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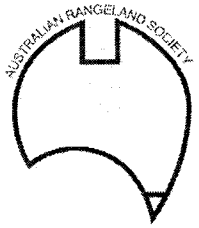

The Australian Rangeland Society

UNITED GRAZIERS' ASSOCIATION OF QUEENSLAND CENTENARY LAND MANAGEMENT AND CONSERVATION AWARD 1990

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ABSTRACT

A Land Management and Conservation Award was presented in April 1990 to the Queensland grazier best demonstrating sustainable land use, assessed on criteria of:

- land use for sustainable production;
- management techniques;
- property planning; and
- habitat management.

The United Graziers' Association of Queensland (UGA), a voluntary union of graziers, conducted the Award.

This paper discusses the Award and how it was structured, outlining techniques employed by the six regional winners in achieving conservative management practices on their individual properties.

Conclusions are drawn on common management techniques employed by the regional winners. The paper indicates how the information derived from the Award can be used to build on the community interest that it created.

INTRODUCTION

The United Graziers' Association represents cattle, sheep and goat producers in Queensland. It is the only Association representing sheep and goat producers and is the larger of two organisations representing the State's cattle producers. The UGA conducted a Centenary Land Management and Conservation Award to coincide with its centenary in 1990. The Award was to demonstrate publicly and positively the conservative, practical and economically viable land conservation and livestock practices currently being used by graziers. It was recognised that graziers need to demonstrate these practices on a district basis.

A follow-up program is being developed, aimed at informing other graziers, the urban community and decision-makers of these practices.

THE AWARD

A working party consisting of UGA representatives, officers of the Queensland Department of Primary Industries, the then Department of Environment and Conservation and other producer organisations (Cattlemen's Union and Queensland Graingrowers' Association) refined the original UGA concept of the Award. Sponsorship from government and business was obtained.

Assessment criteria for the competition

Criteria were framed to cover all aspects of conservative property management. They were:

1. Land use for sustainable production - covering the use of natural resources (soil, grasses, water, etc) property improvements to enhance production (paddock layout, location of infrastructure, etc) and use of natural vegetation for shade, shelter, visual appeal, etc.

2. Management techniques - considering optimum stocking rates, livestock management techniques (disease control, fertility, breeding programs, etc) prevention and control of pests, pasture management, erosion control and land rehabilitation.

3. Property planning for management and long-term property development - identifying problems and solutions to enhance opportunities for sustainable production including planning for drought, fire, etc and developing strategies for clearing and regrowth control but excluding assessment of financial viability.

4. Habitat management and retention - considering the management of wildlife and associated corridors and habitat areas, maintenance of unusual native plants and animals including kangaroos and pest species management.

Entries were restricted to any property in Queensland which the entrant considered to be a viable living area and which derived the majority of its income from grazing. The UGA's desire was to encourage graziers on both small and larger properties to enter, recognising that those on smaller properties might be undertaking practices to achieve a standard of living acceptable to them but not to others. Entrants were encouraged to submit either written reports, audio or video cassettes, or simply maps with supporting notes on the assumption that not all graziers would feel comfortable submitting a detailed written entry.

