



Planning Proposal
for Amendment of Byron Local Environmental Plan 2014
Additional Permitted Uses – The Farm
Ewingsdale Road, Ewingsdale

Byron Shire Council
Authority Ref: 26.2016.6.1

Gateway Version #3

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Part 1 Introduction

Objective and intended outcomes

The objective of this Planning Proposal is to amend Byron Local Environmental Plan 2014 (LEP 2014) to provide an approval pathway for existing land uses at The Farm, Ewingsdale. The subject land uses are outside of the terms of existing consents. They are associated with farming activities at that site.

The intended outcomes of the amendment to the LEP are that a new local clause will be added to Part 6 of the LEP:

- listing 'additional permitted uses' for the site, within a mapped **Farming Precinct** and a mapped **Rural Activities Precinct** at the property; and
- setting out heads of consideration for those uses, to address issues of scale and potential impact and ensure that any approved uses have, and maintain, an essential association with the primary production undertaken on the land.

The amendment to the LEP will not alter the existing RU1 zoning of the land.

Property details and existing zone

The property known as The Farm is located at Lot 1 DP780234 and Lot 5 DP848222, at the corner of Ewingsdale Road and Woodford Lane, Byron Bay. The whole of the land is zoned RU1 Primary Production under Byron Local Environmental Plan (LEP) 2014.

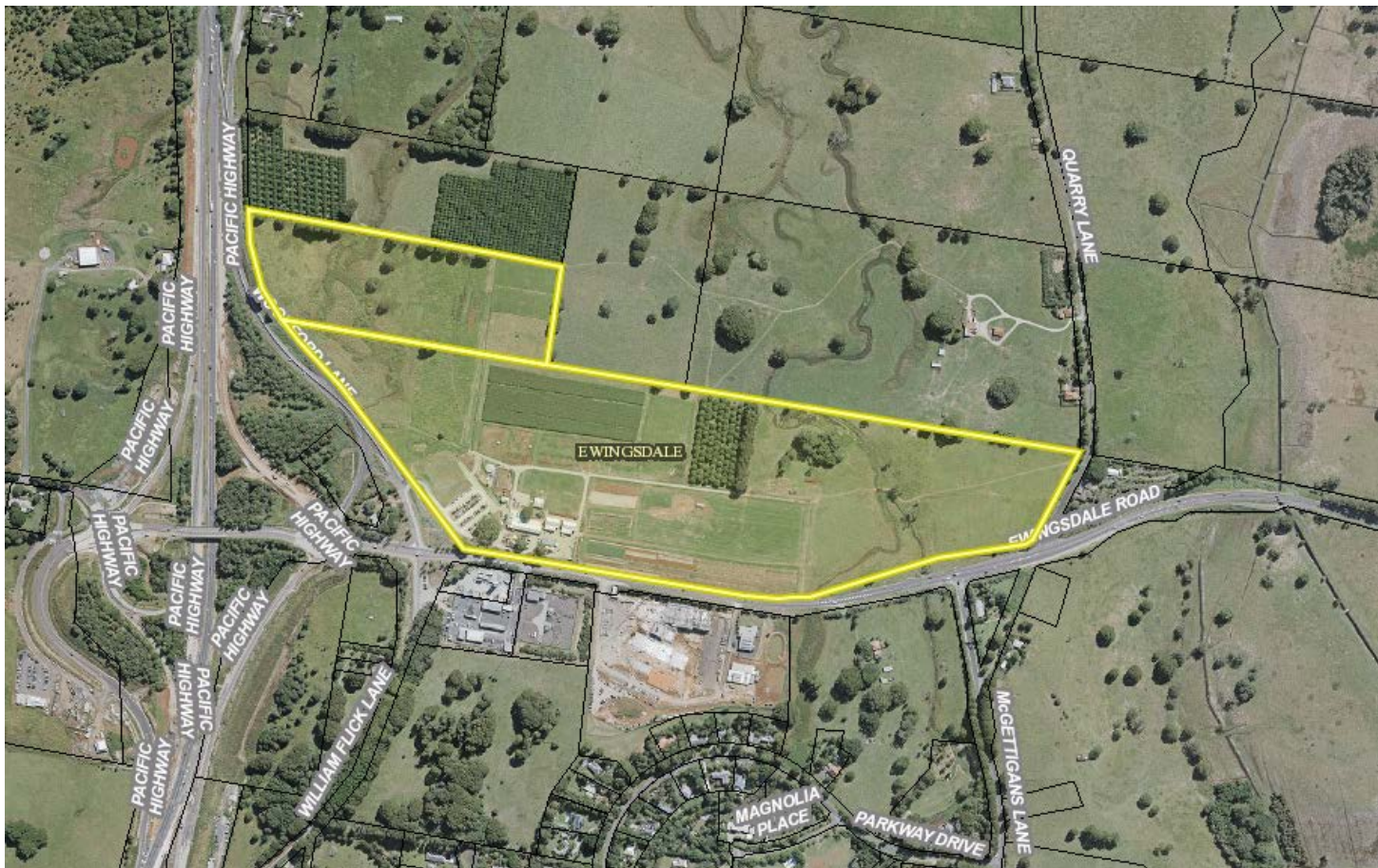


Figure 1 Subject land

Background

The property contains a working farm and a cluster of buildings in the south-west part of the site, housing a number of individual businesses, generally associated with the farming activities.

Farming at the site is being undertaken by individual 'share farmers', who each lease plots within the site, averaging 0.5-1.0ha. The approved and proposed uses within the building cluster are designed to provide an on-site market for the produce grown on the land.

This model provides small-scale farmers with a viable and affordable opportunity to get started in agriculture, and the provision of an on-site market for their goods provides a financial incentive and return.

The commercial operators, particularly the restaurant operators, work with the farmers to ensure that there is a diversity of products grown on-site and work to plan future plantings to maintain appropriate seasonal crops.

A secondary objective of the operation is food education, and The Farm offers vocational training events for farmers as well as farm tours for school groups, families and individuals, aimed at exposing the wider community to agriculture.

The following two Development Consents have been issued:

DA 10.2013.626.1 – Cheese Making Facility and Farm Café; approved 22 May 2014

Approved uses: Restaurant / café;
Roadside stall;
Gelato/ coffee bar;
Cheese making facility (not constructed);
Car parking for 45 cars, 2 buses, 1 loading bay and 13 bicycles spaces, with new access from Woodford Lane; and
On-site waste water system.

DA 10.2015.151.1 – Agricultural Training Facility, Plant Nursery and Farm Produce Kitchen; approved 12 November 2015

Approved uses: Change of use of previously approved Rural Workers' Dwelling to "agricultural training facility";
Change of use of a small existing shed and its curtilage to a plant nursery;
An extension of the existing food preparation / kitchen area associated with the café/ restaurant partly into the area previously approved for cheese making;
Car parking to provide for a total of 199 cars, 2 buses, 1 loading bay and 20 bicycles spaces; and
Upgrade to on-site wastewater system.

Activities at The Farm have been subject to a number of previous Council resolutions, primarily relating to additional unauthorised land uses, or uses extending beyond the parameters of the existing approvals.

On 25 August 2016, Council resolved (in part):

(16-465)

- *That Council staff undertake a Compliance Audit of the existing operation, particularly in relation to compliance with conditions of approval for DA 10.2013.626.1, and, as a result of the audit, prepare a detailed Audit Action Plan.*
- *That Council invites The Farm to lodge a joint Planning Proposal, Master Plan and Development Application, within 60 days of the date of this resolution, to regularise unauthorised activities and uses on the land*

In accordance with this resolution, The Farm's planning consultants lodged a Development Application (10.2016.698.1) and a Planning Proposal (26.2016.6.1) in late October 2016.

DA 10.2016.698.1 proposed:

- Change of Use of the approved "cheese making facility" to agricultural produce industry and industrial retail outlet (bakery); and
- Change of use of the existing approved dwelling house for use as ancillary offices for the existing approved restaurant and farm.

The application for a Planning Proposal (26.2016.6.1) sought "a site-specific amendment to Byron Local Environmental Plan 2014 (LEP 2014) to update Schedule 1 to permit certain additional land uses on the subject land, including:

- retail premises - shop/ food and drink premises;
- information and education facility;
- recreation facility (indoor); and
- business premises".

Following assessment of the applications and discussions with proponents, development application 10.2016.698.1 was withdrawn on 19 April 2017. The applicants also agreed to amend the Planning Proposal application such that it now deals only with existing land uses at the site. The updated Planning Proposal application was submitted on 23 August 2017.

At the meeting of 26 October 2017, Council considered a report on the matter and resolved, in part, **(17-514)**:

1. *That Council support the application for a Planning Proposal and authorise the Director SEE to negotiate with the applicant to facilitate the preparation of a Planning Proposal at the applicant's cost.*
2. *That Council's support of the Planning Proposal is withdrawn in the event that a costs agreement for the processing of the Planning Proposal not be executed within 28 days of the date of this resolution ie close of business 23 November 2017.*
3. *That the Planning Proposal deal only with the following uses on the site:*
 - *Wholesale Bakery*
 - *Agricultural training/education facilities*
 - *Administration offices*
 - *Small-scale information centre*

and that it be reported back to Council at the meeting of December 2017 for further deliberation prior to it being forwarded to the NSW Dept of Planning and Environment for a Gateway Determination.

The Planning Proposal was prepared in accordance with that resolution and, at its meeting of 14th December 2017, Council resolved **(17-671)**:

1. *Agree to initiate the Planning Proposal to amend Byron LEP 2014 (Attachment 1) for the reasons outlined in this report.*
2. *Forward the Planning Proposal to the NSW Department of Planning and Environment for a Gateway Determination.*
3. *Agree that staff can proceed to public exhibition of the Planning Proposal and government agency consultation based on the Gateway determination issued by the NSW Department of Planning and Environment, and report back to Council as part of post-exhibition reporting.*

The Planning Proposal has been prepared in response to this resolution and with reference to the Department of Planning and Environment's Guidelines "A guide to preparing planning proposals" and "A guide to preparing local environmental plans".

Part 2 Explanations of Provisions

The planning proposal seeks to amend Byron LEP 2014 by adding new provisions relating to the subject land.

The proposed provisions will:

1. Identify a 'Rural Activity Precinct' and a 'Farming Precinct' over the subject site, which will be identified on a map;
2. Describe the purpose and extent of the Rural Activity Precinct, which is to provide commercial outlets for farming products grown on site and opportunities for the community to learn about and appreciate farming.
3. Permit the following land uses with consent in the Rural Activity Precinct;
 - a. A shop being solely for a wholesale bakery;
 - b. Industrial training facility;
 - c. Office premises;
 - d. Information and training facility.
4. Include a requirement that a minimum of 70% of the bread and bakery goods produced by the wholesale bakery contain ingredients sourced directly from the subject land;
5. Clarify the scope and extent of the above land uses as follows;
 - a. The shop being solely for a wholesale bakery;
 - b. The industrial training facility is to be limited to within an existing building on the site and that training is provided to small groups and is to be related to agriculture or rural industry but not to marketing or administration of agriculture;
 - c. The office premises is to be located within an existing building and be solely for the management of agricultural businesses conducted on the subject land;
 - d. The information and training facility is the use of an existing building for the display of information relating to the subject land or as a gathering point for groups undertaking training, education or recreational activities on the subject land.
6. Include the following requirements that must be addressed to the satisfaction of the consent authority before the above land uses are permitted with consent in the Rural Activity Precinct;

- a. a requirement that the use must have an essential association with existing agricultural / primary production activities undertaken in the Farming Precinct at the site or enables or enhances agricultural production on the site;
 - b. a requirement that the use will not limit the operation and/ or expansion of adjoining and nearby agricultural uses;
 - c. a requirement that wastewater generated by the proposed use will be within the treatment and disposal capacity of the approved on-site wastewater management system;
 - d. a requirement that the use will not require any new or additional buildings to be erected on the site;
 - e. a requirement that traffic generated by the proposed use will not result in total peak hour trips (i.e. from the site as a whole), exceeding 200 trips outside of school holiday periods or 350 trips during holiday periods;
 - f. a requirement that individual events undertaken within agricultural training/ education facilities involve a maximum of 30 people, with the exception of school groups, which can have a maximum of 50 students; and
 - g. a requirement that there will be no more than 1 training / education event per week within the agricultural training / education facilities.
7. Describe the purpose and extent of the Farming Precinct, which will be to preserve the bulk of the property for primary production and facilitate innovative community farming models, and provide opportunities for agricultural education/appreciation and low scale recreational activities that are directly related to the primary production on the site;
8. Define the extent of the Farming Precinct, which will be all areas of the site outside of the Rural Activity Precinct, except for a continuous 5m wide vegetated buffer along all boundaries that adjoin privately owned farmland;
9. Permit the following additional land uses with consent in the Farming Precinct;
 - a. Farm field days and exhibitions;
 - b. Farm tours for educational purposes, including individuals, school groups and other groups (limited to 30 people or 50 students in the case of a school group at a time);
10. Define the land uses permitted in item 9, above, being ‘farm field days and exhibitions’, and ‘farm tours for educational purposes’;
11. Include the following requirements that must be addressed to the satisfaction of the consent authority before the above land uses are permitted with consent in the Farming Precinct;
 - a. a requirement that there be a maximum of 4 such events in any calendar year;
 - b. a requirement that there are no more than 100 people attending any individual event;
 - c. a requirement that events are scheduled such that event traffic avoids morning and afternoon peak hour periods;
 - d. a requirement that events will not occur concurrently with any use of the agricultural training / education facilities within the Rural Activities Precinct;
 - e. a requirement that a Noise Management and Monitoring Plan has been prepared for each event which includes:
 - i. details to ensure adequate measures, roles and responsibilities are in place to ensure that event noise remains inaudible above background levels at nearby dwellings;
 - ii. assessment of expected noise impacts;
 - iii. detailed examination of all feasible and reasonable management practices that will be implemented to minimise noise impacts

- iv. strategies to promptly deal with and address noise complaints. This should include any records that should be kept in receiving and responding to any noise complaints;
 - v. details of performance evaluating procedures (for example, sound checks on amplified public address systems);
 - vi. procedures for notifying nearby residents living within 1 kilometre of the property of forthcoming events, times that they are likely to notice noise emanating from the site and the contact details for the onsite manager for complaints and queries to be made, and responded to;
 - vii. operational details about the use of any noise monitoring equipment to record sound pressure levels around the property;
 - viii. name and qualifications of person who prepared the report; and
 - ix. protocols for the monitoring of the event, including a requirement that a report be provided to Council following the event.
12. Confirm that the provisions of clause 6.8 of the Byron LEP 2014 will not apply to the site.
13. Permit the following uses in the Farming Precinct without consent:
- a. Family picnics;
 - b. Individual / small group (up to 10 people) unaccompanied meanders.

The additional LEP provisions will establish an approval mechanism for a number of existing site uses, which are occurring on the land outside of the existing Development Consents.

These uses are not currently permissible with consent in the RU1 Primary Production Zone.

Council considers that these uses, being carried out in the context of the operation of the Farm – i.e. associated with the existing primary production activities – are of low impact and can be supported on the property.

