1951-1952, II, p.183.
65. In practice, however, there appears to have been some consideration of the fluctuating condition of the industry. A judgement in 1923 suggested:

In estimating a home maintenance area, the Court should not act in a cheese-paring manner, but give a reasonable and fair amount of land, so that there shall be some allowance for the give and take that is absolutely necessary owing to the climatic conditions of New South Wales.

(Collins, op. cit. p.228.)

66. J. Macdonald Holmes: The Erosional-Pastoral Problem of the Western Division of New South Wales, Sydney, 1938, p.10.
67. See Table 2.
68. A succinct account of the basic wage movement is noted in B. Fitzpatrick's The Australian Commonwealth, Melbourne, 1956, pp.222-223.
69. The New South Wales 1884 Act (No.18), Section 142, established that no lease should be forfeit for insufficient description, and in the Queensland 1910 Act (No.15), Section 14 provided that the production of a map or plan by the Department of

Public Lands was to be accepted as evidence until disproved.

70. The Queensland Under-Secretary for Lands commented in 1927 that, "whatever mistakes the Lands Department may have made on the living area problem must be attributed to lack of knowledge and nothing else. Graziers now have it in their hands through improved book-keeping to see that official ignorance in this matter does not continue" (LSAB, p.23, QSA 30/66).
71. In a series of articles in the Sydney Morning Herald of 1899, E.D. Millen of Bourke surveyed the drought-stricken plains and complained of the indifference of the general public. "By far the larger portion of what is now departmentally the Western Division", he wrote, "is still a terra incognita to the great majority of the people of New South Wales" (SMH, 18 November 1899). N.C.W. Beadle, repeating the plea fifty years later, claimed that not until the dust-storms reached the east coast, was the public really aware of the serious erosion of the plains in the droughts of 1944-1945 (The Vegetation and Pastures of Western New South Wales, Sydney, 1948, p.54).
72. Looking back in 1959 over his long experience of Queensland's land administration, W.L. Payne commented:

Strange as it may seem, public opinion is a shockingly poor guide in land administration. Nearly all the mistakes in land administration [sic] resulting in undue subdivisions, have been brought about by the force of public opinion.

A temporary boom sets in, the value of products rises, the income from a holding is doubled, and the altered conditions deeply impress the public mind. The public eventually brings pressure to bear on the administrators, and sometimes the administrators give way. Available lands are cut up to half the usual size and half the usual productive capacity.

The public are eager to acquire them, but when conditions are back to normal the settlers find themselves in a sorry plight.

"Report on Progressive Land Settlement in Queensland", QLD PP, 1958-1959, II, p.579.

73. Several examples have been noted in Chapter 2. There were several instances of schemes for land-grant railways on American principles in the late nineteenth century (see for example W. Kellett: Land Settlement, Brisbane, 1903), and there appears to have been cross-fertilisation of ideas in the scientific fields also. In 1901 the New South Wales Government Botanist (J.H. Maiden) was advocating botanical studies of the plains along the lines of "Physiographic Ecology" developed by H.C. Cowles and A.N. Whitford in the United States (Maiden's Presidential Address, Proc. Linn. Soc. NSW, XXVI, 1901, pp.740-804).
74. The psychology of the plains is a study in itself (see R. Ward: The Australian Legend, Melbourne, 1958) but enough has been suggested in Chapter 1 to make the point. In the words of Webster, MLA Moree, "If I had to live in the western district, even if the Crown let me have more than enough land to keep a family on, I should feel that I was cut off from civilisation". (NSW PD, 3 December 1901, p.3892.)
75. In 1901 the annual routine of the bushmen in the Western Division of New South Wales was described as four to five weeks shearing on the Darling, followed by fruit-picking in the Mildura area, wheat harvesting in Victoria and returning to the Darling for lamb-marketing prior to shearing again. (Scobie, MLA Wentworth, NSW PD, 3 December 1901, p.3850.)

NOTES TO CHAPTER 4

1. The detailed outline of the Warrego country study area represents the boundaries of pastoral properties (amalgamated to form holdings in 1884-1886) which occupy similar country, the floodplains and interfluves of the Warrego and Balonne distributaries, on both sides of the political border.
2. Aboriginal occupation seems to have been limited to the frontages of the Barwon, Darling, Narran, Balonne and middle reaches of the Warrego rivers. The interfluves appear to have been rarely occupied. Kennedy in 1848 and De Rinzy in 1860 noted contrasts in language between the Darling and Warrego blacks, suggesting that they rarely, if ever, came into contact. See The Australian, 4 February 1848, and The Empire, 29 June 1860.
3. Norman B. Tindale: "Distribution of Australian Aboriginal Tribes: a field survey", Trans. RSSA., LXIV, 26 July 1940, p.149 and map.
4. Quoted in a letter from Walter Bagot, a stockman on the Barwon, to Mitchell, dated 20 January 1844. See Albert F. Calvert: The Exploration of Australia, London, 1895, p.325-326.
5. "The blacks report a mountainous country as laying west of the Darling, which is certain to contain some water". R.B. Gow: Diary, NLC MS 55:36(24), p.6.
6. For the routes of the official explorers, see Figure 6.
7. Charles Sturt: Two Expeditions into the Interior of Southern Australia, London, 1834, pp.107-108.
8. T.L. Mitchell: Three Expeditions into the Interior of Eastern Australia..., London, 1838, pp.214 and 298-299.
9. Ibid., pp.295-296.
10. Sir Thomas L. Mitchell: Journal of an Expedition into the Interior of Tropical Australia in search of a

route from Sydney to the Gulf of Carpentaria,
London, 1848, p.128.

11. Edmund B. Kennedy: "Despatch of the expedition to ascertain the course of the River Victoria", NSW GG, 24 January 1848, p.101.
12. See Chapter 2, part 1, section A.
13. Evidence of the surveyor G.B. White, to the "Select Committee on the Navigation of the Murray", NSW VP, 1858, III, pp.758-759.
14. SG-S, 1847/314, 2 November 1847, ML 4/5432.
15. S-SG, a letter from Gorman dated 30 September 1848, ML 2/1540.
16. The Surveyor General, Mitchell, criticised Gorman's omission to tie-in his survey with previous work by Mitchell and Kennedy, and concluded, "This seems to be the most unintelligible piece of rubbish ever sent to this office". A pencilled comment on Gorman's letter (mentioned in note 15 above).
17. SG-S, 1859/11155, 12 November 1859, ML 4/5444.
18. SG-S, 1861/6676, 26 February 1861 and 20 September 1861, ML 4/5446. The Surveyor General had been informed of the existence of the Paroo River by "Mr. V. Dowling and another gentleman".
19. Surveyor General's Report for 1865, QLD VP, 1866, I, pp.1378-1379 and his Report for 1878, QLD VP, 1879 (2nd), II, p.222.
20. An article on "Australian Exploration" in The Empire, 29 June 1860, p.2.
21. See W.R. Randell: "Voyage up the Darling and Barwan", Journal RGS, XXXI, 1861, pp.145-148.
22. W.H. Wells: A Geographical Dictionary: or a Gazetteer of the Australian Colonies, London, 1851, mentioned only the Balonne River (p.42). R.P. Whitworth (ed): New South Wales Gazetteer and Road Guide, Sydney, 1866, mentioned the main watercourses and described

- some of the surrounding country. Specific reference is to the Culgoa, p.162.
23. The first occupation of the Warrego country appears to have been in 1836 when two "runs" on the north bank of the Barwon and one of the Narran River, were licensed (J.F. Campbell: "'Squatting' on Crown Lands in New South Wales", Journ. RAHS, XV, pp.110-111, quoting the NSW GG, 1840, p.170).
 24. V.J. Dowling's Diary, 1859, MS, ML B 664, entry for 21st April 1859. Also his trace of the Paroo River, ML A 1643.
 25. R.B. Gow, op. cit., pp.5-6.
 26. Ibid., pp.5 and 29.
 27. Oscar de Satge: Pages from the Journal of a Queensland Squatter, London, 1901, pp.125-126.
 28. William Gardner: Productions and Resources of the Northern and Western Districts of New South Wales, MS, 2 vols., 1854, ML A 176-2, p.77.
 29. Hon. A. Norton: "Notes of Travel, 1859-60. From Sydney westwards, and down the Darling River", Proc. RSQLD, XVIII, 1903, p.90.
 30. Surveyor General Mitchell's instructions to Rowland prior to the survey of Culgoa-Narran country, SG-S, 1861/6531, 28 February 1861, ML 4/5446.
 31. See H.C. Russell: "Notes upon the History of Floods in the River Darling", Journal RSNSW, XX, 1886, pp.155-210. In 1861 the Culgoa was in flood (see A.D. Fraser: This Century of Ours, Sydney, 1938, p.83); in 1862 the lower Warrego country in Queensland below the site of Cunnamulla "was wet thinly-wooded plains" (see W. Landsborough: Journal of Landsborough's Expedition from Carpentaria in search of Burke and Wills, Melbourne, 1862, p.114) and in 1864, the Narran Lake was full for the first time on record (see W.E. Abbott: "Notes of a Journey on the Darling", Journal RSNSW, XV, 1881, pp.45-46).

32. Description generalised from reports on the Culgoa-Narran country in 1846 (CCL-CS, 1847/3008, ML 4/2719). Mitchell's reports, op. cit., 1848, and the notes by Kennedy, and Landsborough.
33. Mitchell, 1848, op. cit., pp.114-115.
34. Norton, op. cit., p.90.
35. Mitchell, 1838, op. cit., p.297.
36. Whitworth, op. cit., p.162.
37. Mary McManus: Reminiscences of the Early Settlement of the Maranoa District, Brisbane, 1913, p.61.
38. Gardner, op. cit., p.76.
39. As found by Mitchell northwest of the Balonne, 1848, op. cit., p.128.
40. Report of Surveyor MacCabe on the frontages below Fort Bourke, S-SG, 14 November 1849, ML 2/1554.
41. A letter on "Sheep runs on the Darling" in the SMH, 23 April 1850.
42. Randell, op. cit., p.147.
43. See note 23 above.
44. See the volumes of Depasturing Licences, ML 4-90 to 4-113.
45. J. Jervis: "The Exploration and Settlement of the Western Plains", Journal RAHS, XLII, 1956, pp.6-7.
46. Letter from Darling Downs Commissioner, 7 September 1849, in Papers relative to Crown Lands in the Australian Colonies, Part I, New South Wales, London, 1850, Appendix III, pp.42-43.
47. CCL-CS, 1841/108, ML 4/2525.
48. A report by Commissioner Mayne in 1847 noted that the country between the Lachlan and the Darling was useless because of lack of water and the danger from

wild blacks. Quoted in Jervis, 1956, op. cit., pp.3-4.

49. SMH, 23 April 1850.
50. Gardner, op. cit., p.10.
51. The Maitland Mercury, reported in 1845 that the squatters of the Mooni Creek "being pressed for room, have been gradually extending their runs till they reached the Balloon /Balonne/" (quoted in Jervis: "The West Darling Country: its exploration and development", Journal RAHS, XXXIV, 1948, p.75).
52. Gorman found two stations on the Narran in 1848 (S-SG, 30 September 1848, ML 2/1540). Of these one had been occupied since 1836, see note 23 above.
53. SMH, 4 February 1846.
54. Gardner, op. cit., p.77.
55. CS-CCL, 18 October 1844, ML 4/3661.
56. A letter to MBC, 23 December 1848.
57. Gardner considered that the Barwon, Mooni and Balonne frontages were still cattle country in 1854 and had been so since first occupied (op. cit., pp.10-14). All the blocks in the study area were assessed in terms of cattle at this time although there is little evidence of actual stock carried.
58. Gardner, op. cit., p.231.
59. MBC, 27 June 1846.
60. J. Jervis: "The Western Riverina", Journal RAHS, XXXVIII, 1952, p.20.
61. Gardner, op. cit., pp.208 and 210.
62. Ibid., p.239.
63. CL0(LP)-I, 1850/114, 22 October 1850, ML 4/6912.
64. The report of the missionary, Ridley, published in the SMH, 14 December 1855.

65. Gardner, op. cit., p.14.
66. Quoted in Jervis, 1956, op. cit., p.5. By 1859, approximately 1,912,840 acres or about one tenth of the study area, had been officially leased and occupied ("Return" NSW VP, 1859-60, III, pp.635-710).
67. Randell, op. cit., p.146.
68. Among them was V.J. Dowling, who brought cattle from Wee Waa down the Namoi and Barwon to his run near Fort Bourke. See his Diary, op. cit.
69. McManus, op. cit., p.12.
70. There was a technical difficulty in that tenders on the western bank of the Warrego were "beyond any proclaimed district" in Queensland and had to be rejected (CCL(B), 23 October and 20 November 1860, LD). Specific reference is to CCL(B) 19 October 1860, LD.
71. At least 32 men were competing for runs in the Queensland portion of the study area and by March 1861, 268 of their applications were still undecided (QLD GG, 1861, p.121 ff.). Only 12 of the 32 were successful and by 1866 only 3 had not transferred their interests. Both the Queensland and New South Wales Chief Commissioners for Crown Lands complained of the speculative nature of many of the applications at this time. Of the undecided applications in 1861, Moriarty for New South Wales noted:

they are almost all for back-lying and unwatered country, which, until within a recent period, has been looked upon as valueless, and tendered for only to keep out interlopers...and that tenders by the thousand have been sent in merely on speculation, and to enable the applicant to secure any land that might turn out to be vacant, and become valuable in progress of time. (NSW VP, 1861, II, p.105L)

In Queensland, similar speculation had brought tenders for land to be sold "at a premium to such persons as may have a bona fide intention to stock the same". "No capital is required, considerable sums

- may be realized, and there can be no loss".
 (Letter to the Colonial Secretary, Brisbane,
 12 December 1861, CCL (B), 1861-1862; QSA 30/2.)
72. The controversies over run boundaries were the main source of discontent. See "Progress report on...system of tendering for runs", NSW VP, 1861, II, pp.893-937, and a "Return" in NSW VP, 1869, II, pp.159-176. Disputes were particularly numerous along the lower Culgoa and Birrie rivers for reasons which will become obvious.
 73. SMH, 29 December 1865, quoted in Jervis, 1948, op. cit., pp.164-165.
 74. The real reason for the request for extensions of time (supposedly to enable runs to be stocked) was "to enable those parties to dispose of, by sale, their rights to such tenders", according to a "Petition...from Stockholders and Applicants... on the River Warrego", QLD VP, 1863 (2nd), I, p.653.
 75. See Whitworth, op. cit., and QLD VP, 1867 (2nd), II, pp.809-856. The petition of 1863 (see note 74) was signed by nine men, four of whom gave an address within the study area and five from beyond, including the Namoi, Castlereagh and Murrumbidgee rivers, Echuca on the Murray and Bungulgully (unlocated).
 76. Compare Landsborough's Papers 1861-1886, MSS, ML A 2612, with Landsborough, op. cit., entries for 24 May 1862.
 77. "Petition respecting the requirements of the Warrego District", QLD VP, 1865 (1st), I, p.1331.
 78. Queenslander, 1 and 8 September 1866, pp.12 and 8 resp.
 79. Evidence of Hon. J.O'Shanassy, Q-270 in "Minutes of Evidence" to the "Third Progress Report on the Administration of the Land Law", NSW VP, 1873-1874, III, p.922.
 80. D.F. Mackay took cattle from Brewarrina down the Darling to the Murray in 1865 (Russell, op. cit., p.171).

81. SG-S, 1860/6300, 1 February 1861, ML 4/5446.
82. SG-S, 1861/5901, 29 April 1861, ML 4/5446.
83. SG-S, 31 December 1861, ML 4/5447.
84. Gardner, op. cit., p.77.
85. J. Neilson: "The Warrego" in Pugh's Queensland Almanac, Directory and Law Calendar, Brisbane, 1864, p.203.
86. Whitworth, op. cit., p.575.
87. The explorer, Leichardt, thought only cattle stations would succeed in areas as remote as the Maranoa (quoted in Simmond's Colonial Magazine, 1844-1848, XIII, p.397) and Gardner suggested that "sheep farming, cannot be conducted with profitable returns having more than three hundred miles of land carriage to the sea coast" (op. cit., p.55). The study area generally lay beyond this limit.
88. T.G. Dangar had a horse station on the Warrego near the Queensland border in 1862-1863 (Landsborough, op. cit., p.114, and Neilson, op. cit., p.201-202). For the importance of the horse trade with India in the forties, see Mitchell, 1848, op. cit., p.428.
89. Kennedy commented on the Warrego River's northern reaches:
- its grassy banks and clear forest land render it available for either sheep or horse stock, but it is unfit for cattle from there being no surface water. (Op. cit., p.101)
90. Evidence of Hon. J. O'Shanassy, loc. cit., note 79 above.
91. Rent on a station stocked with the required 4,000 sheep was £18.6.8, compared with £14 for the equivalent 640 cattle (Gardner, op. cit., p.116). In contrast to the sheepman's yards and huts at five to six miles distance, the cattleman needed little more than "a slab hut and stockyard...of the simplest description" (Fraser, op. cit., p.83).

92. Using the estimates of run stock-carrying capacities from depasturing licences the following table shows the dominance of cattle.

Estimates of Stock-carrying Capacities
in the Study Area, 1849 to 1859

	c.1849	1851	1853	c.1859
Cattle	22,060	45,616	29,333	39,340
Sheep	8,000	26,734	7,662	28,000
Horses	?	1,125	1,069	?

Sources: Depasturing Licence Books, ML 4-90 to 4-113, "Return", NSW VP, 1859-1860, III, pp.635-710.

93. "The settlers...say they would immediately place sheep on their runs instead of cattle, if there is any likelihood of their being able to avail themselves of steam to send their wools to Adelaide, and of getting their supplies from thence" (Randell, op. cit., p.146).
94. SMH, 8 November 1861.
95. Neilson, loc. cit.
96. The 1866 figure is from Whitworth, op. cit., and only refers to the New South Wales portion of the study area. Stock estimates for Queensland at this date were not available.
97. Estimates of the stock-carrying capacity of runs had to be in terms of either cattle or sheep. Given this choice we might expect the stockman to mention the stock most suited to the country, and his estimates in the period 1859-1864 would probably have been affected by the good seasons.
98. The "Unoccupied Crown Lands Occupation Act", Queensland 1860, (No.11).
99. In sheep-equivalent units of five sheep to every one head of cattle (Regulations to Crown Lands Occupation Act, New South Wales, 1861 No.2, Section 56).

100. Although most of the runs along the Warrego frontages in Queensland had the minimum initial requirement of stock (one quarter of the official capacity), there were some exceptions (see Brisbane Courier, 28 September 1863, p.2, a report on the "West Maranoa" district).
101. The cross-section shows the variations from the official capacity of 4,000 sheep on 16,000 acres. If more than 16,000 acres were required to carry 4,000 sheep, obviously, the density was reduced, and vice versa.
102. Whitworth, op. cit., p.588, reported one, and several had been washed away in the flood of 1863 (Jervis, 1948, op. cit., p.169).
103. Note the coincidence of headstations and the blocks of "Best" and "Fair" quality land on Figure 9.

NOTES TO CHAPTER 5

1. Along with the boundaries, the surveys did establish more accurate areas for the runs. See "Second Report on the Occupation of the Crown Lands", 1880, NSW VP, 1881, III, pp.433-510.
2. Report of the Surveyor General, in NSW VP, 1881, III, p.51. See also NSW VP, 1881, I, p.339.
3. "Progress Report No.1" by Robt. Watson on the "Transcontinental Railway", QLD VP, 1881, II, pp.279-280.
4. "The Gregory South and Warrego Districts", report by G.C. Watson, QLD VP, 1882, II, p.625.
5. See Stock Inspector Bruce's report on "The Live Stock and Pastures of New South Wales" which formed an appendix, p.159 of G.H. Reid: An Essay on New South Wales..., Sydney, 1876.
6. Robt. P. Whitworth (ed): Queensland Gazetteer and Road Guide, Brisbane, 1876, p.196.
7. See the description of Cuttaburra Creek, ibid., p.59.
8. Charles Lyne: The Industries of New South Wales, Sydney, 1882, p.203.
9. One of the chief objections to western Queensland was "the comparative unsuitability for wool growing" (A letter from Jesse Gregson, manager of the A.A.Co., to James Nisbet, 25 February 1881, WP-C 65a).
10. Gregson made extensive enquiries on the possibility of selection spreading into the Darling area, some of his enquiries met with optimistic replies, others were more reserved. Griffiths and Weaver, station agents, reported in April, 1881, that "it is very hard to get a first class sheep station except with a lot of purchased land on it in New South Wales and this you seem to object to" (WP-C 35, letter 14 April 1881).
11. Nisbet, in a long discussion of stations in western Queensland, informed Gregson that returns on 100,000 acres of this country would be much slower than for a similar area in New South Wales, the main reason

being the higher initial outlay on improving the country to carry sheep. (WP-C 65b, letter 1 March 1881)

12. Letter from Nisbet to Gregson, 6 June 1881, WP-C 65l.
13. Taylor's report on Ballycastle Run, 30 January 1881, WP-F 1c.
14. WP-F 9a, 20 October 1881.
15. See WP-C 65m, 14 May 1881 and WP-C 18, June 1881.
16. In fact, largely as a result of pressure from the English investors who were obsessed with the supposedly greater attractions of investment in Queensland, the company disregarded the advice of its agents and purchased property north of the border.
17. Official interest stemmed partly from the enthusiasm of the New South Wales Government Astronomer, H.C. Russell, whose massive array of publications after 1879 built the foundation of official knowledge of the climate of the western plains. The importance of rainfall data was acknowledged in the New South Wales Inquiry of 1883, which realised that "it is only by rightly estimating the effects of the rainfall that the pastoral or arable character of a district can be determined" (NSW VP, 1883, II, p.81).
18. Most of the stations examined by the Australian Agricultural Company's agents in 1881 did not have rainfall figures and were merely described as "How watered" (see WP-G file), but figures were available for Toorale station and were carefully reproduced with Nisbet's report (WP-F 8a, Appendix E). Zealous managers in the early eighties began to make a habit of reporting falls of rain on their stations by telegraph to the company headquarters in the capital cities (see GMC files).
19. In 1870 a Darling stockman travelled upstream along the Warrego. "After passing such a wet winter", he reported, "imagine my astonishment when I got to Cunnamulla about August, 1870... to find the grass very dry, there having been no rain since February"

(quoted in H.C. Russell: "Notes upon the History of Floods in the Darling River", Journal RSNSW, 1886, XX, p.167).

20. The averages of rainfall by 1883 were as follows:

Bourke	16.8	inches
Brewarrina	20.0	"
Walgett	17.1	"
Barrington	15.2	"

Yet in 1873, Bourke had 12 inches and Brewarrina, only 55 miles away at virtually the same height, had 23 inches. Source: Table 3, p.180 ff, in Results of Rain, River and Evaporation Observations made in New South Wales 1901-02, Sydney, 1904, (directed by H.C. Russell).

21. See Russell, 1886, op. cit., and the evidence of Bignell to the "Royal Commission on Conservation of Water, (NSW VP, 1885, VI, p.189).
22. G.C. Watson's report, op. cit., p.627.
23. Reid, op. cit., p.159.
24. Report by Mair, 30 May 1881, in WP-F 3b.
25. The second class red soil country lay south of the Darling, outside the study area (NSW VP, 1883, II, p.141).
26. After floods the plains were a sea of grass according to a surveyor on the lower Warrego in 1874 (quoted in Dr. Cumbræ Stewart's article "The Discovery and Exploration of the Warrego", Brisbane Courier, 5 June 1926).
27. H.C. Russell: "The River Darling--the water which should pass through it", Journal RSNSW, 1879, XIII, pp.169-170. The first artesian bore was drilled at Kallara, immediately southwest of the study area in 1879 (T.A. Coghlan: The Wealth and Progress of New South Wales 1900-01, Sydney, 1902, p.27).

28. A letter from the manager of Dunlop station on the Darling, where extensive drilling was in progress in 1881, told a geological surveyor of the success of two bores on the property and requested him separately to "please get the enclosed letter inserted in one of the Sydney papers, and any comments you might make on the geology of the district" (see the report on the "Albert Goldfields, Artesian Water", in NSW VP, 1881, III, p.733).
29. The great value of artesian water lay first in its mere existence, second in its quantity, and third in the fact that no power was needed, at least initially, to raise it to the surface. Many wells had been dug prior to 1879, and water raised by horse-whim, but these were immediately eclipsed by artesian supplies once the drilling equipment became available.
30. Letter from Nisbet to Gregson, 27 September 1881, WP-F 7f.
31. Letter, 20 October 1881, WP-F 9a.
32. Cornelius Proud: The Murray and Darling Trade in 1883, Adelaide, 1883, p.27.
33. The back-country north of the Darling was described as:

a mass of red sand, held together only by the grass and the roots of the bushes; and when these are trodden down, the sand drives in blinding clouds, piling itself up wherever an obstruction comes in its way, until it fills up yards, and puts fences, and, in some cases even huts, completely out of sight. (A letter from Mair to Gregson, 13 May 1881, WP-F 3b.)

Excavation of tanks to conserve water in 1881 usually involved construction of a small adjacent feeder tank to act as a silt-trap for the main excavation (see letter 20 January 1881, WP-C 65c). Considering that some of the back-country had been stocked for probably less than five years, this evidence of erosion was impressive.