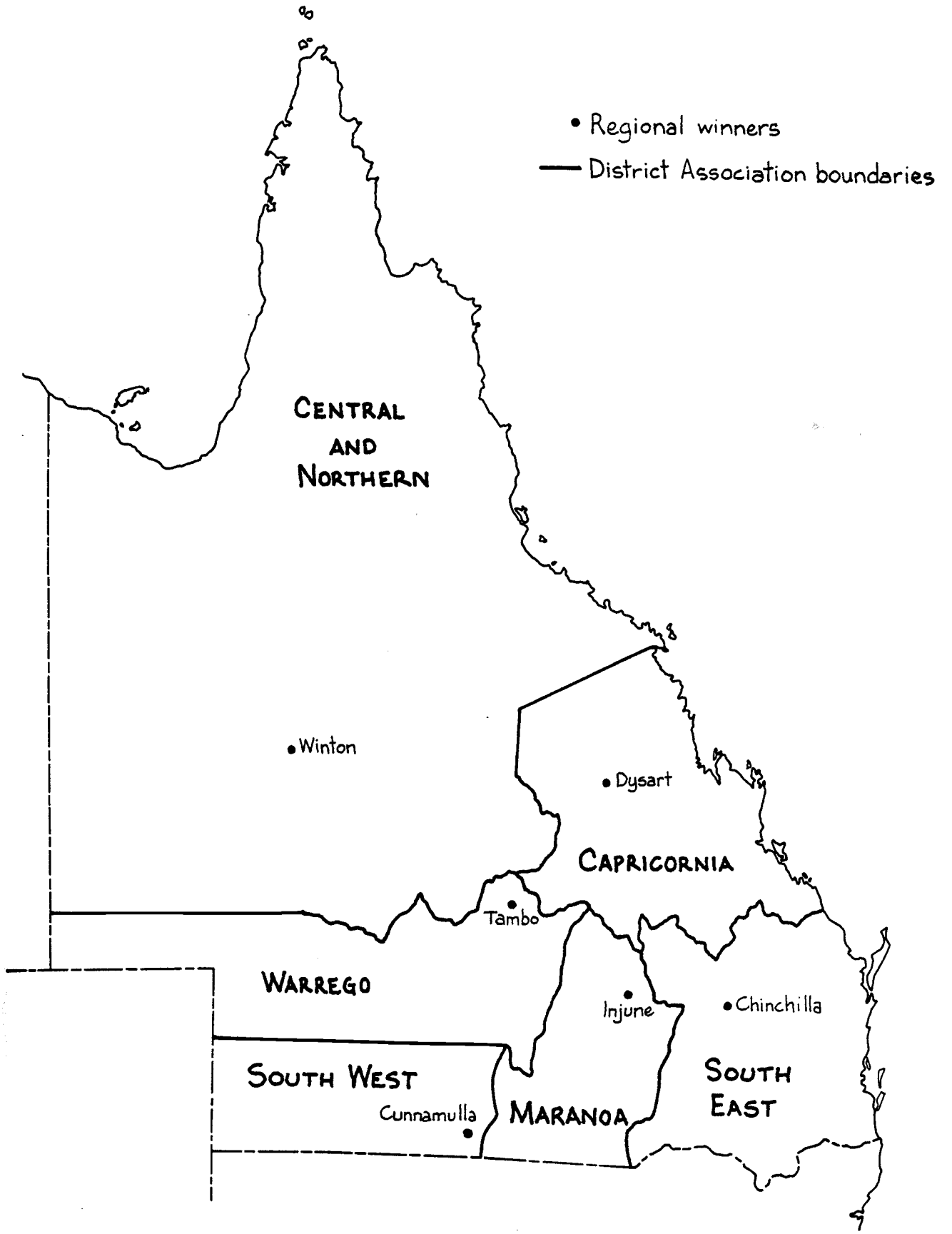
Initial judging was carried out within boundaries of the UGA's six district associations (Map) by local judging panels consisting of a UGA representative, Queensland Department of Primary Industries (QDPI) officer(s), and a representative of either the Cattlemen's Union or Queensland Graingrowers' Association. Judging panels were each provided with a checklist to facilitate judging consistency. A statewide judging panel, consisting of Mr Mac Drysdale (then President, UGA), Dr Brian Roberts (Head, Land Use Study Centre, University College of Southern Queensland) and Mr Don Henry (Director, World Wildlife Fund (Australia)) assessed six regional winners to determine a statewide winner.

REGIONAL WINNERS

Award regional winners are located in the districts of Winton, north-west of Longreach (statewide winner), of Tambo, north of Charleville, of Cunnamulla, of Dysart, north-west of Rockhampton, of Injune, north of Roma and Chinchilla, north-west of Toowoomba.

