

References

- Australian Wool Corporation (1985), Annual Report 1984-85 AWC, Melbourne.
- B.A.E. (1985), 'Survey Definitions Quarterly Review of the Rural Economy, 7, (Survey issue), 86-94.
- Beadle, N.C.W. (1981), The vegetation of Australia, Gustav Fischer Verlag, Stuttgart.
- Blythe, M.J. and M.G. Kirby (1984), 'The impact of government policy on land degradation in the rural sector', Paper presented to the 54th ANZAAS Congress, Canberra, May.
- Campbell, K.O. (1982), 'Land Policy' Ch. 11 in, Williams D.B. (ed.) Agriculture in the Australian Economy, Sydney University Press.
- Childs, J.R. (1977), 'An economic and psychological assessment of managerial ability'. Master of Agricultural Science Thesis, University of Melbourne.
- Christian, C.S. (1958), 'The concept of land units and land systems' in, Proceedings of the Ninth Pacific Science Congress, 20, 74-81.
- Commonwealth of Australian (1980), Atlas of Australian Resources, Division of National Mapping, Canberra.
- Condon, R.W. (1982), 'Pastoralism' in Messer, J and G. Mosely (eds.) What future for Australia's arid lands, Australian Conservation Foundation.
- Crouch, B.R. and G. Payne (1983), 'Value orientation of pastoralists in the arid zone of Queensland and its relation to adoption of sheep management practices'. CSIRO, Deniliquin.
- Davidson, B.R. (1981), European farming in Australia. An economic history of Australian farming, Elsevier, Amsterdam.
- Department of Environment (1978), 'A basis for soil conservation policy in Australia'. Commonwealth and State Government collaborative soil conservation Study Report No. 1. AGPS. Canberra.
- Department of Primary Industry (1973), Murwch Shire Handbook, DPI, Charleville.
- Edwards, G.W. and A.S. Watson (1978), 'Agricultural policy' Ch. 4 in Gruen, F.M. (ed.), Surveys in Australian economics, George Allen, Sydney.
- Everett, R.A. and W.J. Edwards (1985), 'Socio-economic pressures on rangelands. A signal for degradation?', in Johnson, R.F. 'Pastoral land tenure and administration', Pastoral Board, Perth.

- Foran, B.D. (1984), 'Central arid woodlands', Ch. 20 in Harrington, G.N. et al Management of Australian rangelands, CSIRO, Melbourne.
- Goodwin, J.A. (1985), 'Land tenure and Administration', in Johnson, R.F. 'Pastoral land tenure and administration in Western Australia', Pastoral Board, Perth.
- Graetz, R.D. and A.D. Wilson (1984), Saltbush and Bluebush, Ch 14 in Harrington, G.N. et al Management of Australia's rangelands, CSIRO, Melbourne.
- Hallam, J. (1983), The untold story, George Allen, Sydney.
- Harrington, G.N. (1982), 'A comparison of the status of the Australian and overseas arid zone', in Messer, J. and G. Mosely, What Future for Australia's arid lands? Australian Conservation Foundation.
- Harrington, G.N. Wilson, A.D. and M.D. Young (1984), Management of Australia's rangelands, CSIRO, Melbourne.
- Hassall and Associates (1982), An economic study of the Western Division of New South Wales, Government Printer, Sydney.
- Heathcote, R.L. (1983), The Arid Lands : their use and abuse, Longman, London.
- Hodgkinson, K.C. (1982), 'Influence of fire on arid land vegetation and some implications for management' in, Messer J. and G. Mosely, 'What future for Australia's arid lands?' Australian Conservation Foundation.
- Holmes, W.E. (1980), Property building in a semi-arid grazing area. A study of south-west Queensland sheep-cattle graziers aspirations for property enlargement, their reasons for desiring more land, and the causes of their past failures to expand. Master of Agricultural Science Thesis, University of Melbourne.
- _____ (1983), 'Variations of profitability of Western Queensland grazing lands'. Queensland Department of Primary Industry, Charleville.
- Howlett and Wonder (1975), 'The influence of season and property characteristics upon the viability of cattle producers in drought prone areas' Bureau of Agricultural Economics, Canberra.
- Jennings, B.G., Ripley, J., Wilcox, D.G., Halleen, D. G and R.F. Johnson. (1979), The present and future pastoral industry of Western Australia, (The Jennings Report) Western Australian Department of Lands, Perth.
- Johns, G.G., Tongway, D.J. and G. Pickup (1984), 'Land and water processes Ch. 3 in, Harrington, G.N. et al, Management of Australia's rangelands, CSIRO, Melbourne.
- Johnson, R.F. (1985), 'Pastoral land tenure and administration in Queensland, New South Wales, South Australia, Northern Territory and Western Australia'. Pastoral Board. Perth.