Appendix A contains a suggested new local provision, to be added to Byron LEP 2014 to specify that these uses will be permissible with consent, but only in a specified part of this property. It includes suggested heads of considerations to be applied in the assessment of future applications for these land uses, and a preliminary Local Clause Map.

The property is located adjacent to an existing round-about that was constructed as part of the south-bound exit ramp from the Pacific Motorway. Traffic accessing Byron Bay uses this round-about to get on to Ewingsdale Road, which forms the southern boundary of the land.

Significant traffic congestion is experienced at the round-about and on Ewingsdale Road. While traffic generated by The Farm is not the sole reason for this congestion, it is a contributor. As such, preliminary discussions involving the proponents, Council and Roads and Maritime Services (RMS) have indicated a need for a variety of road improvement upgrades to address the congestion, and the need for The Farm to contribute to those solutions.

The proponents have therefore agreed to negotiate a Voluntary Planning Agreement (VPA) as part of this Planning Proposal, to provide for a formal agreement to the implementation of their contribution to road upgrade solutions, involving the dedication of land across the Ewingsdale Road frontage of the site, to facilitate the widening of that road.

Part 3 Justification

Section A – Need for the Planning Proposal

Q1. Is the planning proposal a result of any strategic study or report?

No. The Planning Proposal proposes a local clause amendment to the LEP to address existing uses at land known as The Farm, which have commenced and/or expanded without authorisation.

Q2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The land uses proposed to be permitted on this property are currently prohibited in the RU1 Primary Production Zone, with the exception of *industrial training facility*.

The following alternatives have been considered:

1. Amend RU1 zoning table to add the uses to item 3 – Permitted with consent:

This option would permit the subject land uses within any land in the Shire zoned RU1. The intention of this proposal is address the existing uses being carried out on The Farm, based on the unique nature of the land uses on the site, primarily noting the close association between on-site farming and the non-farming uses.

2. Change the zone of the subject site:

The merits of the existing non-farming land use are that they retain an essential association with the agricultural enterprises being undertaken on the land. That agricultural use should remain the dominant land use, with the non-farming uses being undertaken to ensure that the individual smaller-scale framing enterprises remain feasible.

Changing to a non-farming zone would potentially alter this balance, allowing expansion on non-farming uses without an essential association with primary production on-site.

For the individual uses that are currently prohibited, therefore, the proposed new local provision provides the best means of achieving the intended outcomes stating in Part 1 of this proposal.

Under the terms of Development Consent 10.2015.151.1, development for the purposes of *industrial training facility* is limited to one existing building on the site.

Development for this purpose is included in the suggested new local clause to provide parameters under which that would be considered acceptable within the development on this site.

The farming use of the land remains the primary focus of activities at the site, and the planning proposal aims to reinforce that by ensuring that any approved use has an essential association with existing agricultural/ primary production activities undertaken within the **Farming Precinct** at the site, or enables or enhances agricultural production at the site.

Q3. Is there a net community benefit?

The Net Community Benefit (NCB) Criteria are identified in the NSW Government's publication *Draft Centres Policy, 2009*, which states that the Net Community Benefit Test should be used to assess the merits of rezoning in the following circumstances:

- proposals to develop within an existing centre where the current zoning does not permit the use
- proposals to develop outside an existing centre where the current zoning does not permit the use
- proposals to create a new centre.

Assessment against the Net Community Benefit Assessment Criteria is not appropriate for a planning proposal that deals with a rural land uses in the RU1 zone.

Section B – Relationship to strategic planning framework

Q4. Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy?

The subject site is not located within the Urban Growth Area boundary under the *North Coast Regional Plan 2036 (NCRP)*. It is within the 'coastal strip' as identified in that plan.

The planning proposal is consistent with the following *Regional Priorities*, identified for Byron Shire within the Regional Plan:

- *Support a strong and diversified economy based on Byron Shire's unique character, landscapes and important farmland.*
- *Encourage new opportunities for agribusiness, particularly in relation to organic and boutique food production.*

The NCRP also contains principles that should be addressed for land that is outside that Urban Growth Area. The following table addresses these principles in relation to the planning proposal:

Urban Growth Variation Principles	
<p>Policy The variation needs to be consistent with the objectives and outcomes in the <i>North Coast Regional Plan 2036</i> and any relevant Section 117 Directions and State Environmental Planning Policies, and should consider the intent of any applicable local growth management strategy.</p>	<p>Goal 1: The most stunning environment in NSW <u>Principle 2: Manage the sensitive coastal strip</u> The site is not contiguous with the urban growth area boundary. However, the planning proposal does not facilitate urban or rural residential development. <u>Principle 3: Provide great places to live and work in a unique environment</u> The planning proposal will assist in maintaining The Farm as a place to work, associated with farming activities at the site.</p> <p>Goal 2: A thriving, interconnected economy <u>Direction 11: Protect and enhance productive agricultural lands</u> <u>Action 11.4: Encourage niche commercial, tourist and recreation activities that complement and promote a stronger agricultural sector, and build the sector's capacity to adapt to changing circumstances.</u> The planning proposal seeks to ensure that future commercial and/ or tourism uses of the land retain an essential association with the farming activities undertaken at the site. In this way, future uses will compliment existing agriculture, and also facilitate new and additional smaller-scale farming ventures. S117 Directions and State Environmental Planning Policies are addressed below.</p>
<p>Infrastructure The variation needs to consider the use of committed and planned major transport, water and sewerage infrastructure, and have no cost to government. The variation should only be</p>	<p>The planning proposal addresses existing land uses, which are serviced by way of an on-site wastewater management system. There have been a number of recent upgrades to the system and the proponent has demonstrated that the system is operating in accordance with the terms of its approval, and that it has adequate capacity to service the uses at the site. A detailed</p>

Urban Growth Variation Principles	
<p>permitted if adequate and cost-effective infrastructure can be provided to match the expected population.</p>	<p>Wastewater report is attached to this Planning Proposal at Appendix B.</p> <p>The site is well-located in terms of transport routes, although investigations are currently underway to plan for future upgrades of adjacent intersections, including the motorway interchange. The Traffic Report contained at Appendix C addresses the potential impacts associated with traffic from this development.</p> <p>Significant traffic congestion is experienced at the roundabout and on Ewingsdale Road. While traffic generated by The Farm is not the sole reason for this congestion, it is a contributor. As such, preliminary discussions involving the proponents, Council and RMS have indicated a need for a variety of road improvement upgrades to address the congestion, and the need for The Farm to contribute to those solutions.</p> <p>The proponents have therefore agreed to negotiate a VPA as part of this Planning Proposal, to provide for a formal agreement to the implementation of their contribution to road upgrade solutions, involving the dedication of land across the Ewingsdale Road frontage of the site, to facilitate the widening of that road.</p> <p>Reticulated water supply is available by way of a Rous County Council main, and is augmented by rainwater capture.</p>
<p>Environmental and farmland protection The variation should avoid areas:</p> <ul style="list-style-type: none"> • of high heritage value 	<p>While there are a number of heritage items in the locality, the site itself does not contain any items of areas with heritage value.</p>
<ul style="list-style-type: none"> • of high environmental value • mapped as important farmland, unless consistent with the interim variation criteria prior to finalising the farmland mapping review 	<p>The site contains some areas of environmental value, in and around Simpsons Creek, located in the eastern sector.</p> <p>The uses facilitated by the planning proposal are located away from the Simpsons Creek riparian area. The Farm management has implemented significant riparian revegetation works adjacent to Simpsons Creek.</p> <p>See discussion below</p>
<p>Land use conflict The variation must be appropriately separated from incompatible land uses, including agricultural activities, sewage treatment plants, waste facilities and productive resource lands.</p>	<p>The potential for land use conflicts, associated with uses in the rural activities precinct, can be managed by controls on the nature and scale of development within that precinct and by the provision of appropriate buffers within the subject land.</p> <p>A Land Use Conflict Risk Assessment has been prepared in relation to the proposal, and is contained at</p>

Urban Growth Variation Principles	
	<p>Appendix D.</p> <p>The buffer recommendations contained in that report have been incorporated in the Draft Local Clause Map, with a 5m wide strip of land along the full length of the property boundary adjoining farming land excluded from the Farming Precinct shown on that Map. In this way, any activities authorised by this Planning Proposal will only be permitted outside of that buffer area.</p>
<p>Avoiding risk The variation must avoid physically constrained land identified as:</p> <ul style="list-style-type: none"> • flood prone • bushfire prone • highly erodible • having a severe slope • having acid sulfate soils 	<p>The site is not flood prone.</p> <p>The site is not bushfire prone.</p> <p>The slopes of the site do not present erosion risks.</p> <p>The site does not have severe slopes.</p> <p>The site does not contain acid sulfate soils.</p>
<p>Heritage The variation must protect and manage Aboriginal and non-Aboriginal heritage.</p>	<p>There are no known Aboriginal or non-Aboriginal heritage areas.</p>
<p>Coastal area Only minor and contiguous variations to urban growth areas in the coastal area will be considered due to its environmental sensitivity and the range of land uses competing for this limited area.</p>	<p>The planning proposal does not propose to alter the existing RU1 zone.</p>

Important Farmland Interim Variation Principles	
<p>Agricultural capability</p>	<p>The land does have agricultural capability and is currently used for farming. The planning proposal seeks to facilitate non-agricultural uses that are directly associated with the existing agriculture.</p>
<p>Land use conflict</p>	<p>The land adjoins an existing farm to the north, which is used for macadamias and cattle. The owners of that land have concerns regarding the potential impacts of The Farm's non-agricultural uses on his ability to farm.</p> <p>In the main, these concerns can be addressed by:</p> <ul style="list-style-type: none"> • controls on the nature and scale of land uses permitted within the Rural Activities Precinct; • the provision of appropriate buffers between the two properties; • ensuring that all disposal areas for treated wastewater flow away from the adjoining property; and • ensuring that The Farm has appropriate management measures in place to address biosecurity risks. <p>These concerns are considered further in the LUCRA contained at</p>

Important Farmland Interim Variation Principles	
	Appendix D. The buffer recommendations contained in that report have been incorporated in the Draft Local Clause Map, with a 5m wide strip of land along the full length of the property boundary adjoining farming land excluded from the Farming Precinct shown on that Map. In this way, any activities authorised by this Planning Proposal will only be permitted outside of that buffer area.
Environment and Heritage	The proposed land uses will not have an adverse impact on areas of high environmental value or Aboriginal or historic heritage significance. Environmental enhancement works have been undertaken in conjunction with The Farm uses in the riparian area of Simpsons Creek that have improved the environmental value of that creek.
Avoiding Risk	The proposal raises no issues in regard to environmental risks.

Q5. Is the planning proposal consistent with Council's local strategy or other local strategic plan?

Council has recently adopted a Rural Land Use Strategy. One of the key policy directions in that strategy is the protection of important farmland and support for farming and rural industry.

The planning proposal is consistent with this policy direction in that it aims to ensure that farming remains the dominant use of the land, with uses within the activities precinct only permitted where they maintain an essential association with the onsite agriculture.

In 2012, Council adopted a 10 year + Community Strategic Plan 2022 (CSP). The plan is based on five key themes being Corporate Management, Economy, Environment, Community Infrastructure, Society and Culture. Three of those themes or objectives are relevant to this Planning Proposal:

Economy: <i>A sustainable and diverse economy which provides innovative employment and investment opportunities in harmony with our ecological and social aims</i>	The Planning Proposal supports the economy through creating employment linked to agriculture. It has the potential to create economic growth and demand without major ecological or social concerns.
Environment: <i>Our natural and built environment is improved for each generation</i>	The Planning Proposal assists the environment to be maintained and protected for future generations by restricting development to the scale currently operating at the site. The Planning Proposal does not facilitate expansion of non-agricultural activities or land uses.
Society and Culture: <i>Resilient, creative and active communities with a strong sense of local identity and place</i>	The land uses at The Farm are linked to innovative agricultural enterprises, that allow for farmers to get a start in the industry.

The CSP is undergoing review. On the basis of recent community engagement, it is now underpinned by the following four vision components:

<i>Our community is empowered to be creative, innovative and listened to as we shape the future way of living that we want</i>	The land uses at The Farm are linked to innovative agricultural enterprises, that allow for farmers to get a start in the industry.
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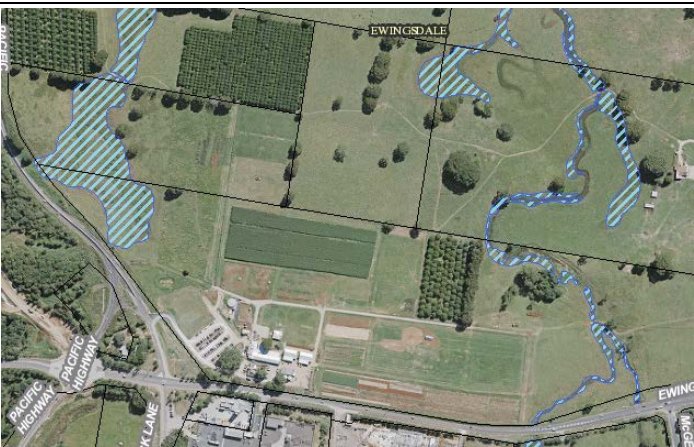
	The existing uses facilitated by this Planning Proposal are a key part of the overall business model, providing an on-site market for the agricultural products grown on the land.
<i>While we strongly protect our Shire; its natural environment, lifestyle, diversity and community spirit, we welcome visitors and the contribution they make to our culture</i>	The Farm is a valued destination for residents and visitors, primarily to the approved restaurant. The farm tours, which will be facilitated by this Planning Proposal, provide for an additional visitor experience, which showcases the local area's agricultural expertise.
<i>Our future is sustainable, we have the services and infrastructure we need to thrive, and we encourage and support local business and industry</i>	The Planning Proposal facilitates local business.
<i>We foster the arts and cultural activities, respect and acknowledge our first peoples and celebrate and embrace diverse thinking and being</i>	Not directly applicable.

On this basis the Planning Proposal is consistent with Council's CSP.

Q6. Is the planning proposal consistent with applicable State Environmental Planning Policies?

The State Environmental Planning Policies (SEPP) relevant to this planning proposal are addressed below.

SEPP	Compliance of Planning Proposal
SEPP 44 Koala Habitat Protection	The site does not contain any koala habitat.
SEPP 55 Remediation of Land	Preliminary site investigations were undertaken in association with previous development proposals for the site, demonstrating that the land is suitable for the uses approved.
SEPP (Coastal Protection) 2018	The Coastal Wetland mapping has been extended from the previous SEPP 14 mapping and now covers watercourses in the coastal zone. As such, the low lying area of the site and the eastern watercourse are mapped as Coastal Wetland under this SEPP (see below)

		<p>The Planning Proposal does not facilitate any uses of the site that would physically impact these wetland areas.</p>
<p>SEPP (Rural Lands) 2008</p>	<p>The Rural Planning Principles established within this SEPP are addressed below.</p>	

Q7. Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?

Unless otherwise noted the Planning Proposal is consistent with applicable Ministerial Directions as follows:

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
1. Employment and Resources			
1.1 Business and Industrial Zones	Applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).	Not applicable.	N/A
1.2 Rural Zones	<p>Applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).</p> <p>Under this direction a planning proposal must:</p> <ul style="list-style-type: none"> (a) not rezone land from a rural zone to a residential, business, industrial, village or tourist zone. (b) not contain provisions that will increase the permissible density of land within a rural zone (other than land within an existing town or village). 	<p>The Planning Proposal does not aim to change the existing rural zoning of the site.</p> <p>The Proposal does not alter lot size or density provisions.</p>	Consistent.

