6.8 Sugar Cane

As nearly all the cane grown in the Burdekin region is grown in the Burdekin Shire the statistics for local government areas can be used confidently to estimate the value of the sugar industry to the Haughton River catchment and the region.

The area used for sugar cane in the Burdekin Shire was approximately 72,000 hectares in 1997 (SKM 1998), with current estimates in the vicinity of 87,000 hectares (Hildebrand 2002). The area has increased significantly since the introduction of the Burdekin Haughton Water Supply Scheme in the late 1980s (**Table 6-1**). Approximately 13,000 hectares of cane land is situated within the Haughton River catchment. **Table 6-1** provides an indication of the expansion in the sugar industry since 1991 along with production capability. The Burdekin region produces the highest tonnage of cane per hectare compared to an industry average of approximately 80 tonnes. The main reason is the availability of water for irrigation. All cane in the Burdekin is irrigated.

Table 6-1 Sugar Cane in the Burdekin

Year	Cane production area (ha)	Area harvested (ha)	Cane crushed (tonnes)	Tonnes cane per hectare	Income per tonne cane (A$)
1991	48,732	44,482	3,858,000	87	
1992	55,631	46,899	5,833,000	124	
1993	66,530	49,354	6,105,000	124	
1994	74,362	54,582	6,759,000	112	
1995	78,069	60,383	7,434,000	115	
1996	83,974	64,387	7,547,000	117	
1997	84,192	69,018	8,334,000	121	
1998	84,005	69,111	7,771,000	112	
1999	84,004	73,656	8,456,000	115	$46
2000	87,118	74,729	7,485,000	100	$33
2001	87,787	76,047	7,154,000	94	$33

Notes: 1. Income per tonne of cane harvested based on 7.5 tonnes of cane required to produce 1 tonne of raw sugar and average price per tonne of raw sugar $350 – 1999 and $250 for 2000 and 2001)
2. Source: Hildebrand 2002 Appendix C

While all the mills in the Burdekin have increased their throughput since 1991, the Invicta Mill at Giru has increased throughput from approximately 1 million tonnes (Mt) a season to around 3 Mt. According to the manager of the Invicta Mill the 2002 crushing resulted in a record throughput of approximately 3.47 Mt (pers.comm.)

The average production cost per tonne of cane delivered to the mill was estimated for the period 1993-1996 in a study by the Australian Bureau of Agricultural and Resource Economics (ABARE). The Burdekin area had an average production cost, including interest paid and any land leasing costs, of $30.79 per tonne of cane. This figure was close to the Queensland average of $30.81 per tonne. The figures did not include a return on capital investment. The Queensland Cane Growers Organisation is currently undertaking a survey to update this information (Chudleigh 2002).

Figure 6-1 Cane in the Burdekin

The Haughton River catchment has approximately 14% of the Burdekin region's cane farming area within its boundaries. It is also the home of the regions largest mill, Invicta. Based on the figures and assumptions above the income from sugar production for the Haughton River catchment cane farmers was $53.38m in 1999, $34.9m in 2000 and $33.3m in 2001.

6.9 Horticulture

Horticultural production is less easy to define due to the variation in crops grown and the reporting areas used. In addition, the Department of Primary Industries no longer sponsors the collection and analysis of statistical data through the Australian Bureau of Statistics.

Average production value per hectare was estimated for annual crops and perennial crops from figures collated in the National Land and Water Resource Audit (see **Appendix R** for details). The extent of horticulture in the Haughton River catchment was calculated from land use categories entered in the Burdekin Shire and Townsville City Council rates databases. As the database provided block size the area under crops was assumed to be 83% of the area (Strahan 1998). Orchards, tree crops and tropical fruits were treated as perennial crops and all other small crops were treated as annual crops. Mixed farms were not included in the calculations even though they will contribute to some extent to horticulture as well as sugar cane and beef production.

Figure 6-1 Horticulture in the Haughton River Catchment

After adjusting the land use figures for mixed farms accordingly, an approximate value for horticulture in the Haughton River catchment was determined:

- Perennial - 1,690 x 83% = 1,402 hectares x $7,505 per hectare (average income)
- Annual - 1,242 x 83% = 1,031 hectares x $14,667 per hectare (average income)

Value of production from perennial crops (mangoes etc) at 1998 prices is $10.5m and for annual crops $15.1m.