- Johnson, R.W. and W.H. Burrows (1981), 'Acacia tall woodlands and shrublands', in Groves, R.H. (ed.), The vegetation of Australia, C.U.P., London.
- Johnston, B.G. (1973), A simulation approach to studying the economics of amalgamation in the arid pastoral zone of NSW, Ph. D. Thesis, University of New England, Armidale.
- King, C.J. (1957), 'An outline of closer settlement in New South Wales', Review of Marketing and Agricultural Economics, 25 (3-4), 9-290.
- Land Administration Commission (1982), 112th Annual Report of the Land Administration Commission 1981-82. Government Printer, Brisbane.
- _____ (1984), 114th Annual Report of the Land Administration Commission 1983-84. Government Printer, Brisbane.
- Lange, R.T. (1982), Arid zone landcare : Education and politics in Messer, J. and G. Mosely, What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Lembit, R.S. (1982), 'Future of the Western Division of New South Wales - A conservationist's views' in Messer, J. and G. Mosely, What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Martin, B.F., Wells, P.J. and W. Lanhupuy (1980), Inquiry into Pastoral Land Tenure in the Northern Territory, (The Martin Report). Northern Territory Land Board, Darwin.
- Meinig, D.W. (1963), On the margins of the good earth : the South Australian Wheat Frontier, 1869-1884, John Murray, London.
- Messer, J. and G. Mosely (1982), What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Mills, J.R. (1982a), 'Pastoralism in south west Queensland' in, Messer, J.R. and G. Mosely, What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Mills, D.M.D. (1982b) 'Intergenerational transfer of the pastoral family firm'. Master of Agricultural Science Thesis. University of Queensland.
- Mills, J.R. and C.R. Ahern (1980), Western Arid Region Land Use Study. Queensland Department of Primary Industry, Brisbane.
- Musgrave, W.F. (1982), 'Land Use Economics' in Messer, J. and G. Mosely What future for Australia's Arid Lands?, Australian Conservation Foundation.
- _____ (1983) 'Land degradation, land administration and the economics of pastoralism in the Australian Arid Zone' ICRES Working Paper 1983/13, Centre for Resource and Environmental Studies, Canberra.

- Nalson, J.S. (1982), 'Social structure of Australian agriculture', Ch. 9 in Williams D.B. (ed.) Agriculture in the Australian economy, Sydney University Press.
- New South Wales (1985), Annual Report 1983/84 Department of Lands, Government Printer, Sydney.
- Nicholson, D.A. (1982), 'Pastoralism' in Messer, J. and G. Mosely, What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Noble, J.C., Cunningham, G.M. and W.E. Mulham (1984), 'Rehabilitation of degraded land', in Harrington, G.N. et al, Management of Australia's rangelands, CSIRO, Melbourne.
- Northcote, K.H., Hubble, G.D., Isbell, R.F., Thompsons, C.H. and E. Bettenay (1975), Description of Australian soils, CSIRO, Melbourne.
- Orr, D.M. and W.E. Holmes (1984), 'Mitchell grasslands', Chap. 16 in Harrington, G.N. et al, Management of Australia's rangelands, CSIRO,
- Powell, R.A. (1978), 'Trends in Australian farming and the effects on rural regional economies.' Paper presented to the Third Meeting of the Australian and New Zealand Section, Regional Science Association, Melbourne. December, 1978.
- _____ (1979), 'Stagnating economic growth : its effect on agriculture and regional implications' in Buhr, W. and Friedrich, P. Planning under regional stagnation, Nomos Verlagsgesellschaft, Baden Baden.
- Pressland, A.J. (1984), Productivity and management of Western Queensland's rangelands, Aust. Rangeland Journal (6), 26-45.
- _____ (1985), 'Land degradation in the mulga lands : processes and consequences'. Queensland Agricultural Journal (2), 113-5.
- Queensland (1984), Queensland Year Book, 1984, Government Printer, Brisbane.
- Reeves, G.W., Sekavs, E.K., Abel, D.E. and I.R. Cottingham (1974), 'A computer model simulating extensive beef cattle production systems', Occasional Paper No. 21. Bureau of Agricultural Economics, Canberra.
- Shaw, A.G.L. (1982), 'History and development of Australian Agriculture', Ch.1. in Williams, D.B. (ed.) Agriculture in the Australian economy, Sydney University Press.
- South Australia (1985), South Australian Yearbook, 1984, Government Printer. Adelaide.
- Stanley, R.F. (1982), 'Soils and vegetation : An assessment of current status', in Messer, J. and G. Mosely, G. What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Stoeckel, A. and G. Miller (1982), 'Agriculture in the economy in Williams, D.B. (ed.) Agriculture in the Australian economy, Sydney University Press.

- Vickery, J., Bromell, J.E., Harris, C.R. and A.W. Hutchings (1981), The Administration, Management and Tenure of South Australia's Pastoral Lands, (The Vickery Report) South Australian Department of Lands, Adelaide.
- Western Division Select Committee (1983), First Report of the Joint Select Committee of the Legislative Council and Legislative Assembly to enquire into the Western Division of New South Wales. Government Printer, Sydney.
- _____ (1984a), Second Report
- _____ (1984b), Third Report
- _____ (1984c), Fourth Report
- Wills, I. (1985), 'Agricultural land use, environmental degradation, and alternative property rules', Paper presented at the 29th Conference of the AAES, Armidale, February 1985.
- Wilson, A.D. and G.N. Harrington (1984), 'Grazing ecology and animal production' Chap. 5 in, Harrington, G.N. et al Management of Australia's rangelands, CSIRO, Melbourne.
- Wilson, A.D. and G.J. Tupper (1982), 'Concepts and factors applicable to the measurement of range condition', Journal of Range Management, 35, 684-9.
- Woods, L.E. (1984), Land degradation in Australia, AGPS, Canberra.
- Young, M.D. (1979), Differences between states in arid land administration, CSIRO, Division of Land Resources Management Series No. 4., CSIRO Melbourne.
- _____ (1980), A socio-economic analysis of Australian arid land administration with special reference to western New South Wales. Master of Agricultural Science Thesis, University of Adelaide.
- _____ (1982), 'Relationships between land tenure and arid zone land use', in Messer, J. and G. Mosely What future for Australia's Arid Lands?, Australian Conservation Foundation.
- Young, M.D., Walker, P.A. and K.D. Cocks (1984), 'Distribution of influences on rangeland management', Ch. 22 in, Harrington, G.N. (1984) Management of Australia's rangelands, CSIRO, Melbourne.