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
1.3 Mining, Petroleum Production and Extractive Industries	<p>Applies when a relevant planning authority prepares a planning proposal that would have the effect of:</p> <ul style="list-style-type: none"> (a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or (b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development. 	<p>Nothing in this Planning Proposal will prohibit or restrict exploration or mining or the extraction of other material.</p>	N/A
1.4 Oyster Aquaculture	<p>Applies when a relevant planning authority prepares any planning proposal that proposes a change in land use which could result in:</p> <ul style="list-style-type: none"> (a) adverse impacts on a Priority Oyster Aquaculture Area or a “current oyster aquaculture lease in the national parks estate”, or (b) incompatible use of land between oyster aquaculture in a Priority Oyster Aquaculture Area or a “current oyster aquaculture lease in the national parks estate” and other land uses. 	<p>The Planning Proposal does not impact on any Priority Oyster Aquaculture Areas (POAA).</p>	N/A
1.5 Rural Lands	<p>Applies when:</p> <ul style="list-style-type: none"> (a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary), or (b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a rural or environment protection zone. <p>A planning proposal to which clauses (a) and (b) apply must be consistent with the Rural Planning Principles listed in <i>State Environmental Planning Policy (Rural Lands) 2008</i>.</p>	<p>The Rural Planning Principles are addressed in the table below.</p> <p>It is considered that the Planning Proposal is consistent with all of the relevant rural planning provisions.</p>	Consistent

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
Rural Planning Principles			
	<i>the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas</i>	The Planning Proposal will provide for a number of uses that are directly ancillary to existing farming on the land. Further, the provision of the complimentary land uses will ensure that these farming activities on the land remain viable, by providing an on-site market for the primary produce.	
	<i>Recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State,</i>	The Planning Proposal is consistent in that it provides a mechanism that will ensure the continuing viability of the innovative, small scale farming model undertaken on the site. Permitting agricultural education / training uses will provide for opportunities to educate the wider community about the importance of agriculture.	
	<i>Recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development,</i>	Social and economic assessments have been undertaken and submitted in support of the Planning Proposal, demonstrating that the existing operation provides a substantial contribution to the local community and to the wider region. Social and economic assessment reports are contained as Appendices E & F .	
	<i>in planning for rural lands, to balance the social, economic and environmental interests of the community,</i>	The proposed additional uses provisions aim to achieve this by ensuring that non-farming uses retain an essential association with agriculture at the site.	
	<i>The identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,</i>	Significant riparian revegetation works have been undertaken around Simpsons Creek.	
	<i>The provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,</i>	Not applicable to this Planning Proposal.	
	<i>The consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,</i>	Not applicable to this Planning Proposal.	
	<i>Ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General</i>	See above	

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
2. Environment and Heritage			
2.1 Environment Protection Zones	<p>A planning proposal must include provisions that facilitate the protection and conservation of environmentally sensitive areas.</p> <p>A planning proposal that applies to land within an environment protection zone or land otherwise identified for environment protection purposes in a LEP must not reduce the environmental protection standards that apply to the land (including by modifying development standards that apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with clause (5) of Direction 1.5 “<i>Rural Lands</i>”.</p>	The Planning Proposal does not alter or remove any environment protection zone.	N/A
2.2 Coastal Protection	Direction applies when a relevant planning authority prepares a planning proposal that applies to land in the coastal zone.	The land affected by this Proposal is located outside of the coastal zone.	N/A
2.3 Heritage Conservation	<p>A planning proposal must contain provisions that facilitate the conservation of:</p> <p>(a) Items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,</p> <p>(b) Aboriginal objects or Aboriginal places that are protected under the <i>National Parks and Wildlife Act 1974</i>, and</p> <p>(c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal</p>	This Planning Proposal does not impact on any areas or items of heritage significance.	N/A

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
	culture and people.		
2.4 Recreation Vehicle Areas	A planning proposal must not enable land to be developed for the purpose of a recreation vehicle area (within the meaning of the <i>Recreation Vehicles Act 1983</i>).	The Proposal does not enable land to be developed for the purpose of a recreation vehicle area.	N/A
3. Housing, Infrastructure and Urban Development			
3.1 Residential Zones	This direction applies when a relevant planning authority prepares a planning proposal that will affect land within: (a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary), (b) any other zone in which significant residential development is permitted or proposed to be permitted.	The Planning Proposal does not affect residential zoned land.	N/A
3.2 Caravan Parks and Manufactured Home Estates	Applies when a relevant planning authority prepares a planning proposal that identifies suitable zones, locations and provisions for caravan parks.	Not applicable to this Planning Proposal.	N/A
3.3 Home Occupations	Planning proposals must permit home occupations to be carried out in dwelling-houses without the need for development consent.	This proposal does not alter home occupation provisions in Byron LEP 2014.	N/A
3.4 Integrating Land Use and Transport	Applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.	Not applicable to this Planning Proposal.	N/A
3.5 Development Near Licensed Aerodrome	Applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to land in the vicinity of a licensed aerodrome.	The Planning Proposal will not alter provisions on land in the vicinity of the Tyagarah aerodrome.	N/A
4. Hazard and Risk			
4.1 Acid Sulfate Soils	Applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.	The land is not mapped as being affected by Acid Sulfate Soils.	N/A

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
4.2 Mine Subsidence and Unstable Land	Applies when a relevant planning authority prepares a planning proposal that permits development on land that is within a mine subsidence district.	This Proposal does not impact on any mine subsidence area.	N/A
4.3 Flood Prone Land	Applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land.	The land is not flood prone.	N/A
4.4 Planning for Bushfire Protection	Applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.	The land is not identified as being Bushfire Prone.	N/A
5. Regional Planning			
5.1 Implementation of Regional Strategies	Planning proposals must be consistent with a regional strategy released by the Minister for Planning.	See above.	Consistent.
5.2 Sydney Drinking Water Catchments	Applies when a relevant planning authority prepares a planning proposal that applies to the hydrological catchment.	The Proposal is not within this catchment.	N/A
5.3 Farmland of State and Regional Significance on the NSW Far North Coast	The planning proposal must not rezone land mapped as State or regionally significant farmland under the Northern Rivers Farmland Protection Project for an urban use.	The land is mapped as Regionally Significant Farmland. The Planning Proposal does not propose to alter the existing RU1 Primary Production zoning. The draft provisions will ensure that non-farming uses are only permitted where there is an essential association with agriculture on the land.	Consistent
5.4 Commercial and Retail Development along the Pacific Highway, North Coast	Applies to land located on “within town” segments of the Pacific Highway.	Not directly relevant to this Planning Proposal.	N/A
6. Local Plan Making			
6.1 Approval and Referral Requirements	A planning proposal must: (a) minimise the inclusion of provisions that require the concurrence,	The Planning Proposal will not include provisions that require the concurrence, consultation or referral of development	N/A

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
	<p>consultation or referral of development applications to a Minister or public authority, and</p> <p>(b) not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the relevant planning authority has obtained the approval of:</p> <p>(i) the appropriate Minister or public authority, and</p> <p>(ii) the Director-General of the Department of Planning and Environment (or an officer of the Department nominated by the Director-General),</p> <p>prior to undertaking community consultation in satisfaction of section 57 of the Act, and</p> <p>(c) not identify development as designated development unless the relevant planning authority:</p> <p>(i) can satisfy the Director-General of the Department of Planning and Environment (or an officer of the Department nominated by the Director-General) that the class of development is likely to have a significant impact on the environment, and</p> <p>(ii) has obtained the approval of the Director-General of the Department of Planning and Environment (or an officer of the Department nominated by the Director-General) prior to undertaking community consultation in satisfaction of section 57 of the Act.</p>	<p>applications to a Minister or public authority.</p>	
6.2 Reserving Land for Public Purposes	<p>A planning proposal must not create, alter or reduce existing zonings or reservations of land for public purposes without the approval of the relevant public authority and the Director-General of the Department of Planning and Environment (or an officer of the Department nominated by the Director-General).</p>	<p>The Planning Proposal does not relate to any land reserved for a public purpose.</p>	<p>N/A</p>

S117 Direction	Application	Relevance to this planning proposal	Consistency with direction
6.3 Site Specific Provisions	<p>Applies when a relevant planning authority prepares a planning proposal that will allow a particular development to be carried out.</p> <p>A planning proposal that will amend another environmental planning instrument in order to allow a particular development proposal to be carried out must either:</p> <ul style="list-style-type: none"> (a) allow that land use to be carried out in the zone the land is situated on, or (b) rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or (c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended. <p>A planning proposal must not contain or refer to drawings that show details of the development proposal.</p>	<p>The Planning Proposal will facilitate nominated development to be carried out.</p> <p>Specific controls are proposed in relation to those uses, to ensure that they remain consistent with the primary production zoning of the land.</p> <p>It is considered that the additional local clause is the appropriate mechanism in this case, rather than changing the zoning of the land, in order to retain the overall agriculture focus and objectives for the site</p>	Justifiably inconsistent.

Section C – Environmental, social and economic impact

Q8. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

The amendments proposed will not adversely affect critical habitat or threatened species, populations or ecological communities, or their habitats.

Q9. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

There are negligible environmental effects likely as a result of the minor amendments and corrections outlined in this Planning Proposal.

Q10. Has the planning proposal adequately addressed any social and economic impacts?

The maintenance of land uses at the site which facilitate and support the existing agricultural activities results in a number of social and economic benefits for the locality, area and region.

Section D – State and Commonwealth interests

Q11. Is there adequate public infrastructure for the planning proposal?

There is adequate public road infrastructure provision at the moment, but planning is underway for the future upgrade of the local road network in this area, which will benefit the site. The Traffic report contained at **Appendix C** addresses, among other things, potential impacts on adjoining State road infrastructure.

Significant traffic congestion is experienced at the round-about and on Ewingsdale Road. While traffic generated by The Farm is not the sole reason for this congestion, it is a contributor. As such, preliminary discussions involving the proponents, Council and Roads and Maritime Services (RMS) have indicated a need for a variety of road improvement upgrades to address the congestion, and the need for The Farm to contribute to those solutions.

The proponents have therefore agreed to negotiate a Voluntary Planning Agreement (VPA) as part of this Planning Proposal, to provide for a formal agreement to the implementation of their contribution to road upgrade solutions, involving the dedication of land across the Ewingsdale Road frontage of the site, to facilitate the widening of that road.

Q11. What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?

NSW Roads and Maritime has been involved in this Planning Proposal in relation to the proposed VPA relating to contribution towards future upgrade solutions to the local and State road network.

Other agencies will have an opportunity to input following Gateway Determination.

Part 4 Mapping

Finalisation of the Planning Proposal will include a **Local Clause Map** linked to the new proposed clause. This map will specifically reference the clause and illustrate the site and the location and extent of the nominated activity precincts. A draft map is contained at **Appendix A**.

Part 5 Community Consultation

Land owner and community engagement will continue to be an important component of this planning proposal process. Engagement activities to date have included:

- Site meetings and discussions with The Farm management, with both Councillors and staff;
- On-site meetings with the adjoining farmers / land owners;
- Discussions with local Ewingsdale residents.

In addition to any consultation requirements that may come with a Gateway Determination, the following activities are also proposed:

- Dialogue and meetings with The Farm management and their representatives to ensure that Council's objectives continue to be clearly communicated and understood;
- Provision of supporting reports etc. to adjoining farmers and meetings with those land owners (at their farm) to ensure Council continues to understand and respond to their issues of concern;
- Attendance at meetings of the Ewingsdale Progress Association to keep members informed throughout the process and ensure that Council staff and Councillors remain aware of local issues and concerns; and
- Wider consultation with the Byron community.

Part 6 Project Timelines

An indicative project timeline is provided in the table below:

Plan making step	Estimated Completion
Gateway Determination	July 2018
Government Agency consultation	August 2018
Public Exhibition Period	August 2018 (30 days)
Submissions Assessment	September 2018
Council assessment of planning proposal & exhibition outcomes	October 2018
Submission of endorsed LEP amendment to Parliamentary Counsel for drafting (delegated authority)	October 2018
Council to make the LEP amendment (delegated authority)	November 2018
Forwarding of LEP amendment to Department of Planning & Environment for notification (if delegated)	November 2018

Conclusion

This Planning Proposal seeks to introduce a new local clause into Byron LEP 2014 to provide for a range of land uses at The Farm, Ewingsdale, that are ancillary to and supportive of the farming activities being carried out on the land.

The specific provisions will ensure that primary production remains the dominant use of the land, and that the additional uses will have and maintain an essential association with that farming. These uses provide an on-site market for the produce and assist to ensure the ongoing viability of the agricultural activities.

Issues associated with potential land use conflicts can be addressed during the planning proposal process, primarily through the provision on appropriate buffers within the site.

This Planning Proposal will not impact on environmental areas nor create unreasonable demand on urban infrastructure.

This Planning Proposal will have positive social and economic effects by offering additional agricultural employment and trading opportunities for local people and businesses.

The proposed LEP amendments are generally consistent with the North Coast Regional Plan 2036 and Council's Rural land Use Strategy. An assessment of the planning proposal indicates that it is consistent with relevant SEPPs and all relevant s117 Directions.

There is sufficient information to enable Council to support the planning proposal and forward it to the Department of Planning and Environment for a Gateway determination.