6.10 Beef Cattle

Beef cattle production figures in **Table 6-1** below were based on estimated grazing land areas within the Haughton River catchment as a percentage of production from livestock sales for the year ending March 1999 provided by Local Government area.

Table 6-1 Beef Cattle in the Haughton Catchment

Local Government (LG) Area	Estimated Grazing Area In Haughton	Estimated Percentage Of LG Grazing Area In Haughton Catchment	$ Value Of Sales
Burdekin Shire	23,401	7	$637,000
Dalrymple Shire	70,000	1.5	$504,000
Thuringowa City	20,000	20	$440,000
Townsville City	29,922	40	$360,000
Total	**141,323**		**$1,941,000**

The data in **Table 6-1** equates to a return of $14 per hectare per annum.

Another way to look at the beef cattle production in the catchment is to estimate the stocking numbers and assign an average gross margin per adult equivalent (AE). Based on a stocking rate of 10 hectares per AE and an 80% utilisation rate for grazing areas gives a stock population in the order of 11,300. Assuming a gross margin of $70 per AE gives a profit of $791,000 or around $7.00 per hectare per annum for the utilised grazing area in the catchment.

6.11 Fishing

The status of the freshwater fisheries in the Haughton River is not documented. Fishing (marine and estuarine) is understood to be an important industry in the region, and the activities within the catchment have the potential to impact on fisheries through the degradation of habitat and nurseries associated with wetlands, estuaries and sea grass beds.

Fishing is important from both a commercial and recreational perspective. It is one of the main recreational activities of many local people as well as being a drawcard for visitors to the area. The health of the aquatic resources of the catchment therefore has implications for the local economy through commercial fishing and tourism interests as well as being an important social activity for many people.

6.12 Tourism

There are no significant tourism enterprises in the Haughton River catchment, although the natural features are conducive to the development of a sustainable tourism industry. The Cromarty Landing area is used as an unofficial camping ground and such sites would certainly attract more visitors if suitably developed and marketed.

Bowling Green Bay National Park is a notable feature of the catchment however there are no real opportunities for the public to use the area for recreation within the Haughton River catchment.

The Cromarty Wetlands area is also a potential site for ecotourism opportunities.

6.13 Water Infrastructure

Whilst it doesn't take up a large land area the water infrastructure in the Haughton catchment is of particular importance to the agricultural production systems and the supply needs of the Burdekin Shire, and Townsville and Thuringowa City Councils. Water from the Burdekin River is transferred across to the Haughton Balancing Storage via the Haughton Main Channel where it is distributed to the Haughton River for irrigation and the Giru town water supply. It is also transferred from the Haughton Balancing Storage via pipeline to the Ross River Dam to supplement the water supply of Townsville and Thuringowa. It is expected that this supply will be increasingly important in the future.

Figure 6-1 Water Infrastructure near Giru

6.14 Discussion of Social and Economic Impacts

With around 67% of the agricultural work force and 27% of the total work force of the Burdekin Shire employed directly by the sugar industry it is not difficult to see the social and economic influence the industry has on the Haughton River catchment, the Burdekin Shire and to a lesser degree on the regional centre, Townsville.

On current sugar prices the cost of production is close to the income value for the industry. At these levels the industry would not be sustainable in the long term as there is little or no return on investment and no margin to replace equipment. Budgetary constraints mean that there is little 'excess' cash flowing into the community and

employment levels are likely to be reduced as sole proprietors reduce costs to weather the prevailing economic conditions.

Marginal operations and those with high debt will be feeling the pinch and the consequences don't stop at the farm gate but flow on into the whole community. Given such conditions loss of productivity to salinity or other threats may not be able to be absorbed.

Horticulture is also a significant industry in the catchment although not as influential as the sugar industry. Less people are involved in the industry and the vagaries of the world market are not a direct threat to sustainability. Downturns in the sugar industry do affect horticulture, especially annual crop producers, as cane farmers are likely to put in some small crops to supplement their income. As the domestic market is usually delicately balanced between supply and demand the entry into the market in this way often influences prices downwards to the detriment of full time horticultural enterprises.