Notable features of regional winners

Winton. The property is approximately 24,000 ha, considered marginal in size for that area. It normally carries approximately 7,000 sheep and 1,000 head of cattle.



United Graziers Association of Queensland Centenary Land Management and Conservation Award

Topography varies from highly productive Mitchell grass 'downs' to rocky spinifex jump-ups. The owner concentrated his grazing enterprise on the better soils, leaving range areas in their natural state as an infrequently used drought reserve and wildlife habitat.

Approximately 25 years ago the owner commenced a water-damming and ponding system, based on the 'keyline principle'. He has gradually developed a system where water from the ranges is collected (using earth banks) and channelled to holding dams. He noted that water held against the banks for a time increases pasture growth on clay pans which occur on the property. Buffel grass was planted on these areas, increasing carrying capacity.

Water is thus held in strategically located dams and used at critical times to irrigate improved pasture in small paddocks (totalling approximately 80 ha). Livestock can be placed on those pastures for 'finishing', or purchased at low prices and fattened for resale at higher prices.

Further dams are planned and other improved pasture areas will be developed to take advantage of the water resource. The owner says, "Water has been controlled for irrigation and soil development, growth of trees and pasture, stock watering, rehabilitation of degraded areas, visual appeal and watercourse protection."

Other noteworthy property management aspects:

- Paddocks, fences, watering points and tracks have been laid out for ease of maintenance and to suit topography, thereby reducing soil erosion.

- Noxious weeds and tree regrowth have been controlled as necessary.

- The owners operate a 'sideline' tourist enterprise, actively promoting the land ethic they have developed. Practical results of this ethic are explained to visitors.

Tambo. One of a family group, this property specialises in breeding and fattening, while others breed commercial cows and bulls and finish cattle on pasture and crop, or in feedlots. The properties are geographically scattered, allowing cattle movement between properties in times of drought or to suit other stock management programs and market requirements.

Sandstone escarpments and ranges occur on the property. Soils vary, from highly fertile to poorer sandy soils. Property management to date has focussed on the most fertile soils. A program of clearing and regrowth control is underway with the aim of blade-ploughing the most productive land, initially, and planting with crops and improved pastures to improve carrying capacity and allow cattle fattening.

Legumes are being tested and, together with native pasture, will have a role in maintaining fertility and better quality feed. Blade-ploughing is used, where possible, to control erosion by enhancing water infiltration. Contour banks are planned.

During development, natural vegetation is specifically retained in shade clumps, particularly around watering points, along watercourses and on stony ridges and ranges.

Shade clumps are preferred to shade lines because of difficulties in stock handling. Native shrubs are recognised as being useful in livestock foraging.

Dams have been constructed and bores sunk. These are located strategically to avoid heavy livestock concentrations and minimise walking distance to water. Paddocks are planned to include a percentage of both productive and less productive soils.

Livestock production concentrates on meeting market specifications. Maximum conservative stocking rates have been identified for the different land types, according to varying seasonal conditions. An assessment of likely returns and probability of erosion governs the extent of development of particular land types. Livestock management concentrates on using trap yards located at watering points for any cattle work.

The owner says, "My plan is to improve inferior country with established (improved) pastures so stock can last longer because of the higher protein of the introduced pastures. The same number of stock can then be spread over a larger improved area."

Cunnamulla. Originally, this block was excised from a larger property for 'closer settlement'. It was considered at the time to be the 'worst' of the blocks in the district and too small to be viable. The owner adopted frugal living standards and innovative techniques to make it a small but viable living area for his family.

The underdeveloped state of the property was used to advantage by recognising all property characteristics when preparing an initial property plan. The new owner, who had tried to 'draw a block' for 25 years, assessed the productive capability of his soils and the available water supply as his major considerations.