34. James Nisbet: Pioneering Days in Queensland, 1857-78, MS, ML A 1533, p.70.
35. Other petitions had concerned problems of taking up the country but 1869 saw the first petitions for drought relief from the study area.
36. QLD VP, 1868-1869, I, p.451.
37. Ibid., pp.455-457.
38. NSW VP, 1873-74, III, pp.918 and 972.
39. SMH, 26 December 1874.
40. By December 1882, of the seven counties included in the New South Wales portion of the study area only 1.08 per cent had been alienated as freehold land (NSW VP, 1883, II, pp.166 and 196).
41. Report by the District Surveyor on the working of the Land Acts in the Warrego District, NSW VP, 1877-78, III, p.389. He estimated about half the land alienated had been for bona fide purposes.
42. By 1883 certain of the stations had changed hands but there were no significant reversal of trends. The date 1879 had to be used because of insufficient coverage at 1883.
43. The banks as mortgagees were probably not working the properties themselves but merely held the lease document for the mortgagor, who appears to have continued to work the property but under liability to the bank.
44. In 1876 a large block of the Barwon frontages, including four holdings in the southeast of the study area, was sold to Riverina capitalists, who proceeded to invest £500,000 in the properties (TCJ, 5 August 1876, p.215). In 1881, C.B. Fisher bought 4,000 square miles between the Narran and Barwon and poured in money to improve the country (G.C. Morphett: C.B. Fisher: pastoralist, studmaster, and sportsman, Adelaide, 1945, p.58).

45. Proud commented that the increasing size of holdings and changeover to sheep had resulted in the employment of 100 or 150 men where half-a-dozen had sufficed before (op. cit., p.7).
46. A petition in 1879 from the tenants of the Upper Darling complained of the high cost of overland carriage at a time when wool was waiting two years on the river banks for transport (NSW VP, 1878-1879, IV, p.531). A year later however, 40,000 bales of wool were shipped from Bourke (NSW VP, 1880-1881, I, pp.89-90).
47. Bourke's population had risen from 348 in 1871 to 1,138 in 1881. Its nearest rival was St. George in Queensland, with 471; Walgett had 375; Brewarrina 344 and Cunnamulla 199 (Censuses of Queensland and New South Wales, 1881).
48. Proud, op. cit., p.28.
49. Lyne, op. cit., p.221.
50. NSW VP, 1879-1880, IV, p.795.
51. W. Lees: Coaching in Australia: a history of the coaching firm of Cobb and Co., Brisbane, 1917, p.41.
52. See Figure 17. At the time of the 1881 censuses in Queensland and New South Wales, only Barrington could boast a population of over 50 people.
53. Nisbet wrote to Gregson from Walgett, 24 May 1881:

Nearly all the places here are in the transition stage from cattle to sheep although a good many of the "old identities" still stick to and work cattle in the most primitive of fashions.

(WP-C 650.)

54. Some idea of the movement of stock into the Queensland portion of the study area can be gained from these figures of net movements over the New South Wales border, into and out of the pastoral districts of Warrego and Maranoa.

<u>Date</u>	<u>Cattle</u>		<u>Sheep</u>	
	Out	In	Out	In
1878	8,138		298,711	
1879	45,584		170,028	
1880	43,127			229,609
1881	16,525			446,443
1882		829		1,494,298
1883	47,002			305,625

Source: Queensland Statistical Registers.

55. NSW VP, 1878-1879, IV, p.531.
56. See Section 1) D) and note 25.
57. NSW VP, 1883, II, p.142.
58. Letter from D. Murphy to TCJ, 8 March 1884.
59. Proud noted that Dunlop had a sheep on every five acres, but was considered "capable of being much more heavily stocked" (op. cit., p.28). Improvement was most likely on the transition country between the frontages and the remote and sandy back-blocks where "a great deal of bare ground is visible which gives an impression of small stock carrying capacity" (Letter, Nisbet to Gregson, 20 October 1881, WP-F 9a).
60. This was the argument used by the Queensland tenants in their petition of 1869 (QLD VP, 1868-69, I, pp. 461-462) and ten years later their southern neighbours took up the cudgels (see NSW VP, 1878-1879, IV, p.531).
61. Evidence of Hon. J. O'Shanassy in the "Third Progress Report on the Administration of the Land Law", NSW VP, 1873-1874, III, p.918.
62. In the Walgett area, Nisbet noted in 1881 that the stockmen "reckon to work the stations up to their best capacity and make enough out of them in the good years to stand the rackets [sic] of a bad year when the racket comes" (letter to Gregson, 6 June 1881, WP-C 651).

63. The 1866 rents included an assessment on stock whereas the 1880 figures apparently did not. Even so, since many of the runs in 1866 were not stocked, the differences are less than they might at first appear.

NOTES TO CHAPTER 6

1. The Sydney Morning Herald canvassed opinion on the New South Wales Land Bill in the latterhalf of 1883. Initial reactions in Bourke were favourable and in Walgett it was dubbed, apparently with satisfaction, "a Rich Man's Bill" (SMH, 16th and 17th October 1883). A few weeks later, when the full implications of the Bill became apparent, opinions changed rapidly. Protest meetings were reported at Bourke and Brewarrina on 1st and 11th November, as part of the opposition from western pastoralists which had crystallized in the "Western District Pastoral and Commercial Act Opposition Society", formed at Wilcannia on 22nd October.
2. Despite the fact that the Queensland Bill had been made a party measure to ensure swift passage through the Assembly, the debate occupied a substantial portion of the 1884 Session, dragging on from August to December of that year.
3. See Chapter 2, section 28.
4. Applications for Homestead Leases at the Bourke Land Office numbered 183 in 1885, and by 1887 a total of 312 applications had been made, of which 217 had been granted ("Return", 12 January 1888, LLB (Bk)).

In Queensland, applications for Grazing Farms did not begin until 1887-1888. The first approved applications at Cunnamulla were made in 1887 and at St. George in 1889 ("Return", QLD VP, 1891, IV, pp.71-74).
5. In the New South Wales portion of the Warrego country, 45 holdings were affected and a total of 5,430,506 acres resumed for closer settlement. By 1901, only 3,657,000 acres had been occupied by the graziers ("Return", NSW VP, 1887-1888, V, pp.113-170).
6. The area of the Queensland portion of the Warrego country was estimated at 9,828,480 acres, i.e., the area in runs listed in QLD GG, 28 July 1885, pp.291-430. In 1900, the pastoralists had leases for 5,895,680 acres, with effective control through grazing rights

of a further 1,170,560 acres of the areas originally resumed for closer settlement. Of the resumed areas, therefore, only 2,762,240 acres were not under the control of the pastoralists, and of these in 1901, only 1,621,434 acres were officially listed as in closer settlement, leaving approximately 1,142,806 acres vacant. Thus, in 1901, of the 3,932,800 acres originally resumed for closer settlement, only 1,621,434 acres appeared to be officially in closer settlement, a proportion of approximately half. (See "Rent List", QLD GG, 25 July 1900, pp.168-209 and 1901, p.567 ff.)

7. NSW PD, 7 November 1883, p.332.
8. Introductory remarks by the Postmaster General on the second reading, QLD PD, 18 November 1884, p.218.
9. In the New South Wales portion of the study area, The Australian Pastoral Directory for 1897, listed 125 Homestead Lessees, of which 12 were associated in partnerships working at least two separate leases as one unit. For the Queensland portion, the directory listed 37 Grazing Selections, of which 5 were owned by partnerships. A list of lessees in the area compiled for 1899 showed that women, principally either wives or daughters of graziers in the area holding adjacent property, held 20 properties, 18 of which were in Queensland.
10. See Figure 14, "The Growth and Continuity of Pastoral Ownership in the Warrego Country, 1851-1949". Comparing the 1928 Map of the Western Division of New South Wales" with various maps for the several counties, at least 418 areas appear to have been designated Homestead Leases at some stage prior to 1901. Yet, as noted previously, the 1897 directory listed only 125 Homestead Lessees, and in 1901, the New South Wales Royal Commission gave stock figures for supposedly all the leases and included only 153 Homestead Leases. Many of these figures showed stock on the leases for only one or two years and we must draw the conclusion at least two-thirds of the areas opened as Homestead Leases were either never taken up, or were abandoned, or had been amalgamated with other properties by 1901.

11. A letter to the Queensland Royal Commission in 1897, claimed the ratio of bona fide to speculative applications for closer settlement holdings (allotted by ballot) was about 1:10 (Appendix V, "Report of the Royal Commission on Land Settlement", QLD VP, 1897, III, p.1240). The high turn-over in lease ownership is illustrated by Table 20, where between 1889 and 1899, every year 5 owners disappeared from the scene and 15 new men made their appearance.
12. See note 6 above. In New South Wales, at least one million acres of the resumed areas were in the control of the pastoralists through Improvement and Artesian Well Leases (777,147 acres and about 200,000 acres respectively, see "Return Y", "Report... Royal Commission to Inquire into the Condition of the Crown Tenants", NSW VP, 1901, IV, pp.131-1184, and List of Pastoral Leases and Artesian Well Leases...for the year 1901-1902, Government Printer, Sydney, 1901).
13. New South Wales Royal Commission 1901, "Minutes of Evidence", Q-18572 to 18581.
14. In Queensland for example, subdivision of holdings for closer settlement was at a standstill in the years 1900 and 1901 as there was no demand for holdings already opened and many of the graziers had been ruined by the drought (see the report of the Land Commissioner for Cunnamulla, in QLD VP, 1901, IV, pp.48-49).
15. QLD VP, 1897, III, p.904.
16. Ibid.
17. In New South Wales several types of graziers expressed satisfaction with their position. Individuals with areas from the basic 10,240 acres to aggregations of 37,870 acres, and a partnership on 12,800 acres appeared to have come through the drought relatively unscathed (see New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-5825 to 5935; Q-18625 to 18699; Q-19171 to 19248; and Q-19575 to 19672).
18. Ibid., Q-4420.
19. Ibid., Q-5266 to 5267.

20. Homestead Leases on the Barwon frontages were reported to be holding on only because they could not find a buyer (Ibid., Q-18616).
21. The details for Queensland have already been examined in note 6 above; and for New South Wales the area under Improvement and Artesian Well Leases has been given in note 12 above. In addition, the New South Wales Royal Commission of 1901, contained evidence that at least three pastoral holdings controlled adjacent Homestead Leases (see "Minutes of Evidence", Q-4395; Q-5630; and Q-19298).
22. "Return", NSW VP, 1887-1888, V, pp.113-170.
23. "Map of the North East Portion of the Western Division, New South Wales", accompanying the "Royal Commission on Conservation of Water", 1885, scale six miles to one inch.
24. "The Pastoral Industry of Queensland. Its Past and Present" (Reprinted from The Queenslander, 1901) Misc. Pamphlets JJ, QLD PL, p.24.
25. The Central Australian and Bourke Telegraph of 13th January 1891 noted that the stations around Bourke were still carrying the same numbers of stock on half the area of their original holdings. Up to that date, the gamble was paying off.
26. For the pastoral holdings, the area used was that given in the List of Pastoral Leases...for the year 1901-1902, op. cit. Comparing these figures with the "Minutes of Evidence" to the 1901 Royal Commission, in many cases the area under official pastoral lease was found to be much less than that actually controlled by the lessee. In some cases the effective area was twice the official leasehold area, in other words the lessees had regained practical control of their original 1884 area, or country equal to it. Some examples of the range of areas are given below:

<u>Leasehold</u>	<u>Official leasehold</u>	<u>Effective area</u>
	<u>area</u>	<u>controlled</u>
Gnomery	103,550 acres	same acres
Dumble	44,000	84,000
Fort Bourke	180,000	240,000
Warraweena	207,677	253,000
Weilmoringle	212,000	346,000
Wilkie Plains	11,460	32,000

The maximum divergence possible appeared to be about 100 per cent, that is to say, the densities might be only half as intensive as our figures show.

27. In the New South Wales portion, 140,639 acres had been officially abandoned on 13 holdings in 1901 ("Return", NSW VP, 1901, IV, pp.140-141).
28. Conditions along the Queensland border were reported to be particularly dry in 1884. Between Cunnamulla and the Paroo River 100,000 sheep were reported dead or dying (TCJ, 16th February, 1884).
29. The petitions came from the "Mayor of Dubbo and Squatters of the Bligh, Wellington and Warrego Pastoral Districts" (NSW VP, 1883-1884, III, p.869); from the "Tenants of the Crown in the Western and Central Divisions" (NSW VP, 1885-1886, V, pp.313-314); and from the "Chairman, Paroo Divisional Board, Cunnamulla" (QLD VP, 1886, II, p.115). All the petitions stressed the losses from droughts and the need to restore the confidence of the lessees by extending tenures and reducing the rents.
30. NSW VP, 1887 (2nd), V, p.729.
31. A report in 1890 set the losses from the great flood on the Barwon and Darling as 467,500 sheep and 842 horses and cattle (NSW VP, 1890, V, p.35). Losses in Queensland were not so extensive (see QLD VP, 1890, III, pp.1067-1090).
32. After the 1890 flood, reserves for such flood refuges had been created on two properties between the Culgoa and Narran rivers (see "Map of the County of Narran", 2nd editn., Department of Lands, Sydney, 1914, scale two miles to one inch).
33. NSW VP, 1901, IV, p.151.
34. QLD VP, 1897, III, p.964.
35. The main spread of scrub was on country south of the Darling River. In the Warrego country only the river frontages seem to have been affected. Local opinion was that some of the originally open plains had developed a scrub cover as a result mainly of the floods in the 1870s and 1890 (see New South Wales

Royal Commission, 1901, "Minutes of Evidence", Q-8770 and Q-19022 to 19023).

36. "The Pastoral Industry of Queensland", op. cit., p.23. See also NSW VP, 1901, IV, p.16.
37. See V.J. Dowling's "Diary", MS, ML B 664, and J. Nisbet: "Pioneering Days in Queensland, 1857-78," MS, ML A 1533.
38. See QLD VP, 1888, III, p.306.
39. NSW VP, 1889 (2nd), II, p.200.
40. See the map in QLD VP, 1898, III, pp.872-873.
41. The "red" country between St. George and Cunnamulla, although rabbit-infested was "not worth the expense of netting." ("The Pastoral Industry of Queensland...", op. cit., p.23.)
42. In 1899 the acreage devoted to drought feed in the combined districts of Cunnamulla and St. George was only about 300 acres (QLD VP, 1900, II, p.828). The yield was approximately one ton per acre and at a pound of feed per head per day would have fed 6,500 sheep for 100 days or, say, 65,000 sheep for 10 days, when the total sheep in the districts was about 1,300,000.

Where irrigation was used to cultivate fodder, the produce was usually reserved for the most valuable stock. On Thurrulgoona Station, east and south of Cunnamulla, 640 acres on the Warrego River frontage was irrigated for wheaten hay and lucerne in 1887, the produce being a reserve supply for the horses, and stud flock only (SIC, 3/87).

43. There were experiments to investigate the possibility of irrigation from bores in New South Wales and several of the official tests proved successful, see the evidence of J.W. Boulton to the New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-21122 to 21350. In Queensland the government bores served local graziers for the most part, see QLD VP, 1900, II, p.926.

44. Local speculation on the existence of artesian water supplies in Queensland had led to private drilling on the country between Cunnamulla and St. George in the early eighties before official bores had proved successful. A pastoralist on Widgeeogoara Creek was drilling in June 1883 (Brisbane Courier, 23 June 1883) and the Squatting Investment Company pioneered successful deep drilling on the country between the Culgoa and Warrego rivers in 1887 (Notes on artesian water supplies in SIC, 3/45/1).
45. See evidence of J.W. Boulton, note 43 above.
46. New South Wales Statistical Register, 1893, p.401; 1895, p.470; and 1900, p.503.
47. Evidence of J.McCaughy to the Bourke Land Board, 31st January 1887 (WLC/LA 257/1886).
48. WLC/LA 152/1886, 1891, and 1896.
49. The main problem on the Mitchell grass plains was the complete disappearance of all feed during the drought. A grazier complained:

There is no doubt that in a good season you get a good bit of grass here, but when the grass goes the country is a good deal worse than the country where the mulga grows. Mulga runs have been able to pull along with a few stock and have kept going on. These runs have been absolutely decimated.

(A.S. Barton's evidence to New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-4492.)

The plains became in fact a "dust-bin" (Ibid. Q.9341).

50. Some examples of these costs are listed below:
- a) Artesian wells cost between £1 and £2 per foot to drill (New South Wales Royal Commission 1901, "Minutes of Evidence", Q-1828 and 2417).
 - b) The excavation of tanks to hold surface run-off or artesian water supplies cost from 7d to 1/3d per cubic foot (Ibid., Q-1275 and 5115; Queensland Royal Commission, 1897, "Minutes of

Evidence", Q-857). Not only was the initial cost high, but the tanks had to be cleaned out every five to seven years.

- c) Ordinary six-wire fencing cost between £24 and £28 per mile (Ibid., Q-795 and 796; New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-1271). With rabbit netting an extra £40 per mile was incurred.
 - d) The cost of poisoning rabbits was estimated at 7/6d per square mile in 1897 (Queensland Royal Commission, 1897, "Minutes of Evidence", Q-409).
 - e) Scrub cutting for supplementary feed cost 2/6d per acre in 1901 (New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-8771).
51. The strike of 1894 in particular affected properties in the study area. One of the strikers' camps was located at Cunnamulla and several of the adjacent properties had their operations disrupted (see The Queenslander, 7th June 1894).
52. The early days of a bachelor dominated "out-back" society were being replaced by the advance of family life. As late as 1883 all the station hands on Dunlop, a property fronting on to the Darling below Bourke, were bachelors (C. Proud: The Murray and Darling Trade in 1883, Adelaide, 1883, p.28), but the New South Wales Royal Commission of 1901 was subjected to complaints from several of the graziers, that educational facilities for their children were inadequate and that returns from pastoral activities were not sufficient to enable families to spend holidays on the coast or in the mountains as had been the custom on the larger properties in the past (see Q-18827 in particular).
53. Two petitions are relevant here, the first from "Merchants, Traders, forwarding agents, etc.," NSW VP, 1885-1886, V, pp.311-312, and the second from "Tank-sinkers, carriers, mechanics and others", NSW VP, 1885-1886, V, p.309. To quote from the second, "since the passing of the Land Act the improvements on stations in this division have come to a

standstill and as a consequence our valuable plants, teams, and work-shops have remained idle to our serious loss and in many cases complete ruin, whilst the employment of labor [sic] in every branch has entirely ceased".

54. For a survey of the crisis, see H.L. Harris: "The Financial Crisis of 1893 in New South Wales", RAHS, XIII:6, 1927, pp.305-343. Of the nine banks which failed in Sydney in 1893, three held property in the Warrego country in 1889.
55. NSW VP, 1901, IV, p.136.
56. In the Cunnamulla District during the winter of 1901, some holdings had four times the rainfall of their neighbours (see Report of the Land Commissioner in QLD VP, 1902, III, p.56).
57. In 1886, the manager of Angledool Station on the Narran River claimed that a large total rainfall for the year did not necessarily mean a good season, "because it might consist of a lot of small falls of rain of a slight nature which would do no good" (WLC/LA 152/1886). In 1901, a pastoralist on the Bokhara frontages estimated that his country could be "carried on for pastoral purposes magnificently... if we had 12 inches of rain, if it would only come in four or five falls....It is not the amount of rain we get, but the way in which it falls" (New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-5818).
58. Estimates of the amounts of rain required in single falls to obtain a response from the black soil plains varied from three to four inches (see New South Wales Royal Commission, 1885, "Minutes of Evidence", Q-8722, and 1901, Q-8834 and 5576). The speed of the response varied according to the country. On the black soil plains, "the first year after drought there is always a lot of bad grass and weeds, and it is not until the second or third year that the grass seems to thicken" (Ibid., Q-5206). On the red soil country, the response was generally quicker.

59. Dust-storms were noted as the fourth reason for the deterioration of the Western Division in 1901 (NSW VP, 1901, IV, p.138). The evidence stressed the damage such storms did to the buildings and fences on the plains.
60. New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-8482.
61. NSW VP 1901, IV, p.136.
62. New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-5714.
63. Ibid., Q-5110.
64. Queensland Royal Commission, 1897, "Minutes of Evidence", Q-753.
65. A petition from the tenants of the Central and Western Divisions of New South Wales in 1885 proposed a direct relationship between rent per head of sheep and carrying capacity of the land. Their ratio was:
- | | |
|---|--------------------|
| 2d per head on land carrying one sheep to 10 or | more acres. |
| 4d per head | 6-10 acres. |
| 5d per head | 3-6 acres. |
| 8d per head | less than 3 acres. |
- (NSW VP, 1885-1886, V, pp.313-314).
66. LLB(Bk) 1891.
67. Queensland Royal Commission, 1897, "Minutes of Evidence", Q-203 to 209.
68. NSW VP, 1883, II, p.156.
69. LLB(Bk) 1891.
70. New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-4438.
71. In the New South Wales portion, the holdings whose rents were reduced below the 1884 figure, during the

third assessment about 1900 to 1901, all lay west of the Culgoa River on the predominantly "red" country with rainfall less than 15-16 inches. East of the Culgoa were the few holdings with increased rents in the third period and those where the decrease did not bring them below the 1884 figure.

72. The saying is credited to Charles Lyne, author of The Industries of New South Wales, Sydney, 1882.

73. A local auctioneer and station agent told the New South Wales Royal Commission in 1901:

Bourke is purely a pastoral town, depending upon the prosperity of the country round about it. We have no other outlook beyond the pastoral industry; and how can a town like this possibly thrive when the pastoral industry is languishing?

("Minutes of Evidence", Q-2358).

74. See H.G. McKinney: "Irrigation in its Relation to the Pastoral Industry of New South Wales", Journal RSNSW, XXIII September 1889, p.4.

75. See evidence of J.W. Boulton, cited in note 43 above.

76. Neither the New South Wales Royal Commissions of 1885 or 1901, nor the Queensland Royal Commission of 1897 were enthusiastic about the prospects for agriculture. Holdings set up as agricultural farms at Charleville in Queensland had been used instead for pastoral purposes and (apart from the gardens at the homesteads and the provision of vegetables for the towns) commercial agriculture was not regarded as the salvation of the Warrego country.

77. This was stressed in the evidence to the New South Wales Royal Commission in 1901, see evidence of Hayes, Q-6984 and Sawers, Q-5667 and 5772.

78. Evidence of Singleton, homestead lessee, New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-776.

79. In 1885 a Walgett grazier had commented, "it would be economy to lose your stock in preference to going to the expense of raising fodder to keep them alive" (New South Wales Royal Commission, 1885, "Minutes of Evidence", Q-5025).
80. In 1901, within the Queensland portion of the Warrego country, tents were still a third of the total dwellings (480 of the 1,203 in the Cunnamulla and Balonne Census Districts). The proportion was less in New South Wales, being about one seventh of the total dwellings (126 of 815 in the seven counties).
81. This was the gist of a petition in 1885, see NSW VP, 1885-1886, V, pp.313-314.

NOTES TO CHAPTER 7

1. Some of the losses sustained by pastoral companies in western New South Wales have been examined in N. Cain's "Squatting in New South Wales 1880-1905: the Pastoral Company View", Unpub. Ph.D. thesis, ANU, 1961. The Western Lands Commissioner suggested that between the mortgagees and the Commission, about £3,000,000 had been written-off at the turn of the century ("Progress Report...Select Committee on Land Development under Western Lands Commission Administration", NSW PP, 1919, I, pp.899-936, Q-194).
2. Copy of the reply enclosed in a letter from the Manager of Goldsbrough Mort Company Ltd., to J.M.Niall, Chairman of Directors, 6 August 1927 (GMC 2/599, p.2).
3. The Wool Brokers were of the opinion in 1927 that, "the restrictions with regard to sheep /for maintenance areas/ an individual can hold are not likely to induce persons with capital to determine to settle in Queensland" (Ibid, p.14).
4. The continued impact of drought on the Warrego country's stock numbers can be best illustrated by the following table of stock losses and cause of death in the Warrego Pastoral District of Queensland:

<u>Date</u>	<u>Total Losses</u> (000's)	<u>Cause of death</u>		
		Percentage of total deaths from		
		Drought	Blowfly	Other causes
1914	251	29	10	61
1915	934	89	.3	10.7
1916	482	77	8	15
1917	181	3	48	49
1918	186	21	14	65
1919	no data	-	-	-
1920	319	39	30	31
1921	234	1	50	49
1922	355	61	4	35
1923	240	46	8	46
1924	228	8	33	59
1925	300	47	7	46

Source: Reports of the Queensland Department of Agriculture and Stock.

Note that whenever the total losses reached their peaks, the main cause of death was always drought. Blowfly losses, reflecting the seasons of abundant feed and wetter conditions, by contrast were proportionally greatest when the total was small.

5. Blake noted the definition of the term "season" in western Queensland as applying to the amount of rainfall which had fallen (see his "The Plant Communities of Western Queensland and their Relationships, with special reference to the Grazing Industry", Proc., RSQ, XLIX, 1937, pp.156-204). In the same year Lawrence published her study of the occurrence of "desert years" in New South Wales, using a modified version of the Thornthwaite P/E Index (see her "A Climatic Analysis of New South Wales", Aust. Geogr., III:3, November 1937, pp.1-24).
6. The reports of the Western Lands Board and Commission (New South Wales) for 1915, 1921, 1923, 1937 and the early forties along with the reports of the Queensland Department of Public Lands for the same dates showed that the officials were quite aware of the severity of the droughts being experienced.
7. The resulting report noted the origin of the investigations:

During the year 1933 considerable attention was given to statements from various sources that the Mitchell grasses of Western Queensland were diminishing, due to prolonged droughts and continued stocking. Therefore, when the drought broke towards the end of 1933, it was decided to try and obtain some definite information on the response of the Mitchell grasses following the good rains experienced over most of Western and Central Queensland.

(QAJ, XLIII:3, March 1935, p.268.)

8. As the investigation had made use of circulars sent out by the Department of Agriculture and Stock, the experience of local residents was a significant consideration in the survey and their evidence suggested that different grasses had dominated the vegetation at different times in the past. "If observations in the

future indicate that there are more or less marked successions or cycles of vegetation in certain areas," commented the report, "these statements concerning the prevalence of Blue grass in the pasture having taken over from Mitchell grasses may prove of interest" (Ibid., p.280).

