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The adoption of sustainable grazing land management practices in the Burdekin Rangelands of northern Australia

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Introduction The Burdekin Rangelands is a diverse area of semi-arid eucalypt and acacia savannah covering six million hectares in north eastern Australia . The major land use is cattle grazing on 220 commercial cattle properties (average size 26 ,000ha) each carrying on average 2600 adult equivalents .

Production was the focus of the beef industry and support agencies prior to the mid 1980's . Widespread land degradation during the 1980's led to a grassroots realisation that environmental impacts , including water quality had to be addressed for the beef industry to attain sustainability . The formation of a series of producer based landcare groups and the support of several Queensland and Australian government research and extension agencies led to a greater awareness and adoption of sound grazing land management practices (Shepherd 2005)

Extension programs In 1991 a needs assessment highlighted woody weeds , pasture degradation , soil erosion , drought management and marketing of cattle as being the major issues that beef producers felt they could do something about to improve their beef production enterprises . A range of extension activities were undertaken including :-

- Documentation of best practice information by groups of graziers (Kernot 1998) .
- Smart Manager , a follow-up project documented herd performance and identified improved management options at the individual property level (Kernot 2004) .
- A range of risk and drought management activities including climate workshops , pasture monitoring and pasture budgeting , alternative industries seminars , case studies on managing risk and a stocking rate demonstration project using breeder cattle .
- Holistic property management planning based on the South Australian model of Heinjus & Read (1993) .
- Grazing land management training to present research results in a whole property context (Chilcott *et al* 2003)

Several government funding assistance programs accelerated the construction of infrastructure which allowed graziers to adopt improved grazing land management practices .

Adoption of practices The change from 1994 to 2004 in the adoption of a range of practices is shown in Table 1 .

Table 1 Changes in the adoption of a range of practices by graziers in the Burdekin Rangelands (Shepherd & Reid 2007) .

Practice	1994 (%)	2004 (%)
Graziers objectively monitoring range condition	12	28
Graziers using wet season pasture spelling	51	85
Graziers with >25% of riparian zone fenced to control grazing	17	59
Graziers performing >10mandays/year on woody weed management	56	68
Graziers with alternative on-property income	13	43

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