

# **Sandstorm in a teacup**

## **Ending sand mining and the North Stradbroke Island “economy”**

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## Summary

North Stradbroke Island (NSI) has no “economy” of its own. Most of its residents don’t work at all, mostly by choice. Its houses are mostly owned and used by people who live and work on the mainland and come to the island for holidays and relaxation.

On NSI, goods and services are sourced from the mainland – the major supermarkets deliver there. Children go to school on the mainland and sick people go to hospital on the mainland. Even most of the workers in the island’s sand mines have to be “imported” from the mainland. The NSI “economy” is entirely integrated with the economy of South East Queensland, which lies only 45 minutes away.

Despite this reality being clearly presented in ABS data and obvious to anyone who visits the island, there are persistent claims that NSI is “dependent” on sand mining. The region’s Member of Parliament, Andrew Laming, even claimed that ending mining “would decimate housing prices and leave exiting families in penury.” This is unlikely as:

- Mining employs around 100 people on the island, just 5 per cent of the population. Almost 1,200 people on the island are not in the workforce.
- 55 per cent of housing is owned by non-residents. These are mainly holiday homes taking advantage of the area’s natural beauty, laid back atmosphere and easy access from Brisbane.
- Property prices show no correlation with changes in government or mining policy.

Advocates for sand mining base their claims on economic assessments commissioned by the mine. These assessments focus on the artificial “island economy” to make the sand mining industry appear significant. The authors admit that if their analysis acknowledged the integrated nature of NSI, this would show the sand mines are not economically important:

*There are a number of important reasons as to why (our economic assessment) was constructed for NSI rather than its large economic hinterland. First and foremost is that any attempt to (model anything wider), for example, South East Queensland, would have greatly reduced the relative importance of sand mining within the relevant economy.*

In other words, only by ignoring NSI’s links to the mainland could sand mining be made to appear economically important.

While sand mining is important for the hundred NSI residents who work in the mines, ending sand mining would have little effect on most residents. It would have no effect on the majority of NSI home owners who use their houses for relaxation and holidays. An end to sand mining would likely benefit these people, as well as the island’s tourism operators, as they would be able to access more of the island. Much of the island is currently inaccessible due to mining leases and access problems.

Economic analysis is usually about assessing productive activity. It is difficult then to assess the value of a place which is mainly used for non-productive activity. Still, the “relaxation services” that the island “produces” are economically valuable – a rough estimate of the value of holiday houses on the island is around \$460 million.

When sand mining on NSI ends, some mine workers may be forced to commute or move to the mainland, but the rest of the island’s users will be largely unaffected, other than gaining better access to much of the island. The complete integration of the island into the wider Queensland economy will be obvious and arguments over the NSI economy will seem like little more than a sand storm in a teacup.

## Introduction

North Stradbroke Island (NSI) is an island 38 kilometres from the centre of Brisbane, Queensland. With an area of around 27,500 hectares, it is the second largest sand island in the world, second only to Fraser Island, the UNESCO World Heritage-listed national park 250 kilometres to the north.

Being close to Brisbane with many picturesque beaches, the island is a popular tourist and holiday location, connected by regular car and passenger ferries to the mainland port of Cleveland, in Redland City Council Local Government Area (LGA). The ferry trip takes around 45 minutes.

Around 2,000 people live on NSI, according to the 2011 census, mainly in the small townships of Dunwich (886 people), Point Lookout (678 people), Amity (345 people) and in other parts of the island. Many more people own holiday houses on the island but do not live there permanently.

Around half the island is national park, including significant forests, freshwater lakes and groundwater-dependent wetlands. These are home to threatened plants, animals and birds. Much of the island is listed under the Ramsar Convention on migratory bird habitat and the protection of internationally important wetlands.

A native title claim by the Quandamooka people was recognised by the Federal court in 2011 and covers most of the island. Under this determination, most of the native title area coexists with other interests such as national park.

Just under half the island is covered by mining leases, held by Belgian-owned sand mining company, Sibelco. Sand mining has taken place on the island for over 60 years and the Sibelco operations dredge around 50 million tonnes of sand per year, from which is extracted minerals such as rutile and zircon.<sup>1</sup>

## Mining on NSI

There are three mines on the island:

- Yarraman mine, which is planned to close this year
- Vance silica mine, which closed in 2013
- Enterprise mine, the main mine on the island.