9. Blake, op. cit., p.200.
10. A study in 1945 suggested that production of Mitchell grass in any one season was entirely dependent upon that season's rainfall (R. Roe and G.H. Allen: "Studies in the Mitchell Grass Association in South-Western Queensland. 2-The Effect of Grazing on the Mitchell Grass Pasture", Bulletin 185, CSIRO, Melbourne, 1945). Dominance of certain species of grasses was associated with certain seasonal rainfalls, "in the Dirranbandi and Charleville districts, the abnormally high and evenly distributed rainfall from 1947 to 1950 caused a great increase in the amount of blue grass in the pasture and in some places this became dominant over the Mitchell grasses" (S.L. Everist and G.R. Moule: "Studies in the environment of Queensland: 2-The Climatic Factor in Drought", QJAS, IX:3, September 1952, p.12).
11. See Table 13.
12. Thurrulgoonia station had been purchased in 1883 by a company formed to operate a pastoral company for English investors. At purchase, the property comprised 1,414,000 acres of mixed black soil plains and low sandy rises with some scrubby ridges, stretching east from the Warrego River along the Queensland border to the Nebine Creek (Figure 21). Records of the property are held in SIC files at ANU, and LD file No.1690, Brisbane.
13. See map dated 12th March 1912 (SIC 3/88, SI-M6) and map dated 1935 (ibid., SI-M14 a-c).
14. Report of R. McPherson, Official Ranger, 2 January 1905 (LD 1690).
15. In 1901 the official assessor, W.B. Nutting, listed "Blue, Mitchell, Star" and "summer grasses" on the property; in 1907 he noted "Blue, mitchell, barley,

star, umberella, flinders, button, silver and kangaroo grass!" Of these latter, star, umberella, button and silver grass were relatively unpalatable species (LD 1690, reports dated 9 October 1901, and 27 February 1907).

16. Report of the Cunnamulla Land Commissioner, J.B.O. Evans, 15 October 1914 (LD 1690).
17. Letter to the Secretary of the Squatting Investment Company, 28 November 1915 (SIC, 3/56, SI-SL 50).
18. Report of F.A. Barlow, 13 August 1917 (LD 1690).
19. In 1928, the Mitchell grass was taking over once more from the herbs which had replaced it during the drought and a company agent claimed that he had "never seen the country looking better" (although his experience only dated from 1927). See the Report of D. McPhail (GMC 2/313/31-52).

In 1935 the Manager painted a gloomy picture for the local Land Court at Cunnamulla:

Originally these plains must have been well grassed, and also grew salt and cotton bush, and the timbered country well supplied with edible scrub and shrubs. But the country has deteriorated to a large extent and now after a good fall of rain the resultant growth consists of button and other light grasses, roly poly, pigweed, and herbage of various descriptions. All these are good sheep feed at certain periods of their growth, but they do not last any time.

Evidence to the Land Court, 1935 (SIC, 3/80, SI-LRR 48).

Yet a year later good stands of Mitchell and Flinders grass were reported to the company directors (see report of McPhail, SIC, 3/59/3, SI-PI 8).

20. "Except for a few paddocks", McPhail reported, "where the feed is fair, the balance of the country is more or less eaten out and there is only roughage and windfalls for the stock to exist on" (Report for 1945 in GMC, 2/313/31-52).

21. Report by the official surveyor, N.O. Clappison, 6 January 1951, (LD 1690).
22. See SIC, 3/80, SI-LRR 72, and interview of the manager with the Under Secretary for Lands, Brisbane, 23 October 1929 (LD 1690).
23. The New South Wales rents were used in preference to the rents for Queensland, the detailed picture for which was not available.
24. Questions in the New South Wales Legislative Assembly in 1909 received the reply:

It is understood that for the purposes of present settlement none of the lands in the part of the Western Division referred to Finch County are equal to the contiguous lands in the Central Division.

(NSW VP, 1909, I, pp.34 and 38.)

Local opinion supported the official view, see evidence of D. Livingstone, President of the Mungindi Railway League, to the "Parliamentary Standing Committee on the Proposed Railway from Moree to Mungindi" (NSW VP, 1909, III, pp.525-602, Q-1312). Ten years later the MLA for the local electorate noted the differences across the Barwon:

5,000 or 6,000 acres in the Central Division would be equal to about 10,000 acres in that portion of the Western Division across the river.

Evidence to "Select Committee on the Land Development under the Western Land Commission Administration", (NSW PP, 1919, I, pp.899-936, Q-436.)

25. Not all the contemporaries were unaware of the problem. In 1891, a pastoralist who had leased property north of Bourke, wrote to the Australian Pastoralists' Review, forecasting the losses actually experienced at the turn of the century:

The great danger staring us in the face is the fact that the colony is at present fully stocked for a good season, and that if even a very mild drought should come on us the colony would be terribly overstocked, and it will not be possible to fatten the surplus stock.

(Letter, APR, 16 November 1891, pp.345-346)

26. See Table 17. This percentage excludes the area in holdings of less than 5,000 acres; if this area was included, the figures would be 38 per cent for New South Wales and 56 per cent for Queensland.
27. Between 1911 and 1916, 1,309,000 acres were resumed from holdings in the Queensland portion of the study area (Reports of the Department of Public Lands).
28. In New South Wales, withdrawals for selection were considered in 1909 but action was delayed until 1919 (see Reports of Western Land Board in NSW PP, 1909, I, p.187 and NSW PP, 1920, I, pp.1-178). Agitation for further subdivisions in the early thirties was partly negatived by pressure from the lessees for drought relief; compare the "Petition from the Bourke Land Seekers Association", etc. (NSW PP, 1929-30, I, pp.881-888), with letters from the Western Land Commissioner to the Minister for Lands, in "Report of the Royal Commission of Inquiry into the Administration of the Western Division of New South Wales", (NSW PP, 1930-1932, I, pp.214-215). Approximately 1,600,000 acres were opened for selection as additional areas, that is to bring small leases up to the minimum maintenance area, in 1932 (NSW PP, 1932, I, p.61).
29. The preparation of this table followed the same process as used for Table 9 in Chapter 6, except that the availability of maps of pastoral stations showing the whole area controlled as one holding (published in various editions for New South Wales and Queensland by H.C. Robinson Ltd., of Sydney), considerably helped the distinction between the legal area under lease and the area effectively controlled through rent of adjacent country from neighbours.

Access to the 5th, 6th and 7th editions of these maps, covering the period from mid-1920s to early 1950s was available at Canberra.

30. Excluding holdings under 5,000 acres.
31. Even including the areas held in properties of less than 5,000 acres and assuming that all such holdings were held by individuals in 1949, the effective area leased by individuals was 57 per cent instead of the theoretical maximum of 76 per cent. The table below explains how this figure was achieved:

Individual Ownership 1949

<u>Theoretical</u>	acres	<u>Actual</u>	acres
All the land opened for closer settlement-	13,495,000	Effective leases -	9,433,000
All holdings less than 5,000 acres	- 3,010,000	All holdings less than 5,000 acres-	<u>3,010,000</u>
	<u>16,505,000</u>		12,443,000
Theoretically holding 76 per cent of total area.		Actually holding 57 per cent of total area.	

32. In 1910, the Western Land Board reported that good seasons and high prices had brought speculators as well as bona fide applicants for new land, which many of them did not bother even to inspect before applying for (NSW PP, 1910 (2nd), I, p.273).
33. See Figure 21 and Figure 22, particularly the grazing capacities awarded to the resumed area. Comparing the sheep carried per hundred acres on the total area of the original station (that is including the stock carried by the new settlers) with the density on the remnant of the original station, we find the situation below:

Stock densities on Thurrulgoonia Area (sheep/100 acres)

<u>Date</u>	<u>Density on total area</u>	<u>Density on leasehold</u>
1899	20	8
1909	10	12.5
1919	8	8.5
1929	12	8.6
1939	11	13
1949	7	11

Source: Australian Pastoral Directories.

Where the density on the whole area was less than that on the leasehold, the closer settlement leases must have been carrying stock at a much lower density than on the leasehold to bring the total density down so low.

34. Two comparisons from several listed in the Western Lands Office files must suffice:

Average density of stock over the period 1937-1946
(acres per sheep)

<u>Leasehold area</u>	<u>Closer settlement holding</u>
Toorale (809,000 acres) 11.2	East Toorale (18,300 acres) 9.57
Corella (409,000 acres) 7.88	Corella East (23,900 acres) 7.39

From records in WLC, Sydney.

35. The actual population of the Warrego country is difficult to estimate because of changes in the census districts but some indication of trends is given below:

<u>Date</u>	<u>Estimated population of study area</u>	
1901	9,750 ¹	Notes: 1-County population in NSW, and Balonne and Cunnamulla census districts in QLD. 2-Totals for localities
1911	9,563 ²	
1921	11,921 ³	
1933	12,676 ²	
1947	13,041 ²	
1954	16,230 ²	

over 50 population.
By 1954 this figure
may be 2,000 too low.

3-Paroo and Balonne
Shires in QLD; Bourke
and Brewarrina
municipalities with
Walgett Shire in NSW.

Sources: Censuses.

36. Survey of the weir on the Balonne River at St. George began in 1947, the intention being to provide a water supply for the town and irrigation water for approximately 1,200 acres "for lucerne and fodder crops". This project was to "provide an experimental area for development of western lands under irrigation". By 1958, 20 farms had been opened and cropping of lucerne, hay and some cotton, had been successful. Field observation in 1960, however, found local pessimism on the future of the scheme because of the remoteness from markets. The opinion was that fat lamb production on the irrigated pastures would pay better than drought fodders. See the "Annual Reports" of the Commissioner for Irrigation and Water Supply (QLD PP, 1949, III, pp.191-354; 1957-58, II, pp.803-924; 1958-59, II, pp.699-818).
37. The main centre was Lightning Ridge in New South Wales where the population was first listed in 1933 as 225. The maximum came in 1947 (286) but by 1954 it had fallen to 176. Production of opals fluctuated widely from £13,000 worth in 1907 to about £3,500 in 1946 when it represented the bulk of New South Wales production. At the time of maximum activity about 350 miners were on the field around the village, but only half were thought to be fully employed and the temporary nature of the mining activity throughout its history was still evident in 1946, when mining was carried on "by intermittent workers such as shearers, station hands and old-age pensioners, and many sales of opal are made to private buyers" (NSW PP, 1950-51-52, III, p.657. See also NSW PP, 1909, II, p.807, and Ion L. Idriess: Lightning Ridge, 1940). Field observation in July 1960 found little sign of permanent activity on the field, situated between the Narran River and the Warrambool.

APPENDICES



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APPENDIX IGLOSSARY OF DESCRIPTIVE TERMS ADOPTED ON THE PLAINS¹

Let Australia have a nomenclature of her own.
Maslen, 1830, p.256.

Contents

- A) Terms describing Landforms
- B)Drainage
- C)Vegetation
- D)Settlement

A) LANDFORMS

- Claypan: A flat bare surface of hard clay, usually dry but occasionally covered by shallow water after rainfall, since it forms a local basin of interior drainage.
- 1898- "A slight depression of the ground varying in size from a few yards to a mile in length, where the deposit of fine silt prevents the water from sinking into the ground as rapidly as it does elsewhere" (E.E. Morris: Austral-English, Macmillan & Co., London, 1898, p.88).
- 1941- "There is no vital distinction between lakes and claypans, the latter holding little water after rains, the lakes being more lasting" (attributed to F.W. Whitehouse by J.W. James: "Erosion Survey of the Paroo-Upper Darling Region. Part IV. Erosion", Journal SCS(NSW), XVI, October, 1960, pp. 259-260).
- 1960- "Locally may be used for scalds (an erosion surface) or the natural surface of a channel or small basin of internal drainage" (James, loc. cit.).
- Gilgai: A small depression in the alluvial clay soils, formed after the soil has cracked in dry weather, and dissolved out to form a minature pond in wet conditions.
- 1898- "Ghilgai....an aboriginal word used by white men in the neighbourhood of Bourke, N.S.W., to denote a saucer-shaped depression in the ground which forms a natural reservoir for rain water" (Morris, op. cit., p.160).

¹

This is not an exhaustive list but is intended first to explain the meaning of terms used in this thesis and to illustrate their historical evolution wherever possible.

- Murillo: Rough stony ridges covered usually by scrub woodland of poor grazing quality.
- 1846- "Moguille Ranges" were noted by Sir Thomas Mitchell, along the east bank of the Narran River, in his Journal of an Expedition into the Interior of Tropical Australia in search of a route from the Gulf of Carpentaria, Longmans, London, 1848, map, p.81.
- 1881- Waterworn pebbles of quartz found between the Barwon and Narran rivers and the name derived from the aboriginal term for anthills (W.E. Abbott: "Notes of a Journey on the Darling", Journal RSNSW, XV, 1881, p.43).
- 1948- "Murrilla Country" noted on map of "Brewarrina and Walgett North Administrative Districts, Western Division, N.S.W." Department of Lands, 1948, scale 6 miles to one inch.
- Plain: A level and treeless area not forming a claypan.
- 1826- "These tracts, although termed plains in the Colony, are very seldom level, but generally a gently undulating surface, destitute of timber, and covered with grass (J. Atkinson: An Account of the State of Agriculture and Grazing in New South Wales, J. Cross, London, 1826, p.6).
- 1898- A flat and treeless area (Morris, op. cit., p.369).

B) DRAINAGE

- Ana-branch: A distributary of a river or creek which eventually rejoins the main watercourse.
Used by Mitchell in 1848 (op. cit.), but originating in Colonel J.R. Jackson: "Hints on the Subject of Geographical Arrangement and Nomenclature", Journal RGS, IV, 1834, p.79.
- Booroo
or
Broo : 1861- "Boorooos" were noted along the Queensland border by Surveyor Wener in his "Sketch showing the position of the River Cuttilla / Warrego 7", (ML A2 NLD G 1709a).
- 1882- "Broos" were overflow channels of the Warrego River (QLD VP, 1882, II, pp. 807-812).
- Creek: A watercourse, often dry.
- 1805- "Applied to all brooks and small rills that are deeply seated in the Ground and the Sides or Banks very steep" (George Caley's "Observations on the Cow Pastures" HRA, 1st series, V, p.586).

- 1848- "It generally means a valley, or any open space in the forest, with or without water" (H.W. Haygarth: Recollections of Bush Life in Australia, John Murray, London, 1848, p.127).
- 1883- "A watercourse found in districts of infrequent rain, and is dry, altogether or in part, during a portion of the year" (H.B. de la Poer Wall: Manual of Physical Geography of Australia, George Robertson, Melbourne, 1883, p.62).
- 1945- "A gully, from the Australian point of view, is 'any geographical indentation from a fair-sized drain to a Grand Canyon.' Our use of creek is just as wide" (S.J. Baker: The Australian Language, Angus and Robertson, Sydney, 1945, p.58).

Note that apart from ana-branch, booroo and broc, there were many other names given to distributaries. The New South Wales "Royal Commission on Conservation of Water" mentioned several terms in 1885:

These effluent creeks, cowals, warrambools, tallywalkas, billabongs, or ana-branches, as they are variously called in different districts of the Colony, often communicate with large natural depression.

(NSW VP, 1885, VI, p.416.)

In the Warrego country, the Warrambool was a distributary of the Mooni River.

VEGETATION

- Bush: Relatively thinly settled rural areas, as opposed to the more intensively settled urban localities. Although originating as a term to describe vegetation, it has come to mean a condition of settlement. The Shorter Oxford Dictionary, 1952, notes that the term originally came from the Dutch "bosch" - woodland, and applied to the uncleared or untilled areas of the colonies.
- 1826- The interior "beyond the occupied parts of the country" (Atkinson, op. cit., p.64).
- 1833- "Is the term commonly used for country per se: 'he resides in the Bush', implies that the person does not reside in, or very near, a town. It also signifies a forest" (Lt. Breton; Excursions in New South Wales, Western Australia and Van Diemens Land, Richard Bentley, London, 1833, p.46).

- 1848- Any distant locality and "on this side Sundown" (Haygarth, op. cit., p.10).

Forest: Woodland with a ground cover of grass.

- 1805- "Is such as abounds with Grass and is the only Ground which is fit to Graze [east of the Blue Mountains]...the Grass is the discriminating Character and not the Trees, for by making use of the Former it is clearly understood as different from a Brush or Scrub" (Caley, op. cit., p.586).
- 1826- "Land more or less furnished with timber trees, and invariably covered with grass underneath, and destitute of undergrowth" (Atkinson, op. cit., p.5).
- 1833- Open forest had no "underwood, and the trees in general are far asunder" (Breton, op. cit., p.58).

Prairie: Good pastoral grazing country, but vegetation not specified and the term was rarely used for Australian conditions. The only reference noted was the evidence of Captain Cadell to the "Report from the Select Committee on the Navigation of the Murray". Discussing the Lachlan-Darling plains, he mentioned that "the country is good pastoral country--quite a prairie" (NSW VP, 1858, III, p.728, Q-247 and 248).

Savannah: A term used to describe grassy plains dotted with trees, but rare in Australia.

- 1847- Applied to the plains along the Barwon River, carrying a "rich grass up to my horse's withers" by J. Sidney: A Voice from...Australia, Smith, Elder & Co., London, 1847, p.7).
- 1955- Applied to the semi-arid vegetation on the grey and brown soils of heavy texture, by J. Griffith Davies: "The Ecology of Arid and Semi-Arid Zones of Australia", Reprint from Plant Ecology: Reviews of research, pp. 114-134, UNESCO and CSIRO, 1955.

Scrub: Dense low woodland, often virtually impenetrable, and with little if any grass ground cover. Of little value for pastoral purposes except where certain edible species may be cut down as an emergency feed in droughts.

- 1805- "Shrubs of low growth..the Underwood of the Forest" (Caley, op. cit., p.586).
- 1833- "Dense forest with much underwood and bad soil" (Breton, op. cit., p.58).
- 1889- The New South Wales "Crown Lands Act", Section 4, defined scrub as "any tree, undergrowth, plant, which the Governor may, by notification in the Gazette, declare to be scrub within the meaning of this Act."
- 1897- The legal definition in the Queensland "Crown Land Act", 1897, Section 4, used the names of species.

D) SETTLEMENT

Back-blocks:

- 1884- Country remote from natural water supplies. Country over 20 miles from the Paroo River frontages, according to D. Murphy's letter to TCJ, 3 March, 1884.

Dummy:

Person who obtained possession of land ostensibly for his own use but in fact to enable others to maintain or extend their monopoly. This was the New South Wales term; in Queensland "clasher" was used ("Royal Commission on Land Settlement", QLD VP, 1897, III, pp. 869-1242, Q-80. For the New South Wales usage, see NSW VP, 1883, II, p.94).

Frontage:

Land along a natural watercourse. Initially, this would generally be the most valuable portion of a pastoral holding.

Grazier:

Used here to define a person owning and working livestock for pastoral purposes, who obtained his land as part of an official closer settlement scheme. His holding therefore forms a subdivision of an originally larger pastoral holding, and generally his operations would be smaller than those of the Pastoralists (q.v.).

Holding:

The area of land leased to one Owner (q.v.). Normally forming a compact unit, the holding could comprise portions of country remote from each other. Originally these holdings were formed from the amalgamation of Runs (q.v.) under the same ownership, but after they had been subdivided for closer settlement, the name was also applied to the subdivisions.

Improvements: The structures, buildings, fences and excavations, made on a holding, by which occupation for pastoral purposes is aided. The development of the full meaning of this term is illustrated from the Queensland legislation:

- 1869- "Pastoral Leases Act" defined them as "Permanent buildings, reservoirs, wells, dams, and fencing".
- 1884- "Crown Lands Act" defined them as "Any head station, house, store, stable, hut, wool-shed, sheep-pen, drafting-yard, barn, stock-yard, fence, well, dam, tank, reservoir, trough, artificial watercourse or watering-place, pump, apparatus for raising water, garden, plantation, cultivation, or any building, erection, construction or appliance, being a fixture for the working of a holding".
- 1897- "Crown Land Act" added (artesian) "bore" and a more elaborate definition for the working of the holding.

Leasehold: The remnant of a holding after a portion had been removed by the Crown for subdivision into smaller leases. This was the portion, the lease of which was retained by the original Owner.

Overlander: A stock drover.

1848- "One who makes long expeditions from one colony to another with stock, either for the purpose of finding new pasture land on which to establish himself, or to take advantage of a favourable market" (Haygarth, op. cit., p.120).

Owner: One or more persons, organisations, or institutions who hold the lease of a pastoral holding. In the case of a mortgaged holding, the mortgagees are held to be the effective owners.

Paddock: Any area enclosed by a fence.

Pastoralist: A person owning and working livestock for pastoral purposes, who either formed the original pastoral holdings or acquired the same holdings later. Used here, it implies the original settlers or their successors as distinct from the Graziers (q.v.) who took up the smaller holdings formed from the subdivisions of the original properties.

1898- "The quatters are dropping their old name for this new one. A Pastoralist is a sheep, or cattle-farmer, the distinction between him and an Agriculturalist being, that cultivation, if he undertakes it at all, is a minor consideration with him" (Morris, op. cit., p.343).

Resumed

Area :

That portion of the original pastoral holding which was acquired by the Crown for purpose of subdivision for closer settlement. The lease of this area was relinquished by the original owner.

Run:

Legally defined as the demarcated area for which a Depasturing Licence was granted after 1835 and over which the licensee could legally depasture his stock. After 1847, these areas were occupied under leases of varying duration and remained the legal unit of occupation until all adjacent runs under the same ownership were amalgamated to form holdings in the period 1884 to 1887. In Queensland the term was used after 1887 to denote the holding itself.

Squatter:

Stockmen who illegally occupied Crown lands, prior to the granting of depasturing licences. With the granting of legal rights the term acquired respectability and was the predecessor to Pastoralist (q.v.).

Station:

A holding or portion of a holding worked as a unit, with a central stock-yard and accommodation for staff. Originally the term applied only to the buildings on the holding or run, and could apply equally to a bark hut or a mansion. Present usage is virtually synonymous with "pastoral property".

APPENDIX IILEGISLATION RELEVANT TO SETTLEMENT ON THE PLAINS1857-1956

No.	New South Wales	Date	No.	Queensland
17	An Act to impose an assessment on runs in the Unsettled and Intermediate Districts.	1858		
		1860	11	Unoccupied Crown Lands Occupation Act.
			12	Tenders for Crown Lands Act.
			16	Occupied Crown Lands Leasing Act.
1	Crown Lands Alienation Act.	1861		
2	Crown Lands Occupation Act.			
		1863	8	Pastoral Leases Act.
		1868	46	Crown Lands Alienation Act.
		1869	10	Pastoral Leases Act.
		1872	20	Homestead Areas Act.
13	Crown Lands (Amendment) Act.	1875		
		1876	15	Crown Lands Alienation Act.
27	Lands Act Further Amendment Act.	1880		
14	Rabbit Nuisance Act.	1882		
18	Crown Lands Act.	1884	28	Crown Lands Act.
		1886	33	Crown Lands Amendment Act.
21	Crown Lands Act.	1889		
		1892	16	Crown Lands Act.
18	Crown Lands Act.	1895		
		1897	25	Land Act.

No.	New South Wales	Date	No.	Queensland
70	Western Lands Act.	1901	11	Prickly Pear Select- ions Act.
19	Native Dogs Destr- uction and Poisoned Baits Act.	1902	18	Land Act.
111	Pastures Protection Act.			
59	Water and Drainage and Artesian Wells (Amending) Act.	1906		
30	Crown Lands (Amend- ment) Act.	1908		
		1909	20	Lands Act Amendment Act.
		1910	15	Land Act.
7	Crown Lands Consol- idation Act.	1913		
15	Western Lands (Amendment) Act.	1918		
17	Wild Dog Destruct- ion Act.	1921		
31	Prickly Pear Act.	1924		
		1926	12	Water Act.
		1927	17	Land Acts Amendment Act.
		1929	15	Land Acts Amendment Act.
16	Western Lands (Amendment) Act.	1930		
		1931	39	Land Acts Amendment Act.
66	Western Lands (Amendment) Act.	1932		
12	Western Lands (Amendment) Act.	1934		
		1936	3	Land Acts Amendment Act.
		1943	16	Land Acts and Other Acts Amendment Act.
			38	Land and Water Res- ources Development Act.

No.	New South Wales	Date	No.	Queensland
8	Conservation Authority of New South Wales Act.	1949		
45	Western Lands (Amendment) Act.			
		1952	51	Lands Act Amendment Act.
		1953	24	Lands Act Amendment Act.

APPENDIX IIIOFFICIAL INVESTIGATIONS INTO SETTLEMENT ON THE PLAINS

1. "Report from the Select Committee on the Navigation of the Murray, etc.," NSW VP, 1858, III, pp. 703-777.
2. "Progress Report from the Select Committee on the Administration of the Land Law", NSW VP, 1872, II, pp. 145-199. "Further Progress Report...", NSW VP, 1872-73, II, pp. 911-943. "Third Progress Report...", NSW VP, 1873-74, III, pp. 891-1002.
3. "Report of the Board appointed to enquire into the causes of disease affecting Live Stock and Plants," QLD VP, 1876, III, pp. 1011-1038.
4. "Report of Inquiry into the State of the Public Lands," NSW VP, 1883, II, pp. 71-248.
5. "Royal Commission on Conservation of Water," "First Report", NSW VP, 1885, VI, pp. 387-530. "Second Report", NSW VP, 1885, VI, pp. 949-982. "Third and Final Report", NSW VP, 1887, (2nd), V, pp. 715-745.
6. "Report of the Royal Commission on Land Settlement," QLD VP, 1897, III, pp. 869-1242.
7. "Report... Royal Commission to Inquire into the Condition of the Crown Tenants," NSW VP, 1901, IV, pp. 131-1184.
8. "Royal Commission of Inquiry on Rural, Pastoral, Agricultural and Dairying Interests (with particular reference to share farming)." NSW PP, 1917-18, I, pp. 157-998.
9. "Progress Report from the Select Committee on the Land Development under the Western Lands Commission," NSW PP, 1919, I, pp. 899-936.
10. "Report of the Royal Commission appointed to Inquire into Certain Matters relating to the Prickly Pear Problem," QLD PP, 1923, I, pp. 1281-1332.
11. "Report of the Land Settlement Advisory Board...into certain matters relating to Land Settlement", QLD PP, 1927, II, pp. 121-200.