Appendix A

The sections of the Principal Acts dealing with issues of land degradation and regeneration (as at 31/12/85).

South Australian Pastoral ActSoil and vegetation

Section 40

No lease shall authorize the lessee to carry on mining operations of any description whatsoever upon any part of his run, but the lessee shall be at liberty to utilise the surface of the land, or any part thereof, for pastoral purposes, or for any other purpose approved by the Minister.

Land clearance

Schedule 1(g)

Not to cut any timber without the licence of the Minister:
Provided that the lessee may without a licence cut dead timber for making improvements on the leased land or for firewood for his own domestic use.

Noxious plants and vermin

Schedule 1(d)

To forthwith commence to destroy and use reasonable means to keep the land free from vermin to the satisfaction of the Minister of the Pastoral Board, during the currency of the lease and any renewal thereof, subject to the provisions of this Act.

Overstocking

Schedule 1(c)

That the lessee will not at any time during the term of the lease, or of any renewal thereof, overstock the land or any part thereof, or keep thereon any excessive number of sheep, cattle, horses, or other stock which in the opinion of the Minister or the Pastoral Board, would have the effect of depreciating the ordinary capacity of the land for depasturing stock.

Section 44a subsection (3)

If the board is of the opinion that the condition of the land included in the lease of any lessee indicates that the lessee is depasturing on the land such a number of stock that the land is likely to be permanently injured thereby the Minister may by notice in writing to the lessee require him -

- (a) within the time specified in the notice to reduce the number of stock so depastured to or by the number specified in the notice;
- (b) within the time specified in the notice to advise the Minister in writing of the time and place at which and the manner in which he proposes to remove the stock from the land;

and

- (c) to comply with conditions specified in the notice as to the removal of the stock or as to the stocking of the land.

Section 44a subsection (4)

If a lessee fails to comply with the terms of a notice given to him pursuant to subsection (3) of this section -

(a) he shall be guilty of an offence and liable to a penalty not exceeding two thousand dollars and a further fifty dollars for each day on which the offence continues;

or

(b) the Minister may forfeit the lease.

Note: Section 44a (3) uses almost exactly the same wording as the Queensland Land Act, Section 233.

Schedule 1(b)

To stock with sheep, cattle, or sheep and cattle combined, so that for every five square kilometres leased there shall be ten head of sheep or two head of cattle, and to keep the land so stocked throughout the term of the lease, and any renewal thereof, and in all cases upon being required to do so to furnish the Minister and the Pastoral Board with true particulars of the number of sheep and cattle with which the leased land is stocked.

Cultivation

Section 44

Every lease granted after the twelfth day of December, 1929, shall contain conditions that no land therein comprised shall be used for agriculture unless the consent of the Minister has been first obtained and that the Minister may re-value the rent of any land so used; but no land shall be deemed to be used for agriculture within the meaning of this section by reason only of the fact that any produce is grown thereon solely for consumption on that land.

Section 45

Notwithstanding any other provision of this Part, no person shall be entitled to be granted a lease of land which in the Minister's opinion is suitable or would be likely, during the term of the lease, to become suitable for agricultural settlement.

Regeneration

Section 42(b)

If -

- (a) upon the expiry of a lease the Minister has permitted the land comprised therein to remain unoccupied for a period with the object of restoring or improving the vegetation thereon; and
- (b) the board recommends that it is expedient, in order to conserve the vegetation on the land that it should be leased for a term or on covenants and conditions different from those prescribed by the other provisions of this Act,

- the Governor may, on the recommendation of the board, grant a lease of the land for such term not exceeding forty-two years and containing such covenants and conditions, whether complying with the other provisions of this Act or not, as the Minister approves on the recommendation of the board.

Queensland Land ActSoil and vegetation

Timber is the property of the Crown on

- (a) all Crown land
- (b) all pastoral leases including stud holdings
- (c) all grazing homestead perpetual leases (Section 147B)

Timber is the property of the lessee on Grazing Homestead Freeholding leases, however the lessee has to pay the market value of any commercial timber on the holding at the time of conversion and it has to be paid during the first 10 years of the term of the least. (Section 147)

Source: Queensland, Department of Lands 1985.

Land clearance

Section 5

"Developmental work" or "Work of development" - Work in the nature of clearing of undergrowth and useless vegetation, lawful destruction of trees, filling, reclamation and any other work which has the effect of increasing or maintaining the carrying capacity or productivity of land or making it suitable for habitation, but which is not an improvement as defined by this Act;

(Development work refers to short term increases in productivity).

Section 5

"Improvements" - Any building, yard, fence, well, bore, reservoir, artificial watercourse or watering-place, apparatus for raising, holding or conveying water, garden, orchard, plantation, cultivation, or any erection, construction or appliance being a fixture for the working or management of a holding or of any stock depastured thereon or for maintaining or increasing the natural capabilities of the land.