Appendix A Proposed LEP Amendments

The following clause is proposed to be added to Schedule 1:

6.10 Use of certain land at Ewingsdale Road, Ewingsdale

- (1) *This clause applies to land at Ewingsdale Road, Ewingsdale (known as The Farm) being Lot 1, DP 780234 and Lot 5, DP 848222, and identified as “Area E” on the Local Clause Map.*
- (2) *The purpose of the **Rural Activity Precinct** shown on the Local Clause Map is to provide commercial outlets for farming products grown on site and opportunities for the community to learn about and appreciate farming.*
It applies to a cluster of existing buildings in the south-west corner of the property (see Map).
- (3) *Within the **Rural Activity Precinct** shown on the Local Clause Map, development for the following purposes is permitted with consent (in addition to uses permitted with consent in the RU1 zone):*
 - (a) *Development for the purposes of a shop, being solely for a wholesale bakery, located within an existing building, used for the preparation and sale of bread and other bakery goods, provided that a minimum of 70% of the products contain ingredients sourced directly from the property;*
 - (b) *Development for the purposes of an industrial training facility, being areas within existing buildings utilised for the provision of small group training, where that training is related to agriculture or rural industry, excluding training relating to marketing and/ or administration aspects of agriculture;*
 - (c) *Development for the purposes of office premises, being areas within an existing building solely utilised for the management of agricultural or ancillary businesses that are conducted on the property; and*
 - (d) *Development for the purposes of an information and training facility, being use of an existing building for the display of information relating to the property and its uses, or as a gathering point for individuals and groups undertaking training, education or recreational activities at the site.*
- (4) *Development consent must not be granted for any use within the **Rural Activity Precinct** shown on the Local Clause Map, unless the consent authority is satisfied that:*
 - (a) *the use has an essential association with existing agricultural/ primary production activities undertaken within the **Farming Precinct** at the site, or enables or enhances agricultural production on the site;*
 - (b) *the use will not limit the operation and/ or expansion of adjoining and nearby agricultural uses;*
 - (c) *wastewater generated by the proposed use will be within the treatment and disposal capacity of the approved on-site wastewater management system;*
 - (d) *there are no new or additional buildings proposed on the site;*
 - (e) *traffic generated by the proposed use will not result in total peak hour trips (i.e. from the site as a whole), exceeding 200 trips outside of school holiday periods or 350 trips during holiday periods;*
 - (f) *individual events undertaken within agricultural training/ education facilities involve a maximum of 30 people, with the exception of school groups, which can have a maximum of 50 students; and*
 - (g) *there will be no more than 1 training/ education event per week within the agricultural training/ education facilities;*

- (5) The purpose of the **Farming Precinct** shown on the Local Clause Map is to preserve the bulk of the property for primary production and facilitate innovative community farming models.
It applies to all areas outside of the **Rural Activity Precinct**, except for a continuous strip of land, with a minimum width of 5m, along all boundaries that adjoin privately owned farm land (see Map).
- (6) The secondary purpose of the **Farming Precinct** is to provide opportunities for agricultural education/ appreciation and low-scale recreational activities that are directly related to primary production.
- (7) Within the **Farming Precinct** shown on the Local Clause Map, development for the following purposes is permitted with consent:
 - (a) Farm field days and exhibitions;
 - (b) Farm tours for educational purposes, including individuals, school groups, and other groups of up to 30 people at a time, or 50 students in the case of a school group.
- (8) Development consent must not be granted for a farm field day or exhibition within the **Farming Precinct** shown on the Local Clause Map, unless the consent authority is satisfied that:
 - (a) there are a maximum of 4 such events in any calendar year;
 - (b) there are no more than 100 people attending any individual event;
 - (c) events are scheduled such that event traffic avoids morning and afternoon peak hour periods;
 - (d) events will not occur concurrently with any use of the agricultural training / education facilities within the Rural Activities Precinct;
 - (e) a Noise Management and Monitoring Plan has been prepared for each event, including:
 - details to ensure adequate measures, roles and responsibilities are in place to ensure that event noise remains inaudible above background levels at nearby dwellings;
 - assessment of expected noise impacts;
 - detailed examination of all feasible and reasonable management practices that will be implemented to minimise noise impacts
 - strategies to promptly deal with and address noise complaints. This should include any records that should be kept in receiving and responding to any noise complaints;
 - details of performance evaluating procedures (for example, sound checks on amplified public address systems);
 - procedures for notifying nearby residents living within 1 kilometre of the property of forthcoming events, times that they are likely to notice noise emanating from the site and the contact details for the onsite manager for complaints and queries to be made, and responded to;
 - operational details about the use of any noise monitoring equipment to record sound pressure levels around the property;
 - name and qualifications of person who prepared the report; and
 - protocols for the monitoring of the event, including a requirement that a report be provided to Council following the event.
- (9) Within the **Farming Precinct** shown on the Local Clause Map, development for the following purposes is permitted without consent:
 - (a) Family picnics; and
 - (b) Individual/ small group (up to 10 people) unaccompanied meanders.

Draft Local Clause Map



Appendix B Wastewater Report

The Farm – Onsite Sewage Management Report



**HEALTH SCIENCE ENVIROMENTAL EDUCATION
ENVIRONMENTAL AUDITOR**

The Farm – Onsite Sewage Management

Prepared for: The Farm at Byron Bay Pty Ltd

FINAL Version: V1.10

Project 39/2015_pp

Date: 18 June 2018

Tim Fitzroy & Associates

ABN: 94120188829

ACN: 120188829

environmental

Tim Fitzroy

Environmental Health Scientist

Environmental Educator

Environmental Auditor

61 Pine Avenue
East Ballina NSW 2478

T | 02 6686 5183

M | 0448 483 837

tim@timfitzroy.com.au

www.timfitzroy.com.au

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Executive Summary

This report assesses the capacity of the existing onsite sewage management system (OSMS) with respect to the Planning Proposal for The Farm at Byron Bay.

The OSMS that was installed in 2015 included a pre-treatment anaerobic tank followed by a Kubota aeration system. The effluent management system includes an effluent holding tank, pump well and irrigation system.

There have been a number of enhancements and upgrades to the treatment process over the past two years including:

- Changing the disinfection system from tablets to a more efficient dosing system
- Installing additional anaerobic tanks for improved pre-treatment prior to the aerated system
- Improving flow distribution to the Kubota aeration system to equally balance flows between the three units.

The treatment component of the current OSMS has a theoretical treatment volume capacity of 15,000 L/day.

The effluent irrigation system is at capacity in terms of flow volumes. The irrigation system has a capacity of 11,500 L/day but includes storage facilities to balance out weekend peak flows.

The sewage loadings from existing uses and the Planning Proposal are:

- Existing Uses: 7,000 L/day, 12 ET
- Existing Uses and Additional Uses Currently Permissible: 9,300 L/day, 16 ET
- Planning Proposal plus the above: 13,400 L/day, 23 ET (cumulative totals).

The capacity of the existing treatment system is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible' (9,300 L/day). The existing treatment system capacity is 15,000 L/day.

The capacity of the treatment system is also adequate for total flows arising from the Planning Proposal (13,400 L/day).

The capacity of the existing effluent irrigation system (11,480 L/day) is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible'.

However, the capacity of the effluent irrigation system is inadequate for total flows arising from the Planning Proposal. The system will require expansion to cater for the additional loading.

1. Introduction

This report assesses sewage management requirements for the Planning Proposal submitted to Byron Shire Council in relation to The Farm at Byron Bay (referred to as *The Farm* in this report).

The report addresses the existing onsite sewage management system (OSMS).

1.1 Limitations and Conditions of Report

This report is prepared solely for the use of the person or company to whom it is addressed. No responsibility or liability to any third party is accepted for any damages howsoever arising out of the use of this report by any third party.

Unless specifically agreed otherwise in the contract of engagement, Tim Fitzroy & Associates retains Intellectual Property Rights over the contents of this report. The client is granted a licence to use the report for the purposes for which it was commissioned.

2. Current Approved OSMS

The treatment component of the current OSMS is near capacity in terms of flow volumes. The treatment system was not achieving effluent quality targets due high strength kitchen waste inputs. A number of treatment system improvements have been installed over the past year and now target effluent quality is being achieved.

2.1 Overview of Existing OSMS

Sewage currently comes from the following sources on The Farm (refer to **Illustration 2.1**):

- The Three Blue Ducks Restaurant & Café + The Bread Social: sewage is split into two streams; each stream passes through a separate 2,000L grease-traps. Downstream of the grease-traps, the two streams / pipes join and receive flow from the toilet block associated with the restaurant / café. The sewage then flows to the OSMS
- Sewage from the training facility building (which includes toilets and shower) joins the above pipework downstream of the grease-traps
- Sewage from the Farm HQ kitchen flows direct to the OSMS.

The main treatment process is shown in **Illustration 2.2** and includes:

- A series of anaerobic tanks (or septic tanks)
- an aerated wastewater treatment system (AWTS) (Kubota system) including a number of pumps
- effluent holding tank and pump well.

The effluent from the treatment process is irrigated on-site through a sub-surface irrigation system located about 150 m to the north of the complex.

The capacity of the treatment and effluent irrigation components are:

- 15,000 L/day for the treatment system
- 11,480 L/day for the effluent irrigation system (the irrigation system has an upstream storage tank to balance out peak flows experienced over the weekends).

Average daily flows recorded from 2015-2018 are 8,000 L/day with peaks on weekends generally in the range of 10,000 - 14,000 L/day. Details of the OSMS components are included in **Appendix B**.

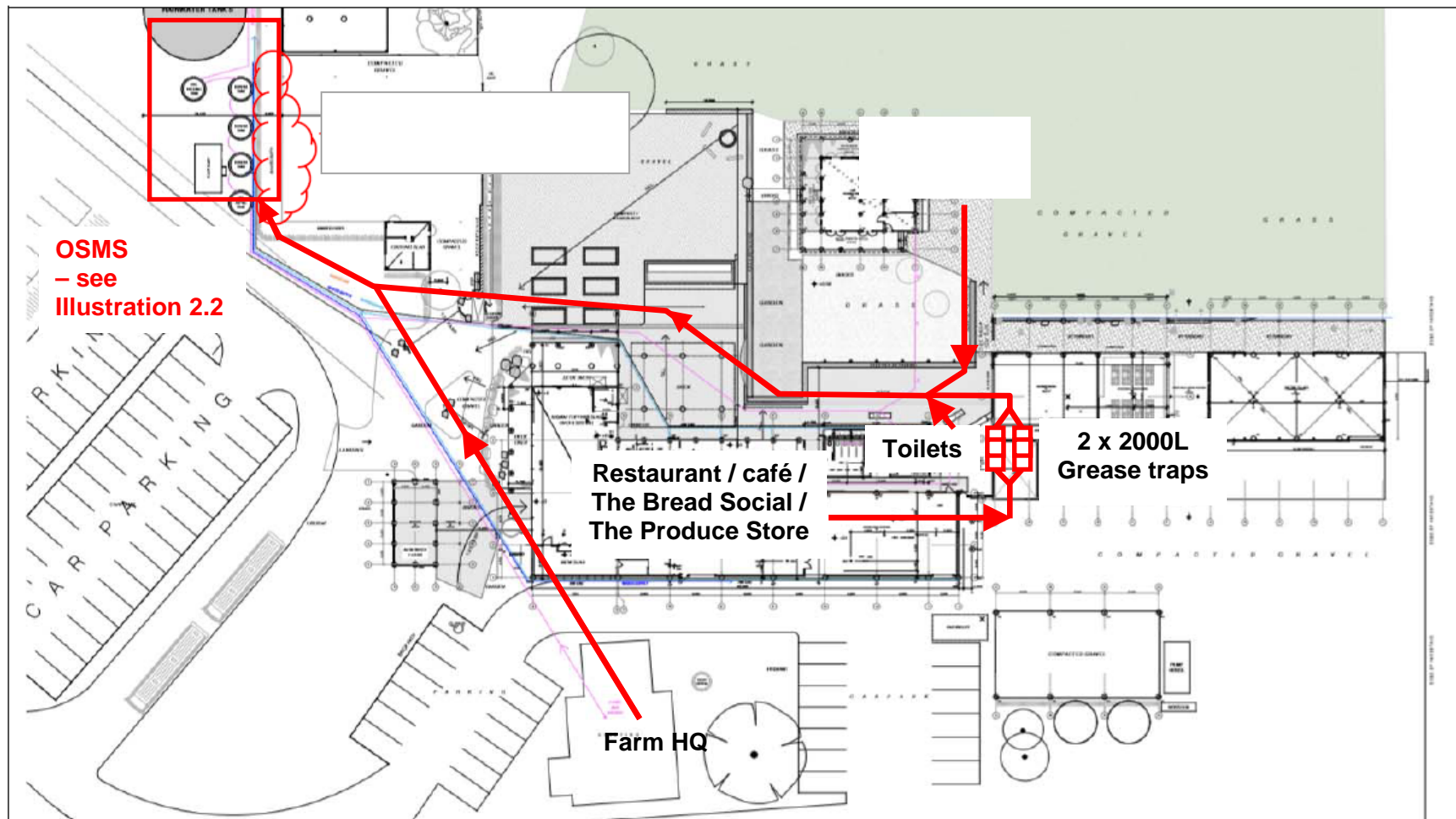


Illustration 2.1 – Sewage flows to Current OSMS

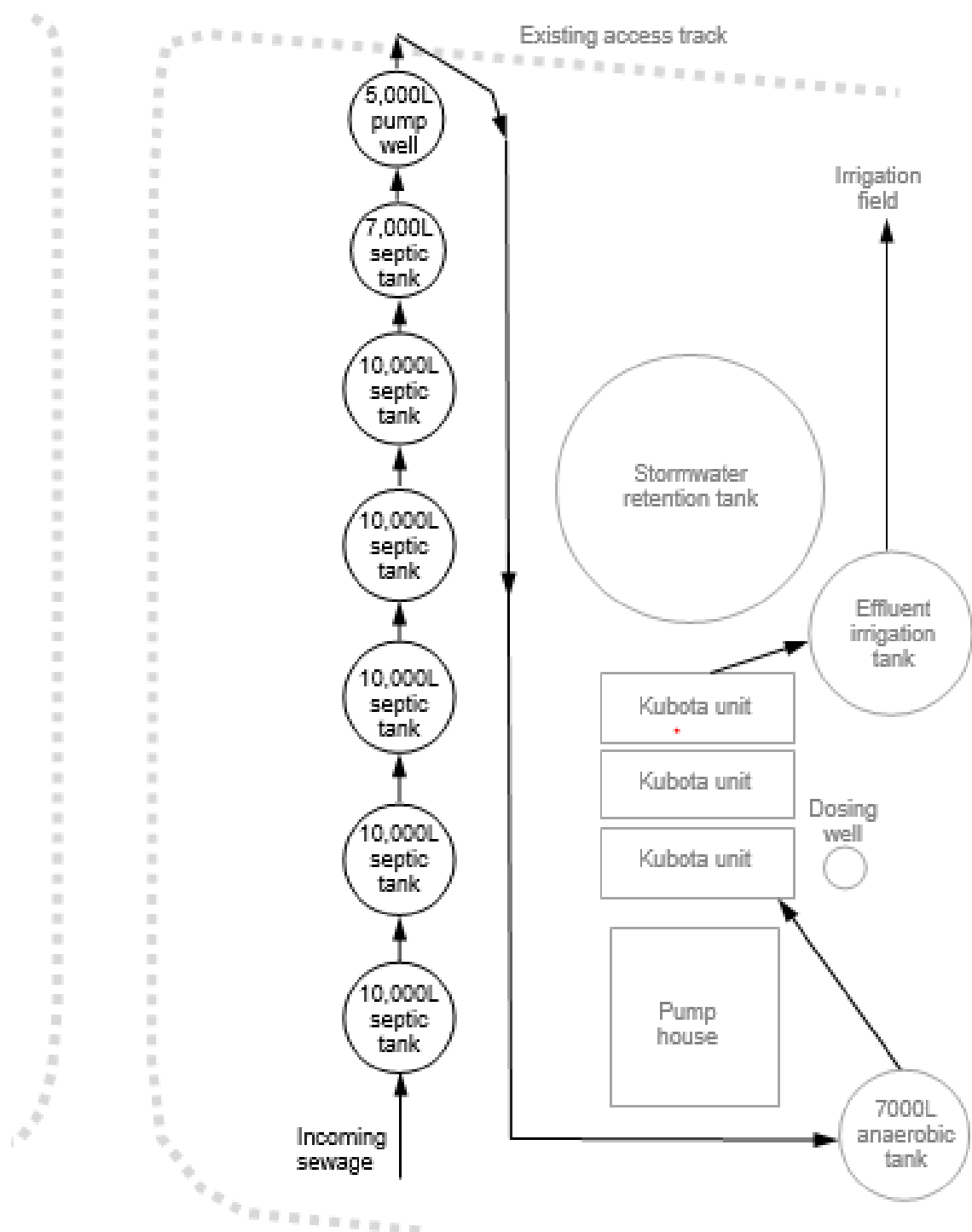


Illustration 2.2 –Schematic of Existing OSMS Treatment System

2.2 History of Existing OSMS

On 22 May 2014 *The Farm* was approved under DA 10.2013.626.1 by Byron Shire Council (BSC) as a Cheese Making Facility and Café. On 25 August 2014 BSC approved the onsite wastewater management system designed by Greg Alderson and Associates (Approval 70.2014.1034.1 under section 68 of the Local Government Act).