Water sources for the property are artesian supply, flood water and rainfall. Soils were identified as highly productive alluvial flood plains, clay pans or 'scalds' and sandhills.

The owner noted that levee banks caused water to 'stand' on clay pans and that regrowth of native pasture occurred there, so he commenced a program of levee bank construction. He also subdivided the 11,800 ha property into 30 main paddocks and 14 lanes and holding paddocks.

The levee bank system was developed to allow controlled flooding of certain areas of the property and to retard rainfall runoff. Records showed that there was a 75% chance of an annual flood of the Warrego River, so valves were placed to allow flood waters onto the property. Two main check banks raise the water level so that water can be directed onto some of the higher, less productive soils. As a result, approximately 30% of the property can be flooded.

This system of levee banks and trapped water has been used to flood-irrigate the clay pan areas in particular. It has promoted increased pasture growth on otherwise unproductive or less productive soils, resulting in a several-fold increase in the natural carrying capacity of the land. The owners are able to use flood water to grow pasture when local drought conditions apply. This system increases subsoil moisture, with resultant rapid pasture growth when rain falls.

Various grasses and legumes have been tested. Buffel grass has been the most successful, but grazing relies primarily on native grasses.

The owners recognised that with the small size of their block, they must achieve maximum production per animal. They consider that the accepted district standard carrying capacity is too high and have adopted a lower property standard. Originally, good quality sheep were purchased. Emphasis is placed on maintaining and improving that base with the purchase of particular rams to meet their 'ideal' requirements. Few sheep have been brought onto the property since that initial stock purchase.

Other notable aspects:

- Although weed seed comes onto the property with flood water, the owners have managed, through diligence, to keep it relatively weed-free.

- Flooding has caused increased eucalypt seedling regrowth, which is regularly controlled. Large scale clearing of vegetation is not considered necessary and adequate wildlife habitat is retained.

- A rotational grazing program operates to spell paddocks, allowing seeding and pasture regeneration.

- Surplus sheep are sold early in the financial year, making the major portion of income available for accurate budgeting for the remainder of the year.

- There are 12 sets of stock yards, two being fully equipped for all livestock management activities.

- In summary, the property development program emphasises not increased stock numbers, but improved returns from existing stock numbers. The owners' major initiative is determining the most efficient and effective use of all available water.

Injune. Located in the sandstone Carnarvon Range, this property has a varied landscape. The ranges provide natural shelter for livestock, wildlife habitat (because of their largely natural state) and picturesque scenery. Belts of natural vegetation 20-60 m wide have been retained around the property, along creeks and rivers for watercourse protection and as stock shelter around dams and stockyards. Fodder plant species have been retained and also planted as a drought reserve for stock.

The property has been subdivided into 36 paddocks, with two main and seven minor sets of stockyards, to minimise handling and stress on cattle. Each paddock has a major dam and minor dams to ensure that cattle need walk no more than 800-1,000 m to water.

Silver-leafed ironbark has been largely cleared to reduce cattle deaths associated with ingestion of sawfly larvae. This has resulted in a selective clearing program leaving fodder trees, shade trees and trees of commercial value. Regrowth of silver-leafed ironbark is allowed for up to 12 years to encourage nutrient cycling, prior to further control. The sandstone soils are recognised as being highly erodible and water spreading is considered a high priority.

Improved pasture species were introduced, a water pondage system developed and the owners are seeking a legume to suit their requirements.

Optimum stocking rate has been identified as 80% of carrying capacity. Pasture condition is regularly monitored and stock numbers are modified. Phosphate deficiency has been identified and supplementation used to advantage as a mustering tool. Other livestock management practices include a disease control program, use of growth promotants on steers and bullocks and a culling program to remove both cows not rearing a healthy calf annually and stock with poor temperament.

A cross-breeding program testing many breeds has been undertaken to improve herd characteristics. The owners have introduced a new breed of cattle into Australia, known as Bi-Aus-Beef, which they believe will give additional survival traits to their herds.