In recent years controversy has surrounded the Sibelco operations. The Enterprise Mine had been due to close in 2019, but the Newman Government planned to grant an extension to 2035.<sup>2</sup> Sibelco had donated substantial amounts of money to the Liberal National Party under Campbell Newman and conducted a major political campaign against attempts by the Labor government to end sand mining on the island.<sup>3</sup>

Beyond issues around governance and political influence, the mines are controversial due to clearing of old growth forests and their impacts on NSI's water resources and ecosystems that depend on these water resources. Furthermore, the mining leases mean that large parts of the island are not open for public access or use by tourism businesses.

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<sup>1</sup> <http://www.sustainablestradbroke.com.au/about.html>

<sup>2</sup> <http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2013/5413T3997.pdf>

<sup>3</sup> <http://www.abc.net.au/7.30/content/2013/s3806274.htm>

## Mining and the “island economy”

Supporters of sand mining on NSI invariably claim that mining is important for the island economy. This report assesses some of these claims and explores what the “island economy” really is. Some public claims include:

*The population of the island in 2011 was, and still is, highly dependent on sandmining for employment and income.*<sup>4</sup>

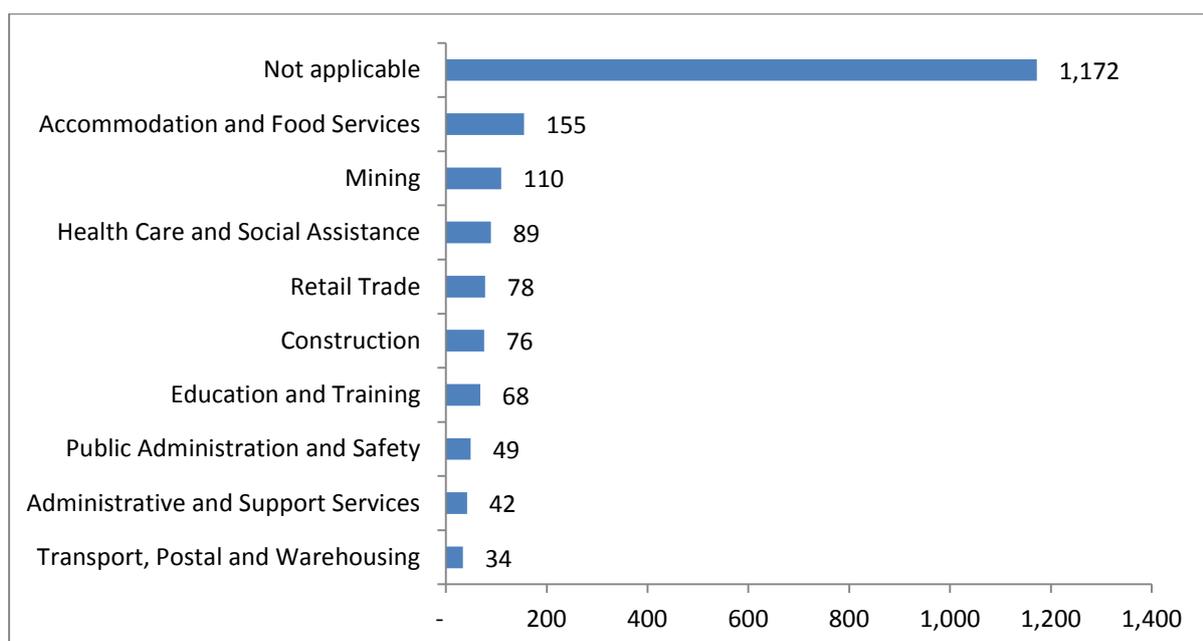
*...the central role played by sand mining in the island’s economy.*<sup>5</sup>

*The reality is that the economy of NSI was, and still is, largely dependent on sand mining operations.*<sup>6</sup>

*Forcing Enterprise mine to shut within seven years would decimate housing prices and leave exiting families in penury.*<sup>7</sup>

These claims are based largely on the number of NSI residents who work in the mines. Looking at industry of employment for NSI residents at the 2011 census we see that while mining is one of the larger employers, by far the largest category is “not applicable”.