Following a review of quotations to construct the on-site sewage management system (OSMS) an alternative treatment system submitted by Truewater Australia was selected in lieu of the approved Taylex 15000 CAB aerated wastewater treatment system. The selected alternative system is a TWA/Kubota 15000 consisting of three Kubota HCB-25 Jonkssou units each with a certified treatment capacity of 5,000 litres per day. The Truewater alternative system was approved by BSC on 8 December 2014 (Approval No 70.2014.1034.2).

The OSMS approved in December 2014 consisted of:

- Two grease arrestors operating in parallel at restaurant / café / bakery (each 2000L capacity)
- Anaerobic tank (or septic tank) with outlet filter (1 x 7000L capacity)
- An aerated wastewater treatment system (AWTS) consisting of three Kubota HCB-25 Jonkssou systems (3 x 5000L systems providing a total 15,000L/day capacity)
- Two holding tank / pump wells associated with the AWTS
- One 30,000 L above ground holding tank with pump well (1 x 30,000L)
- 5784m² of sub-surface irrigation (comprising 6 zones).

The Farm commenced operations in Easter 2015. Cheese Making has not commenced onsite.

Problems with the OSMS commenced shortly after opening in Easter 2015 and despite the installation of additional units (new 2,000L grease trap and new 7,000L septic tank) concerns remained as to the ability of the system to adequately treat the wastewater.

In late 2015 new anaerobic tanks were installed upstream of the Kubota AWTS system to provide initial BOD reduction to the high strength sewage. This comprised a series of 5 x 10kL tanks, 1 x 7kL tank and 1 x 5kL pump well. Monitoring of the system was also undertaken. However, at present the upgraded system is not yet consistently achieving the effluent quality requirements.

The current approval issued on 27.10.2015 (Approval No. 70.2014.1034.5) is for a design flow rate of 14,000 litres per day.

In 2015 *The Farm* Byron Bay Pty Ltd engaged TFA to conduct a review of the system and prepare a report recommending upgrades or modifications to achieve a satisfactory effluent quality for on-site irrigation.

The OSMS review made the following recommendations in order of priority:

- Install five new 10 kL septic tanks (5 x 10 kL) and one new 6kL septic tank (1 x 6 kL) to provide total volume of 56 kL to achieve an 80-90% BOD reduction
- Install a new 5000 L pump well to pump effluent from new anaerobic/septic tanks to the existing 7000L tank. Pump well to include two float-switch operated pumps that alternate in duty/standby mode. Pump well to include: high level alarm with flashing light and audible alarm; secondary back-up measure with overflow pipe near top of well to direct flows to existing absorption trench
- Undertake regular monitoring and record in log book
- Following the above modification monitor:
 - influent and effluent to new anaerobic tanks to assess performance
 - influent and effluent to Kubota aeration system to determine if modifications are required
- Increase area for scullery and dishwashing in the restaurant in combination with other internal changes to reduce organic loading in wastewater
- Visually monitor grease traps to assess performance
- Inspect / monitor flows from Bare Bite kitchen to assess need for grease trap
- Continue to monitor flow volumes and compare with capacities of individual treatment / disposal units to determine timing of upgrades.
- Fit all sinks in food service areas with a dry basket arrestor with a fixed screen and a removable mesh basket and clean daily. The arrestor captures solids and fibrous material from the wastewater. Screened wastewater may then pass through to the grease trap prior to discharge to the OSMS. There are arrestors with a mechanism that does not allow flow to the OSMS when the basket is removed which are worthy of consideration.

The OSMS is a tertiary treatment system including:

- Grease Arrestors;
- Anaerobic digestion;
- Aerated Wastewater Treatment;
- Inline Chlorination; and
- Subsurface Irrigation.

On 1 August 2017 TFA provided a letter report to Byron Shire Council entitled *The Farm – Revised Performance of the On-site Sewage Management System*.

In summary, the effluent results from 2016 to 2018 show a gradual and significant improvement towards the compliance criteria because of various enhancements and upgrades. Disinfection of the irrigation water is now consistently being achieved including the required chlorine residual in the irrigation field. The OSMS treatment process is generally meeting compliance criteria for BOD and SS.

The improvement in the quality of the irrigation water over the past year has been achieved by a combination of enhancements and upgrades to both business operations and the on-site treatment process. Enhancements to the treatment process have included:

- Changing the disinfection system from tablets to a more efficient dosing system
- Installing additional anaerobic tanks for improved pre-treatment prior to the Kubota aerated system

- Improving flow distribution to the Kubota system to equally balance flows between the three units.

The irrigation water has met the compliance criteria for thermotolerant coliforms for all sampling events in 2017. One event in 2018 exceeded the criteria. The general compliance has been achieved by the upgraded disinfection system and subsequent refinements to the dosing rate in combination with other general treatment improvements.

The Farm has undertaken significant steps and improvements to optimise the performance of the approved system. The system in 2018 is generally achieving compliance criteria with some exceedances which, while typical of on-site aeration systems, are being monitored with corrective action taken as appropriate. Therefore, it is considered appropriate to continue operation of the current OSMS system and associated management processes.

The Farm has undertaken soil testing at the irrigation fields to assess any residual public health risk associated with the irrigation scheme. The results show no contamination of soils from operations.

In addition to addressing the treatment process of the on-site sewage management system (OSMS), measures have been undertaken to modify kitchen practices such as:

- Increase areas for scullery and dishwasher to prevent residual food being washed into the OSMS because of hurried practices due to insufficient space
- Increase personnel dedicated to dishwashing in combination with training to assist with above issue
- Using biodegradable chemicals
- Fitting sinks in with a dry basket arrestor, screen and removable mesh basket in combination with frequent cleaning.
- Regularly checking grease traps and cleaning as required.

It is noted that the oil and grease levels in the effluent are of a relatively high quality regarding commercial waste effluent.

It is noted that odour emissions associated with the OSMS have been drastically improved since commencement of the operations because of the various upgrades and enhancements.

2.3 Effluent Quality Criteria

The Section 68 compliance criteria for effluent quality are shown in **Table 2.1**. The approval requires monitoring to be conducted weekly until three consecutive results in compliance with the criteria below have been recorded.

Table 2.1 – Effluent quality criteria upstream of Irrigation System

Parameter	Effluent Criteria	
	90% of all samples	Maximum threshold
Biochemical oxygen demand (BOD)	< 20 mg/L	30 mg/L
Suspended Solids (SS)	< 30 mg/L	45 mg/L
Thermotolerant Coliforms	< 30 cfu/100mL	100 cfu/100mL
Free Chlorine (mg/L)	0.2 – 2.0 mg/L	2.0 mg/L

2.4 Current Sewage and Effluent Quality

Wastewater quality entering and exiting the aeration system is shown in **Table 2.2**. The data is based on weekly sampling conducted from January to May 2018 (data for TN, TP and O&G is based on 2015/2016 data).

Table 2.2 –Wastewater Quality to and from Aeration System

Parameter	Range of Influent / Effluent Quality to Aeration System					
	Influent to Aeration System (after anaerobic tank)	Typical Untreated Domestic Sewage Strength	Effluent from Outlet of Aeration System	Typical Effluent Quality from Aeration Systems	Approval criteria for effluent (90 %ile)*	% reduction based on average sampling values
BOD (mg/L) (biochemical oxygen demand)	600-1800	200-300	10-80	~ 20	< 20	95%
SS (mg/L) (suspended solids)	100-700	200-300	10-70	~ 30	< 30	90%
TN (mg/L) (total nitrogen)	120-230	20-100	30-190	25-50	-	37%
TP (mg/L) (total phosphorus)	10-30	10-25	10-30	10-15	-	0%
O&G (mg/L) (oil and grease)	100-200	50-150	20-30	-	-	83%

* The '20/30' BOD/SS effluent quality approval criteria for the OSMS is the accredited performance criteria for the installed Kubota HC-B units as stated in the submission by Truewater Australia. It is noted that

the Truewater submission indicates that the influent to the Kubota should be of a 200 / 160 mg/L quality for BOD / SS respectively.

Thermotolerant coliform levels of 30 cfu/100mL or less have been achieved for all tests (20 tests) in 2018. Residual chlorine tested in the irrigation field has been in the range of 0.8 to 2.0mg/L for all tests (20 tests) in 2018.

2.5 Current Sewage Flows

Daily flows recorded from March 2015 to December 2017 provide the following flow statistics:

- Median flow = 8,000 L/day
- 95 percentile flow = 13,000 L/day
- Typical range on weekends = 10,000 - 14,000 L/day

The larger flows typically occur on weekends. A graph of the daily flow volumes from March 2015 to May 2018 is shown in the following image.

The recorded flows generally are within the hydraulic capacity of the system 95% of the time. The hydraulic capacity of the system is:

- 15,000 L/day for the treatment system
- 11,480 L/day for the effluent irrigation system (the irrigation system has an upstream storage tank to balance out peak flows experienced over the weekends).

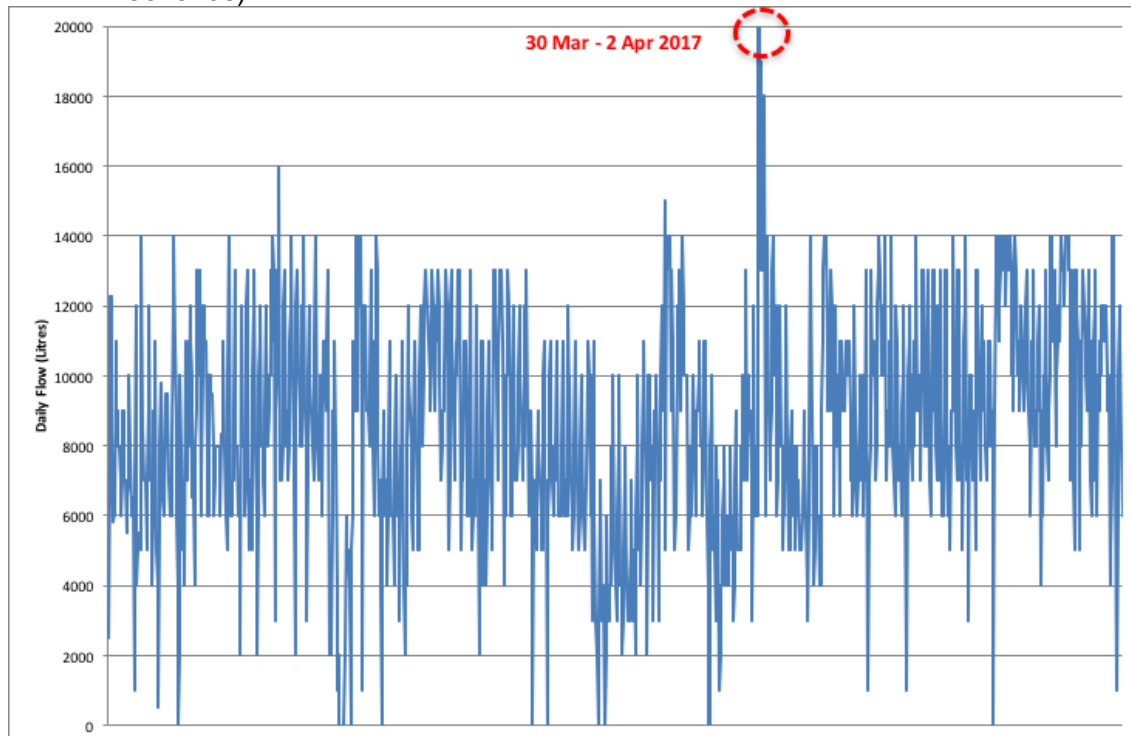


Illustration 2.3 –Daily Sewage Flows from 2015 to 2018

3. OSMS Capacity for Planning Proposal

The existing treatment system has capacity to cater for the total sewage flows from existing uses and the Planning Proposal. However, the existing effluent irrigation system will need to be expanded to cater for the additional loading associated with the Planning Proposal.

3.1 Planning Proposal Components

OSMS upgrades have been assessed in respect to the following site development stages.

3.1.3 The Planning Proposal

The Planning Proposal is a site-specific amendment to amend Schedule 1 of BLEP 2014. This amendment will provide for additional land uses on the subject site as identified in the Planning Proposal. The additional uses sought are described as follows and as indicated in the Planning Proposal:

Table 3.1 Planning Proposal Land Uses

Building/No. on Plan 3.2	Description	BLEP14 Definition	Comments
Main Building (Produce Store) 7	Part of the main building has approval for a roadside store. It is intended to seek an amendment to the permitted land uses to enable the sale of produce from the local area which is not grown on site.	Retail Premises	It is proposed to maintain the existing roadside stall use and add the retail premises use to regularise the sale of items produced in the local area but not on the subject site. The proposed retail premises will remain small scale. The sale of additional products will enhance the road side stall use and support local farmers and producers.
Plant Nursery 8	The plant nursery approved in accordance with DA 10.2015.151.1 presently provides for the sale of flowers and other gift items. It is concluded that the use as currently undertaken on the site may also fall within the definition of a flower shop.	Retail Premises	The Planning Proposal seeks to provide certainty in relation to the existing plant nursery/ florist on the site thus specifically listing retail premises as a permitted use on the site.
Bales 9	A small area within the existing bales was approved for the purpose of a gelato	Food and Drink Premises /	It is proposed to maintain the existing approved food and drink premises and include an

Building/No. on Plan 3.2	Description	BLEP14 Definition	Comments
	bar / coffee in accordance with DA 10.2013.626.1. It is intended to create an information booth in association with approved gelato / coffee area.	Information and Education facility	information and education facility as a permissible land use to permit agricultural education to be undertaken on the property.
Farm Cottage 10	The farm cottage was originally approved as a rural workers dwelling and subsequently approved for the purpose of agricultural training and information (DA 10.2015.151.1). The definition of agricultural training facility is restricted to vocational training and it is intended to broaden the permissible land uses on the property to enable information and education to broaden beyond vocational training.	Industrial Training Facility / Information and Education Facility	<p>The Planning Proposal seeks to enable the use of this building as an information and education facility. This will enable small workshops to be undertaken on the land in relation to a range of topics such as permaculture, organic farming, cooking etc.</p> <p>The concept behind this element is a core objective of the Farm in terms of educating people “from paddock to plate”. This component will teach people about farming.</p>
Production Kitchen 11	This area was originally approved as part of the cheese factory. This use has not been undertaken on the site and the Planning Proposal would enable this area to be used for the purposes of and information and education facility.	Information and Education Facility	The existing production kitchen will be used for the purposes of food production / preparation. It is also anticipated that this area will be used for information and education purposes (e.g. cooking demonstrations or classes associated with produce grown on the site).
Shed 1 12	This shed was approved as a farm building and it is intended that this building will be used for the purpose of agricultural training and information and education facility.	Industrial Training Facility / Information and Education Facility	The industrial training facility use of the building is permissible with consent in accordance with BLEP14. The Planning Proposal seeks approval for the use of the building for the purposes of an information and education facility. This space would be appropriate for use by larger groups on site for information and education such as visiting school groups.
Stables 13	A shade structure provided adjacent to the existing children's play area is a suitable area for children's information and education sessions to be undertaken.	Information and Education Facility	This existing shaded area provides a space for children to gather prior to the undertaking of farm tours etc.
	Site	Information and Education Facility	The proposed information and education use will occur across the site with the provision of Farm tours etc.

