Description of indicator

Food production is a measure of the total area of land in the Sunshine Coast Region available for agricultural production.

Why is it important?

Food security is an increasingly important dimension of regional sustainability. Local food production reduces exposure to risks associated with the value of the Australian dollar, costs associated with food miles, volatility in global commodity markets, etc. Local food production also provides a means to build regional social capital through farmers’ markets and also economic resilience through increased employment options for the region.

State of food production

The total area of holding for agricultural commodities recorded for the Sunshine Coast in the 2005-06 Agricultural Census was 94,253 ha. The total value of agricultural production recorded for the 2005-06 financial year was $198.9 m.
Trends in food production

Australia-wide the area of land under agricultural production increased by 3% in 2010-11 to a total of 409.7 million ha representing a reversal of the decline experienced in recent years Agricultural Commodities, Australia, 2010-11 (cat. no, 7121.0) (ABS 2012). Nationally, this represents 53% of total land area. In particular, the state of Queensland has the highest proportion of agricultural land (81% of state land) (ABS 2012).

Over half (66%) of the gross value of agricultural production on the Sunshine Coast is derived from crops with the remainder related to livestock (Figure 9). In addition to commercial agricultural businesses, there are a number of established community gardens, school gardens, and permaculture groups on the Sunshine Coast that engage in food production, education and research. The contribution of these groups to food security through production and skills development across the Sunshine Coast is particularly significant for long-term food security.

This indicator is considered ‘uncertain’ until more recent data from the Agricultural Census are released.

In brief...

- The total area of agricultural land recorded for the Sunshine Coast in the 2005-06 Agricultural Census was 94,253 ha.
- The total value of agricultural production recorded at this time was $198.9 m (2005-06, year ended 30 June).
- A range of community initiatives such as permaculture, community gardens and school gardens contribute to building community capacity.

Implications

Maintaining and/or enhancing the ability of regions to produce food is an important aspect of regional sustainability. Food production is also closely linked with community health and wellbeing through the added benefits of improved nutrition, skills development, and reduced food miles.

Agricultural production on the Sunshine Coast also contributes to enhanced economic diversity by providing a greater range of business and employment options. Contributions to the Sunshine Coast communities and other sectors, such as tourism, by supporting vibrant (and increasingly popular) farmers’ markets are also significant.

Critique of indicator

The Australian Agricultural Census that informs this indicator is conducted every 5 years. National data from the most recent census conducted in 2011 was available at the time of this report. Regional level data is due to be released later in 2012. See www.abs.gov.au/ agcensus2011 for updates.
15. Waste disposal

Description of indicator

A measure of the total volume of waste generated on Sunshine Coast Council across the three waste streams of: municipal solid waste; commercial and industrial waste; and construction and demolition waste. The indicator also measures how much of the total waste generated is subsequently diverted from landfill and recycled.

Why is it important?

Monitoring the volume of waste generated and recycled provides a general indication of the sustainability of a range of industries and patterns of consumption in the region. Reducing or eliminating the amount of waste sent to landfill is important in conserving resources, limiting air and water pollution, and reducing greenhouse gas emissions from decaying organic matter.

How is it measured?

The Sunshine Coast Council records the total volume of waste received at council depots (including municipal solid waste, commercial and industrial waste, and construction and demolition waste). The volume that is subsequently diverted from landfill and recycled is also recorded. When interpreting the data, it should be noted that waste is only recorded as ‘diverted’ when it has been sold and removed from council waste management sites.

State of waste

In 2011-12, 0.85 tonnes of waste per resident was generated in the Sunshine Coast Region (283474 tonnes in total).

Figure 10. Waste generation apportioned by source 2011-12, Sunshine Coast region
In brief…

- The volume of total waste generated on the Sunshine Coast in 2011-12 was 0.85 tonnes per resident.
- Total waste generation decreased by 20% between 2009-10 and 2011-12.
- Support for recycling is important in ensuring high rates of diversion from landfill.

Implications

The reduction in total waste generated is consistent with the aims of the ‘waste hierarchy’ cited in the National Waste Report (2010) that prioritises options for waste as: (1) avoidance; (2) re use; (3) recycling; (4) recovery, and (5) disposal. The Regional Waste Minimisation Strategy for the Sunshine Coast (2009) maps out a 5-year vision including a 70% diversion rate from landfill and the development of Sustainability Park—a new facility proposed in Caloundra South to focus on re use. Continued reductions in waste generation and support for recycling facilities and markets for such materials will be important in achieving these goals.