**Figure 1: NSI residents by industry of employment**



Source: 2011 ABS census, accessed through Tablebuilder Basic<sup>8</sup>

More than half of NSI residents are not in any industry because most of them are not in the labour force. The reason for this is clear when we look at the age profile of island residents. Many have retired, or are yet to enter the labour force, as shown in Figure 2:

<sup>4</sup> Former Minister for Mines, Andrew Cripps in (Queensland Parliament, 2013), p4048

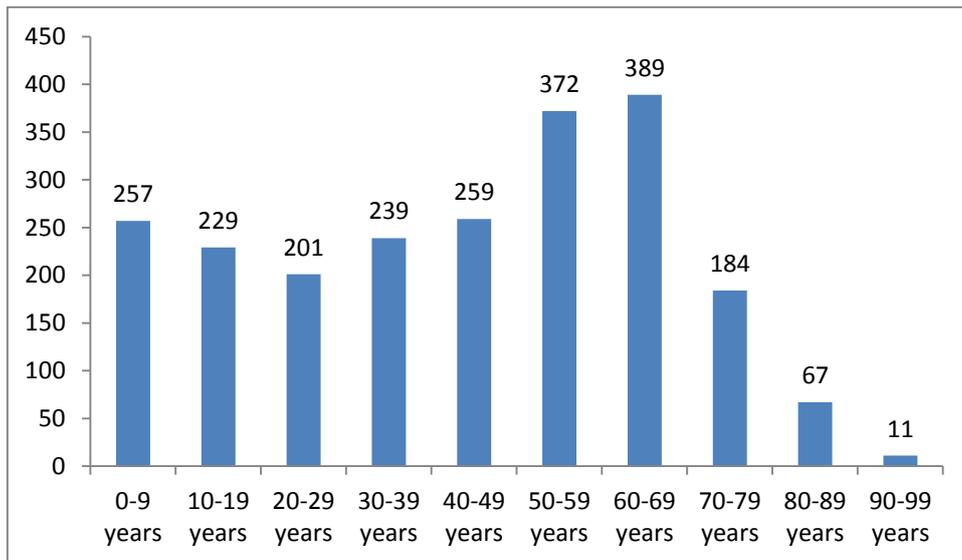
<sup>5</sup> (Synergies, 2010), p11

<sup>6</sup> (Queensland DNR, 2013), p5

<sup>7</sup> <http://www.brisbanetimes.com.au/queensland/queensland-state-election-2015/queensland-election-2015-stradbroke-mining-means-jobs-for-locals-20150126-12ydkh.html>

<sup>8</sup> Note that census data for NSI is obtained by adding the state suburbs of Amity, Dunwich, Point Lookout and North Stradbroke Island. The North Stradbroke Island state suburb is all people and dwellings outside of the three small townships.

**Figure 2: NSI residents by age**

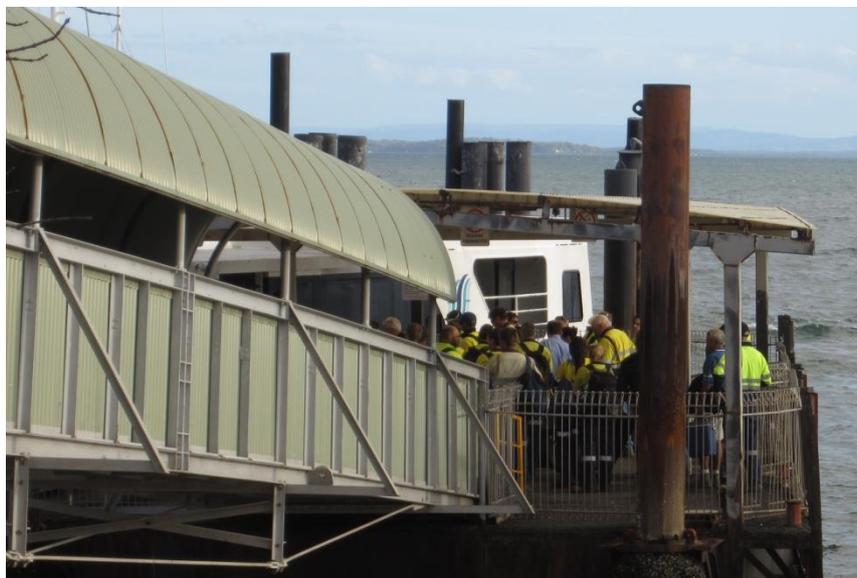


Source: 2011 ABS census, accessed through Tablebuilder Basic

While mining is one of the larger employers of island residents, it only employs 5 per cent of these residents.