("Improvements" refers to long term increases in carrying capacity, which increase the "natural capabilities" of the land.)

Section 250(1)

Permit to destroy trees (1910, s. 198). Without the prior permit in writing of the Commissioner, or contrary to any of the terms and conditions of a permit granted under this section -

- (a) the lessee of an agricultural selection or a perpetual country lease shall not during the first two years of the term of his lease; or
- (b) the lessee of a pastoral lease, grazing homestead perpetual lease or special lease, or the holder of an occupation license or road license shall not at any time, - destroy any tree thereon.

Section 250(9)

Offences. Any lessee or licensee mentioned in subsection (1) of this section who, without a permit granted under this section, or who, contrary to any of the terms and conditions of a permit granted under this section, destroys or causes or allows to be destroyed any tree on the land comprised in his lease or license

shall be guilty of an offence against this Act and liable to a penalty of not less than fifty dollars or more than four hundred dollars.

Section 240

Destruction of trees, etc., deemed an improvement. (1) For the purposes of this Division the destruction of trees or the clearing of undergrowth and useless vegetation or any other developmental work effected not earlier than ten years prior to the expiration, surrender, forfeiture or resumption of a lease or during the purchasing period of a sale under Part VII which has been cancelled, which had the effect of improving or maintaining the carrying capacity or productivity of the land comprised in such lease or sale or making it suitable for habitation, shall be deemed to be an improvement:

Provided that -

- (a) the value of the improvement shall in no case exceed the actual cost of the destruction of trees or clearing or developmental work in question, less a proper deduction for deterioration as at the date on which the value of any such improvement is required to be determined pursuant to the provisions of this Division;
 - (b) the destruction of undergrowth and useless vegetation shall be deemed to have lost its utility for the purposes of this section, to the extent to which after it has been effected, undergrowth or useless vegetation of any species is allowed to establish itself on the land so cleared.
- (2) The provisions of this section do not apply to the destruction of trees effected as part of the treatment of scrub in the course of cultivation.

Noxious plants and vermin

Section 251

Destruction of noxious plants (1910, s. 137A). Every holding shall, by virtue of this section, be subject to a condition for the destruction of noxious plants, and the lessee shall at all times perform that condition.

Section 5

"Destruction" - With reference to noxious plants, entire destruction by extirpation, or eradication, or otherwise and, with reference to trees or scrub, cutting down, felling, ringbarking, pushing over, poisoning, or destroying by any means whatsoever.

"Destroy" shall have a correspondingly inclusive meaning.

Overstocking

Section 233

If the Minister is of opinion that the lessee of any holding is depasturing on the land included in his holding such a number of stock that the land is likely to be permanently injured thereby, the Minister may, by notice in writing, require the lessee, within the time specified in the notice, to reduce the number of stock so depastured to the number specified in the notice and to comply with any other restriction specified in the notice as to the stocking of such land, and if the lessee fails to comply with the terms of the notice the holding shall be liable to be forfeited.

Cultivation

Section 5

"Cultivation" - The sowing of improved pasture species by any means whatever, and the breaking of the soil to prepare a seed bed followed by the planting or sowing of seeds or plants for a crop: The term does not include the breaking of the soil for the natural regeneration of indigenous grasses;

No specific mention is made of cultivation or agriculture on pastoral or GHPL leases.

Regeneration

Section 242

Principles of rent assessment and valuation (1959, s. 36). (1)

- (a) The rent of any leasehold tenure under this Act shall be based on the unimproved value of the land comprised in the holding as at the date of the commencement of the rental period in question.
- (b) The physical state and condition of the land comprised in the holding as at the date of the commencement of the term of the subsisting lease shall be taken into consideration in ascertaining the unimproved value, save to the extent such physical state and condition resulted from improvements as defined by section five of this Act.

The manner in which this (rental) section of the Act has been enforced has penalised those graziers who have attempted to regenerate rangeland.

Northern Territory Crown Lands ActSoil and vegetation

Section 37(a)

A reservation of all timber and timber trees and of all trees producing bark, resin, or valuable substances;

Section 24(1) (d)

A reservation of all timber and timber trees and of all trees producing bark, resin, or valuable substances shall be read as including a power to authorise any person to enter upon the land and to cut or fell any timber or timber trees or trees producing bark, resin, or valuable substances, and to take away any timber, wood, bark, resin, or any such valuable substances and to do all things necessary or convenient for those purposes.

Section 37(h)

A covenant by the lessee that he will not pollute, divert or obstruct any water flowing in a defined natural channel unless by consent of the Minister.

Clearing land

Section 37(e)

A covenant by the lessee that he will not, without the consent of the Minister, cut any timber trees on the leased land except for use on or in connection with the land.

Section 37(f)

A covenant by the lessee that he will not in clearing the land destroy any timber or timber trees or trees producing any valuable bark, resin, or other valuable substances, except as allowed by the regulations.

Noxious weeds and vermin

Section 37(d)

A covenant by the lessee that he will comply with the laws in force relating to the destruction of vermin and noxious weeds.

Overstocking

Section 37(c)

A covenant by the lessee that, subject to any limitations imposed by virtue of the operation of the Soil Conservation and Land Utilisation Ordinance, he will stock the land, and keep the land stocked, in accordance with the provisions of the lease.