12. "Report of the Wool Advisory Commission appointed to enquire into the economic condition of the wool industry in Queensland," QLD PP, 1939, II, pp. 629-745.
13. "Report of the Royal Commission on Pastoral Lands Settlement (Queensland)", QLD PP, 1951-52, II, pp. 167-248.
14. "Report on Progressive Land Settlement in Queensland by the Land Settlement Advisory Commission", QLD PP, 1958-59, II, pp. 549-697.

TABLES

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TABLE 1

THE OCCURRENCE OF DROUGHTS ON THE INLAND PLAINS

Date	Authority	Date	Authority
1827-29	a.c.	1905-06	c.
1837-39	a.b.c.	1911-16	b.c.
1844-45	a.b.	1918-20	b.c.
1849-51	a.b.	1922-23	b.
1857-59	c.	1926-29	b.
1865-70	a.b.	1935-45	b.c.
1875-78	a.b.	1952	c.
1880-86	a.b.		
1888-89	a.b.c.		
1893	a.		
1895-1903	a.b.c.		
Authorities:	<p>a- "Royal Commission to Inquire into the Condition of the Crown Tenants," <u>"NSW VP, 1901, IV, p.136.</u></p> <p>b- C.J. King: <u>An Outline of Closer Settlement in New South Wales</u>, Dept. of Agric., Sydney, 1957, pp. 107 and 114.</p> <p>c- J.C. Foley: <u>Droughts in Australia</u>, Comm. Bur. Met. Bulletin 43, 1957, pp. 52-91.</p>		

TABLE 2

LONG TERM SHEEP NUMBERS ON THE INLAND PLAINS

Period (18 years)	Average sheep numbers (000's)	
	Queensland (Maranoa & Warrego Pastoral Districts)	New South Wales (West of the Darling) Western Division
1884-1901	3,960	5,274 -
1902-1919	4,580	3,394 5,921
1920-1937	6,019	3,397 5,655
1938-1955	6,118	3,635 5,999

Sources: Butlin et al., Wool Seminars, ANU, 1960, Appendix.

Annual Report of the Western Lands Commission for
1955, NSW PP, 1956-1957, I, p.406.

TABLE 3

LAND TENURE ON THE INLAND PLAINS, 1901-1956

Tenure	Percentage of area in various tenures					
	New South Wales (Western Division)			Queensland (whole state)		
	1901	1911	1956	1901	1911	1956
Pastoral Lease	2.9 ^a 53.9	52.3	-	41.7	51.8	59.1
Closer Pastoral Settlement Leases	13.6 ^b 13.6	13.5 ^b 4.4 ^c 12.6 ^d 30.5	.2 ^c 95.9 ^d 96.1	5.2	9.9	22.5 ^e .7 ^e 23.2
Occupation Licences	20.2	11.6 .6 ^f	.4 .3 ^f	18.5	10.1	2.6
Alienated Reserves) 4.7	2.6	2.6	3.7	5.8	6.5
Unoccupied) 4.7	1.0	.6	} 30.9	3.5	5.3
	4.7	1.4	-		18.9	3.3
	100	100	100	100	100	100

Key:

- a- Improvement Leases
b- Homestead Leases
c- Artesian Well, Inferior Land, and Special Leases
d- Western Land Leases
e- Mining and Special Leases
f- Permissive Occupancies

Sources:

Reports of the Queensland Department of Public Lands.
Reports of the New South Wales Western Land Board and Western Lands Commission.

THE OCCUPATION OF THE WARREGO COUNTRY 1851-1879

	1851	1859	1866	1879
Percentage of total area leased.	6.7	13.9	63.7	97.5
Percentage of leased area held by:				
Individuals	76.3	80.3	81.0	69.7
Partnerships	23.7	15.8	15.0	16.9
Companies ^a	-	3.9	3.0	2.1
Banks	-	-	1.0	11.3
	100.0	100.0	100.0	100.0
Number of property owners ^b	33	46	128	83
Average size of holdings (acres)	44,523	65,423	107,729	253,980
Percentage of leased area in:				
Single run holdings	72.9	34.3	6.0	1.7
Compact holdings ^c	16.2	46.9	24.0	38.7
Fragmented holdings ^d	10.9	18.8	69.0	48.3
Bank controlled ^e	-	-	1.0	11.3
	100.0	100.0	100.0	100.0

Notes:

- a. Limited companies. This normally includes both loan companies and organisations formed to work particular stations; as far as possible, however, the loan companies have been included with the banks since their functions at this time were similar.
- b. Owners of pastoral properties over 5,000 acres. This figure was adopted as the smallest area which could be mapped. At this date the number of properties smaller than 5,000 acres was less than one per cent of the leased area.
- c. Holdings where all the land leased was adjoining and formed a compact area.
- d. Holdings where the leased land did not adjoin and consisting of two or more parcels of land.
- e. Since the banks acted as mortgagees and no details of the mortgagor are given in the "Returns", the bank holdings must be separated out.

Sources: Depasturing Licence Books, Rent Lists, and Whitworth's Gazetteer, 1866.

TABLE 5

TRANSFERS OF LEASES IN THE WARREGO COUNTRY 1869-1883

Date	Queensland portion (actual study area)	New South Wales portion ^a	Seasonal conditions
1869	33	-	Fair
1870	21	-	Good-floods
1871	12	-	Fair
1872	16	-	Good
1873	8	-	Good
1874	57	-	Good
1875	24	44	Drought
1876	4	82	Drought
1877	44	137	Drought
1878	16	67	Fair
1879	33	39	Fair
1880	22	94	Good-floods
1881	130	-	Fair
1882	66	-	Fair
1883	47	-	Drought

Notes:

- a. Warrego Pastoral District of New South Wales, figures only for 1875-1880.

Sources:

Notes of run transfers in the QLD GG, 1869-1883.
Appendix E, to "Second Report on the Occupation
of Crown Lands" in NSW VP, 1881, III, pp. 433-510.

STOCK DENSITIES AND CARRYING CAPACITIES IN THE WARREGO
COUNTRY c.1881

Type of country	Station	Stock density		Estimated final carrying capacity after improvements			
		Date	Density (Acres/SEU) ^a	Date	Capacity (Acres/SEU) ^a		
Red sandy & scrubby country	1	1869	20.0 (C)	1881	3.9 (C)		
		1881	5.2 (C)				
	2	1881	8.5 (S)				
	3	1881	11.9 (C)				
Black soil country	4	1881	6.4 (S)	1881	3.3 (S)		
	5	1881	3.4 (S)				
	6						
	7	1875	7.0 (S)				
		1881	3.5 (C)				
	8	1881	3.2 (S)				
	9	1881	4.2 (S)				
	10	1881	3.8 (S)				
	11	1883	6.0 (S)				
	12						
						1881	1.3 (S)

Notes: a-SEU, sheep equivalent units of one head of cattle to five sheep

(C) - cattle

(S) - sheep

Stations: 1-Bando (immediately adjacent the north-western boundary of the study area; 2-Woolerina, north of the Culgoa; 3-Whyenbah, adjacent to Woolerina; 4-Milrae, on the Barwon; 5-Boorooma, between Narran Lake and the Barwon; 6-Bangate, on the Narran River; 7-Gnomery, between the Culgoa and Birrie rivers; 8-Milroy, between the Culgoa and Birrie rivers; 9-Quantambone, on the Barwon; 10-Doondi, between Narran and Mooni rivers; 11-Coongoola, on the Warrego River in Queensland; 12-Bundabarrina, on the Barwon.

Sources: Warrah Papers, ANU; Brisbane Courier, 6 September 1869; Queenslander, 9 June 1883.

TABLE 7

NATURAL AND IMPROVED STOCK-CARRYING CAPACITIES IN THE
WARREGO COUNTRY c.1883

Vegetation Association (after Beadle)	Natural Carrying Capacity		Improved Carrying Capacity	
	Back-blocks	Frontages	Back-blocks	Frontages
	(Acres/SEU) ^a		(Acres/SEU) ^a	
Black soil country:				
Mitchell grass (<u>Astrebla lappacea</u>)	10.3	4.5	4.3	3.0
Coolabah (<u>E. coolabah</u>)	7.0	4.9	4.0	3.6
Black box (<u>E. Bicolor</u>)	-	6.4	-	3.2
Red soil country:				
Bimble box and pine(<u>E. populifolia</u> , <u>Callitris glauca</u>)	8.5	-	4.0	-
Ironwood -fuchsia <u>Acacia-Eremophila</u>)	11.9	6.2	8.2	3.9
Mulga (<u>Acacia aneura</u>)	13.4	5.7	6.8	3.5

Notes:

a-SEU, sheep equivalent units of one head of cattle to five sheep.

Sources:

"Return", NSW VP, 1883-1884, III, pp. 265-269.
N.C.W. Beadle: "Vegetation Map of Western New South Wales, 1945".

Notes to Table 8

Notes:

- a - Includes reserves, which in 1890 were 207,356 acres (NSW VP, 1890, IV, pp. 233-248).
- b- Approximately half these counties lie outside the study area.
- c- Area of Queensland portion of Warrego Country only. Areas for Cunnamulla and St. George Districts are not available.

Sources:

- A) New South Wales Statistical Register, 1895, pp. 445 and 470; 1900, p.503; 1901, pp. 450 and 475.
- B) Accumulated totals from returns in Annual Reports of the Department of Public Lands.

TABLE 8

PASTORAL OCCUPATION IN THE WARREGO COUNTRY 1895-1901

A) NEW SOUTH WALES PORTION (areas in 000's of acres)									
County	Total Area	Area in Closer Pastoral Settlement (Homestead Leases)			Total Area of Crown Lands Occupied			Vacant Area ^a	Percentage alienated 1901
		1895	1900	1901	1895	1900	1901		
FINCH	2,640	967	1,007	1,040	2,832	1,547	1,987	520	5.03
NARRAN	2,348	617	721	689	1,665	2,004	1,430	838	3.38
CULGOA	1,495	699	365	480	1,819	1,623	1,273	210	.80
GUNDERBOORA	1,561	569	338	496	1,237	1,129	956	571	2.11
IRRARA b	2,729	912	582	561	2,126	1,052	912	1,804	.45
BARRONA b	1,671	30	91	91	188	250	10	2,063	.00
LANDSBOROUGH	1,259	255	320	297	2,016	2,141	1,848	0	.70
TOTALS	13,706	4,052	3,428	3,657	11,885	11,749	8,416	6.006	

B) QUEENSLAND PORTION (areas in 000's of acres)						
Land District	Total Area	Area in Closer Pastoral Settlement				
		1895	1900	1901		
CUNNAMULLA	?	1,469	2,570	2,583		
ST. GEORGE	?	476	1,157	1,211		
TOTALS	9,828 ^c	1,946	3,728	3,795		

TABLE 9
LEASEHOLD OWNERSHIP IN THE WARREGO COUNTRY 1884-1900

Type of Ownership	QUEENSLAND PORTION									NEW SOUTH WALES PORTION									STUDY AREA TOTAL								
	1884 (A)			1890 (B)			1900 (C)			1884 (D)			1890 (E)			1900 (F)			1884			1890			1900		
	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%	No.	Area	%
Individuals	13	5,157	52.5	7	2,083	33.1	4	497	9.3	14	3,698	33.9	15	2,289	38.8	11	1,833	31.0	27	8,855	42.8	22	4,372	35.9	15	2,330	20.7
Partnerships	7	779	7.9	3	380	6.0	3	348	6.4	13	2,725	25.0	14	1,494	25.3	6	551	9.3	20	3,504	16.9	17	1,875	15.3	9	900	7.9
Companies	7	2,174	22.2	13	2,732	43.5	16	2,952	54.9	18	3,318	30.6	15	1,565	26.6	27	2,701	45.8	25	5,492	26.5	28	4,297	35.3	43	5,653	50.1
Banks	5	1,716	17.4	9	1,096	17.4	8	1,578	29.4	13	1,138	10.5	13	554	9.3	13	822	13.9	18	2,854	13.7	22	1,650	13.5	21	2,401	21.3
TOTALS	32	9,827	100	32	6,291	100	31	5,376	100	58	10,880	100	57	5,903	100	57	5,909	100	90	20,708	100	89	12,194	100	88	11,286	100

Notes: No. - Number of holdings in ownership categories.
Area - Area of holdings in ownership categories in thousands of acres.
% Percentage of the occupied study area in 1884, and percentage of study area in leaseholds after 1884, held in the various ownership categories.

Sources: A) QLD GG, 28th July, 1885, p 291 ff.
B) QLD GG, 18th June, 1890, p 410 ff.
C) QLD GG, 25th July, 1900, p 168 ff.
D) W. Hanson: The Pastoral Possessions of New South Wales, Sydney, 1889.
E) NSW Department of Lands: List of Pastoral Leases...(1888 to 1903) ML 333.099106.
F) Ibid.

TABLE 10

CHANGES IN LEASEHOLD OWNERSHIP IN THE WARREGO COUNTY 1890-1900

Size of Holdings (000's acres)	Owners grouped by size of holdings															
	Queensland portion						New South Wales portion									
	I		P		C		B		I		P		C		B	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
Less than 50	2	1	2	1	1	3	3	3	7	6	4	2	5	9	11	10
50 to 100	1	1	0	1	5	6	3	1	0	0	3	1	1	3	1	1
100 to 150	1	0	0	0	1	1	1	2	3	0	3	2	4	8	0	0
150 to 200	0	2	0	0	3	2	0	0	1	2	2	0	4	5	1	1
200 to 250	1	0	0	1	0	1	1	0	1	1	1	1	1	1	0	0
250 to 300	1	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0
Over 300	1	0	0	0	3	3	1	2	3	2	0	0	0	0	0	1

Notes: I- Individual owners
P- Partnerships
C- Companies
B- Banks

a- 1890
b- 1900

Sources: Rent Lists in QLD GG's.
List of Pastoral Leases... (1888 to 1903), ML 333.099106.

TABLE 11

STOCK DENSITIES IN THE WARREGO COUNTRY 1890-1900
(New South Wales portion)

Size of Holdings	Type of Country	Stock Densities (acres per sheep equivalent unit)					
		Pastoral Leaseholds			Homestead Leases		
		Max.	Min.	Ave.	Max.	Min.	Ave.
Less than 50,000 acres	RED Pine & Mulga	1.5	5.7	2.8	1.8	28.5	3.5
	BLACK Mitchell grass Coolabah Assn.	2.0	22.4	2.8	1.2	Nil	2.5 ^a
Over 50,000 acres	RED Pine & Mulga	1.5	14.1	2.7	-	-	-
	BLACK Mitchell grass Coolabah Assn.	1.5	48.9	2.4	2.3	9.7	2.6
		1.3	3.0	1.8	-	-	-
Notes:	a- Average for years when stock on stations.						
Sources:	Returns in New South Wales Royal Commission of 1901. "Vegetation Map of Western New South Wales", by N.C.W. Beadle, 1945, scale 16 miles to one inch.						

TABLE 12
ARTESIAN WATER SUPPLIES IN THE WARREGO COUNTRY 1895-1901

Well ownership	Supplies (gallons per day)		
	1895	1901	Queensland portion
	New South Wales portion	New South Wales portion	Queensland portion
Government owned	6,261,000	540,000	13,295,055
Privately owned	30,575,400	47,847,850	79,328,089
Totals	37,196,400	48,387,850	79,900,589
Grand Total	85,847,750		126,259,244

Sources: Queensland - "Report of the Hydraulic Engineer on Water Supply" QLD VP, 1896, IV, pp. 419-442, and QLD VP, 1901, III, pp. 1221-1305.

New South Wales - Statistical Register, 1895, p.557, and 1901, p.609.

Notes to Table 13

Notes:

- a. "Type of Country" adapted from J.W. James: "Erosion Survey of the Paroo-Upper Darling Region", Journal of the Soil Conservation Service (NSW), XV:4, XVI:1-4, October 1959, January, July and October 1960; and from N.C.W. Beadle: The Vegetation and Pastures of New South Wales, Sydney, 1945.
- b. From N.C.W. Beadle, op. cit. For popular names of species see below.
- c. Calculated from rainfall data in Results of Rain, River and Evaporation Observations ...1901-2, Dept. of Public Instruction, Sydney, 1904.
- d. Calculated from figures in the New South Wales Statistical Registers for the period and using the 1893 figure for each county. Note that the figures are for holdings whose boundaries may not coincide with those of the county.
- e. The "Deterioration Index" attempts to show the extent to which the average carrying capacity of the counties had fluctuated over the period. The average for 1893-1901 was subtracted from the average 1920-1926 and expressed as a percentage of the first figure. Minus quantities show a reduction in carrying capacity; positive values an improved capacity.

Key to the Vegetation Associations

<u>Popular Name</u>	<u>Botanical Name</u>
Bimble Box	<u>Eucalyptus populifolia</u>
Coolabah	<u>Eucalyptus coolabah</u>
Ironwood and Fuchsia.....	<u>Acacia-Eremophila</u>
Ironwood and Mulga.....	<u>Acacia spp.</u>
Mitchell grass.,,.....	<u>Astrelba lappacea</u>
Mulga.....	<u>Acacia aneura</u>
Pine.....	<u>Callitris glauca</u>

TABLE 13
 STOCK DENSITIES IN THE WARREGO COUNTRY 1893-1926
 (New South Wales only)

County	Total Area (000's ACRES) (1893)	Type of Country ^a .	Dominant Vegetation Associations ^b . (% of total area)	Average Rainfall ^c 1901 (inches)	Stock Densities ^d (Acres per sheep equivalent unit; 1 cow; 8 sheep)												Deteriora- tion Index: $\frac{D-A}{A} \times 100$ ^e A (averages)
					1893-1901			1902-1910			1911-1919			1920-1926			
					Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	
A			B			C			D								
FINCH	2,640	Black	Coolabah..... 60 Bimble Box & Pine 27	14-18	2.27 (1893)	4.54 (1900)	3.10	2.86 (1907)	4.46 (1902)	3.53	3.00 (1911)	4.38 (1916)	3.28	2.27 (1926)	5.36 (1920)	3.48	% -12
NARRAN	2,348	Black	Mitchell grass.... 54 Coolabah..... 32	14	2.30 (1894)	26.3 (1900)	6.36	4.10 (1910)	7.27 (1903)	5.38	3.88 (1911)	10.9 (1916)	6.23	3.75 (1926)	12.2 (1920)	6.70	- 5
CULGOA	1,495	Soft Red	Ironwood & Fuchsia..... 50 Coolabah..... 28	14-16	3.57 (1893)	19.8 (1900)	11.1	5.99 (1904)	9.40 (1902)	7.31	6.38 (1919)	12.3 (1918)	8.92	3.64 (1926)	12.7 (1920)	6.66	+40
GUNDERBOOKA	1,561	Soft Red	Bimble Box, Ironwood, Mulga.. 38 Coolabah..... 21 Ironwood & fuchsia 21	12-14	2.53 (1893)	17.2 (1901)	8.89	11.7 (1906)	19.2 (1902)	13.8	11.7 (1918)	22.0 (1917)	17.1	5.90 (1926)	17.2 (1920)	10.4	-93
IRRARA	2,729	Hard Red	Bimble Box, Ironwood & Mulga 48 Mulga..... 31	Less than 12	5.86 (1894)	26.8 (1900)	11.5	12.0 (1907)	25.6 (1903)	16.6	13.0 (1912)	420.0 (1918)	69.2	10.6 (1926)	27.0 (1920)	16.6	-500
BARRONA	1,671	Hard Red	Mulga..... 65 Bimble Box, Ironwood, Mulga... 14	12	31.9 (1893)	336.6 (1901)	115.3	98.5 (1907)	248.6 (1905)	166.1	69.7 (1911)	345.2 (1917)	286.4	62.2 (1926)	172.1 (1920)	121.7	-148
LANDSBOROUGH	1,259	Hard Red	Mulga..... 52 Coolabah..... 16 Mitchell grass.... 17	12-14	2.18 (1894)	9.95 (1901)	4.55	4.71 (1907)	9.27 (1902)	5.96	5.65 (1911)	13.4 (1916)	8.65	4.22 (1926)	16.4 (1920)	9.26	-103

Notes to Table 14

Notes:

- 1- From Figure 51 in S.L. Everist and G.R. Moule: "Studies in the environment of Queensland: 2- The Climatic Factor in Drought", QJAS, IX:3, September 1952. The record here is from 1879 to 1951.

- 2- From J.W. James "Erosion Survey of the Paroo-Upper Darling Region: Part IV, Erosion". His system of calculation for drought occurrence was included in the original manuscript for the article published under the above title in JSCS, XVI:4, October 1960, but not there printed. Using his empirical knowledge of conditions in north central New South Wales, he worked out a "Rainfall Sequence Index" awarding values as below:

<u>Rainfall per month</u>	<u>Index</u>
0-.49	-2
.50-.99	-1
1.00-1.49	+1
1.50-1.99	+2

Whenever the Index totalled -11, he considered that a drought was in force, for "most landholders agree that the country can stand about 4 to 5 dry months before the lack of forage is felt". The column therefore, shows those years when the Index reached -11 and notes the number of months following that occurrence when rainfall continued to be below one inch and the drought unbroken. Note that the record ends in 1937, see Results of Rainfall Observations made in Queensland, Districts 44 and 45, Commonwealth of Australia, Melbourne, 1940.

TABLE 14

INCIDENCE OF DROUGHT CONDITIONS AT CUNNAMULLA 1879-1951

Years of "Bad drought or "no effective rainfall" 1	Years with drought conditions, duration of droughts in months ²	Years of "Bad" drought or "no effective rainfall" 1	Years with drought conditions, duration of droughts in months ²
1884		1912	
1888	1885-1	1915	1913-2
1892	1888-3	1916	1915-5 $\frac{1}{2}$
1895	1892- $\frac{1}{2}$	1919	1919-1
	1895-1 $\frac{1}{2}$	1922	
	1896-1 $\frac{1}{2}$	1925	
1897		1927	1927-2 $\frac{1}{2}$
1899			1928- $\frac{1}{2}$
1900			1929-3
1902	1902-5	1929	1933-1
1904			1935- $\frac{1}{2}$
1905	1905-1		1937-3
1907		1937	
1908		1940	
1910		1944	
		1945	
		1946	
			no data after 1937

TABLE 15
 SUMMARY OF RENT ASSESSMENTS IN THE WARREGO COUNTRY 1900-1949
 (NEW SOUTH WALES PORTION)

Country	Locality	Rents assessments in pence per acre							
		1900		1902		1929		1949	
		a	b	a	b	a	b	a	b
BLACK	Warrambool	2.25	1.50	1.50	0.65	1.98	0.80	4.20	1.50
	Culgoa-	2.00	1.10	1.60	0.90	2.10	1.15	3.60	1.50
	Bokhara Warrego	0.80	0.70	0.80	0.30	0.60	0.40	1.90	0.50
SOFT RED	Barwon	0.90	-	0.30	-	0.40	-	4.90	2.80
	Nebine	0.50	0.18	0.50	0.05	0.35	0.05	1.60	0.28
HARD RED	Cuttaburra	0.70	-	0.30	-	0.40	-	1.80	0.40

Notes: a-Maximum rent awarded.
 b-Minimum rent awarded.

Source: Figure 11.

TABLE 16

ESTIMATES OF GRAZING CAPACITIES, MAINTENANCE FLOCKS
AND RENTS IN THE NEW SOUTH WALES PORTION OF THE
WARREGO COUNTRY 1943

County	Size of Sheep Flock required for Maintenance Area	Rent per Sheep (pence)	Range of Grazing Capacity (acres per sheep)	Average Rainfall (1943) (inches)
FINCH	2,600	17	2½-5	15-18
NARRAN	3,000	16	3½-7	14-16
CULGOA	3,300	13	4-8	13-15
GUNDERBOOKA	3,300	14	5-12	11-13
IRRARA	3,500	12	4-12	11-13
BARRONA	3,500	12	6-14	10½-12
LANDSBOROUGH	4,000	12	8-16	10-12

Source: Table by Rogers and M.J. Cronin (Western Land Commissioner) 21 December 1943, filed at the Land Office, Bourke.

TABLE 17

Notes:

Percentages are for the total areas of each locality. The areas of the localities are as follows:

NSW portion	11,849,066 acres
QLD portion	<u>9,827,200</u> acres
Warrego area	<u>21,676,266</u> acres

Sources:

NSW County Maps of the Department of Lands.
QLD Four Mile Maps of the Department of
Public Lands.
Australian Pastoral Directories.
H.C. Robinson Ltd., 5th, 6th and 7th editions,
Maps of the Pastoral Stations in Queensland
and New South Wales.
Statistical Registers of New South Wales and
Queensland.

TABLE 17

LAND TENURE IN THE WARREGO COUNTRY 1901-1949

Category of Land Tenure	Locality	Areas and Percentage of Total Area according to Land Tenure Category (000's acres)											
		1901				1929				1949			
		Legal	%	Effective	%	Legal	%	Effective	%	Legal	%	Effective	%
PASTORAL LEASE	NSW	5,905	49	4,761	40	5,260	44	6,896	58	3,031	25	3,935	33
	QLD	5,895	59	7,066	71	3,426	33	3,843	39	1,076	10	2,210	22
	WARREGO	11,800	54	11,827	54	8,686	40	10,740	49	4,108	18	6,145	28
CLOSER PASTORAL SETTLEMENT LEASE	NSW	3,657	30	?		4,810	40	3,174	26	6,944	58	6,040	50
	QLD	1,621	16	?		4,339	44	3,922	39	6,550	66	5,417	55
	WARREGO	5,287	24	?		9,150	42	7,097	32	13,495	62	11,458	52
ALIENATED	NSW	277	2			272	2			267	2		
	QLD	?				267	2			333	2		
	WARREGO	? 277	1			540	2			601	2		
HOLDINGS OF LESS 5,000 ACRES	NSW			?				1,399	11			1,399	11
	QLD			74	.7			1,611	16			1,611	16
	WARREGO			74	.3			3,010	13			3,010	13
RESERVES	NSW			207	1			106	.8			106	.8
	QLD			33	.3			42	.4			42	.4
	WARREGO			241	1			148	.6			148	.6
UNOCCUPIED	NSW	1,500	12	4,997	42			?				?	
	QLD	1,032	10	1,032	10			140	1.4			?	
	WARREGO	2,532	11	6,029	27			140	.6			?	