Part of the horticultural industry is within the area of high salinity hazard and perennial crops have the potential to be affected detrimentally by rising groundwater and salinity. The capital investment required to establish orchards is significant and land degradation caused by salinity could see producers exiting the industry if it is not addressed.

The beef cattle industry covers the greatest land area in the catchment and also has the lowest dollar returns per hectare. It is still a significant industry with the added responsibility of managing large areas of land without the resources of more intensive land use enterprises. The industry is also influenced by world beef prices and this is translated to the catchment and service centres through the industry. Climatic variation generally affects this industry to a greater extent than those buffered by irrigation. Deterioration in pasture condition can lead to a cycle of erosion and further deterioration in condition with resulting productivity and income decline causing greater pressure to increase production with diminishing resources.

Due to the shear area covered by grazing activities it is the land use in the catchment most likely to succumb to natural resource degradation. This situation is exacerbated by a lower financial return per hectare and the pressures associated with managing large areas with limited financial resources, especially during years when climatic conditions are unfavourable. While there are potential downstream natural resource impacts associated with grazing activities it must be recognised that the social and economic pressures on beef producers are significant and need to be taken into consideration when devising plans to reduce impacts.

Other agricultural industries and land use activities also inadvertently contribute to natural resource issues as part of the their management regimes. Some activities will be industry specific and have associated issues while other issues may be common to a variety of industries or activities. Regardless of the source of the issues it is important to recognise the need to focus on addressing the cause of the issue rather than apportioning 'blame'. Natural resource issues do not occur in isolation but will involve people with an accompanying range of social and economic factors. If the social and economic factors are not taken into consideration then the likelihood of achieving any worthwhile long-term natural resource outcomes are limited.

Figure 6-1 Wetland Grazing in the Haughton River Catchment

7. Catchment-Wide Resource Management Strategies

7.1 Catchment Strategies

The following catchment-wide strategies have been drawn from the regional strategy developed for the Burdekin Dry Tropics region prior to development of this draft catchment plan. As with the objectives the strategies were developed after extensive consultation with the community and organisational stakeholders. *Pages numbers in brackets refer to the Burdekin Dry Tropics Strategy.*

Catchment

- Improve communication, consultation and coordination of community-based natural resource management activities throughout the region/catchment (p.11)
- Facilitate implementation and promotion of regional community-based natural resource management planning activities (p.12)
- Enhance whole-of-catchment awareness (p.12)

Water

- Ensure a regional approach to surface and underground water quality management (p.13)
- Determine status and extent of dryland salinity in the region (p.14)
- Develop and implement a whole of region approach to the prevention and mitigation of dryland and irrigation salinity (p.14)
- Coordinate activities throughout the region that are addressing the issues associated with all forms of runoff entering the Great Barrier Reef lagoon (p.14)

Vegetation

- Contribute to a regional approach to management of remnant and protected vegetation (p.15)
- Encourage vegetation management at the property scale across the region (p.16)
- Facilitate involvement of the community in vegetation management activities throughout the region (p.16)

Habitat and biodiversity

- Define status and identify gaps in habitat and biodiversity protection in the region (p.17)
- Ensure coordinated data collection and benchmarking across the region (p.17)
- Facilitate regional community awareness and education of the habitat and biodiversity values in the region (p.17)

Pest management

- Identify and prioritise areas, species and extent of infestations for targeted control (p.18)
- Ensure a whole of region/catchment approach to pest management is implemented (p.18)
- Soil conservation
- Define status and extent of soil erosion across the region (19)
- Investigate methods to ensure best practice erosion control is practiced throughout the region and across all landuses (p.20)
- Facilitate soil erosion awareness in the broader community (p.20)

Marine and coastal

- Develop a whole of region approach to marine and coastal area management (p.21)
- Establish links to educators, managers and stakeholders to ensure the fragile and unique coastal and marine resources of the region are managed and protected in a sustainable manner (p.21)
- Ensure integration , cooperation and facilitation of coastal and marine management with terrestrial natural resource management (p.21)

Social and economic

- Facilitate whole of community involvement in natural resource management activities throughout the region (p.22)
- Develop and implement training and capacity building packages for the regional natural resource management community (p.22)
- Investigate methods of addressing the issue of rural decline (p.22)