Sections 39 and 40 refer to the stocking of leases. Section 39 refers to covenants and conditions related to minimum stocking rates while Section 40 refers to the Land Boards recommendations on reports it is required to make on stock numbers pasture condition and watering places.

Cultivation

Section 40A

AGRICULTURAL DEVELOPMENT ON PASTORAL LEASES

(1) Subject to this section, a lessee under a pastoral lease may use the whole or any part of the leased land for agricultural development.

(2) A lessee under a pastoral lease who desires to use the whole or any part of the leased land for agricultural development shall, before commencing to do so, notify the Minister in writing of his intention, and of the nature of the agricultural development proposed. Penalty: \$2,000

(3) The lessee under a pastoral lease who has notified the Minister in accordance with subsection (2) shall, give further notice to the Minister of;

- (a) any substantial change in the nature of the agricultural development;
- (b) any abandonment of the agricultural development; and
- (c) any recommencement, after a lapse of 2 years or more, of the agricultural development, whether or not the development is of the same nature as that previously carried out or proposed to be carried out.

Penalty: \$2,000

Section 103(2a)

A parcel of land shall not be resumed for cultivation purposes if -

- (a) it is the subject of a lease for agricultural purposes;
or
- (b) it is included in land the subject of a pastoral lease and part of the land the subject of that pastoral lease has been cultivated or developed for cultivation; and the lessee bona fide intends to cultivate or to develop that parcel of land for cultivation.

Regeneration

Section 38AA

REMEDIAL WORK ON PERPETUAL PASTORAL LEASE

- (1) Where, in the opinion of the Minister, the lessee of a perpetual pastoral lease -
 - (a) has failed or neglected to observe or perform any of his obligations, expressed or implied, under this Act or the relevant lease document (including a notice under section 24A(3) (d); or
 - (b) has failed to manage the land in a proper, skilful or husbandlike manner as a result of which the value or utility of the land for pastoral purposes is, or may be, lessened, and that failure or negligence is, or may be in the opinion of the Minister, a danger to life or to property in the locality of the lease, he may cause such work to be undertaken in respect of the land or property as he thinks fit.

Western Australia: Land Act 1933Soil and vegetation

Section 105

(1) Subject to subsection (2) of this section, a pastoral lease shall give no right to the soil, or to the timber, except as may be required for domestic purposes, for the construction of airstrips, roads, buildings, fences, stockyards, or other improvements on the lands so occupied.

Land clearance

Section 107

(1) A pastoral lessee desiring to remove or destroy scrub or other vegetation on the land the subject of his lease for the purpose of promoting growth of indigenous pasture species or for otherwise improving or facilitating the working of his lease shall first obtain permission to do so from the Minister.

(2) Any lessee who, without such permission, removes or destroys scrub or other vegetation on the land the subject of his lease, or causes or knowingly permits or suffers the same to be done, shall render his lease liable to forfeiture.

(3) Any removal or destruction of scrub or other vegetation done in accordance with the permission of the Minister shall not be taken into account in determining...compensation...

Noxious plants and vermin

Responsibilities for noxious weeds and vermin not specifically mentioned but in Section 98(8), it states the lessee shall be liable to "...comply with the requirements of the Agriculture and related Resources Act, 1976 for the control of vermin on or in respect of the land."

Overstocking

Section 103(3)

- (a) Every pastor lease, is liable to forfeiture if the land the subject of that lease is not stocked as the...Board in its opinion considers to be a number sufficient for stocking and keeping stocked that land...
- (b) Where the number of (stock)...exceeds the number that the Board considers that land is reasonably capable of carrying, to an extent that is likely in the opinion of that Board to adversely affect the capacity of that land for the carrying of stock, the Minister may...
 - (i) prohibit the lessee from increasing the number of stock,
 - (ii) require the lessee to reduce the stock...
 - (iii) require the lessee to provide and maintain suitable fencing for...control of grazing...

Section 98

(8a) Where, at the direction of the Minister under section one hundred and three of this Act, a lessee is required to reduce the number of stock depastured on the land comprised in a pastoral lease, the lessee shall be entitled to pay a reduced rent in accordance with the reduced number of stock proportionate to the carrying capacity of the land as assessed for rental purposes.

Cultivation

Section 105

(2) The Minister may on the recommendation of the Board, and upon such terms and conditions as he considers appropriate, approve of the sowing and cultivation by a lessee of non-indigenous pasture species for the purpose of enhancing the stock carrying capability of the lease or for such other purposes as are approved by the Minister.

(3) Any cultivation of non-indigenous pasture species carried out in accordance with subsection (2) of this section shall not be taken into account in determining...compensation...payable on any resumption...

Regeneration/land management

Section 103.4

(c) Shall at all times during the term of his lease use, manage and work the land the subject of his lease as a pastoral property in a proper and husbandlike manner according to the most sound and approved methods of pastoral husbandry in relation to sheep and cattle and to

the management, conservation and regeneration of pasture for pastoral purposes that prevail in the district wherein the land is situated to the intent that the land is utilised to the best advantage as a pastoral property.

(5) Any pastoral lease to which subsection (3) of this section applies is liable to forfeiture if the lessee permits or suffers all or part of the land the subject of that lease to deteriorate to such an extent as to necessitate in the opinion of the Minister a lengthy period of protection from the grazing thereon of stock in order to effect regeneration of pasture, or to be utilised in such manner that the land is likely in the opinion of the Minister to deteriorate to that extent if depasturing of stock is continued thereon.