Notes to Table 19

Notes:

- a- "LOAN" companies are the limited companies (generally present prior to 1901) who obtained control of properties through mortgage or foreclosure.
- b- "WORK" companies are those associations with the title of company (most of which appeared after 1901) and which do not appear to have obtained ownership through mortgage, or foreclosure on an original tenant.

Percentages refer to localities and the area under lease, the exception being those percentages in parentheses which refer to the total study area of 21,676,266 acres.

The figures in this table do not include the holdings of less than 5,000 acres size.

Sources:

Rent Lists, Australian Pastoral Directories, and maps of the Department of Lands (NSW) and Public Lands (QLD).

TABLE 19

TRENDS IN LEASE OWNERSHIP 1901 - 1949

Category of Ownership	Locality	Areas and Percentages of Areas by Category of Land Ownership (000's acres)						
		1901		1929		1949		
		Area	%	Area	%	Area	%	
INDIVIDUALS	NSW	5,080	54	3,519	34	5,943	55	
	QLD	2,150	31	4,261	54	3,489	45	
	WARREGO	7,231	43 (33)	7,781	43 (35)	9,433	53 (43)	
PARTNERSHIPS	NSW	866	9	1,526	15	1,299	13	
	QLD	348	5	884	11	1,952	25	
	WARREGO	1,214	7 (5)	2,411	13 (11)	3,252	18 (15)	
COMPANIES	A)"LOAN" ^a	NSW	2,654		1,223		1,245	
		QLD	1,429		752		736	
		WARREGO	4,083	(18)	1,975	(9)	1,981	(10)
COMPANIES	B)"WORK" ^b	NSW	137		3,801		1,487	
		QLD	1,581		1,867		1,448	
		WARREGO	1,719	(8)	5,668	(26)	2,936	(13)
COMPANIES	C)Total	NSW	2,792	29	5,024	49	2,732	27
		QLD	3,010	43	2,619	33	2,184	28
		WARREGO	5,803	34 (26)	7,644	44 (35)	4,917	27 (23)
BANKS	NSW	822	8					
	QLD	1,622	23					
	WARREGO	2,445	14 (11)		NIL		NIL	
AREAS UNDER LEASE	NSW	9,562		10,070		9,975		
	QLD	7,132		7,766		7,627		
	WARREGO	16,694	(77)	17,837	(82)	17,603	(81)	

Notes to Table 20

Notes: Continuity of ownership is the continued presence of the same owner at successive check dates. Hence this table does not allow for family inheritance.

a- The total new owners less the number of owners who had disappeared divided by the number of years in the period. The figures represent the annual increase or loss of owners in the study area.

b- Owners excluding banks and companies.

c- Owners including banks and companies.

These data are graphed on Figure 14.

Sources: Rent lists, Australian Pastoral Directories, NSW County and QLD Four Mile Maps.

TABLE 20.

THE CONTINUITY OF LEASE OWNERSHIP IN THE WARREGO COUNTRY
1851 - 1949

Date	Net Rate of change per year ^a	New Owners evident at each date											No. of owners ^b		
		1851	1859	1866	1879	1889	1899	1909	1919	1929	1939	1949			
1851		33													33
1859	+1.3	13	32												45
1866	+11.2	9	17	98											124
1879	- 3.7	3	1	15	57										76
1889	+ 2.5	1	1	1	17	81									101
1899	+ 9.3				5	38	151								194
1909	- 2.5				2	13	36	118							169
1919	+ 6.2				2	7	32	47	143						231
1929	+10.6				1	4	13	34	77	208					337
1939	0				1	1	7	16	34	83	195				337
1949	+11.8				1	1	4	16	19	74	121	219			455
No. of owners ^c		33	46	128	83	118	217	191	261	377	380	499			

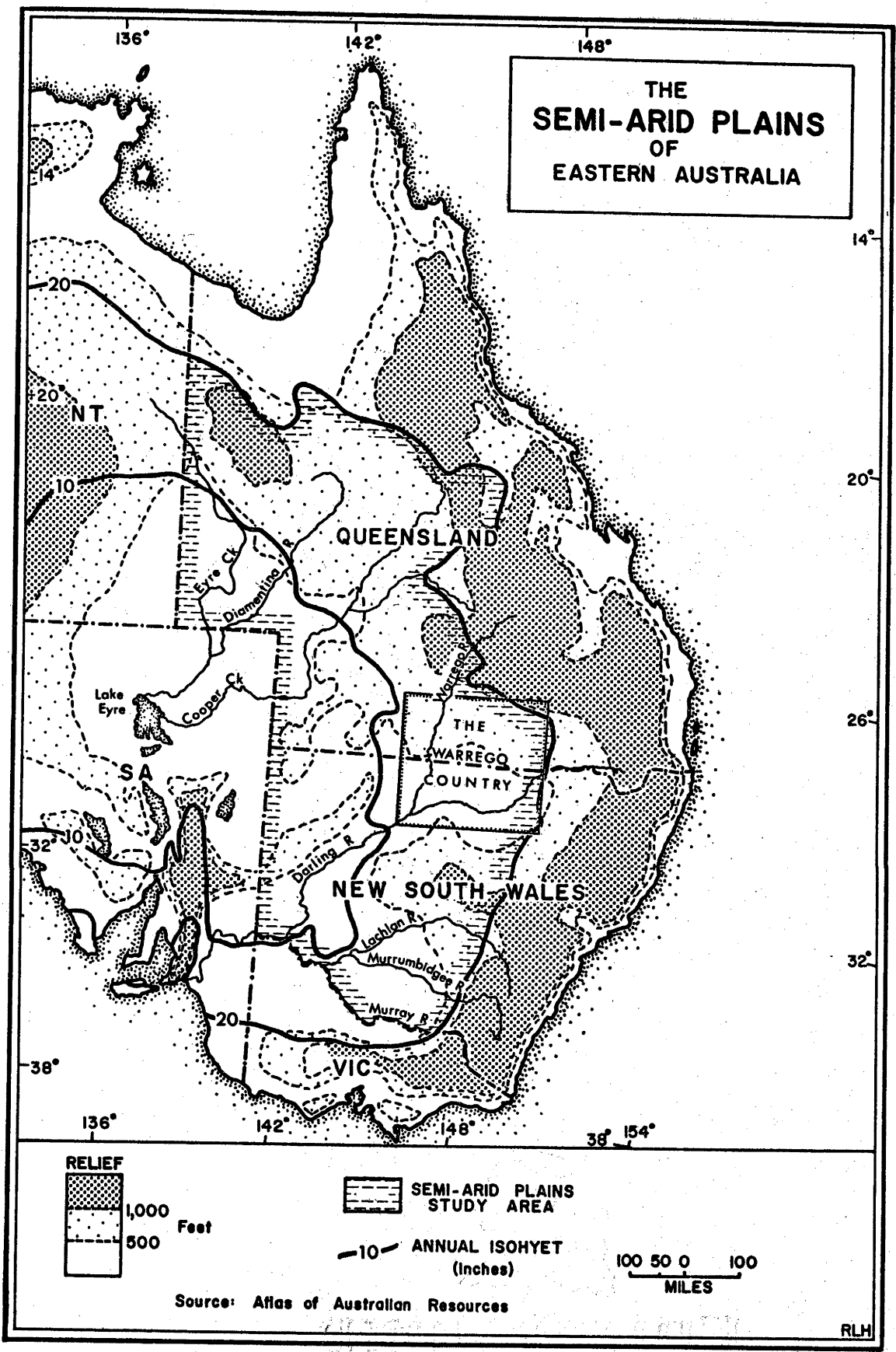
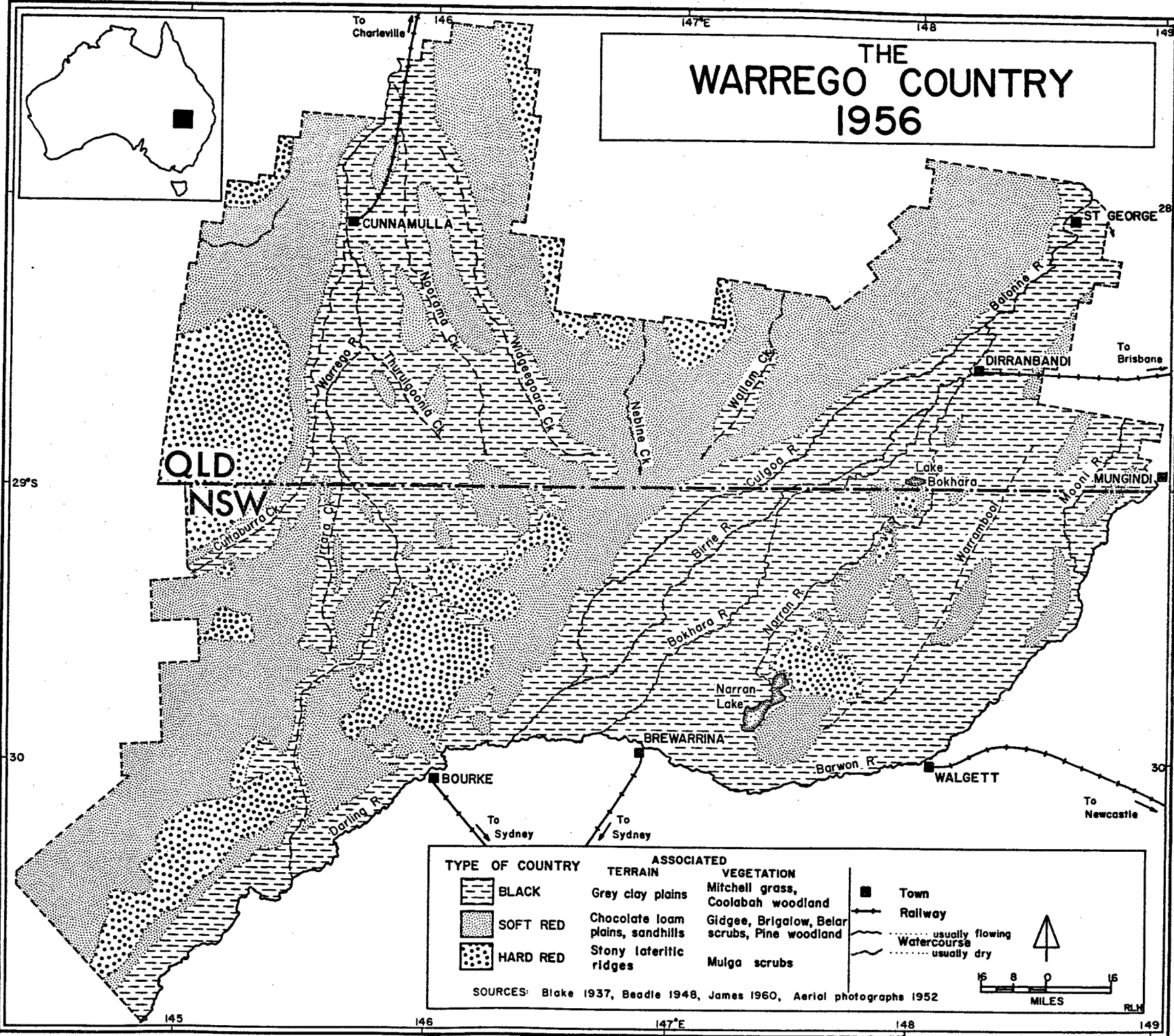
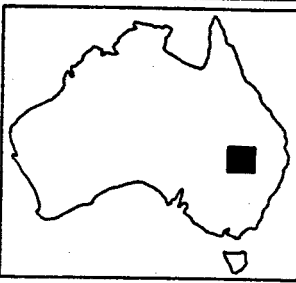


Fig 1

THE WARREGO COUNTRY 1956

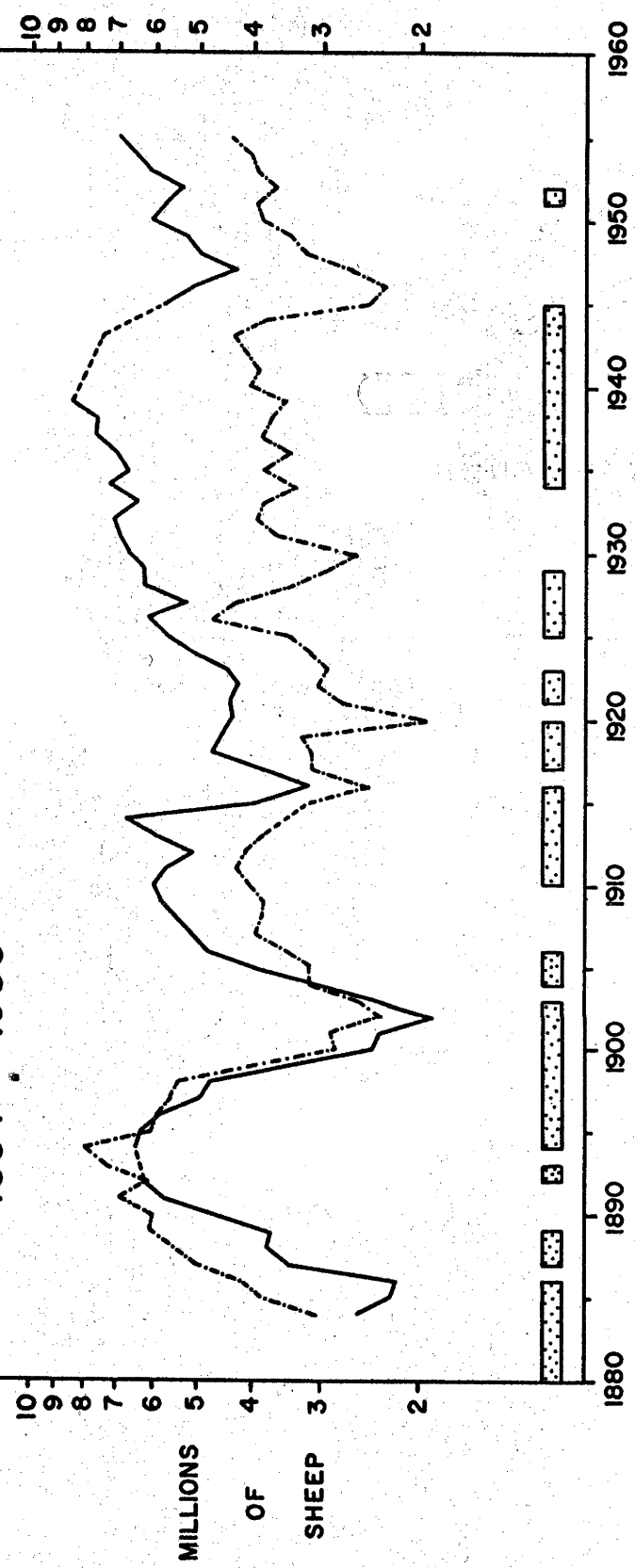


TYPE OF COUNTRY	ASSOCIATED TERRAIN	VEGETATION	
BLACK	Grey clay plains	Mitchell grass, Coolabah woodland	Town
SOFT RED	Chocolate loam plains, sandhills	Gidgee, Brigalow, Belar scrubs, Pine woodland	Railway
HARD RED	Stony lateritic ridges	Mulga scrubs	usually flowing
			usually dry

SOURCES: Blake 1937, Beadle 1948, James 1960, Aerial photographs 1952

15 8 0 15
MILES
RLM

SHEEP ON THE PLAINS 1884 - 1955



--- NEW SOUTH WALES (west of the Darling River)
 — QUEENSLAND (Maranoa & Warrego Districts)

■ DROUGHT YEARS

Sources: Butlin et al., 1960

RLH

Fig. 3

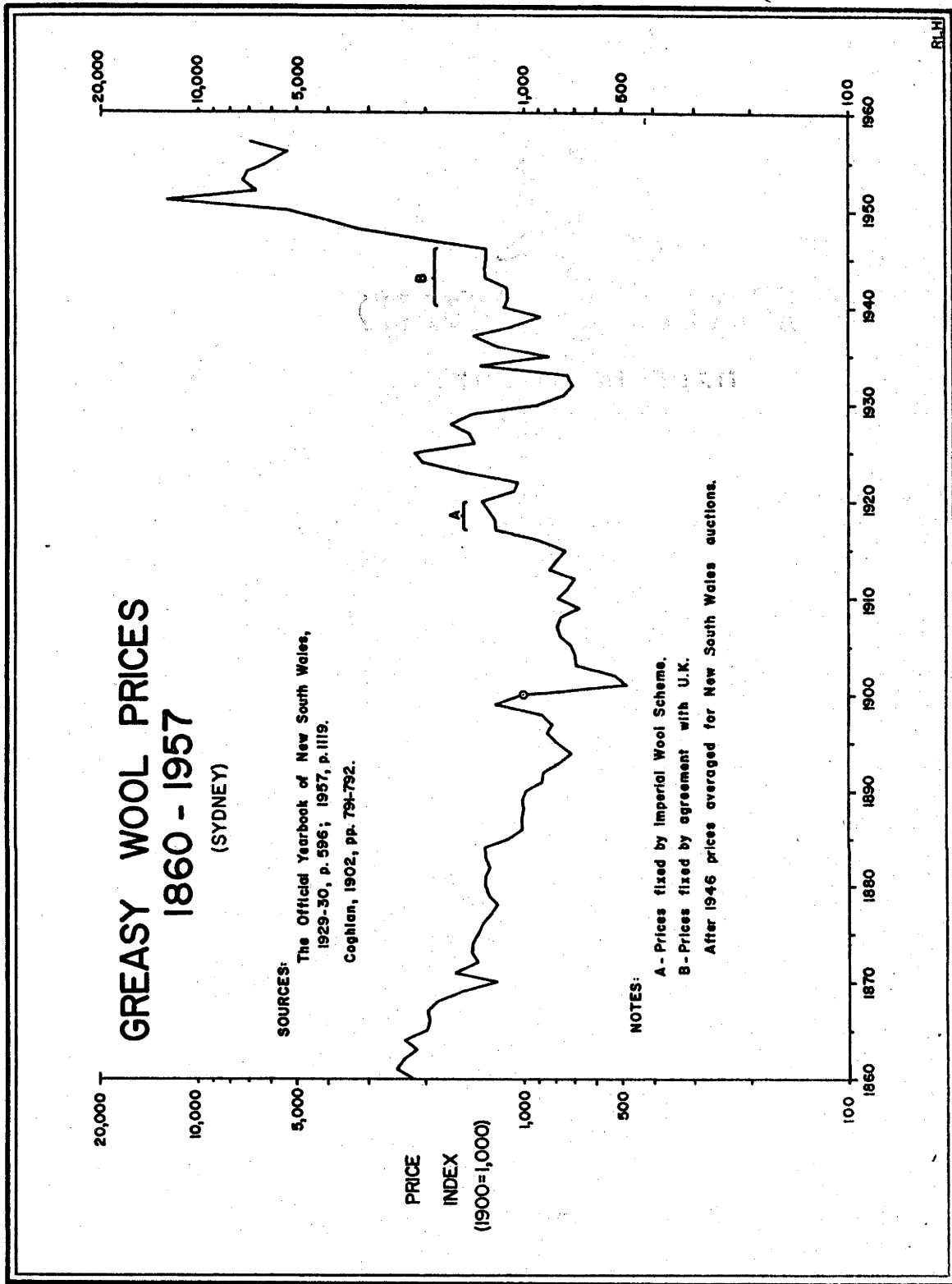


Fig. 4

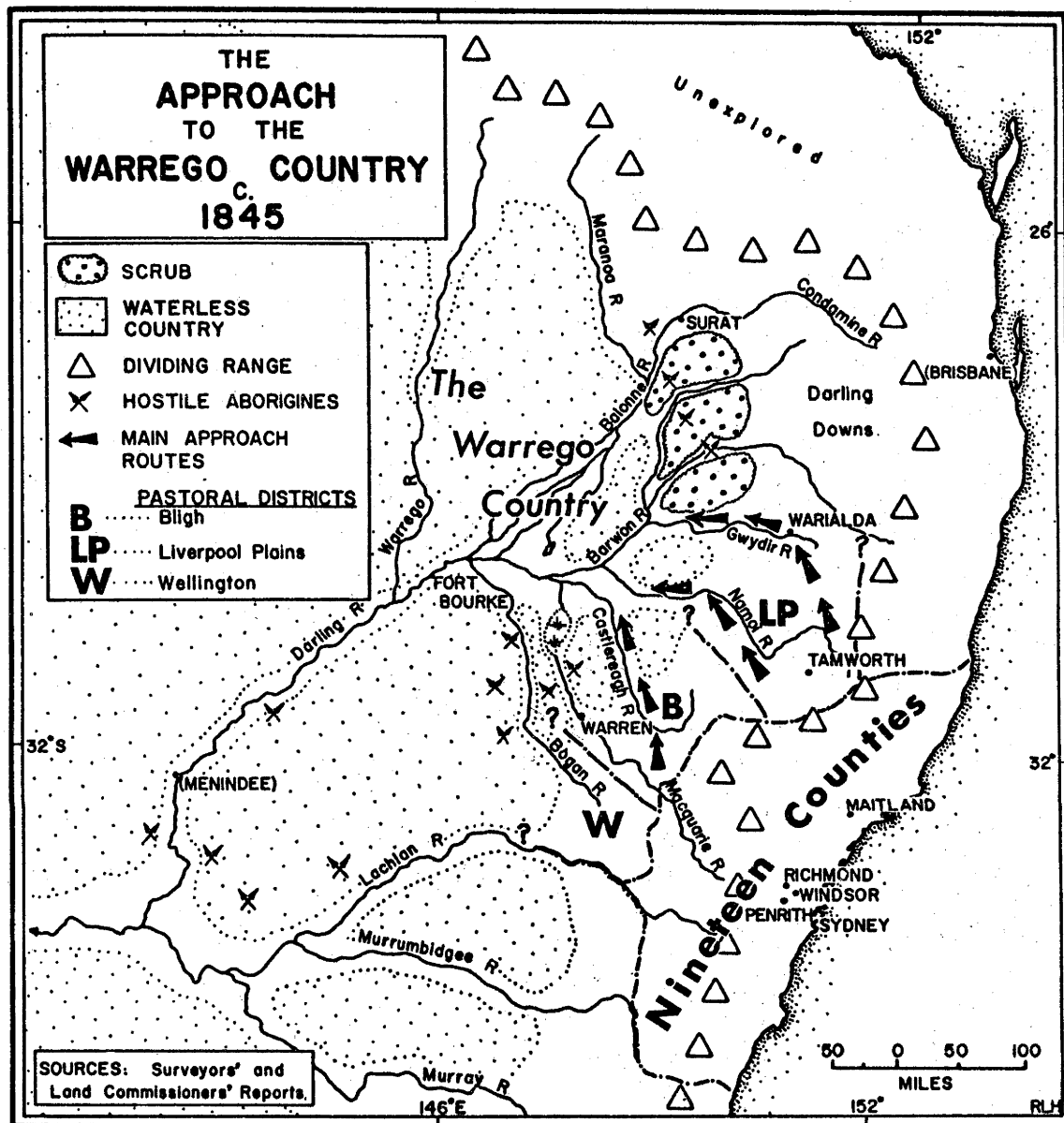


Fig. 5

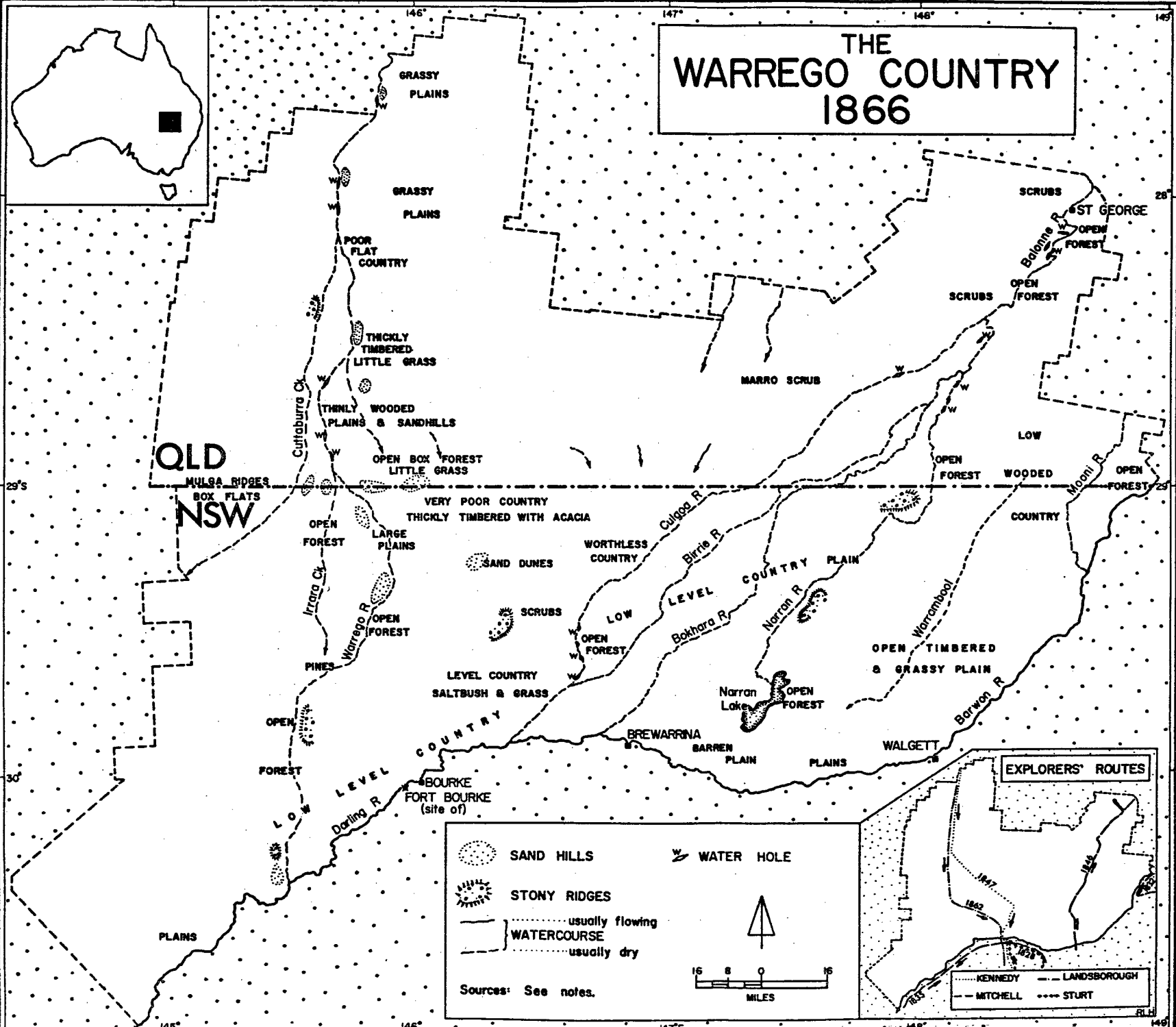
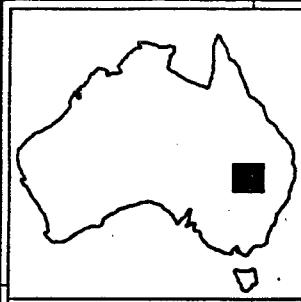
Notes to Figure 6

THE WARREGO COUNTRY 1866

Sources:

- 1834 C. Sturt: Two Expeditions into the Interior of Southern Australia, (2 vols.), London.
- 1848 Sir T.L. Mitchell: Journal of an Expedition into the Interior of Tropical Australia...
- 1848 Map of Kennedy's Return Route, ML A3/NLD/I 537e.
- 1861 Wener's Sketch of the Cuttilla River, ML A2/NLD/G 1709a.
Arthur's Survey of the Warrego River, ML W3/1717 R.
- 1862 W. Landsborough: Journal of Landsborough's Expedition from Carpentaria in search of Burke and Wills, Melbourne.
- 1863 F.W. Gregory's surveys of the lower Warrego in Queensland, LD W51 53, W51 52.