However, to focus on NSI residents misses the fundamental nature of the “NSI economy” – it is inextricably linked to the mainland Queensland economy. Many residents commute to the mainland to work every day. Importantly, many mine workers live on the mainland and commute to NSI to work in the sand mines, as shown in the picture below:

**Figure 3: Sand mine workers boarding water taxi**



Source: taken by author at Dunwich port, around 5pm 15 May 2014

Figure 3 shows that almost everyone boarding the 5pm water taxi for the short trip back to the mainland on this day were mine workers, wearing their distinctive high visibility clothing. Before the mine workers boarded the boat it had been full of school children returning from spending the day at school on the mainland. All high school students past year seven commute to the mainland every day following the closure of the Dunwich high school in

2012.<sup>9</sup> While Dunwich has a prep to year seven school, some primary school students also commute.<sup>10</sup>

Returning to mine workers, there is no information provided as to how many people work in Sibelco's operations, how many of them live on the island and how many live on the mainland. This information is not provided on the company's website, nor in its commissioned reports or the reports of the Queensland Department of Natural Resources and Mines (DNRM). All these reports refer to census data, with no information provided by the company.<sup>11</sup> Sibelco were contacted to provide a figure for this report but emails and phone calls were not returned.

Much shopping is also done on the mainland, or comes from the mainland. As shown in the picture below, the major supermarkets deliver groceries to the island:

**Figure 4: NSI supermarket deliveries**



Source: taken by Friends of Stradbroke Island, Bambara Street, Point Lookout, 17 May 2014

The proximity of shops on the mainland and the deliveries of the major supermarkets is why there is so little retail employment on the island, relative to the levels on the mainland. This point has been completely missed by the authors of the Queensland DNRM report, which states:

*The impact of relatively small population of just over 2,000 on the island's industry structure is reflected in a lower share of employment in retail ... This is despite perceived importance of tourism to the NSI's economy.*

The DNRM authors are suggesting that if tourism was really important to the NSI economy, there would be more employment in retail. Not only have they misunderstood the nature of retail on and off the island, but they have failed to understand the most significant part of

<sup>9</sup> <http://www.redlandcitybulletin.com.au/story/247451/dunwich-high-school-closes-its-doors/>

<sup>10</sup> <https://dunwichss.eq.edu.au/Pages/default.aspx>

<sup>11</sup> (Queensland DNRM, 2013; Synergies, 2010) Both these reports rely on census data on people employed in mining generally, not people who work in NSI sand mines specifically. Some of these people may live on NSI, but commute to work on mines in other parts of the country or state as fly-in-fly-out workers.

tourism to the island. “Tourism” might not be the right word, but the most important non-resident visitors to the islands are the people who own and use holiday houses on the island.

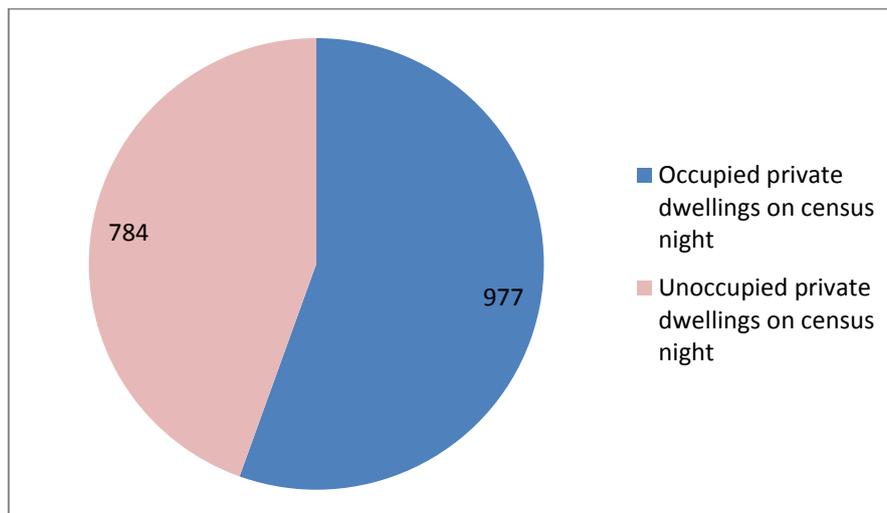
## NSI’s non-resident population - out of sight, out of mind

The large number of holiday houses on NSI is abundantly clear to anyone who has visited the island. This is not surprising considering the area’s natural beauty, laid back atmosphere and easy access from Brisbane.