Critique of indicator

This indicator does not include information on gaseous, liquid or biosolid (sewage) waste. Australia’s first National Waste Report was published in 2010 (see www.ephc.gov.au). This report uses 2006-07 data as a benchmark and cautions against comparisons between regions due to differences in data classification and collection techniques.
Description of indicator

Perceptions of safety have been measured in relation to feelings of safety walking around local neighbourhoods and more generally living on the Sunshine Coast.

Why is it important?

Safety within communities is an important element of sustainability and is closely linked to other indicators such as happiness and wellbeing. Perceptions of safety indicate levels of trust and social capital (the connections and bonds within and between communities). The latter are important when responding to socio-economic stresses and environmental hazards such as local crime events or natural disasters.

How is it measured?

Data for this indicator have been sourced from the Sunshine Coast Council Community Survey (2012) conducted by IRIS Research Ltd. Using a 5 point rating scale, residents were asked how much they agreed with the statements: “I feel safe walking around my neighbourhood” and “I feel safe living on the Sunshine Coast”. The sample size for the survey was 1008.

State of safety

Perceptions of safety are high among Sunshine Coast residents within neighbourhoods and more generally across the region. More than 4 in 5 respondents (85.1%) indicated a high level of agreement with the statement “I feel safe walking around my neighbourhood”. More than 4 in 5 respondents (86.7%) also indicated a high level of agreement with the statement “I feel safe living on the Sunshine Coast”.

In addition, 75.3% of respondents indicated a high level of agreement with the statement “I feel part of my neighbourhood or community”.

Status: Positive
In brief...

- Most people feel safe on the Sunshine Coast.
- More than 4 in 5 respondents felt safe walking around their neighbourhood and living on the Sunshine Coast.
- Feelings of safety indicate high levels of trust and social capital.
- Feelings of safety also indicate high levels of community resilience to socio-economic and environmental hazards.

**Implications**

The results indicate that there is a high level of perceived safety and belonging among Sunshine Coast residents. This suggests that high levels of social capital exist on the Sunshine Coast that may assist the region in responding to socio-economic and/or environmental challenges. The numerous community safety initiatives by the Sunshine Coast Council and others (e.g. Neighbourhood Watch and Safety Houses) may add to this perception of safety.

**Critique of indicator**

Perceptions of safety could be supplemented with other data on actual incidents of crime and impacts arising from those incidents.

**Trends in safety**

The high levels of perceived safety (Figure 12) are consistent with the findings of the Productivity Commission (Performance Benchmarking of Australian Business Regulation, Planning, Zoning and Development Assessment, 2011), including:

- 77% of Sunshine Coast respondents felt safe walking alone at night in their street; and
- 75% of Sunshine Coast respondents felt part of their local community.

These results were substantially higher than all of the other regional cities surveyed within Queensland (i.e. Gold Coast, Cairns, Townsville and Toowoomba).

![Figure 12. Perceptions of safety living on the Sunshine Coast 2012. Source: IRIS Research Ltd.](image-url)
Description of indicator

Perceptions of opportunities for participation in decision-making and perceptions of influence provide a measure of residents’ views on democracy and governance processes.

Why is it important?

Effective community engagement is a core element of sustainability. There are three key reasons why community engagement should be encouraged:

1. In democratic societies there is an ethical obligation to actively involve people in decision-making processes;
2. Accessing a wider range of inputs may lead to more informed decision-making; and
3. If people are engaged in decision-making they are more likely to support decisions reached and contribute to effective implementation.

How is it measured?

Data for this indicator have been sourced from the Sunshine Coast Council Community Survey (2012) conducted by IRIS Research Ltd. Using a 5 point rating scale, residents were asked how much they agreed with the statements: “I have opportunities to participate in and contribute to local decision making” and “I believe my feedback influences Council strategies, policies and decisions”. The sample size for the survey was 1008.