THE WARREGO COUNTRY 1866



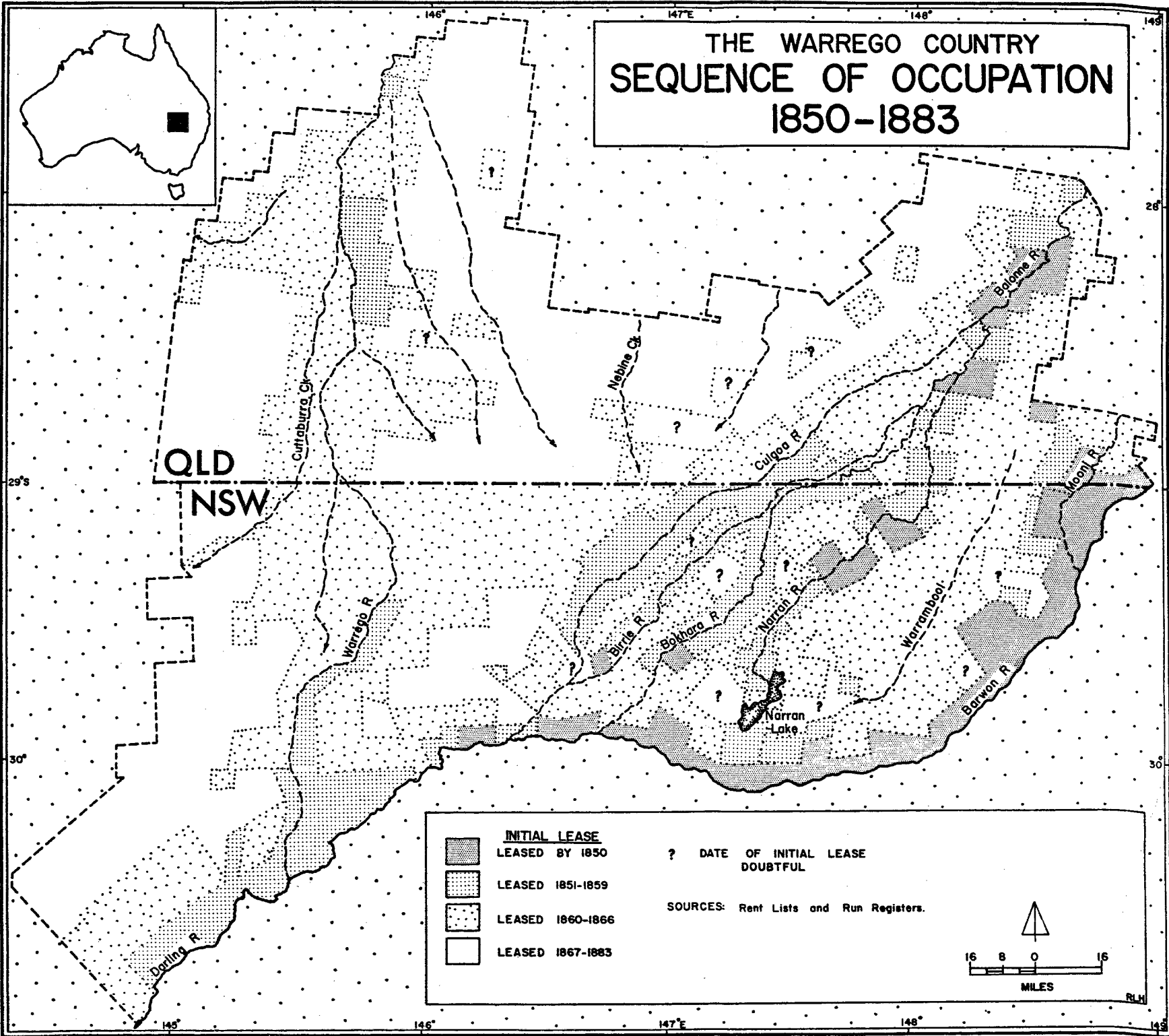
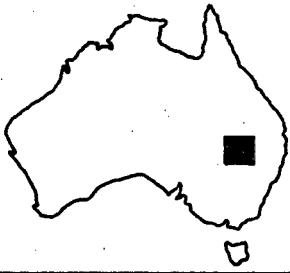
SAND HILLS
 STONY RIDGES
 usually flowing
 usually dry
 WATER HOLE





Sources: See notes.



EXPLORERS' ROUTES

— KENNEDY - - - LANDSBOROUGH
 ···· MITCHELL - · - · STURT

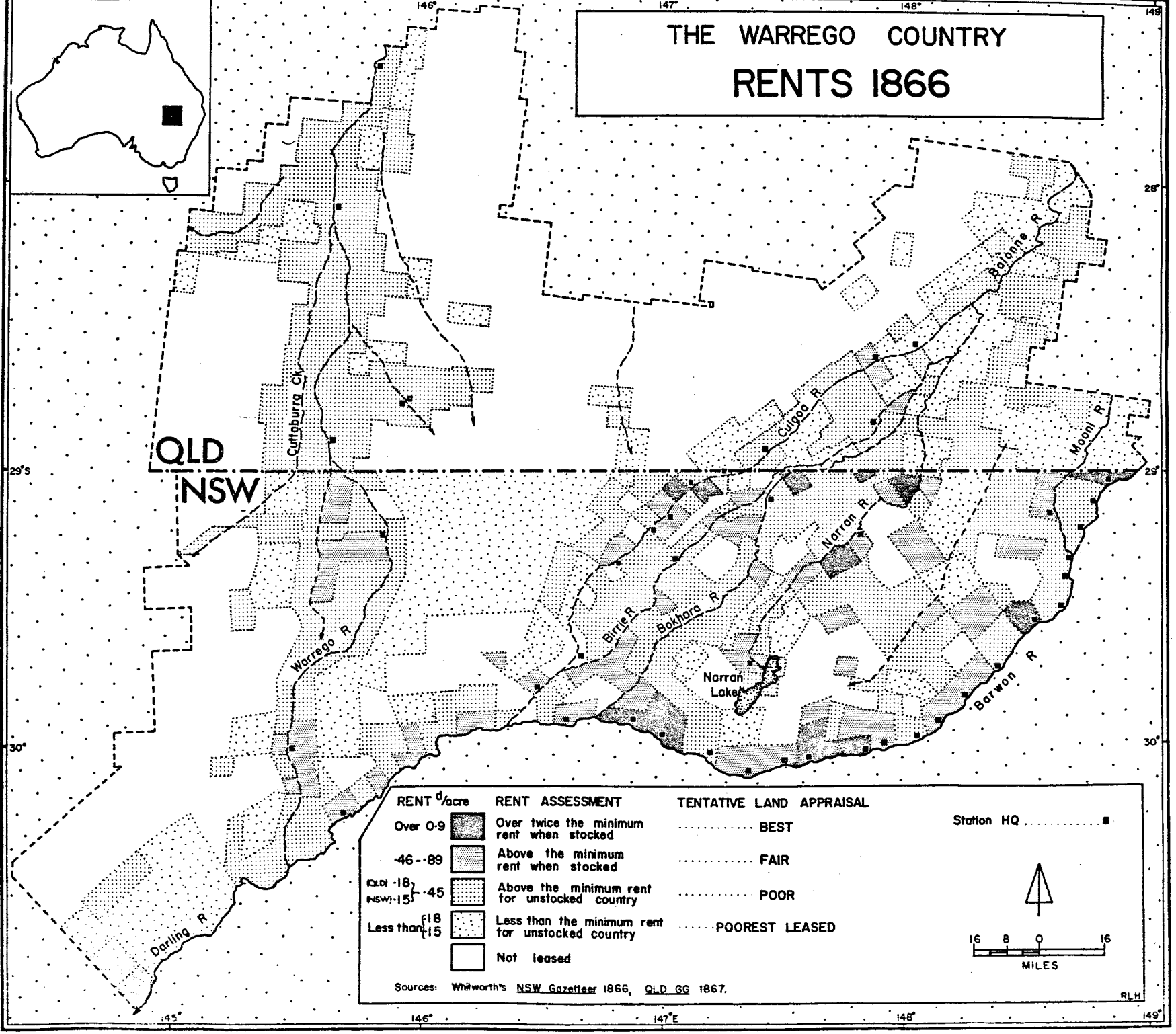
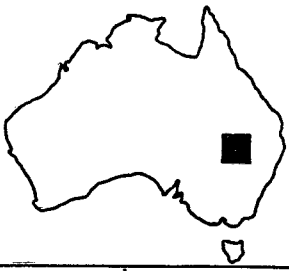
THE WARREGO COUNTRY SEQUENCE OF OCCUPATION 1850-1883



	INITIAL LEASE LEASED BY 1850	? DATE OF INITIAL LEASE DOUBTFUL
	LEASED 1851-1859	
	LEASED 1860-1866	SOURCES: Rent Lists and Run Registers.
	LEASED 1867-1883	



 MILES

THE WARREGO COUNTRY RENTS 1866



RENT ^d /acre	RENT ASSESSMENT	TENTATIVE LAND APPRAISAL
Over 0.9	Over twice the minimum rent when stocked	BEST
.46-.89	Above the minimum rent when stocked	FAIR
QLD .18 NSW .15	Above the minimum rent for unstocked country	POOR
.18 Less than .15	Less than the minimum rent for unstocked country	POOREST LEASED
	Not leased	

Station HQ

MILES

Sources: Whitworth's NSW Gazetteer 1866, QLD GG 1867.

RLH

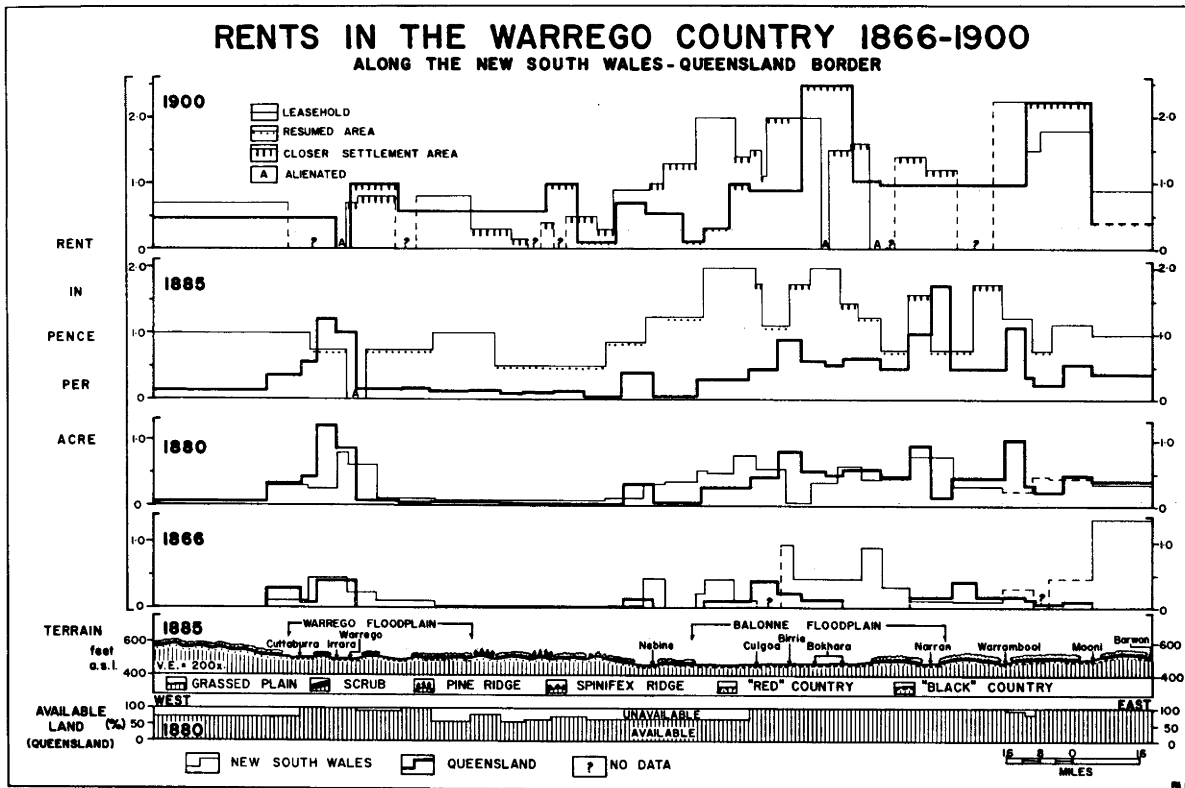


Fig. 10

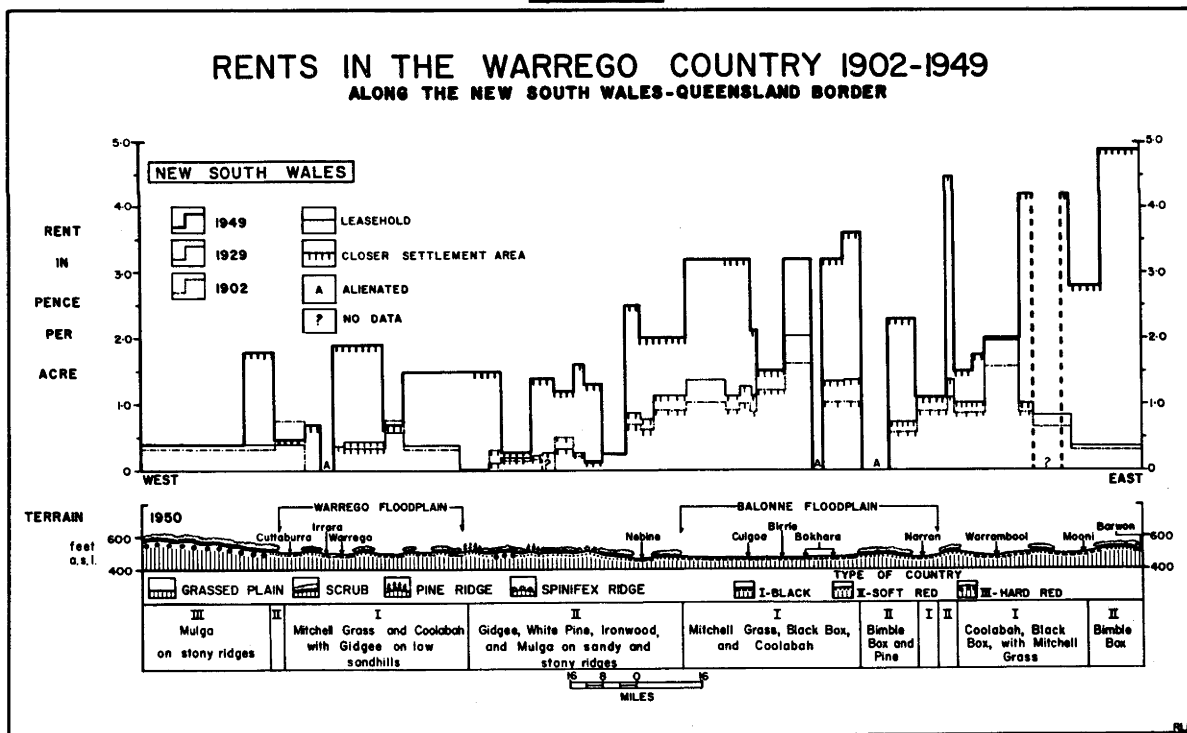


Fig. 11

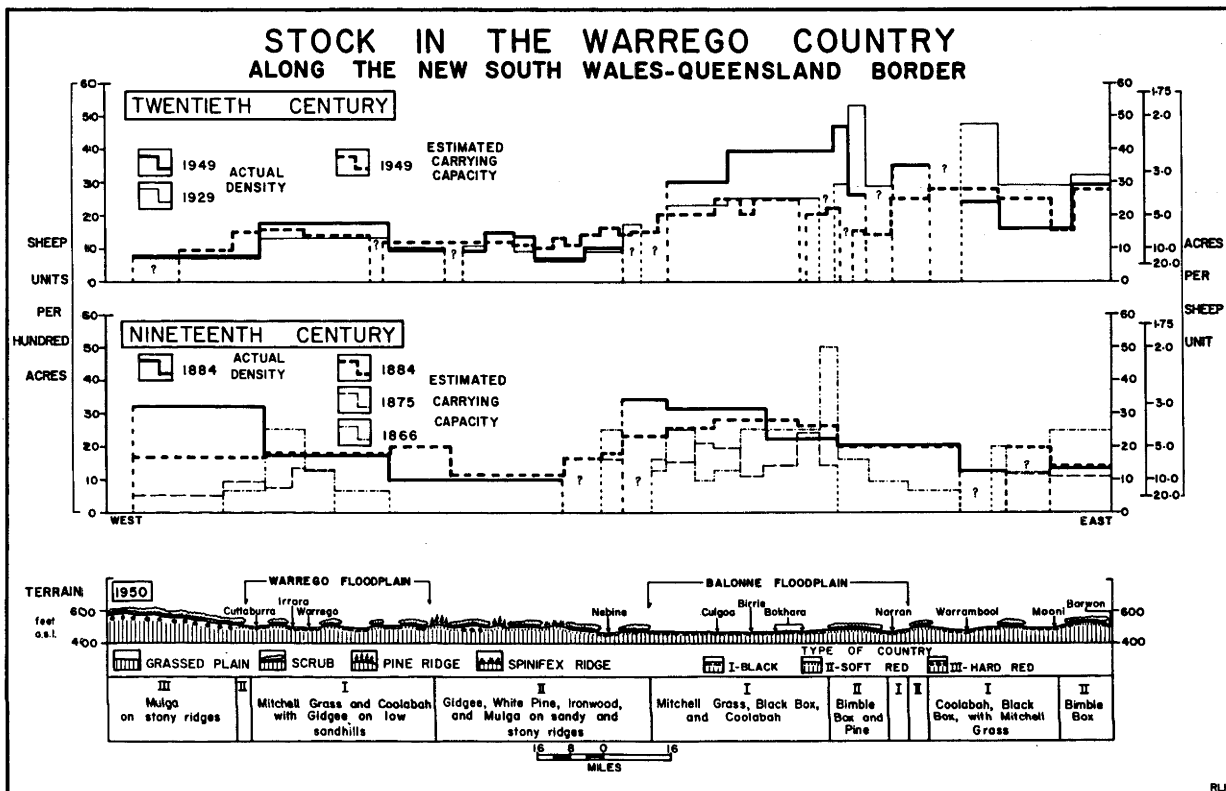


Fig. 12

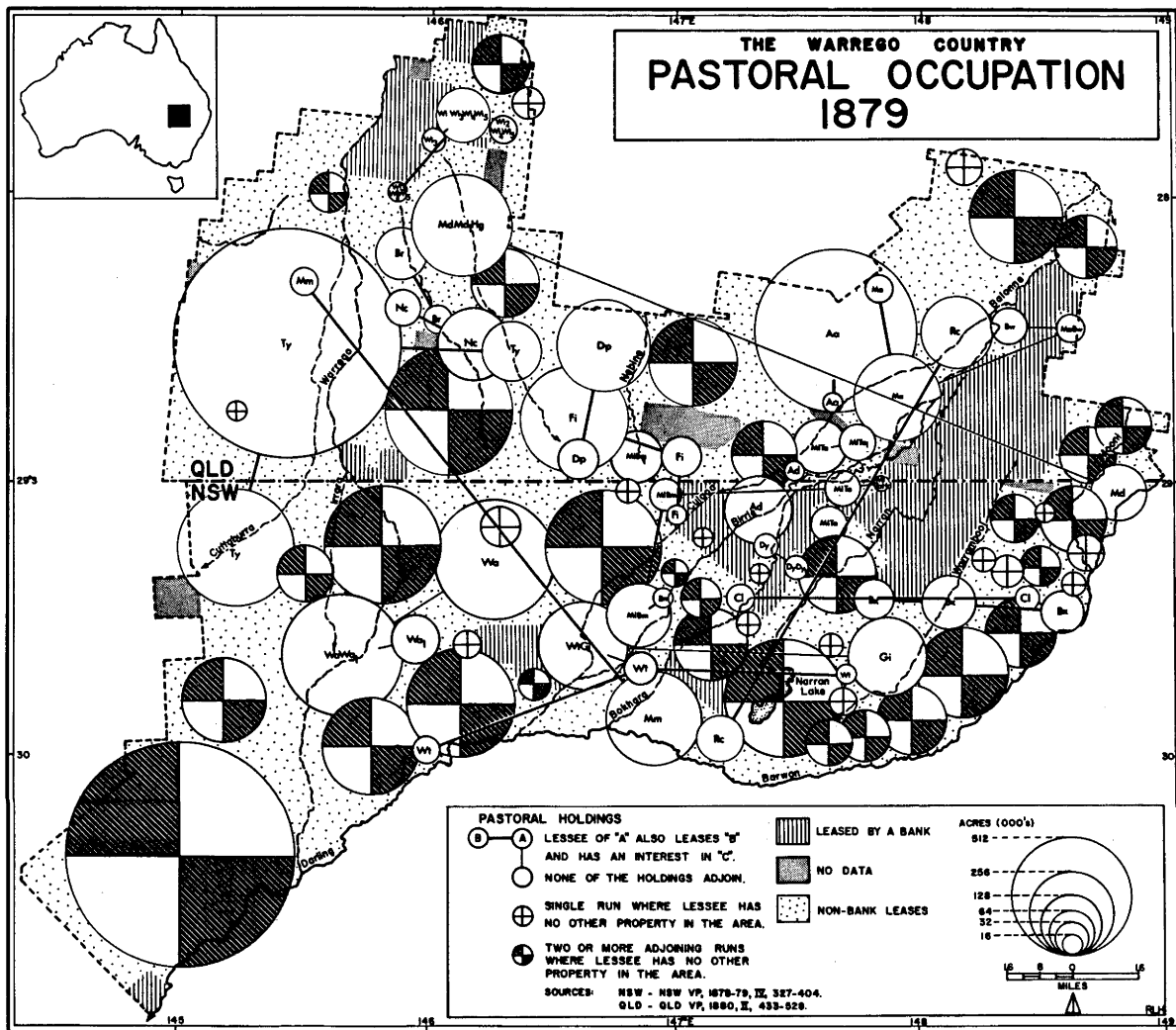


Fig. 13

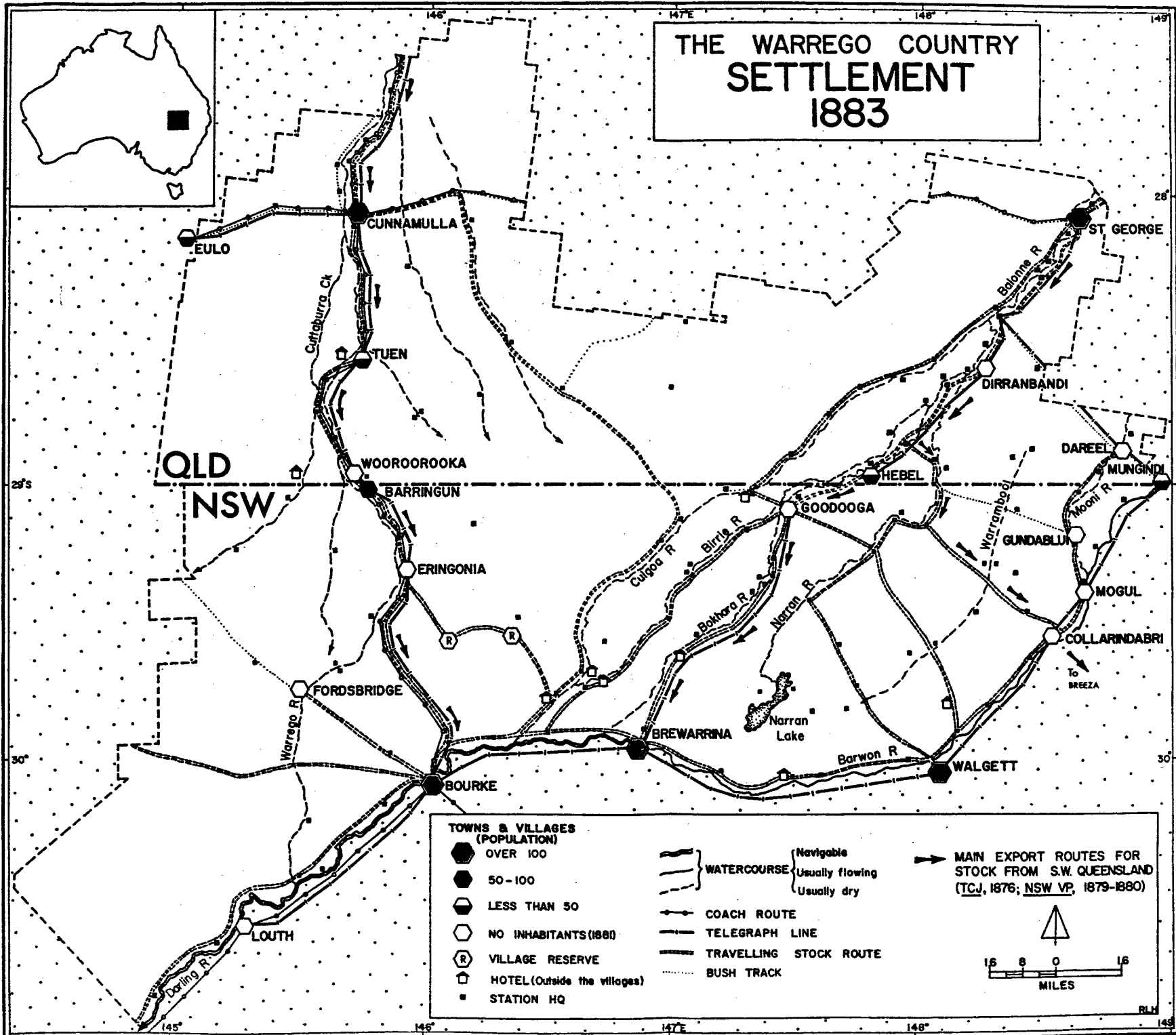
Notes to Figure 15

THE WARREGO COUNTRY: SETTLEMENT 1883

Sources:

- 1871 Map of Queensland (2 sheets), 27 miles to 1 inch, T. Ham, Brisbane.
- 1876 Map of the Pastoral District of Warrego, Northern Portion, NSW, 2 miles to 1 inch, ML M4 817.lgbp 1876-1.
- 1881 Map of Queensland (6 sheets), 16 miles to 1 inch, Department of Public Lands, ML M3 840fa 1881.
- 1884 Map of New South Wales showing stockroutes etc., 32 miles to 1 inch, ML M2 810gcug 1884.
- 1885 Map of the North East Portion of the Western Division, NSW, 6 miles to 1 inch, (accompanying the "Royal Commission on Conservation of Water", 1885, ML 817gbp 1885-1.
- 1886 Railway, Postal and Telegraph Map of New South Wales, 24 miles to 1 inch, D.Macdonald, ML M3 810gm 1886-1.