What is surprising is that NSI’s holiday houses and the large non-resident population which buys, maintains and uses them are completely overlooked by the economic reports which purport to explain the “island economy”. For instance, the mine-commissioned report by Synergies Economic Consulting, written in 2010, includes a three page section on the tourism industry on the island, without mentioning that many temporary visitors stay in their own houses. There is no mention of holiday houses, holiday homes, temporary visitors, regular users, etc.<sup>12</sup> Similarly, the Queensland DNRM economic report from 2013 has a section called “Socio-economic Profile Overview”, without mentioning holiday houses, etc.<sup>13</sup>

This oversight is all the more surprising given that both of these reports are based on ABS census data. The census data on housing occupation makes it clear that on census night only 55 per cent of NSI private dwellings were occupied – 977 of a total of 1,761 as shown in Figure 5 below:

**Figure 5: Private dwellings on NSI**



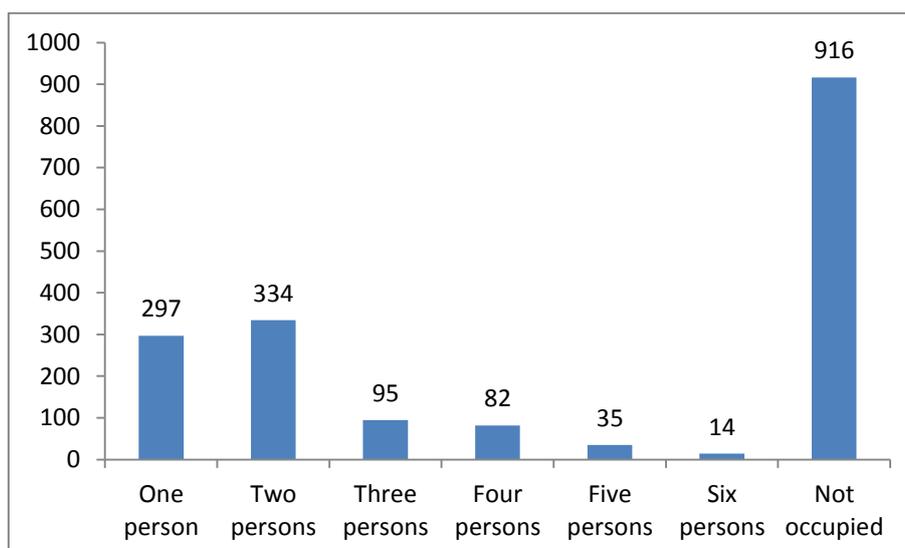
Source: 2011 ABS census, accessed through Tablebuilder Basic

Figure 5 shows how many people were in private dwellings on census night 2011. Some of these people were in their holiday houses – dwellings they do not usually live in. The census provides data on how many people are usually in residence in each dwelling. More than half of NSI dwellings are usually unoccupied, as shown in Figure 6 below:

<sup>12</sup> (Synergies, 2010)

<sup>13</sup> (Queensland DNRM, 2013)

**Figure 6: Number of people usually in residence, NSI**



Source: 2011 ABS census, accessed through Tablebuilder Basic

In contrast to these results for NSI, the wider Redland LGA had an occupancy rate of 91 per cent on census night – 50,501 of its 55,391 dwellings were occupied on census night. This shows that while Redlands LGA is a residential area, NSI is predominantly a holiday destination with non-permanent residents accounting for half the housing stock of the island.

## What is the NSI economy?

Census data shows that most NSI residents are not in the labour force and that more than half of the residences of the island are holiday homes, owned and used by people who live and work on the nearby mainland. What does this mean for analysis of the “NSI economy”?

The “NSI economy” does not exist as an entity separate from the southeast Queensland economy. The main service industries that a modern economy like Queensland is based on, such as health care, retail and education, are virtually non-existent on the island, because they are largely provided to the island’s residents and other users by the mainland.