3.2 Sewage Loadings and Water Demand for Planning Proposal Components

Sewage loadings and water demand for the Planning Proposal components are shown overleaf in **Table 3.1**. They are expressed in terms of equivalent tenements (ET's) where one ET = water usage of 630 L/day & sewerage loading of 590 L/day. The loadings have been calculated using Council's Water and Sewer Equivalent Tenements Policy 13/005. Further details are provided in **Appendix A**.

In summary, the cumulative sewage loadings in **Table 3.1** are:

- Existing Uses: 7,000 L/day, 12 ET
- Existing Uses and Additional Uses Currently Permissible: 9,300 L/day, 16 ET
- Planning Proposal plus the above: 13,400 L/day, 23 ET (cumulative totals).

The capacity of the existing treatment system is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible' (9,300 L/day). The existing treatment system capacity is 15,000 L/day.

The capacity of the treatment system is also adequate for total flows arising from the Planning Proposal (13,400 L/day).

The capacity of the existing effluent irrigation system (11,480 L/day) is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible'.

However, the capacity of the effluent irrigation system is inadequate for total flows arising from the Planning Proposal. The system will require expansion to cater for the additional loading.

Water Requirements

It is noted the estimated Water ET's for Existing Uses is 12ET and 16.8ET for the cumulative total of Existing and Additional Uses Currently Permissible. This compares reasonably well with Rous County Council's bulk headworks charge of 14.42ET (letter to The Farm dated 3 January, 2018).

The estimated water demand for total flows arising from the Planning Proposal (including uses currently permissible) is 25.5ET.

Table 3.1 – Sewage and Water Loadings for Site Development Stages

Item No.	No. on Plan 3.2	Building Description	Standard Unit	Quantity	Sewer ET Rate (ET/unit)	Sewer ET Load (ET's)	Sewer Flow per ET (L/day)	Sewer Flow (L/day) (based on 590L/ET/d)	Water ET Rate (ET/unit)	Water ET Load (ET's)
Current Uses										
a	7	Restaurant - 'Three Blue Ducks' - Kitchen, Dining Areas and Toilet area	Floor area m²	600	0.02	12.0	590	7084.248	0.02	12.0
			TOTAL for Current Uses			12.0		7,084		12.0
Additional Uses Currently Permissible										
b	4	Main Building (Bakery)	Floor area m²	113.1	0.02	2.3	590	1334.58	0.02	2.3
c	5	Farm House	Floor area m²	196.18	0.004	0.8	590	462.9848	0.01	2.0
d	6	Shed 2	Floor area m²	205.6	0.003	0.6	590	363.912	0.003	0.6
d	6	Shed 2 (Cool Rooms)	Floor area m²	97.58	0.003	0.3	590	172.7166	0.003	0.3
			TOTAL for Additional Uses Currently Permissible			3.7		2,161		4.8
		Cumulative Total for Current Uses and Additional Uses Currently Permissible				15.7		9,246		16.8
Uses Subject to Planning Proposal										
e	7	Main Building (Produce Store)	Floor area m²	92.45	0.003	0.27735	590	163.6365	0.003	0.27735
f	8	Plant Nursery (Florist)	Floor area m²	78.2	0.003	0.2346	590	138.414	0.003	0.2346
g	9	Bales	Floor area m²	46.97	0.02	0.9	590	554.246	0.02	0.9
h	10	Farm Cottage	Floor area m²	97.84	0.01	1.0	590	577.256	0.01	1.0
i	11	Production Kitchen	Floor area m²	169	0.02	3.4	590	1994.2	0.02	3.4
j	12	Shed 1	Floor area m²	201	0.004	0.8	590	474.36	0.01	2.0
k	13	Stables	Floor area m²	80	0.004	0.3	590	188.8	0.01	0.8
			TOTAL for Uses Subject to Planning Proposal			6.9		4,091		8.6
		Cumulative Total for Current Uses / Additional Uses Currently Permissible / Planning Proposal				22.6		13,337		25.5

Note: one ET = town water usage of 630 L/day & sewerage loading of 590 L/day.

3.3 OSMS Upgrades for Site Development Stages

In summary, the existing treatment system has capacity to cater for the total sewage flows from existing uses and the Planning Proposal.

However, the existing effluent irrigation system will need to be expanded to cater for the additional loading associated with the Planning Proposal.

4. Summary of Recommendations

The treatment component of the current OSMS is near capacity in terms of flow volumes. The theoretical treatment volume capacity is 15,000 L/day.

The capacity of the existing effluent irrigation system is at capacity in terms of flow volumes. The irrigation system has a capacity of 11,500 L/day. The system includes a storage tank to balance out the larger flows on the weekends.

In summary, the sewage loadings from existing uses and the Planning Proposal are:

- Existing Uses: 7,000 L/day, 12 ET
- Existing Uses and Additional Uses Currently Permissible: 9,300 L/day, 16 ET
- Planning Proposal plus the above: 13,400 L/day, 23 ET (cumulative totals).

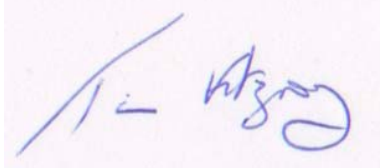
The capacity of the existing treatment system is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible' (9,300 L/day). The existing treatment system capacity is 15,000 L/day.

The capacity of the treatment system is also adequate for total flows arising from the Planning Proposal (13,400 L/day).

The capacity of the existing effluent irrigation system (11,480 L/day) is adequate for the estimated flows for both 'Existing Uses' and 'Additional Uses Currently Permissible'.

However, the capacity of the effluent irrigation system is inadequate for total flows arising from the Planning Proposal. The system will require expansion to cater for the additional loading.

This report has been prepared by Tim Fitzroy of *Tim Fitzroy & Associates*.



Tim Fitzroy
Environmental Health Scientist
Environmental Auditor

References

1. Byron Shire Council. (2015). Section 68 Onsite Sewage Management System No. 70.2014.1034.4 (Approval to Upgrade Onsite Sewage Management System). Dated 15 May 2015.
2. Byron Shire Council. (2011). Council's Water and Sewer Equivalent Tenements Policy 13/005.
3. NSW Water Directorate (2009). *Addendum to Section 64 Determinations of Equivalent Tenements*. May 2009.

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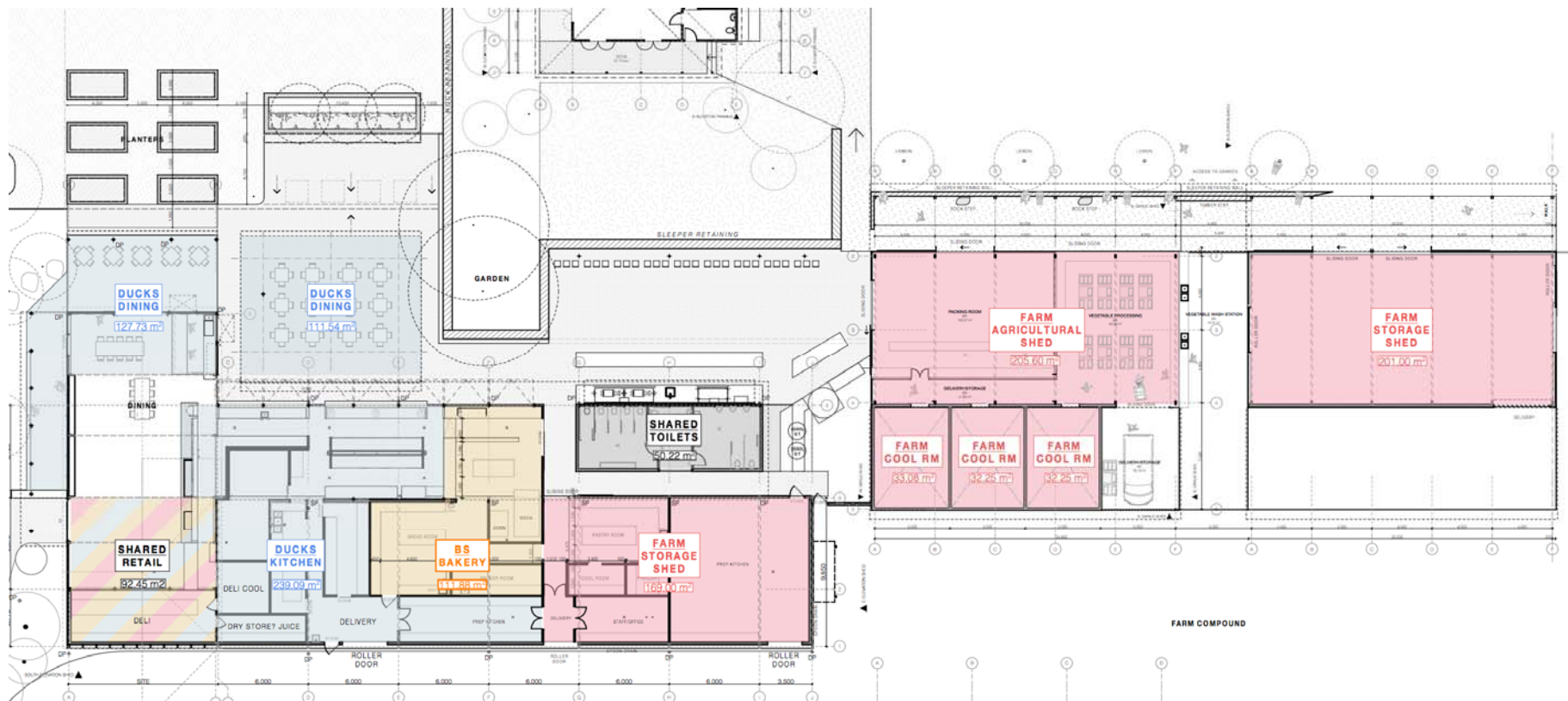
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A Floor Areas for Buildings



B Details of Existing OSMS

Component	Size / Volume	Details / comments
Preliminary treatment upstream of OSMS		
Grease traps	2 x 2,000L operating in parallel - flow from the restaurant / café and bakery is split to pass through each trap	<p>Serves restaurant kitchen / café and bakery.</p> <p>Grease traps are designed to intercept large volumes of fats and greases before they enter the treatment process.</p> <p>Typical design criteria for grease traps are to provide a volume equal to the peak hourly flow. The combined capacity of 4,000L is considered satisfactory for the peak hourly flow.</p>
Treatment Plant		
Anaerobic tanks	5 x 10kL tanks, 1 x 7kL circular concrete tanks with internal baffling in each tank to promote mixing and upflow. 1 x 5kL pump well to transfer outflow to a further 7kL tank	<p>This process is often used as a cost-effective pre-treatment method to reduce high strength organic loadings before aerobic systems.</p> <p>The anaerobic tanks need to reduce BOD by 80-90% to achieve influent requirements for the Kubota aeration system (200/160 for BOD/SS).</p>
Pump (with standby pump)	-	A macerator pump (and standby pump) in the anaerobic tank pumps the wastewater to a distribution chamber for gravity flow to the 3 aeration units
Aeration system	<p>Hydraulic capacity of 15,000 litres/day.</p> <p>The system has 3 x 5,000 litre units - Kubota HCB-25 model. Each unit has two 'anaerobic filter' chambers; an aeration / 'moving bed' chamber with recirculation back to 1st chamber; 'treated water / disinfection' chamber.</p> <p>Requires 'domestic'</p>	<p>The Kubota aeration system is suitably sized for the present hydraulic loading; however, the influent BOD greatly exceeds the specified influent quality.</p> <p>The current performance of the Kubota system appears poor in terms of BOD, SS, TN and TP. It is not known how much the high BOD influent is affecting the performance in regard to the other parameters.</p>

Component	Size / Volume	Details / comments
	strength influent - 200/160mg/L for BOD/SS.	
Pump (with standby pump)		A pump well receives gravity flow from the aeration units and pumps to the above-ground effluent holding tank
Effluent holding tank	30,000 litres This volume is 2-3 days holding capacity for current flows	Located above-ground. Pumps effluent to the sub-surface irrigation system on a float-switch control system. Volume is considered adequate provided it is operated with a buffering capacity (empty storage) to accommodate any malfunctioning of the irrigation system.
Effluent irrigation system		
Sub-surface irrigation system	Total irrigation area of 5,784m ² - divided into 6 zones - 964 m ² each. Designed for effluent flow of 11,480 litres/day	Irrigation area has grass cover. Capacity is adequate for current flows but will need upgrading for any significant increase in flows.

Appendix C Traffic Report

THE FARM BYRON BAY

Traffic Impact Study

22 June 2018
Revision 0

DOCUMENT CONTROL

Revision number	Description	Prepared	Reviewed	Issued	Issue date
0	Final	MK	MC	MK	22/06/18

Document title: Traffic Impact Study for The Farm Byron Bay
Document number: J1015_TIA_0
Author: Michiel Kamphorst, *MSc BSc RPEng RPEQ NER*
Client name: Planners North
Client's representative: Kate Singleton

Approved for use by:

Name: Michiel Kamphorst

Signature:



Date: 22nd May 2018

Ingen Consulting information

Ingen Consulting Pty Ltd, ABN 18 623 948 112

Alstonville NSW 2477

+61 4 1726 4987

michiel@ingenconsulting.com.au

www.ingenconsulting.com.au

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1. INTRODUCTION

Ingen Consulting P/L has been engaged by Planners North to prepare a Traffic Impact Study (TIS) for The Farm Byron Bay at 11 Ewingsdale Road, Ewingsdale, NSW.

1.1. Scope

The purpose of this report is to quantify the traffic impact of the operations of The Farm Byron Bay on the surrounding road network, in particular with respect to traffic generation and parking demand. This report seeks to:

- Demonstrate compliance with the requirements of chapter B4 of the 2014 Byron Shire Development Control Plan;
- Address relevant items recommended for a Traffic Impact Study in the 2002 Guide to Traffic Generating Developments (RTA);
- Assist with quantifying the contribution of generated traffic to the traffic volume on Ewingsdale Road, from the Pacific Motorway to McGettigans Lane; and
- Assist with the assessment of safety and capacity of the eastern Ewingsdale Interchange roundabout.

Some of the operations of The Farm Byron Bay are permissible under the existing approvals for the site, but others are subject to approval of a Planning Proposal for this site. This report adopts a holistic approach toward the operation and functionality of traffic and will assess these activities together.