Other points of interest:

- Fire is a major management tool.

- Spear traps are used around dams for semi-automatic mustering and ease of cattle handling in difficult terrain.

- The owners are loathe to use chemical control on weeds or feral animals.

- Vehicles traverse the whole property road width to avoid erosion caused by wheel-ruts.

- Opportunity feedlots and 'early weaning' are drought strategies. Grain, hay and other supplements are purchased regularly as drought feed.

- Wildlife corridors are retained and no further development occurs without considering wildlife conservation and ecological balance.

- The owners are keen naturalists.

Dysart. The present owners purchased the undeveloped property 20 years ago and sought considerable government advice while preparing their development program. Their aim was to develop the land responsibly and within its capability.

The property has been divided into 13 paddocks, with one set of centrally located stockyards. Ample vegetation, acting as shelter for livestock and wildlife habitat, was retained in all paddocks. Most watering points are fenced off for ease of mustering. Over 200 km of contour banks have been constructed on this 5,500 ha property.

Shelter belts of retained natural vegetation were surveyed through the property to ensure that water flow from contour banks was not impeded. Natural vegetation was left along all watercourses and drainage lines to help prevent erosion. Areas of natural vegetation are protected by firebreaks to ensure that they are not inadvertently destroyed by wildfire. The owners believe that this mosaic of vegetation has ensured that no species of wildlife or native plant has disappeared from the property.

To control the continued regrowth of native tree species, some paddocks are cultivated and share-farmed for 10-12 years and then sown to improved pasture. Paddocks already sown to pasture are spelled for three months annually while cattle graze crop stubble. This has been effective in

allowing pasture species to seed, controlling cattle ticks and minimising chemical use generally.

Specific markets have been identified for livestock production and cattle are produced to particular specifications. Breeding cows are culled annually to remove those which do not produce a calf or demonstrate calf-rearing ability and those with an unsatisfactory temperament. A stud has recently been established to produce bulls to improve the quality and productivity of the herd. Normal calving percentage is 90%. Specific weaning programs have been developed.

This property has been particularly well planned with integrated waterways, contour banks, cultivated areas and pastures. Wildlife conservation and preservation of examples of the original vegetation has been successfully combined with a highly productive cattle herd and stud.

The owners consider that "development of this kind is time-consuming and more expensive than other less responsible forms of development, but the time and expense will be repaid many times over in the form of sustained long-term productivity."

Chinchilla. Presently under the control of the third generation of the family, this 4,900 ha property has experienced several development phases. The owners now concentrate on consolidation of developments through a soil conservation program, increasing the number of stock watering points, rationalisation of paddock layouts and fencing, pasture improvement and cross-breeding trials.

As the property was developed, land was used within its productive capacity. The present owners have clearly defined varying land types, their optimum use and how to achieve that use.

There is a current program to relocate fences according to topography, soil type and livestock management requirements. Paddock subdivision has occurred to simplify mustering, control stocking rates and allow rotational grazing and paddock spelling.

Electric fencing has been successfully used to confine bulls to paddocks and ensure neighbouring cattle do not introduce disease and interfere with breeding programs. Laneways have been extended to facilitate stock management.

Water shortage has been a consistent problem. Dams and diversion banks have been constructed to increase catchments. Pipelines have been installed to take water to specific stock watering points. Shade clumps have been retained for stock shelter, to ensure even grazing of paddocks and contribute to wildlife habitat.

Herd recording has been routine practice and characteristics of increased growth rates, milking ability, fertility, temperament and resistance to eye cancer have been selected for increased herd productivity. Cross-breeding has been tested to improve those characteristics and to both increase weight gain and improve carcass characteristics. Steers, purchased for fattening, are run on the best quality country, while the breeders are run on lesser quality land. Steer purchase is in spring, with the aim of spelling parts of the property in winter when pasture productivity is lower. Attention is paid to disease control and vaccination.