The lack of major employing industries on NSI does not mean it is “dependent” on mining, as sand mining advocates claim. The island is dependent on the mainland economy for:

- Employment – many residents and non-resident home owners are employed on the mainland. Mining operations are also “reliant” on employees from the mainland.
- Capital and investment – most private capital spent on housing comes from holiday home owners who live and work on the mainland. These people are likely to pay the bulk the island’s rates revenue and of course pay other state and federal taxes, a fraction of which contribute to services on NSI.
- Education – high school and tertiary education are entirely provided on the mainland.
- Health – the island has only a small general practice, a health centre and an ambulance station and emergency centre staffed by a nurse. All other services are provided on the mainland.<sup>14</sup>
- Provision of goods and services – even basic grocery shopping, are mainly provided by mainland businesses.

<sup>14</sup> <http://www.health.qld.gov.au/redland-wynnum/about/marie-rose-centre.asp>

The artificiality of a NSI economy is referred to in the main report commissioned by the mine:

*There are a number of important reasons as to why (our economic assessment) was constructed for NSI rather than its large economic hinterland. First and foremost is that any attempt to (model anything wider), for example, South East Queensland, would have greatly reduced the relative importance of sand mining within the relevant economy.<sup>15</sup>*

In other words, only by ignoring NSI's links to the mainland could sand mining be made to appear economically important. Only by considering Redlands to be the "economic hinterland" of NSI, rather than the island being a small part of the mainland economy, could the consultants get the results their clients wanted.

## Further problems with economic reports on the "NSI economy"

Beyond the artificial scope of the NSI economy and the decision to ignore most of the property owners of NSI in their analysis, the economic reports on NSI are based on economic modelling methods which have been criticised as "biased" by the Australian Bureau of Statistics (ABS), called widely "abused" by the Productivity Commission and dismissed as "deficient" by the NSW Land and Environment Court.<sup>16</sup> These input-output models assume an infinite supply of inputs such as skilled labour, land, capital and water. Furthermore, the ABS specifically points out that they are:

*Not applicable for small regions: Multipliers that have been calculated from the national I–O table are not appropriate for use in economic impact analysis of projects in small regions. ...Inter–industry linkages tend to be shallow in small regions since they usually don't have the capacity to produce the wide range of goods used for inputs and consumption, instead importing a large proportion of these goods from other regions.*

The shortcomings of the economic modelling in these reports has been extensively criticised for its methodology and claims which exaggerate the importance of mining to the island.<sup>17</sup> Some other misinterpretations from these reports that have not been noted elsewhere include:

- *The low labour force participation rate (55 versus 63 per cent for the state) is likely to reflect both the lack of opportunities for finding a job, and also the higher median age of the North Stradbroke Island's residents.<sup>18</sup>*

The low labour force participation rate for island residents reflects primarily that many residents are retirees, as shown in Figures 1 and 2. While there are likely to be island residents who would like to work on the island, many find work or choose to work on the mainland. If the labour force participation of non-resident NSI users was taken into consideration, it is likely the participation rate would be close to or above the state average.

<sup>15</sup> (Synergies, 2010)p11

<sup>16</sup> (ABS, 2011; Gretton, 2013; Preston, 2013)

<sup>17</sup> <http://www.ecolarge.com/blog/stradbroke-island-sand-mining-economic-tricks-and-a-political-fix/>  
<http://www.ecolarge.com/wp-content/uploads/2013/11/ECOLARGE-NSI-SandMining-Economics-FINAL.pdf>

<http://redlands2030.net/?p=7877>

<sup>18</sup> (Queensland DNRM, 2013) page iii

- *The large share of part-time jobs [in tourism] is the likely cause of median weekly personal incomes being considerably lower than that across Queensland.*<sup>19</sup>

The lower average incomes of NSI residents is more likely to reflect the fact that many residents are retirees or voluntarily not in the workforce. Including the incomes of non-resident NSI home owners would likely increase this figure to state averages or above.

- *Expected impacts [on ferry services] if mining were to cease...could undermine the viability of the continued operation of [ferry services at their current regularity and result in price increases].*<sup>20</sup>

No publically available figures exist for what portion of ferry demand relates to the mining industry and other users so it is difficult to gauge how great this impact might be. Another way of considering the situation, however, is that as large amounts of ferry traffic do not relate to the sand mines, mining operations are able to access better ferry services courtesy of other users. Similar arguments apply to electricity and fuel provision on the island.

## **Economics of North Stradbroke Island's holiday houses and non-resident population**

The maintenance of over half the NSI housing stock and the transport services that get people to them are paid for largely by people who work in the mainland economy and go to their houses on the island to relax. The point of going to NSI for most house owners is not to work and not to be productive while they are there.