1.2. Standards, policies and guidelines

This TIS has been prepared in accordance with the following standards, guidelines and policies:

- Chapter B4 of the 2014 Byron Shire DCP
- Guide to Traffic Generating Developments (RTA, 2002)
- Guide to Traffic Generating Developments, Updated Surveys (RMS 2013)
- Austroads Guide to Traffic Management
- Austroads Guide to Road Design
- Australian/New Zealand Standard 2890 series
- 2007 Infrastructure SEPP

1.3. Site description

The Farm is located at 11 Ewingsdale Road, Ewingsdale (Lot 5 DP 848222) and is shown in Figure 1.. Although previously accessed by Ewingsdale Road, access is now gained off Woodford Lane.



Figure 1 | Site location, Source of map: Google Maps 2018

1.4. Abbreviations and definitions

Commonly used terms and abbreviations throughout this report are:

AADT – Average Annual Daily Traffic

ADT – Average Daily Traffic

BSC – Byron Shire Council

GLFA – Gross Leasable Floor Area

HCM – Highway Capacity Manual

LOS – Level of Service, refer to Austroads and HCM definitions in Table 1 below

KPI – Key Performance Indicator

PWD – People With Disability

RMS – Roads and Maritime Services

The Farm – The Farm Byron Bay

Table 1 | Level of Service definitions

Level of Service	Uninterrupted flow facility definition (HCM 2010)	Interrupted flow facility definition (AGTTM3)
A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.	Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.	Describes reasonably unimpeded operation. The ability to manoeuvre within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.	Describes stable operation. The ability to manoeuvre and change lanes at mid segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.	Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.

E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.	Characterised by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.	Characterised by a flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queueing. The travel speed is 30% or less of the base free-flow speed. LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections has a volume-to-capacity ratio greater than 1.0.

2. SURVEYS

Throughout its operation, several surveys have been carried out at The Farm and adjacent the site, in order to understand the parking demand and traffic generated by The Farm, as well as congestion issues on the adjacent road network. We will provide a summary of the results of these surveys, where relevant to this report.

2.1. Greg Alderson and Associates 2015-2016

Greg Alderson and Associates (GAA), carried out a trip generation and parking survey at The Farm, throughout December 2015 and January 2016, which were published in the March 2016 Parking and Traffic Impact Assessment by GAA. The results are summarized below.

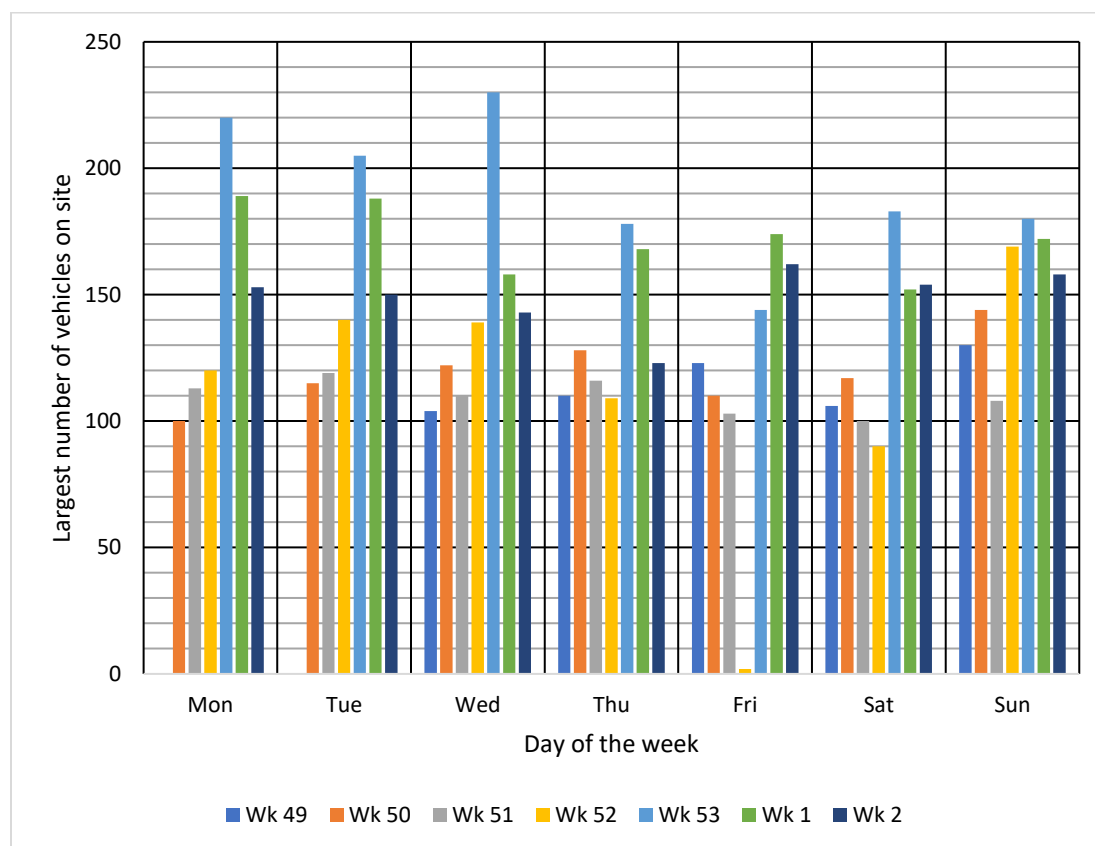


Figure 2 | Car parking summary, sorted by week number, Source of data: GAA 2016

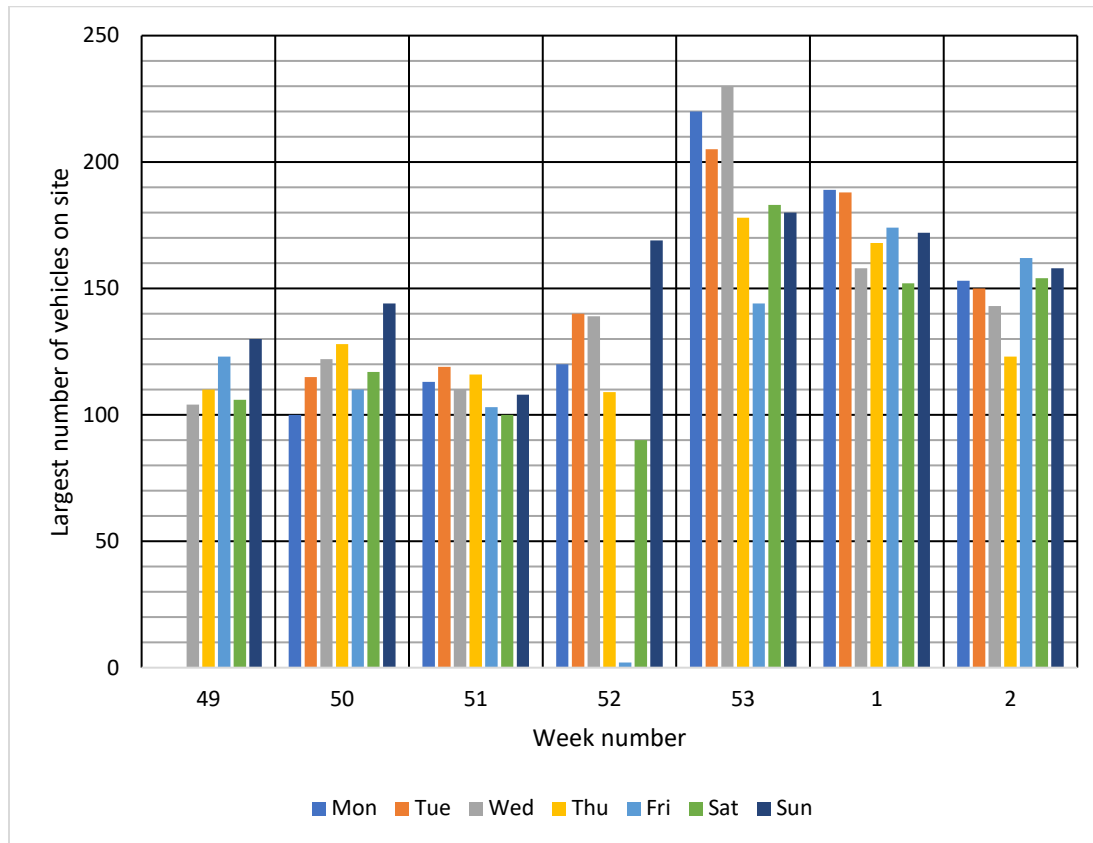


Figure 3 | Car parking summary, sorted by day of the week, Source of data: GAA 2016

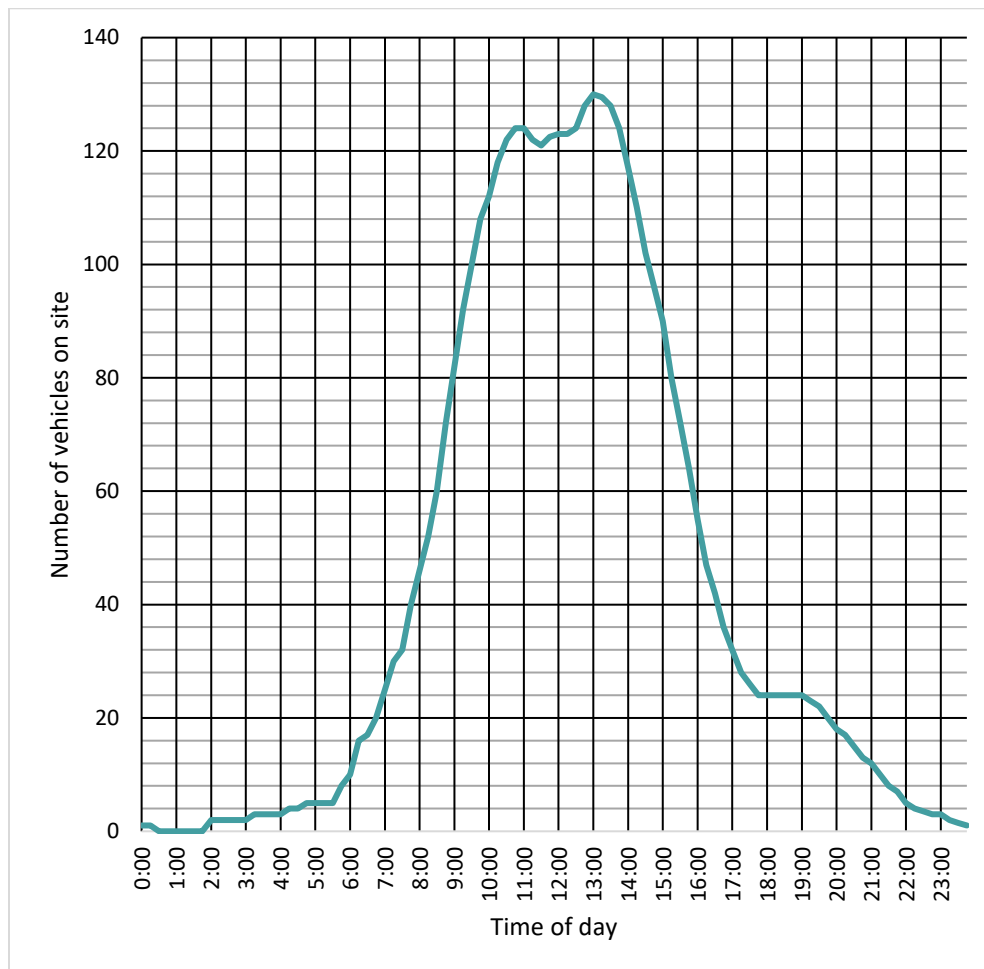


Figure 4 | Average day parking profile, Source of data: GAA 2016

It was found that outside the holiday period, between 100 and 150 occupied car spaces were required each day. During the peak holiday period however, approximately 260 vehicles were measured to be on site at the peak time. Therefore, for the uses that were current during the survey period, the off-peak car park use was 150 and the peak car park use 260. This includes both staff and patron parking.

As the average parking profile in Figure 4 shows, the peak parking demand plateaus between 10:30am and 1:30pm, with the peak demand at 1pm.

Based on a Gross Leasable Floor Area of 2004 m² (refer to Chapter 4) that was applicable at the time of the survey, the following parking generation rates can be calculated:

- Off peak: 2004 m² GLFA / 150 parking spaces = one space per 13.4 m² GLFA
- Peak holiday period: 2004 m² GLFA / 260 parking spaces = one space per 7.7 m² GLFA

The survey data generated by GAA can also be used to establish trip generation profiles.

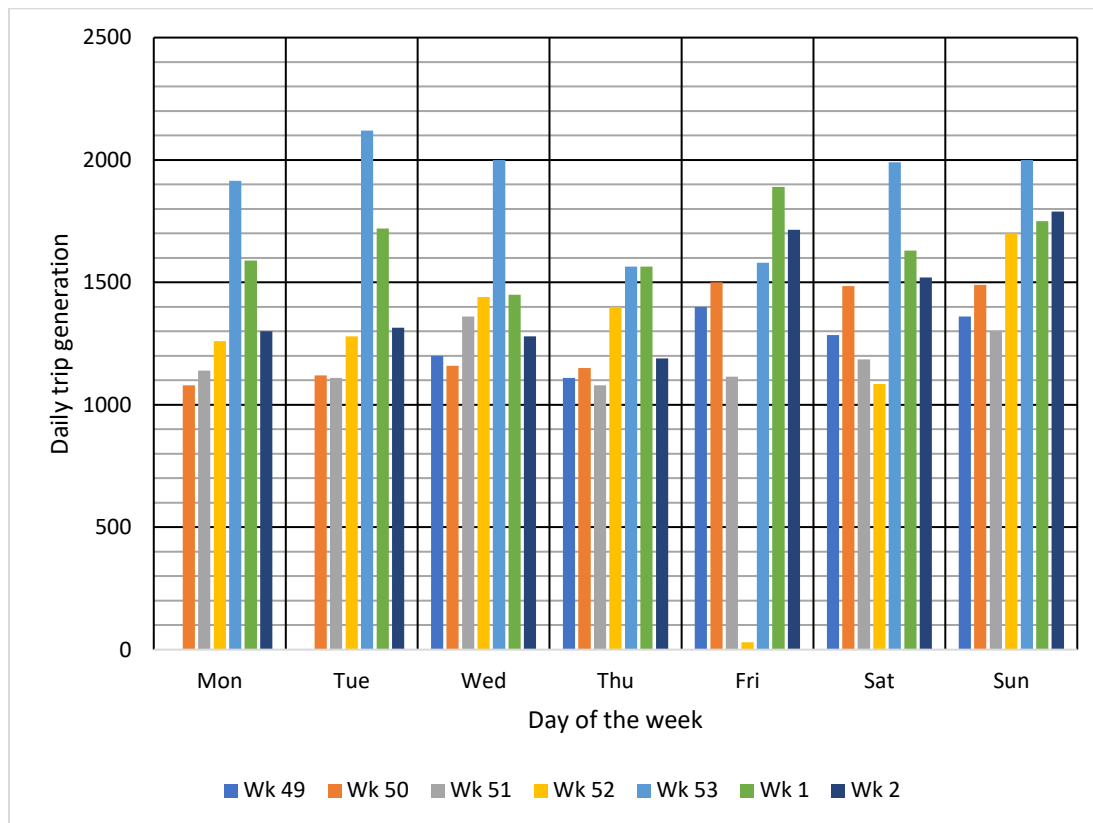


Figure 5 | Daily trip generation, sorted by week number, Source of data: GAA 2016