State of engagement

Only 31.6% of respondents indicated a high level of agreement with the statement “I have opportunities to participate in and contribute to local decision making”. Even fewer respondents (27.7%) indicated a high level of agreement with the statement “I believe my feedback influences Council strategies, policies and decisions” (Figure 13).
In brief...

- Less than 1 in 3 respondents (31.6%) indicated a high level of agreement with the statement “I have opportunities to participate in and contribute to local decision-making”.
- Just over 1 in 4 respondents (27.7%) indicated a high level of agreement with the statement “I believe my feedback influences Council strategies, policies and decisions”.

Figure 13. Perceptions of engagement and influence, Sunshine Coast Region 2012. Source: IRIS Research Ltd.

Trends in engagement

The poor levels of perceived community engagement are also reflected in the findings of the Productivity Commission (Performance Benchmarking of Australian Business Regulation, Planning, Zoning and Development Assessment, 2011), including:

- Only 17% of Queensland respondents agreed local governments are effective in planning;
- Only 11% of Queensland respondents considered consultation to occur often; and
- Only 8% of Queensland respondents considered that government cares for their planning preferences.

However, the perception of Queensland respondents was often more positive in these areas than respondents in other jurisdictions.

Implications

Poor perceptions of opportunities for and influence on decision-making may lead to conflict, mistrust, and lack of adoption of preferred actions for the region. It may also affect rates of volunteerism. The results of this indicator show that more attention is required in relation to meaningful community engagement and power sharing structures and processes.

Critique of indicator

There are many potential indicators of community engagement. The indicator used for this report does not measure the actual influence on decision-making, nor does it assess the context in which decision-making occurs (e.g. specific engagement on particular issues).
18. Economic diversity

Description of indicator

Economic diversity is used to measure the relative contributions of different businesses to employment in a region. It is used to determine the similarity of a region to a benchmark of a diversified economy such as the average for Australia (EDI=1). Additional measures may also help to interpret economic diversity such as the range of business types and contributions to Gross Regional Product.

Why is it important?

A diverse regional economy contributes to resilient communities by providing varied employment opportunities and enhances the region’s adaptive capacity to changing economic contexts by limiting exposure and vulnerability to downturns in any one sector or fluctuations in global economic markets.

How is it measured?

There are many ways of representing economic or industrial diversity. The Hachman Index is a common approach used in Australia and the USA. The formula used to calculate the Economic Diversity Index (EDI) is:

$$\text{EDI} = \frac{1}{\sum n(LQ_i) \ast e_i}$$

Where $n$ is the number of business categories, $LQ_i$ is the Location Quotient for a business category (% employment in a category for the region divided by the % employment in that category for the benchmark location) and $e_i$ is the % employment in a category for the region.

The AECgroup released the report Economic Profile for the Sunshine Coast for the Sunshine Coast Council in May 2012 (drawing primarily on ABS data) that provides more detail on the economic characteristics and recent trends of the Sunshine Coast, including comparisons to SEQ and Queensland data.
State of economic diversity

Sunshine Coast businesses operate across all 19 ABS business categories and contributed to a combined Gross Regional Product (GRP) of $11,495 million in the 2010-2011 financial year (excluding the contribution from private dwellings and taxes). Construction and retail contribute to 24.4% of GRP and 28.4% of employment for the region. However, a range of other business activities contributes to the region (Table 11). An EDI of 0.90 indicates a diversified economy.

Trends in economic diversity

Between the 2006-07 and 2010-11 financial years there have been increased contributions to GRP from most industries. The most substantial increases to GRP were from the following industries: Electricity, Gas, Water & Waste Services (59.9% increase); Financial & Insurance services (15.7% increase); Retail Trade (13.8% increase); and Health Care (12.4% increase). There were some decreases. For example: Mining (-18.8% decrease); Arts and Recreational Services (-8.9% decrease); and Wholesale Trade (-4.7% decrease).