THE WARREGO COUNTRY SETTLEMENT 1883

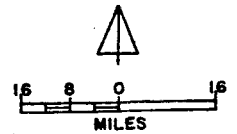


TOWNS & VILLAGES (POPULATION)

- OVER 100
- 50-100
- LESS THAN 50
- NO INHABITANTS (1880)
- ⊙ VILLAGE RESERVE
- ⊡ HOTEL (Outside the villages)
- STATION HQ

- WATERCOURSE { Navigable
Usually flowing
Usually dry
- COACH ROUTE
- TELEGRAPH LINE
- TRAVELLING STOCK ROUTE
- BUSH TRACK

➔ MAIN EXPORT ROUTES FOR STOCK FROM S.W. QUEENSLAND (T.C.J., 1876; NSW VP, 1879-1880)



RLH

Notes to Figure 16

STOCK IN THE WARREGO COUNTRY 1864-1940

The boundaries of the statistical units used in this graph changed considerably over the years and some indication of the different data which had to be used is given in the list of sources below:

New South Wales sources:

1864-1874	Warrego Pastoral District
1875-1878	Bourke Police District
1879-1880	Bourke and Brewarrina Police Districts
1881-1892	Bourke Electoral District
1893-1902	Bourke, Brewarrina, and Walgett Stock and Sheep Districts
1903-1918	Bourke, Brewarrina, and Walgett Pasture Protection Districts
1919-1940	Bourke, Brewarrina, and Walgett Police Patrol Districts

Queensland sources:

1868-1871	St George Police District
1873-1884	St George and Cunnamulla Police Districts
1885-1889	St George, Cunnamulla, and Bollon Police Districts
1890-1891	St George, Cunnamulla, Bollon, and Eulo Police Districts
1892-1912	St George, Cunnamulla, Bollon, and Eulo Petty Sessions Districts

All data were taken from the relevant Statistical Registers.

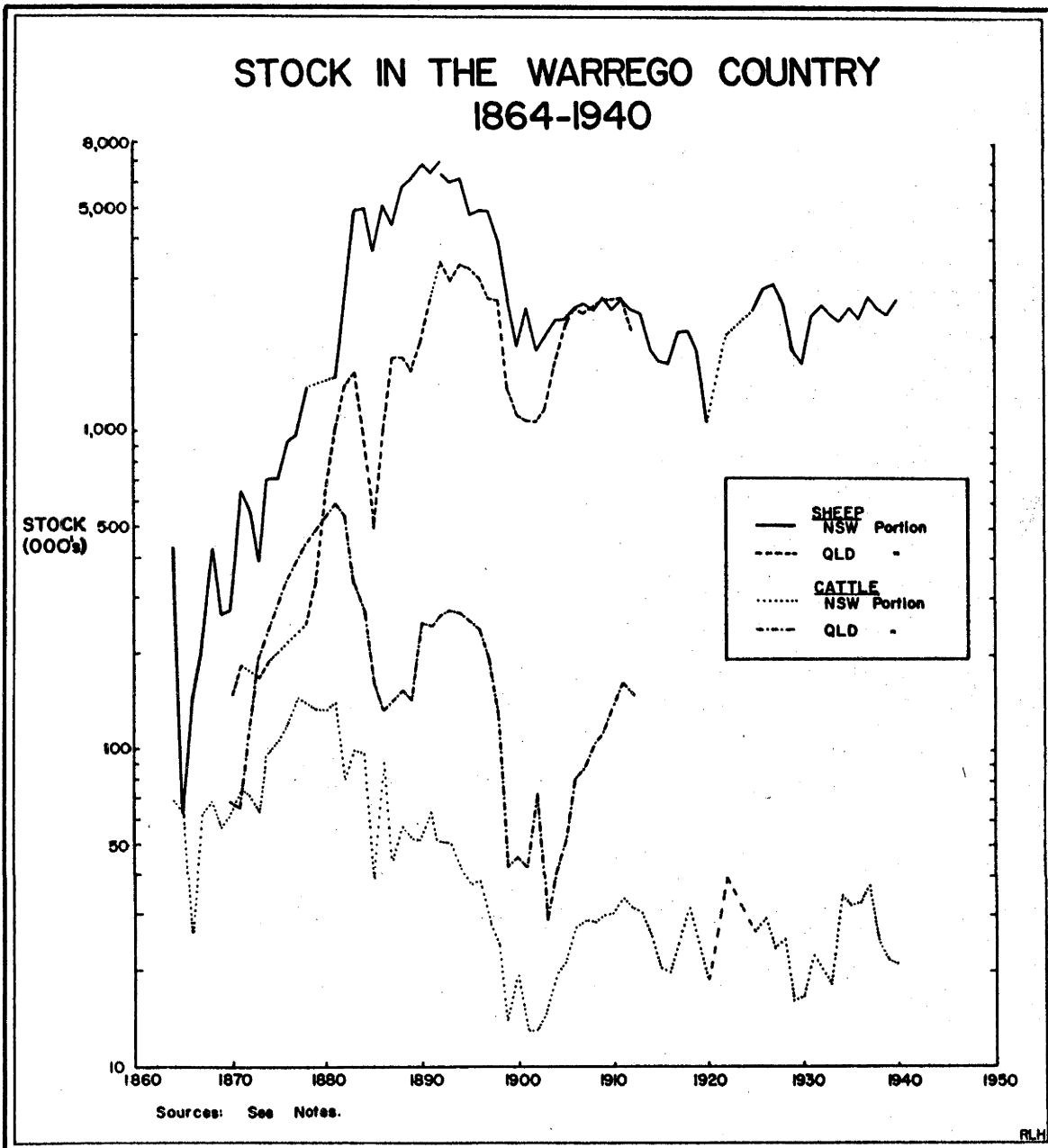
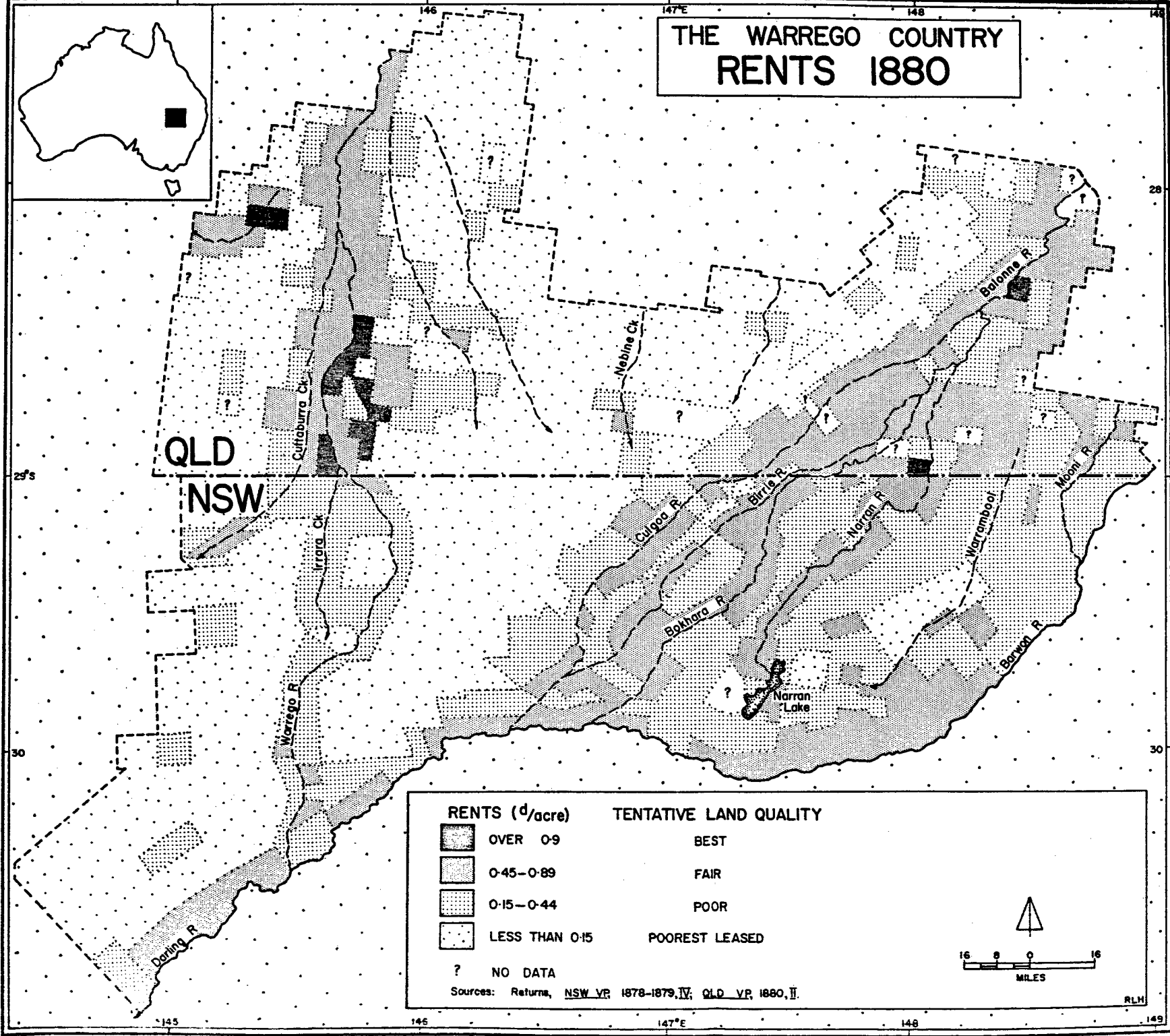


Fig. 16

THE WARREGO COUNTRY RENTS 1880



RENTS (d/acre)		TENTATIVE LAND QUALITY	
	OVER 0.9	BEST	
	0.45-0.89	FAIR	
	0.15-0.44	POOR	
	LESS THAN 0.15	POOREST LEASED	
	NO DATA		

Sources: Returns, NSW VP, 1878-1879, IV; QLD VP, 1880, II.

16 8 0 16
MILES

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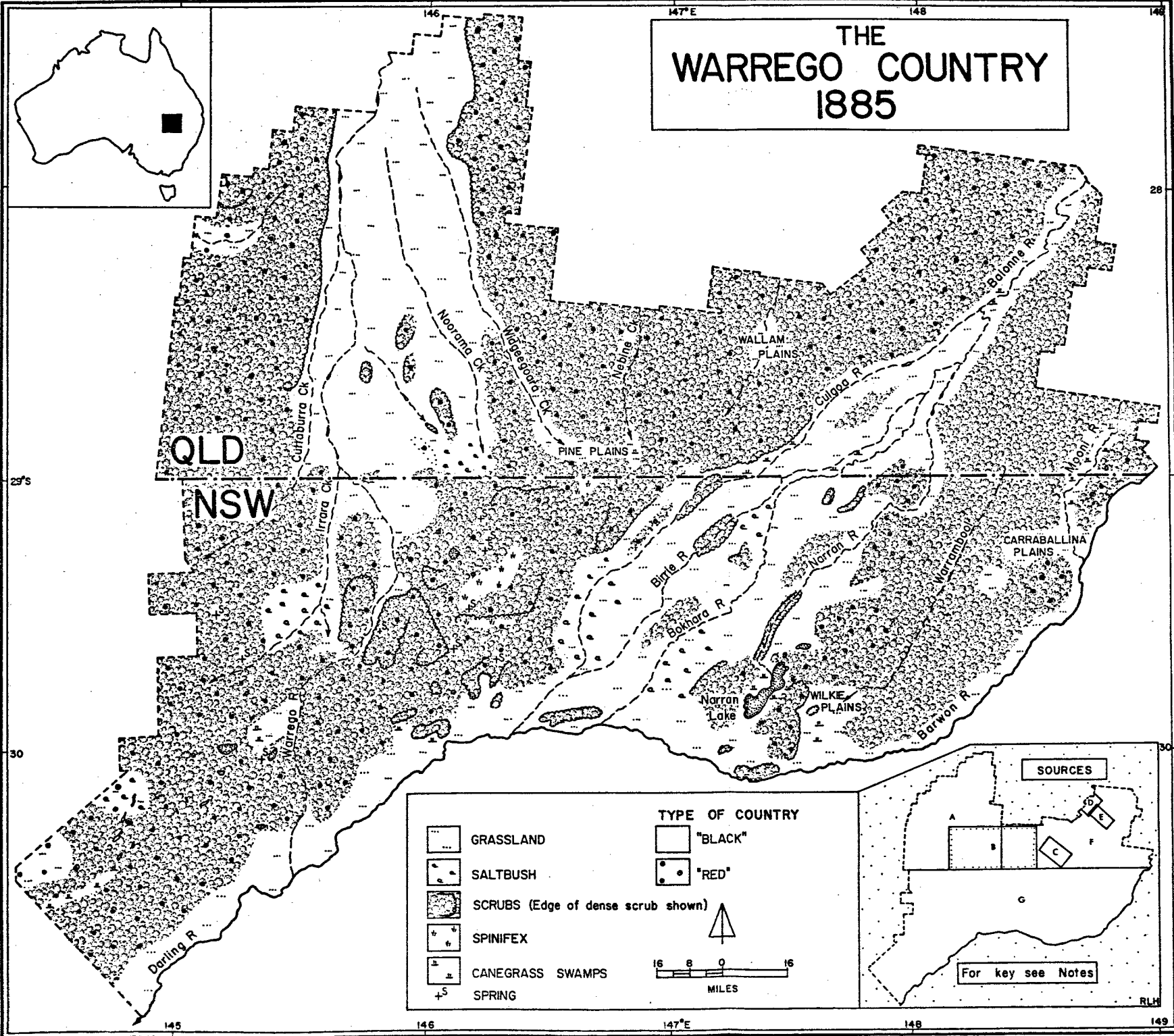
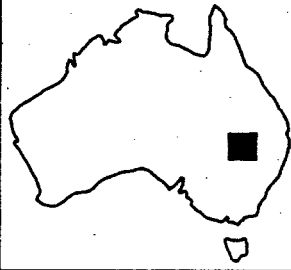
Notes to Figure 18

THE WARREGO COUNTRY 1885

Key to Source Diagram:

- A-"Report on the Gregory South and Warrego Districts",
QLD VP, 1882, II, pp. 625-628 and map.
- B-Map of Thurrulgoonia Holding, 1886, LD 1690.
- C-Briggs's surveys of runs, LD M51 219.
- D-Ibid, LD M51 224.
- E-Sketch by Nisbet in WP-C 65q.
- F-Generalised from surveys of runs c. 1880-1889, LD-
M51 217, M51 226, M51 236, and M51 238.
- G-Map of the North East Portion of the Western Division,
NSW, 6 miles to 1 inch (accompanying the "Royal
Commission on Conservation of Water", 1885, ML
gbp1885-1).

THE WARREGO COUNTRY 1885



QLD

NSW

Warrego R.

Darling R.

Culbarra Ck.

Irrara Ck.

Noorara Ck.

Nidgee Ck.

Nabine Ck.

PINE PLAINS

WALLAM PLAINS

Culgoos R.

Bolonne R.

Birtle R.

Bokhara R.

Narran R.

Narran Lake

WILKE PLAINS

Warramboe R.

CARRABALLINA PLAINS

Barwon R.

GRASSLAND

SALTBUSH

SCRUBS (Edge of dense scrub shown)

SPINIFEX

CANEGRASS SWAMPS

SPRING

TYPE OF COUNTRY

"BLACK"

"RED"

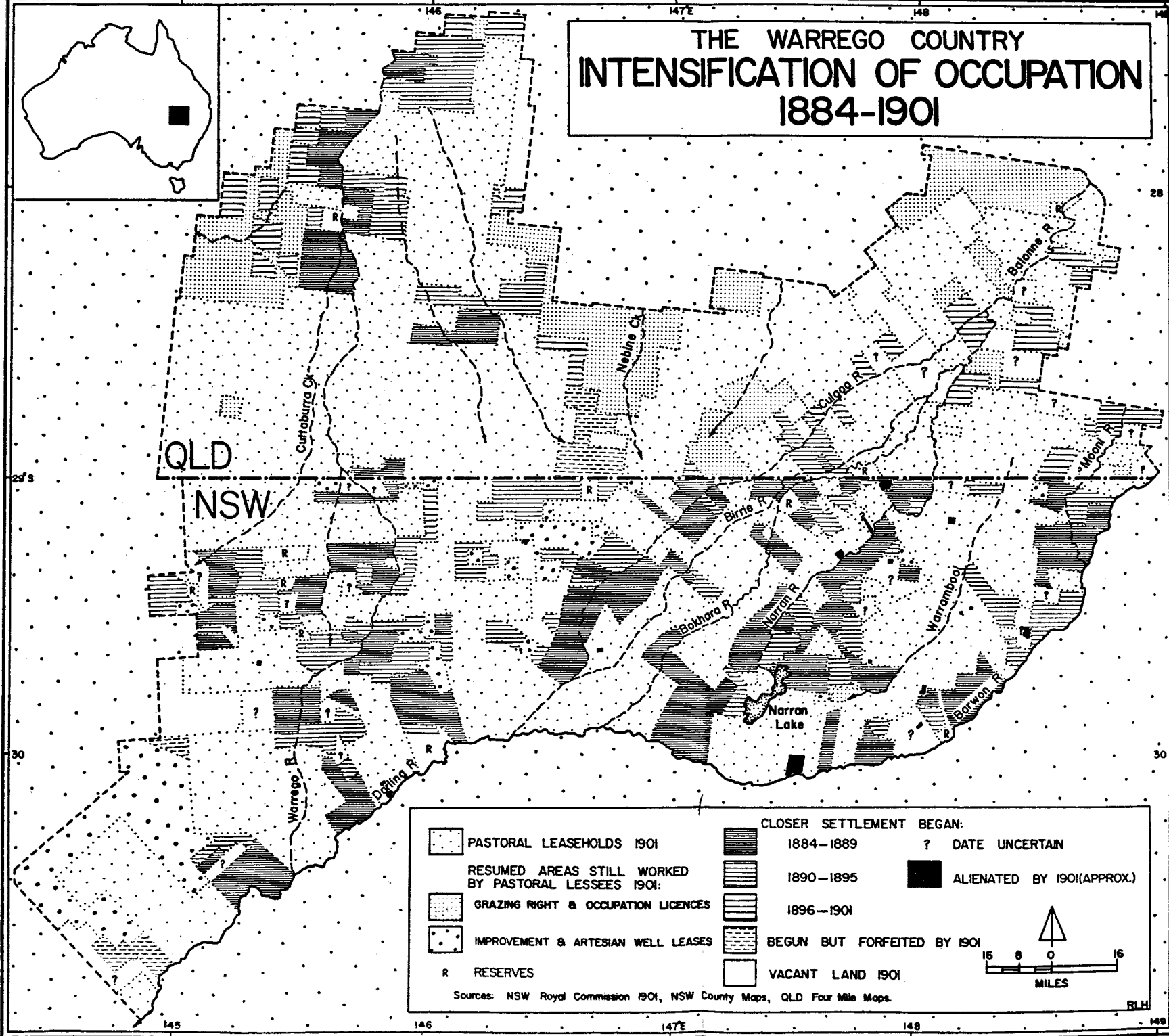
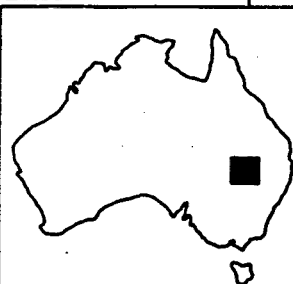
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SOURCES

For key see Notes

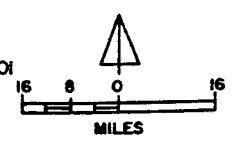
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THE WARREGO COUNTRY INTENSIFICATION OF OCCUPATION 1884-1901



	PASTORAL LEASEHOLDS 1901		CLOSER SETTLEMENT BEGAN:		? DATE UNCERTAIN
	RESUMED AREAS STILL WORKED BY PASTORAL LESSEES 1901:		1884-1889		ALIENATED BY 1901 (APPROX.)
	GRAZING RIGHT & OCCUPATION LICENCES		1890-1895		
	IMPROVEMENT & ARTESIAN WELL LEASES		1896-1901		
	R RESERVES		BEGUN BUT FORFEITED BY 1901		
	VACANT LAND 1901				

Sources: NSW Royal Commission 1901, NSW County Maps, QLD Four Mile Maps.