It is difficult to apply standard economic analysis to an “economy” that is centred around non-productive activity. This is not to say that such “relaxation services” provided by holiday houses on NSI are not valuable. Indeed, holiday house owners pay money to maintain their properties and to access them. Most obviously they pay to buy them.

If the prices of holiday houses on NSI are reflective of the “relaxation services” they provide, then a crude estimate of the value of these services can be obtained by multiplying the number of usually unoccupied houses by the median value of houses in each part of the island, as shown in Table 1:

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<sup>19</sup> (Queensland DNRM, 2013) page iii

<sup>20</sup> (Synergies, 2010)p24-25

**Table 1: Indicative estimate of value of NSI “relaxation services”**

	Usually unoccupied dwellings	Median price	Indicative value of holiday houses	Notes
Amity	213	\$ 390,000	\$ 83,070,000	2014 Data, no unit prices available
Dunwich	95	\$ 320,000	\$ 30,400,000	2014 Data, no unit prices available
North Stradbroke Island	34	\$ 320,000	\$ 10,880,000	Prices for Dunwich - no data available for wider NSI area
Point Lookout	574	\$ 587,500	\$ 337,225,000	Median house price in 2013 of \$745,000 and median unit price of \$430,000. Assumes equal number of houses and units. No 2014 data available.
Total	916		\$ 461,575,000	

Sources: 2011 ABS census, accessed through Tablebuilder Basic, [www.realestate.com.au](http://www.realestate.com.au)

The point of the calculation in Table 1 is to demonstrate that the benefits that people gain from spending time on NSI are valuable, as shown by the amount of money they are prepared to spend on houses they do not permanently live in. This amount may be in the region of \$460 million, but this estimate is crude, due to limited price and sales data. More importantly, the value of a family holiday home is for many people very different to its market value.

It is worth reiterating – Table 1 is a basic attempt to put a value on the part of the “NSI economy” that has been ignored by other commentators. The intention of it is not to obtain a value that can be compared to mining, commercial tourism or any other activity, but to show that economic analysis that is based on employment and production omits the value that people place on NSI and the time they spend there being unproductive and unemployed in an economic sense.

It is also worth noting that there is considerable demand for housing on NSI, particularly from people who do not live there, or intend to live there permanently. The claim of Federal Member of Parliament, Andrew Laming, that ending mining would “*decimate housing prices and leave exiting families in penury*” is unfounded.<sup>21</sup> House price data on [realestate.com.au](http://www.realestate.com.au) shows no correlation with changes to mining policy announced by the Newman Government, or with the recent change in government. Clearly, the property market on the island has had little to do with potential changes to mining end dates.

## Conclusion

Around 100 people who live on North Stradbroke Island work in the sand mines on the island. When sand mining on the island ends these people will be inconvenienced and will most likely have to look for work on the Queensland mainland.

For these 100 people and their dependents, this could be a major disruption, but for the large majority of island residents, very little would change as they are largely outside of the labour force or work in unrelated industries, often on the mainland. The island’s largest industry,

<sup>21</sup> <http://www.brisbanetimes.com.au/queensland/queensland-state-election-2015/queensland-election-2015-stradbroke-mining-means-jobs-for-locals-20150126-12ydkh.html>

tourism, would potentially benefit from greater access to the island's natural areas and reduced impacts of mining.

The end of sand mining would have absolutely no impact on the largest group of NSI stakeholders - home owners who do not live on the island permanently. These people own more than half of the island's houses, but live and work on the mainland. They would also likely benefit from better access to the rest of the island.

NSI has no "economy" of its own. Most of its residents don't work at all, mostly by choice. Its houses are mostly owned and used by people who work on the mainland. Goods and services are mainly sourced from the mainland. Children go to school on the mainland and sick people go to hospital on the mainland. Even most of the workers in the sand mines have to be "imported" from the mainland.

Economic assessments commissioned by the sand mine are misleading. By their own admission, they focus on the artificial "island economy" to make the sand mining industry appear significant. If their assessments were based on the reality that NSI is closely integrated into the mainland economy, their results would show that their clients are a small part of a large, diverse economy.

NSI is not "dependent" on sand mining and claims that its phase out would "decimate housing prices and leave exiting families in penury" are based on hyperbole rather than data.

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