New South Wales, Western Land Act

Soil and vegetation

Land clearance

Schedule A.(d)

Except for the purpose of building, fencing, or for firewood, not to destroy, or permit the destruction of any timber on the lease without the written consent of the Commissioner.

Noxious plants and vermin

Schedule A.(b)

To take, within a specified time, such steps and measures to destroy rabbits, dogs and other vermin as the Commissioner shall from time to time direct, and to keep the lease free of vermin during the currency of the lease to the satisfaction of the Commissioner.

Schedule A.(c)

To destroy such noxious weeds as the Commissioner may from time to time direct.

Overstocking

Section 18D(v)

A lessee shall not overstock or permit or allow to be overstocked the said land, and the decision of the Commissioner as to what constitutes overstocking shall be final, and the lessee shall comply with any directions of the Commissioner to prevent or discontinue overstocking.

Cultivation

Section 18D(a)

(2) In this section, "cultivate", in relation to land, includes the preparation of land for cultivation and the further cultivation of land previously cultivated.

(3) The lessee under a lease to which this section applies shall not cultivate any part of the land the subject of the lease without first having obtained the written consent of the Commissioner to the cultivation of that part.

(5) The Commissioner shall not give his consent under this section without having first referred the application for consent to the Commissioner of the Soil Conservation Service appointed under the Soil Conservation Act, 1938, for his consideration and advice.

Regeneration

Schedule A.(f)

To foster and cultivate such edible shrubs and plants, and take such steps in this respect as the Minister may from time to time direct.

Section 18D(iv)

A lessee shall, if the Minister so directs, prevent the use by stock of any part of the land for such periods as the Minister considers necessary to permit of natural reseedling and regeneration of vegetation; and for this purpose, the lessee shall erect within the time appointed by the Minister such fencing as the Minister may consider necessary.

Section 35N(1)

The Minister may enter into an agreement with the owner or lessee of land in the Western Division for the purpose of any scheme with respect to the productivity of land in the Western Division.

- (a) pay any costs or expenses incurred -...
- (b) make a loan, upon such security and at such rate of interest and subject to such covenants, conditions and provisions as he may think fit...

Section 35 was inserted in 1979 to formalise arrangements for the Cobar-Byrock Rehabilitation Scheme, and to encourage other regeneration schemes.

Appendix B

Terms of Reference for the five major pastoral land use enquiries
(1979-84)Jennings Report (W.A.)

1. Obtain reliable information on the present financial situation of pastoralists.
2. Provide an assessment of productivity trends, livestock populations, range conditions and effects of drought generally.
3. Recommend action which might be taken to assist pastoralists in difficulty.
4. Report these findings by October 31, 1977.

Martin Report (N.T.)

To enquire into the most appropriate form of tenure for Northern Territory pastoral land having regard to:

- . the present system;
- . the history of pastoral land holding in the Northern Territory;
- . the needs of Aborigines and the provisions of the Aboriginal Land Rights (Northern Territory) Act of the Commonwealth;
- . the views of the Government of the Northern Territory;
- . the needs of the Northern Territory Community;
- . the needs of the beef industry;
- . the system of pastoral land holding elsewhere in Australia; and
- . any other matters which it sees fit to take into account.

Vickery Report (S.A.)

"to review and recommend to the Minister of Lands any appropriate statutory or administrative amendments for the more effective administration of the land tenure system and of the Dog Fence in that area of the State at present subject to the provisions of the Pastoral Act, and in particular:

- (a) to consult with relevant authorities and industry and community groups;
- (b) to have regard to the work done by the Arid Zone Management Investigation Group established by the Land Resource Management Standing Committee;
- (c) to ensure that its recommendations have regard to the need to maintain a balance between the economic stability and well-being of the industries and communities established in the area and relevant contemporary matters of public interest."

Hassall Report (N.S.W.)

The goals of the study were fourfold.

First, to define the economic position of lessees in the western Division in each of three years over a range of central carrying capacities and Landscape categories.

Second, to review future prospects of viability using the base line financial data collected and a five year projection of costs of production and commodity prices.

Third, to collect a wide range of production, attitudinal and sociological data to assist in interpretation of the financial information and to assess the opinions and problems perceived by the lessees.

Fourth, to make recommendations based on the analysis of data in the above three areas.

Western Division Select Committee

to enquire into and report upon -

- (a) Land use in the Western Division including relevant historical matters, land management, land tenure and administration, also having regard to the management and administration of arid lands elsewhere in Australia.
- (b) Matters relating to the environment and strategies for the conservation and utilisation of natural resources within the Division.
- (c) The needs of the community generally, and the relevance and effectiveness of government structures and schemes of assistance within the Division.

Appendix C

Composition of the five major pastoral land use enquiries (1979-84)

The five people appointed to the Jennings inquiry were;

B.G. Jennings (Banker), R.F. Johnson (Chief Pastoral Inspector), D.G. Halleen (Pastoral Supervisor, Elders-GM), D.G. Wilcox (Department of Agriculture), J. Ripley (Economist, Department of Agriculture).

The study was initiated in September 1977 and reported in April 1979. The public forums were limited to those directly involved in the pastoral industry and the source of data was a mail questionnaire, some follow-up interviews and secondary data from the Bureau of Agricultural Economics and the Australian Bureau of Statistics.