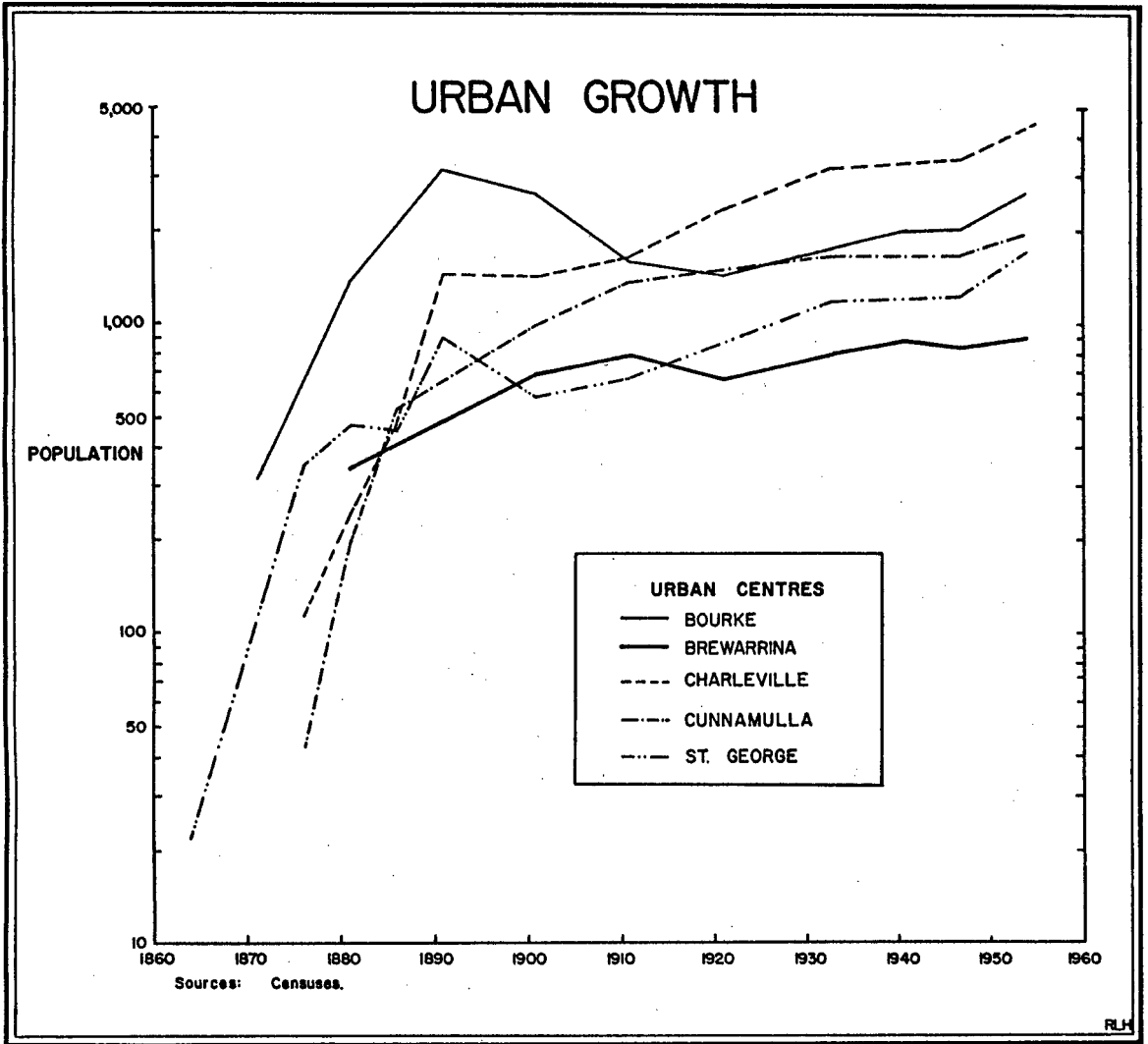


Fig. 20

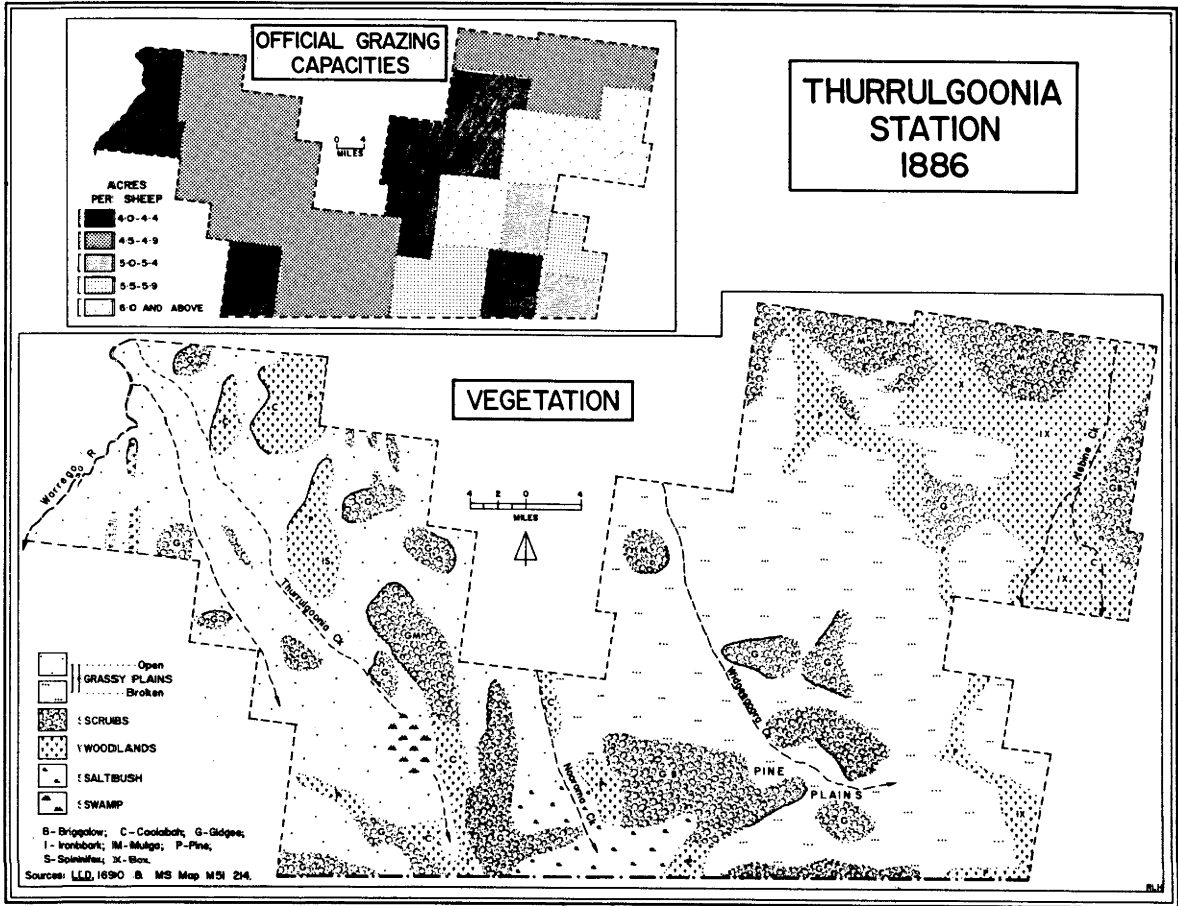


Fig. 21

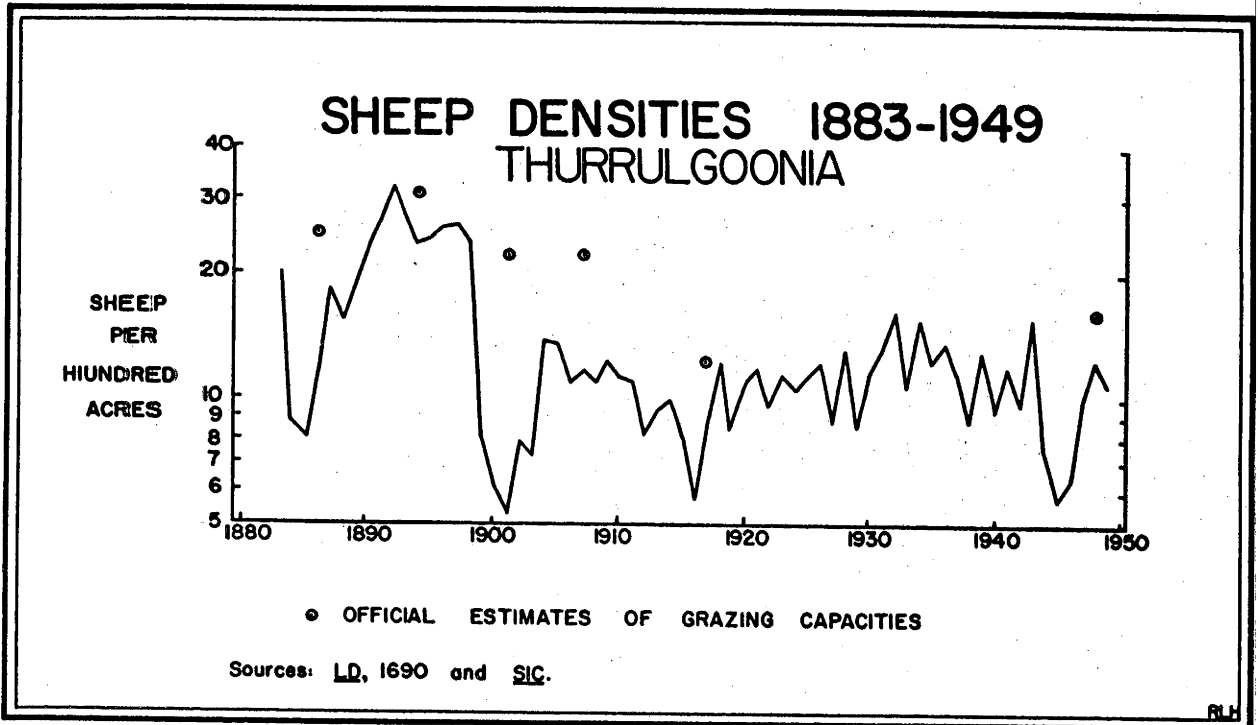
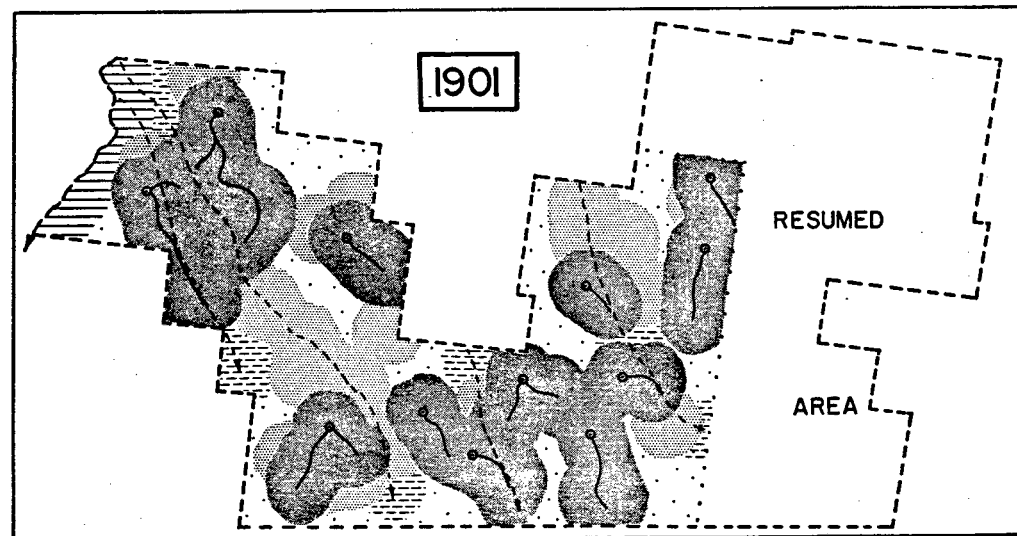
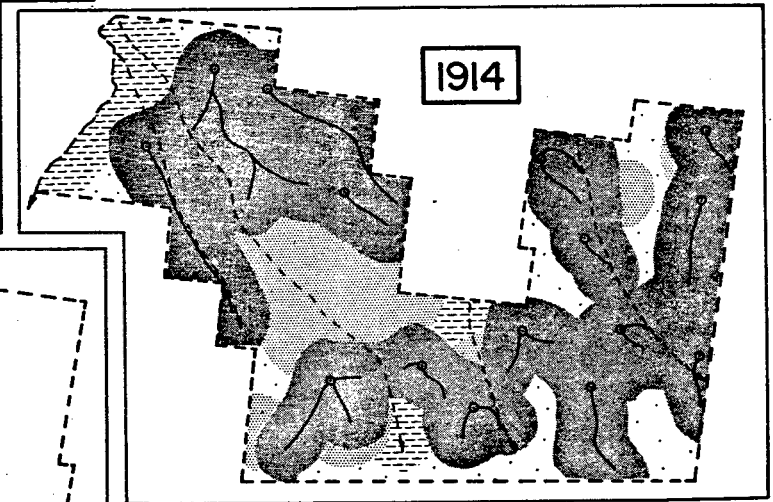
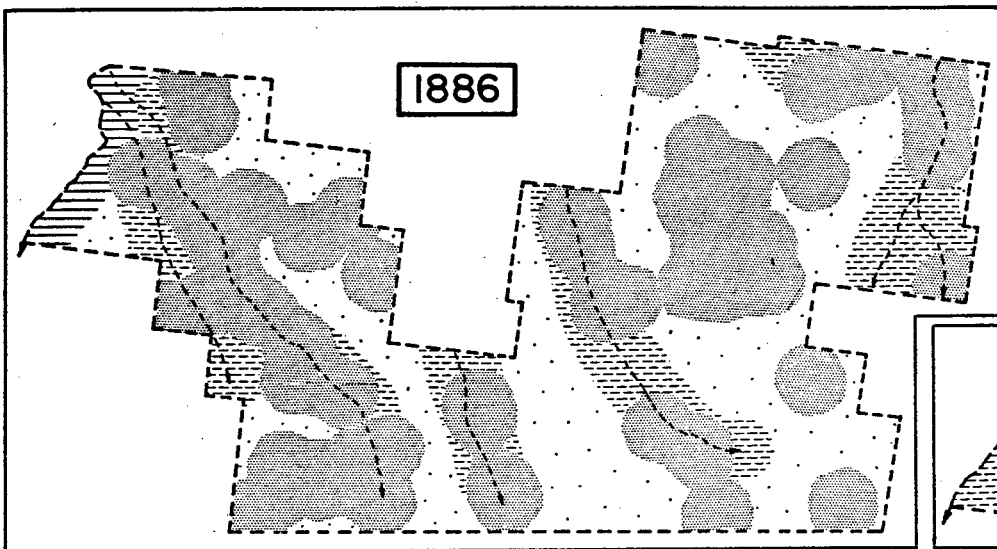








Fig. 22

THURRULGOONIA STATION STOCK WATER SUPPLIES 1886-1914



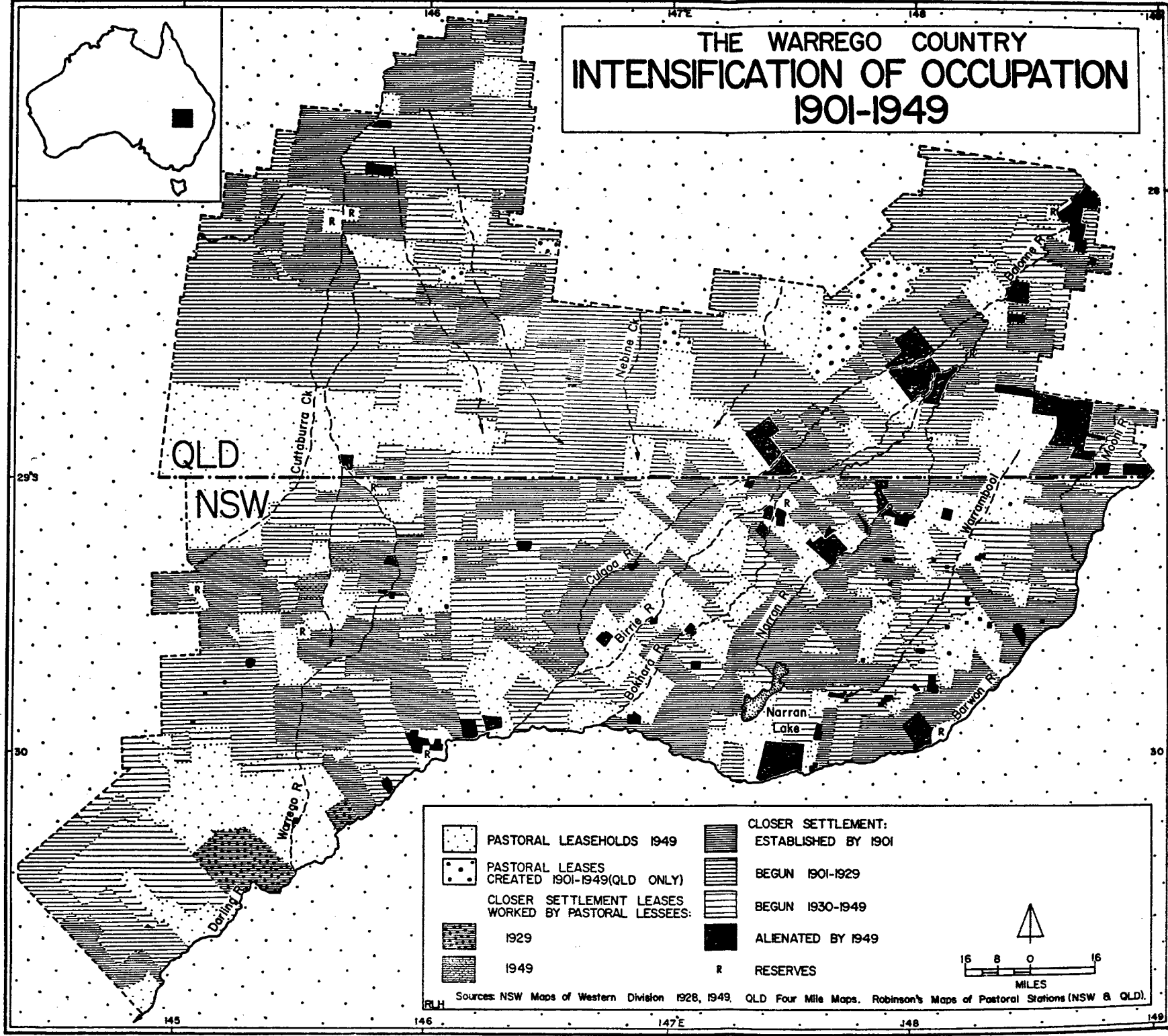
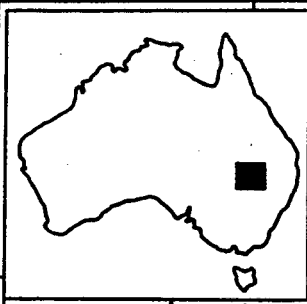
WATERED COUNTRY IS WITHIN
3 MILES OF SUPPLIES

- | | | | |
|---|-------------------|---|-----------------------|
|  | PERMANENTLY |  | BY TANKS & DAMS |
|  | OCCASIONALLY |  | BY ARTESIAN SUPPLIES |
|  | UNWATERED COUNTRY |  | ARTESIAN BORE & DRAIN |



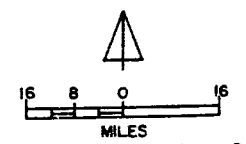
Source: LD, 1690.

THE WARREGO COUNTRY INTENSIFICATION OF OCCUPATION 1901-1949



	PASTORAL LEASEHOLDS 1949		CLOSER SETTLEMENT: ESTABLISHED BY 1901
	PASTORAL LEASES CREATED 1901-1949 (QLD ONLY)		BEGUN 1901-1929
	CLOSER SETTLEMENT LEASES WORKED BY PASTORAL LESSEES: 1929		BEGUN 1930-1949
	1949		ALIENATED BY 1949
			RESERVES

Sources: NSW Maps of Western Division 1928, 1949. QLD Four Mile Maps. Robinson's Maps of Pastoral Stations (NSW & QLD).



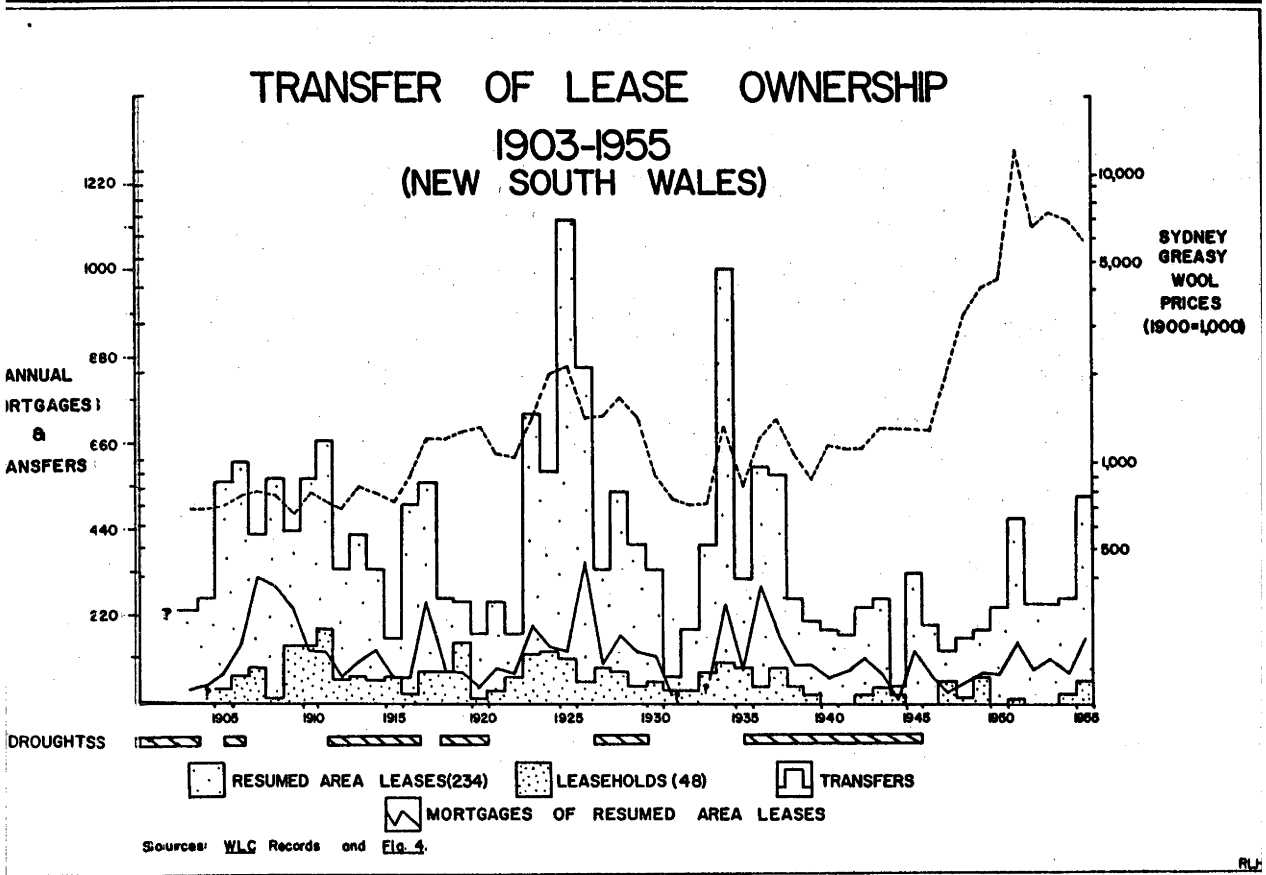


Fig. 25

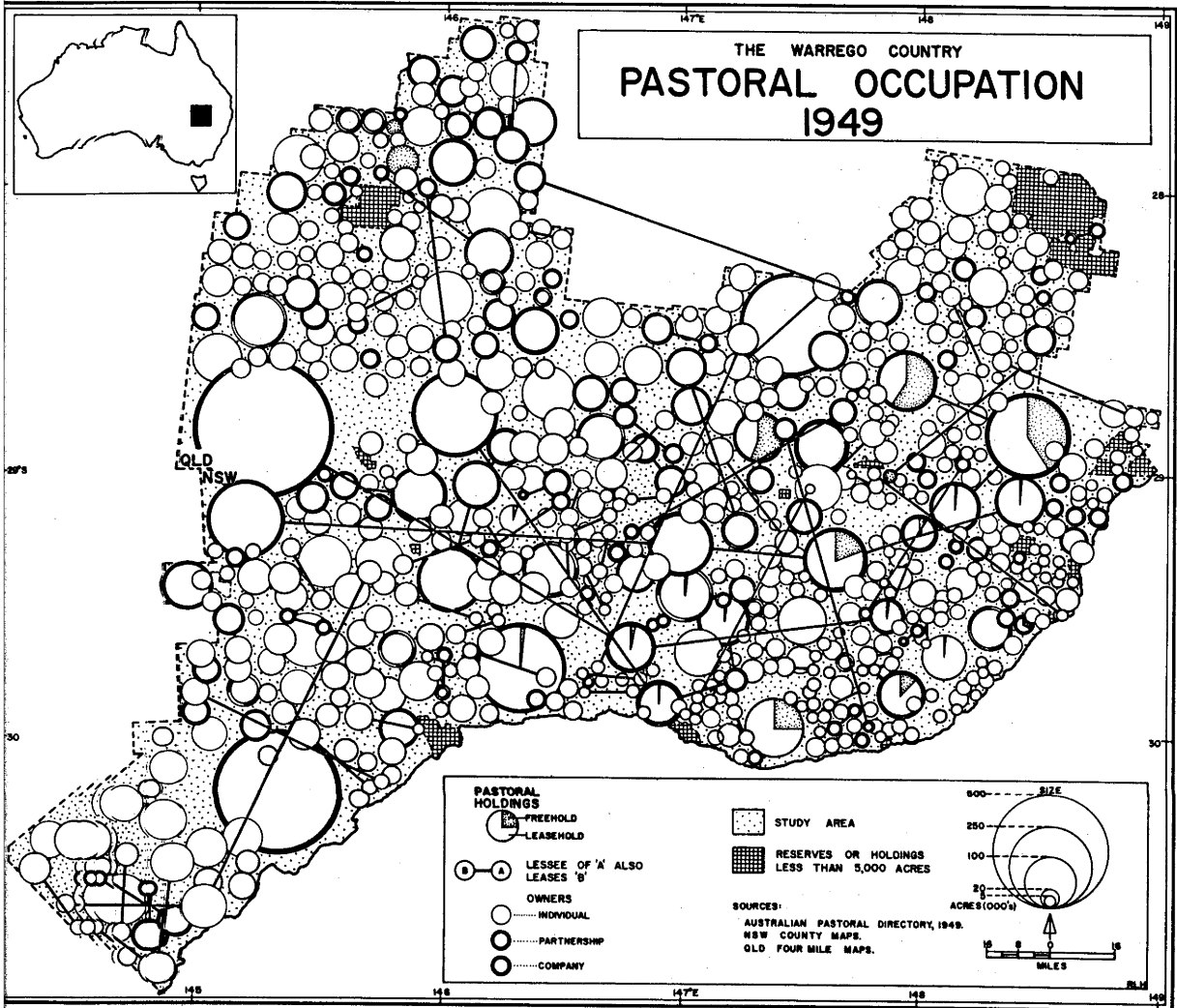


Fig. 26