<table>
<thead>
<tr>
<th>Business category</th>
<th>% Contribution to GRP</th>
<th>% Contribution to employment</th>
<th>% Contribution to number of businesses</th>
</tr>
</thead>
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<tr>
<td>Construction</td>
<td>13.2</td>
<td>12.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>11.2</td>
<td>15.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Financial &amp; Insurance Services</td>
<td>11.2</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Health Care &amp; Social Assistance</td>
<td>10.2</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>7.5</td>
<td>7.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Professional, Scientific &amp; Technical Services</td>
<td>6.6</td>
<td>5.9</td>
<td>10.7</td>
</tr>
<tr>
<td>Accommodation &amp; Food Services</td>
<td>5.1</td>
<td>9.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Rental, Hiring &amp; Real Estate Services</td>
<td>5.1</td>
<td>3.3</td>
<td>13.4</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>4.6</td>
<td>5.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Public Administration &amp; Safety</td>
<td>4.1</td>
<td>4.3</td>
<td>0.3</td>
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<tr>
<td>Transport, Postal &amp; Warehousing</td>
<td>4</td>
<td>3.3</td>
<td>4.1</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>3.9</td>
<td>2.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Agriculture, Forestry &amp; Fishing</td>
<td>3.4</td>
<td>2.7</td>
<td>5.1</td>
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<tr>
<td>Administrative &amp; Support Services</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Information Media &amp; Telecommunications</td>
<td>2.5</td>
<td>1.3</td>
<td>0.9</td>
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<tr>
<td>Other Services</td>
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<td>3.8</td>
<td>4</td>
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<tr>
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<td>1.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Arts &amp; Recreation Services</td>
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<td>1.5</td>
<td>1.5</td>
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<tr>
<td>Mining</td>
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<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
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<td>100</td>
</tr>
</tbody>
</table>

In brief...

- A high level of economic diversity provides stability through buffering fluctuations that may affect one business category.
- Economic diversity for the Sunshine Coast region is high—indicating that it is similar to the diversity that exists on average within the Australian economy.
- Construction and retail trade contribute most to the regional economic profile. However, overall diversity is consistent with national benchmarks.

Implications

The Sunshine Coast Region has a high diversity of industries. Despite the Global Financial Crisis, the total GRP of the region increased by 30% from 2006-07 to 2010-11. However, it is more exposed than other Australian regions in: Construction; Retail Trade; Rental, Hiring and Real Estate Services; and Health Care and Social Assistance. It is likely that economic diversity will be affected by several factors over the next decade such as the construction of the University Hospital and the continued growth in tertiary degree programs and student numbers.

Critique of indicator

Use of the Hachman Index assumes that the national level of economic diversity is the benchmark for regions and that greater diversity is better. This does not preclude more detailed assessment of the sustainability of various industries and is useful as a general guide and comparative tool.
19. Fish stocks

A measure of commercial catch per unit effort of key fish species on the Sunshine Coast.

Status: Of concern

Description of indicator

Catch Per Unit of Effort (CPUE) is a measure of commercial catch (kilograms of fish caught) divided by the number of days of fishing effort. CPUE has been averaged for four iconic fish types on the Sunshine Coast (Bream, Flathead, Snapper and Whiting).

Why is it important?

CPUE is a common measure of the economic viability of a particular fishery. In addition, CPUE has been used to estimate species abundance. However, several studies have shown that there may be declines in abundance even with increased CPUE (e.g. due to improved fishing technologies). Hence, declining CPUE is a sign of concern.

How is it measured?

The Queensland government collects annual data on catch and effort for commercial fisheries. The data on catch and effort is provided by commercial fishers through compulsory daily log books. The CPUE for the Sunshine Coast is a reflection of the total commercial catch (kilograms) in 2011 for Bream, Flathead, Snapper and Whiting, divided by total number of recorded days to catch the fish. Measurements have also been aggregated for each specific species (e.g. all Snapper species).

State of fish stocks

CPUE is 27.6 kilograms per day of effort. There is significant disparity between CPUE for the different fish—with the lowest being Flathead (CPUE of 12.0) and the highest being Whiting (CPUE 48.0). This reflects total catches in 2011 of Bream (13,250 kg for 420 days of effort); Flathead (6,140 kg for 510 days of effort); Snapper (15,780 kg for 643 days of effort); and Whiting (19,520 kg for 407 days of effort).
In brief...

- CPUE has declined on average by 16.9% for the four species between 2007 and 2011.
- CPUE for some species has increased (e.g. Whiting by 45.7%) but declined for others (e.g. Snapper by -43.8%).
- A decline in CPUE may indicate a decline in species abundance and diversity.