The Martin Committee consisted of B.F. Martin (Solicitor), P.J. Wells (Surveyor General), W. Lanhupuy, (an Aboriginal, and Manager of the Northern Land Council). Consultant to the Committee was M.D. Young (CSIRO).

The Committee was appointed in February, 1980 and reported in October, 1980. It sought public submissions and conducted hearings in Alice Springs, Katherine and Darwin. Data was drawn from the submissions received.

The members of the Vickery inquiry were F.J. Vickery and G.N. Drewien (Department of Lands), J.E. Bromell (Department of Agriculture), C.R. Harris (Department of Environment) and A.W. Hutchings (Department of Urban and Regional Affairs). Consultant to the Committee was M.D. Young (CSIRO).

The inquiry was held over the Christmas period (1980) under considerable pressure, and was limited to consulting relevant authorities and industry and community groups. Data was drawn from public submissions and various published papers.

The Hassall study was carried out by staff of Hassall and Associates Pty Ltd with assistance from M.D. Young (CSIRO), L. Davies and B. Benson of the Department of Agriculture. The Report was presented in April 1982. Data came from two questionnaires sent to 141 properties. The first collected basically attitudinal data, the second financial data.

The Western Division Select Committee comprised ten politicians from both sides of both New South Wales House of Parliament; Hon. M.C. Fisher, J.E. Akister, W.M. Beckroge, Hon. J.J. Doohan, R.B. Duncan, W.J.P. McCarthy, J.J. Schipp, Hon. Sir A. Solomons, A.G. Stewart, Hon. B.H. Vaughan. The Committee was assisted by M.D. Young (CSIRO) and Dr R. Woodward.

The Committee was established in December 1981, producing four volumes of reports before concluding in 1984. The Committee received 287 submissions, examined 291 witnesses and travelled extensively in the Western Division.

Appendix D

Pastoral land administration structures recommended by the Jennings, Vickery and WDSC Reports.

A. Jenning Report: Western Australia

MINISTERIAL PORTFOLIO: LANDS

Pastoral Board: Surveyor General (Chairman)
 Director of the Department of Agriculture
 Administrator of the Pastoral Board
 Chief Pastoral Inspector
 Principal Rangeland Officer of the Department
 of Agriculture
 Two Pastoralists

TOTAL = SEVEN PEOPLE

To advise the Pastoral Board there would be a series of Pastoral Zone Committees, an Arid Lands Advisory Committee and the provision of technical assistance from the Department of Agriculture.

Pastoral Zone Committees. The structure of these committees was not canvassed but they were implicitly composed entirely of pastoralists.

Arid Lands Advisory Committee. The structure of this committee was to be determined by a (future) Inter-departmental Working Group but was supposed to "draw together the views" of pastoralists, environmentalists, range managers, wildlife and flora bodies, miners and tourists.

B. Vickery Report: South AustraliaMINISTERIAL PORTFOLIO: LANDSArid Lands Authority. (to replace the Pastoral Board)

The Authority was to consist of a panel of government, industry, land user and public interest groups and that the Chairman of this Authority selects from among the members an appropriate group for making recommendations and decisions. The quorum for a meeting was also to be only two people to enable decisions to be made in the field

Chairman

Deputy Chairman

Two pastoralists

a public servant experienced in land use planning

a public servant experienced in pest control and

the animal industry

a public servant experienced in environmental matters

a person from the tourism and recreation industry

a person representing the broader conservation interests of society

any other appropriate representatives

 TOTAL = AT LEAST NINE PEOPLE
C. Western Division Select Committee Report: New South WalesMINISTERIAL PORTFOLIO: LANDSWestern Lands Management Authority. (to replace the Western Lands Commission)

The Authority would be under the control of a single Director, who would be assisted by an Assistant Director, the Secretary of the Authority and two Senior Rangeland Officers.

Western Lands Advisory Council

Chairman: A resident pastoral lessee

Director of the Western Lands Management
Authority

Regional Directors of:

Agriculture

Soil Conservation Service

National Parks and Wildlife Service

Environment and Planning

Forestry Commission

Water Resources Commission

State Pollution Control Commission

Mineral Resources

Leisure, Sport and Tourism

Five resident pastoral lessees (one from each
administrative zone)

Representative from the Regional Aboriginal
Council

TOTAL = SEVENTEEN PEOPLE

This Council would co-ordinate activities between government agencies in land matters in the Western Division.

The Western Lands Management Authority would also be subject to scrutiny by a Standing Committee or Natural Resources of the New South Wales Parliament.

Input Data required to run the simulation model used in this study.

ANIMAL PRODUCTION

1. Type of livestock (for example, sheep or cattle).
2. Initial herd/flock composition. There are eleven possible age groups of females (varying from those of less than one year of age to those older than 11 years) and five groups of males (varying from those less than one year of age to those older than four years).
3. Master herd/flock compositions specifies the preferred age/sex structure for the herd/flock when the property is forced to sell stock because of overstocking.
4. Survival rates for each age group of male and female stock in drought and normal years.
5. The preferred order of sales and purchases for each age group of male and female stock.
6. The safe and drought grazing capacities for the property.
7. The rates of destocking in drought years and restocking in good years.
8. Maximum number of stock to be purchased in one year.
9. Branding/marking rates for average and drought years and adjustments for various seasonal conditions.