Pasture management is based on improved pastures and native grasses. A number of pasture species have been tested with varying success. Some grass seed is harvested for sale. Weeds are not a serious problem, but control is maintained by chipping, spraying and avoiding overgrazing.

Contour banks have been installed to minimise soil erosion. Fencing has been used to exclude cattle from watercourses. Regrowth control by chemicals and cultivation continues.

Wildlife corridors exist along watercourses and fencelines. Four large areas of natural vegetation have been retained. One represents the now uncommon brigalow-belah vine scrub vegetation association. Others were not cleared for economic and land capability reasons. As well as wildlife habitat, they provide commercial timber which can be harvested in times of poor cattle prices. Feral animals are controlled by shooting and poisoning.

The owner says, "Every effort has been made not to ask too much of the good country while still making adequate use of the poorer classes of country. It is our goal that the property will [continue to] be productive in 50-100 years time."

COMMON FEATURES OF WINNERS' MANAGEMENT PRACTICES

Livestock markets and genetic attributes

Assessment of the most suitable animal able to be produced on particular land types is successfully combined with identifying the appropriate market opportunity. These graziers are continually reassessing their success in particular markets and revising livestock programs to better meet those or other market requirements.

Livestock management

Most recognise the need to minimise distances travelled by livestock. Livestock characteristics of good temperament, etc feature strongly in breeding programs designed to produce livestock that meet market specifications. Management techniques are often innovative, providing some disease control or other local advantage over other district graziers. Disease and parasite control feature strongly as requirements for producing the best possible animal from the property.

Stocking rates and land capability

These graziers are achieving a higher than average return per beast. Due to an awareness of their land's capability and ability to produce their preferred product, they are conservatively stocking their land, generally below the district 'standard'. Most are concerned that overstocking might lead to loss, in times of drought, of breeding stock they have developed. Combined with their desire to avoid land degradation and their conservative approach to land and livestock, they are able to avoid (other than in exceptional conditions) the worst consequences of droughts and reduced commodity prices.

Role of introduced and native pasture

Most are testing new varieties of pastures or using innovative techniques to increase their return from native pastures. Water ponding, flood irrigation, etc have been successfully used where conditions permit. Most acknowledge the important role of suitable legumes and fodder trees in their management.

Property planning

While most have a formal property plan, all have a definite vision of how their property development must proceed. Such a plan incorporates all criteria considered in this Award, with the relative weighting depending on their specific circumstances. Livestock productivity, livestock management, knowledge of markets, pasture management and production, wildlife and soil conservation all play a role, as does a genuine desire to preserve the natural beauty and productivity of their properties. Most minimise the use of pesticides, herbicides and poisons and recognise the dangers of overuse.

Role of native vegetation

All have achieved a balance between clearing native vegetation, controlling regrowth and producing from their land. Shade clumps, belts of vegetation, wildlife corridors and wildlife habitat are integral features of these properties. Vegetation is generally retained along watercourses and on less productive areas. Shade clumps or belts are sited to avoid overgrazing of paddocks and in proximity to water points. In some cases, timber production is used to augment property income.

Wildlife conservation

Some formally develop or retain areas for wildlife, others consider it a secondary issue. Some are keen naturalists, others have limited knowledge but genuine interest. All those affected by high kangaroo numbers undertake some control, emphasising humane methods. Feral animals and weeds are recognised as a particular problem, with specific control methods adopted.

SUMMARY

The Award has provided specific practical information on conservative grazing and land management practices in Queensland.

An opportunity now exists to inform graziers of these practices and demonstrate to the wider community that the grazing industry is encouraging conservative land management. The follow-up program is being developed to optimise this opportunity.

The Award has attracted widespread interest. The UGA considers it important that the follow-up program includes the urban community and decision-makers to create the widest possible awareness of the initiative, which has been welcomed by the grazing industry, government, business and conservationists.