Figure 14. Change in CPUE among fish species on the Sunshine Coast

Trends in fish stocks

While CPUE is variable between years and species, the average CPUE for the four species has dropped by 16.9% from 2007 to 2011 (Figure 14). There was a 45.7% increase in Whiting CPUE over this period but a reduction of CPUE by 43.8% for Snapper. In February 2011 there was a six-week ban placed on the fishing of Snapper. The reason cited by the Queensland Government was that stocks were less than 35% of their unfished levels in Queensland.

Implications

A decline in commercial CPUE indicates the potential for a declining fish stock. The condition of fish stocks is also influenced by recreational fishing. A survey by the Queensland Government in 2010-2011 indicated that there were approximately 700,000 recreational fishers in Queensland. Declining fish stocks may affect marine ecosystem processes and biodiversity, and also indirectly influence the social and economic characteristics of the Sunshine Coast (e.g. recreational fishing tourism).

Critique of indicator

The CPUE measurement has only included four fish species for the Sunshine Coast and not total commercial catch. However, the four species are widely known on the Sunshine Coast (e.g. available in fish shops). Recreational fishing estimates are difficult to predict due to the lack of required reporting. CPUE trends do not necessarily mirror trends in species diversity and abundance.
20. Sustainability barometer

Description of indicator

The Sustainability Barometer is a visual summary of all indicators measured in this report. Indicators are grouped according to their status in relation to sustainability and are not ranked within each category. Indicators illustrated in green demonstrate positive trends, indicators illustrated in amber demonstrate trends of concern, and indicators illustrated in red demonstrate trends requiring action.

Why is it important?

Developing a Sustainability Barometer facilitates a rapid appraisal of sustainability achievements and highlights areas where action and intervention are required. This will assist in prioritizing activities and investment to ensure a sustainable Sunshine Coast.

State of regional sustainability

The state of regional sustainability is illustrated in Figure 15.

Figure 15. Sustainability barometer, Sunshine Coast 2012
Trends

The indicators presented in this report and summarised in the Sustainability Barometer relate to sustainability outcomes for the Sunshine Coast Region as a whole. This includes indicators as presented in the ACF Australian Sustainable Cities Index (2010), where possible, and five additional indicators (engagement, economic diversity, safety, fish stocks and waste) relevant to the Sunshine Coast.

A comparison with the Sustainable Cities Index demonstrates that the positive trends observed for indicators of air quality, wellbeing and health are established and continuing. Only the indicator of food production did not retain positive status and has instead been recorded as uncertain until the release of the most recent ABS data. The status of the biodiversity, volunteerism and climate change indicators within this report contrasts with that suggested in the Sustainable Cities Index. This may be partly explained by use of different measures. For example, this report used community survey data to establish perceptions of risk and preparedness, and compared these to actual and projected levels of vulnerability identified by the IPCC and other scientific data. In contrast, the Sustainable Cities Index measured climate change based on local government completion of the ICLEI Cities for Climate Protection Five Milestone Process and subsequent reduction targets. All other indicators that were measured by comparable methods in the Sustainable Cities Index only recorded minor changes.

Implications

The positive indicators of economic diversity, safety, wellbeing, health, water use, renewable energy and air quality represent significant accomplishments in these areas (indicators highlighted in green). Continued activities in these areas will ensure that these dimensions of sustainable regions are maintained.

Action is needed in the areas of biodiversity, climate change, cost of living, and community engagement (indicators highlighted in red). These critical areas span the four pillars of the quadruple bottom line (ecological, social, economic and governance) and need to be addressed to ensure regional sustainability.

Effort should also be directed towards the indicators of concern including transport, population density, employment, volunteerism, food production, waste, fish stocks and education (indicators highlighted in amber) to take advantage of the ‘early warning’ and to shift these towards the positive end of the spectrum and avoid any movement towards the critical (red) end of spectrum.

Critique of indicator

Understanding the interrelationships between indicators will further assist the development of priority actions. Comparing the Sunshine Coast Region to other cities as in the ACF Australian Sustainable City Index (2010) can be useful in determining relative status. However, it does not necessarily reflect the full potential of our unique region or the aspirations of residents. Thus, these indicators are a starting point for further dialogue regarding progress towards sustainability.
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*Note: Additional data sources (e.g. websites) are provided on individual indicator pages.*
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