10. The age/sex groups to be culled as excess young stock and cast for age as old stock and the rates of culling and casting.
11. The minimum female to total herd/flock ratio.
12. The wool cut with adjustments for various seasonal conditions.

ECONOMIC

1. Initial cash balance at bank and (real) interest rate received.
2. Initial capital (excluding stock and land).
3. Plant and building to total capital ratio.
4. Upper loan limit and (real) interest rate payable on loan.
5. Maximum overdraft to total asset ratio.
6. Rate of capital depreciation, the accumulated capital depreciation limit and the amount of unpaid depreciation.
7. Real discount rate (for calculating net present values).
8. Minimum equity allowed in property.
9. Fixed costs.
10. Variable costs per head of stock for average and drought years.
11. The lowest annual living allowance paid to the family.
12. Consumption coefficient. That percentage of any positive annual cash pool paid to the family.

13. The prices of all age/sex groups of livestock sold and purchased, and for wool sold, with price adjustments for various seasonal conditions.
14. Those income tax rates applicable to two person family partnerships in rural enterprises, current at 30 June 1985.

SEASONAL CONDITIONS

1. The three seasons prior to the first year of the model.
2. The number of years over which the model is to be run.
3. The type of season (drought, average, good) experienced in each of those years.

Appendix F

Description of the 'average' property in the Charleville area

The data contained in Table A was used to represent the 'average' (10,000 sheep equivalent, two man unit) pastoral enterprise in the Charleville Area and described in the study model as the A10 property.

Most of the data was supplied by staff of the DPI Charleville Pastoral Laboratory.

The characteristics of the property are as follows;

- (a) mostly mulga country with small areas of Mitchell grass country.
- (b) a wool growing enterprise, with income from sheep production being at least four times the income from cattle production.
- (c) range condition is described as 'fair'. This definition assumes that a change in management to lower stocking rates would reduce total costs, increase woolcuts and lamb marking percentages and raise family and farm income.

Table A

The 'Average' Mulga, Sheep Property in the Charleville AreaSheep equivalents

normal years		10,000
drought 1st year	8,000	
2nd consecutive year	6,400	
3rd consecutive year	5,600	
4th consecutive year	4,000	
good years 1st year		11,000
2nd consecutive good year		12,000
3rd consecutive good year		15,000

Flock composition (average)

Lambs, (sheep less than one year old)	= 20%
Ewes	= 44%
Wethers	= 36%

Ewes

1-2 y.o. (9%), 2-3 y.o. (8%), 3-4 y.o. (3%) 4-5 y.o. (7%),
5-6 y.o. (6%), 6-7 y.o. (4%), 7-8 y.o. (2%)

Wethers (including rams)

1-2 y.o. (10%), 2-3 y.o. (9%), 3-4 y.o. (9%) 4-5 y.o. (8%)

Table A (continued)

SurvivalLambs Birth to 3 months (lamb marking)

normal years	= 55% survival
drought years	= 35%
good years	= 82%
3 months to 1 y.o. (all seasons)	= 90%
<u>Adult sheep</u> normal year	= 90%
drought year	= 84%
good year	= 95%

Sheep sales

Order of sheep sales Oldest to youngest wethers and wether lambs,
then oldest to youngest ewes and ewe lambs.

Prices (\$/head)

normal years: all lambs less than 1 y.o.	= \$ 7
all 1-2 y.o. sheep	= \$21
2-4 y.o. ewes	= \$30
4-5 y.o. ewes,	
2-4 y.o. wethers	= \$25
5-6 y.o. ewes,	
4-5 y.o. wethers	= \$20
6-7 y.o. ewes	= \$15
7-8 y.o. ewes	= \$10
cull hoggets	= \$15

Table A (continued)

Order of sheep purchases 2-3 y.o. ewes, 3-4 y.o. ewes,
4-5 y.o. ewes, 1-2 y.o. ewes

Greasy wool production in normal years

lambs (less than one year)	= 2.0 kg/head
ewes	= 4.5
wethers	= 5.2
good years	= 115% of normal production
first drought	= 90% of normal
second and subsequent drought years	= 85% of normal

Wool price (cents/kg greasy) = 270

Finance

Value of property (including stock)	
@ \$60/sheep	= \$600,000
Initial capital excluding stock and land	= \$400,000
Initial cash at bank	= \$ 10,000
Initial equity	= 100%
Capital depreciation (actual)	= 2%
Accumulated capital depreciation limit	= 75%
(Capital stocks are allowed to run down by 75%, if necessary)	
Initial unpaid depreciation	= zero

Table A (continued)

Finance (continued)

(Real) discount rate	=	3%
(Real) interest rate on deposits	=	5%
(Real) interest rate on overdraft	=	9%
Upper loan limit (50% of total capital)	=	\$300,000
Fixed costs	=	\$ 25,000
Variable costs (normal, good years)	=	\$ 4.30/sheep
Variable costs (droughts)	=	\$ 7.74/sheep
Annual living allowance to family	=	\$ 4,000
Consumption coefficient (% of any annual positive cash pool paid to family)	=	50
Taxable income		
0-\$ 9,000	=	NO TAX PAID
9-\$39,000	=	\$11,700 plus 30% of every dollar over \$9,000
39-\$71,600	=	\$32,936 plus 46% of every dollar over \$39,000
over \$71,600	=	\$48,000 plus 60% of every dollar extra.