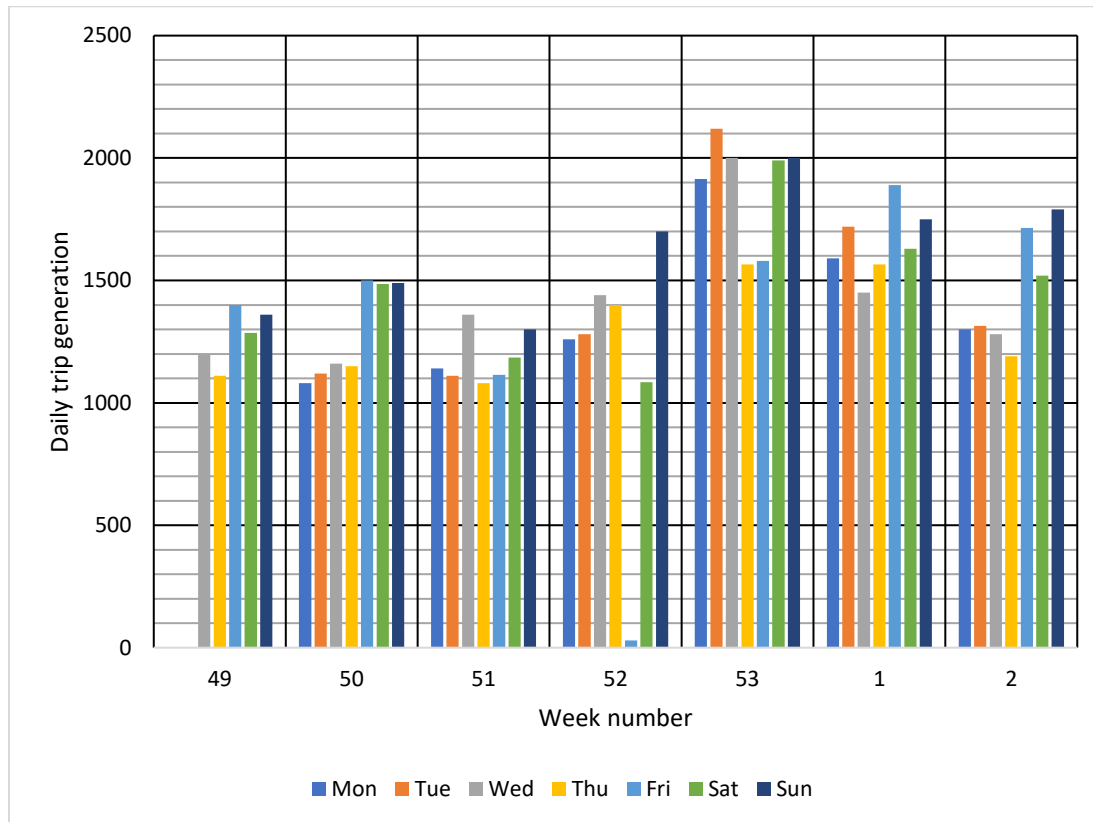


Figure 6 | Daily trip generation, sorted by day of the week, Source of data: GAA 2016

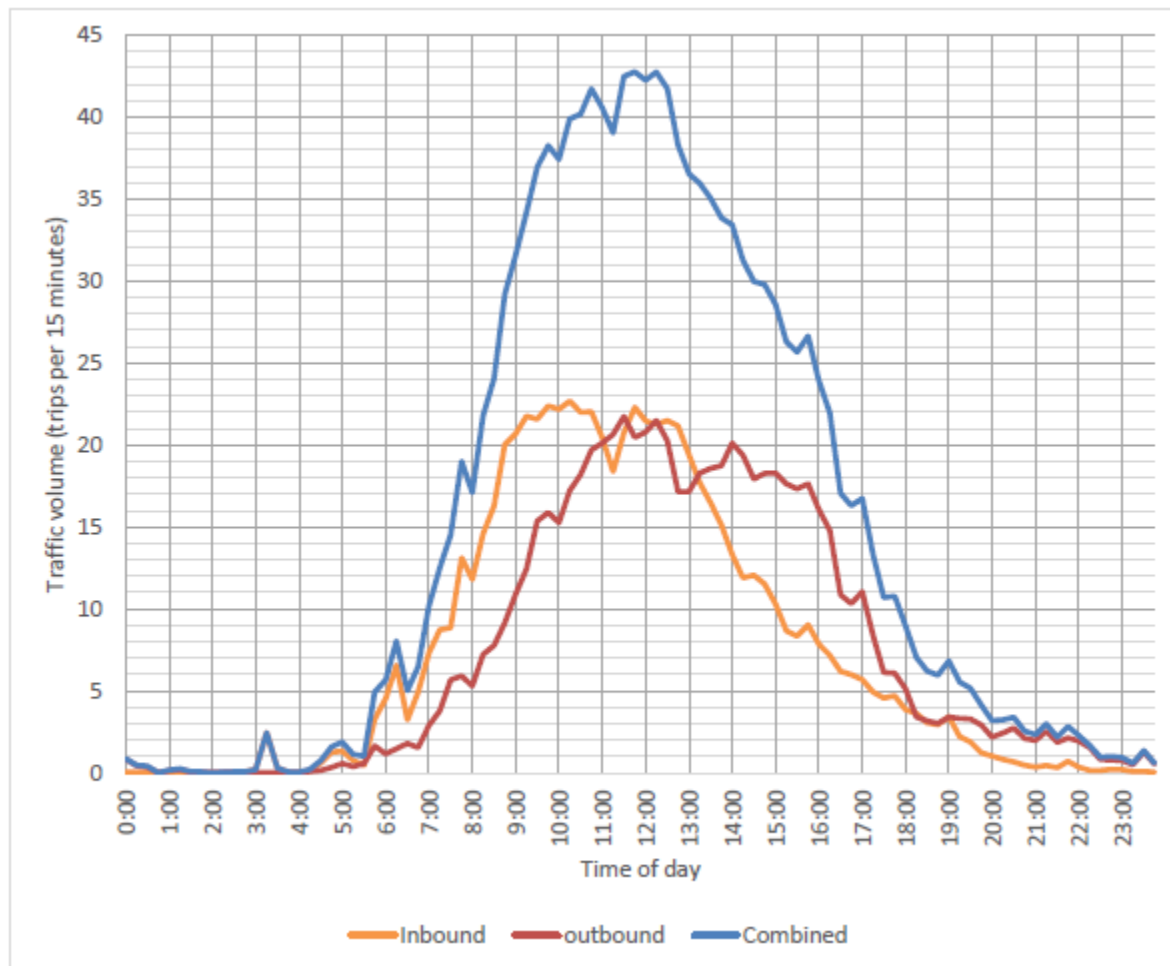


Figure 7 | Traffic profile, averaged over complete data set, *Source of data: GAA 2016*

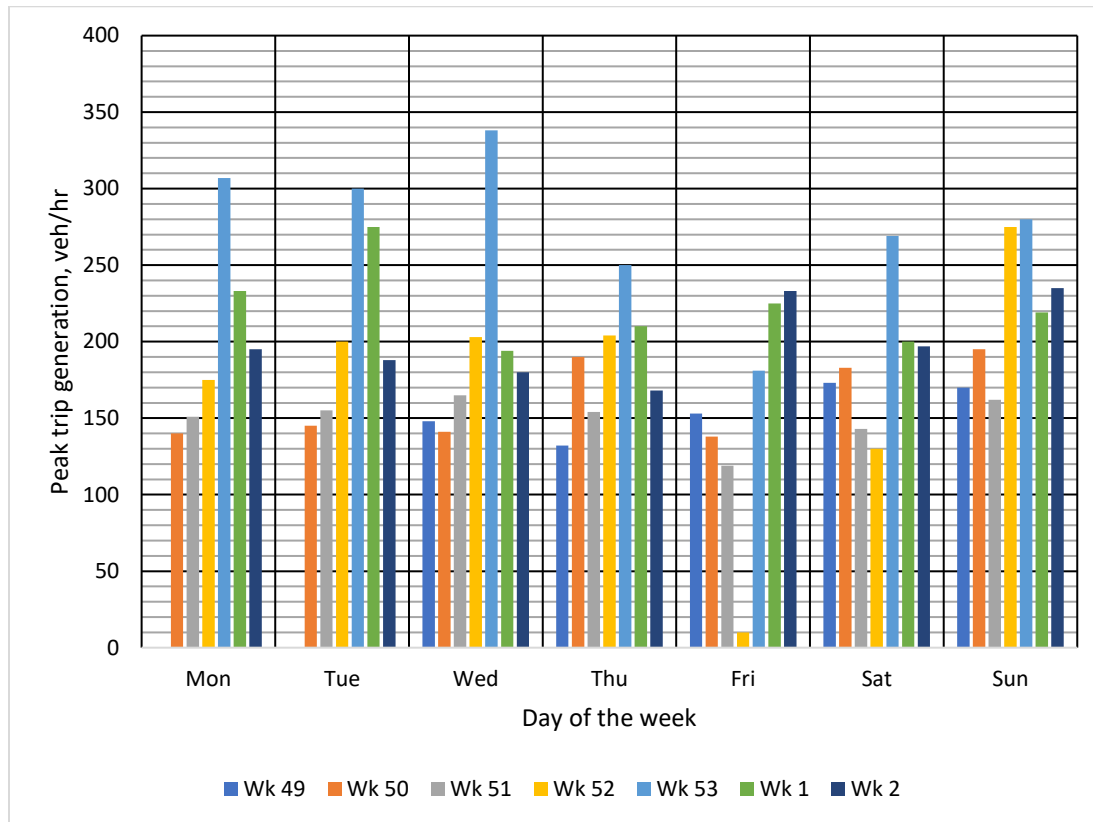


Figure 8 | Peak hour trip generation volume, sorted by week number, Source of data: GAA 2016

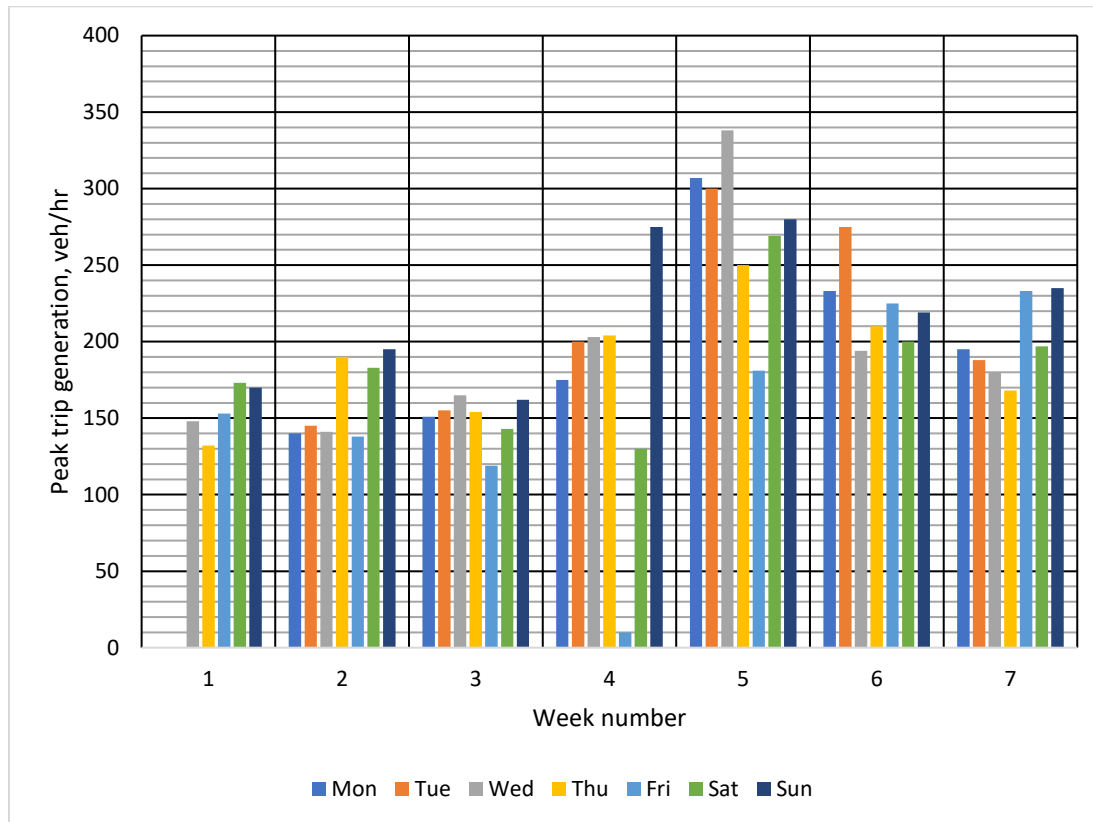


Figure 9 | Peak hour trip generation volume, sorted by day of the week, Source of data: GAA 2016

Using a GLFA of 2004 m², the following trip generation rates can be calculated:

Table 2 | Trip generation rate calculations

Period	Type	Survey Result	Generation Rate
Outside holiday period	Daily trip generation	1500 trips/day	75 trips/day/100m2 GLFA
	Combined peak	179 trips/hour	8.9 trips/hr/100m2 GLFA
During holiday period	Daily trip generation	2125 trips/day	106 trips/day/100m2 GLFA
	Combined peak	338 trips/hour	16.9 trips/hr/100m2 GLFA

GAA also carried out a turning movement survey of the eastern Ewingsdale Interchange roundabout, with the following results:

To/ from	Woodford Lane inbound	Woodford Lane outbound	% of overall traffic
Ewingsdale Road	41	28	59%
Overpass	9	28	32%
Southbound off ramp	9	-	8%
Southbound on ramp	-	1	1%

2.2. RPS Australia East

In 2017, RPS Australia East (RPS) prepared an Economic Assessment for The Farm. As part of this assessment, a customer survey was carried out with a sample size of 672 respondents. A summary of results relevant to this report is provided below.

Visitor classification:

- 37.0% tourists staying in Byron and Northern Rivers
- 30.7% Byron LGA residents
- 22.1% day-trippers (mainly from southeast Queensland)
- 10.3% other Northern Rivers residents

Destination:

- For 54% of respondents, The Farm was their primary destination and purpose for the visit
- 46% of the respondents stopped off at The Farm on their way elsewhere.

2.3. Roads and Maritime Services

RMS carried out AM peak and PM peak turning movement surveys on Thursday the 16th of August, 2017.

The intersections that these surveys were carried out at are:

- Ewingsdale Interchange, western roundabout
- Ewingsdale Interchange, eastern roundabout
- William Flick Lane intersection with Ewingsdale Road
- Hospital roundabout
- McGettigans Lane intersection with Ewingsdale Road.

All turning movement surveys were carried out in the morning from 8am to 10am and in the afternoon from 4pm to 6pm.

Additionally, an automated tube counter survey was carried out at Ewingsdale Road, 50 metres to the east of the hospital roundabout. This survey went from 6pm Wednesday the 16th, to 6pm Thursday the 17th of August 2017.

The survey results are summarized below.

Table 3 | Western interchange roundabout, 8am – 10am

From:	To:	NB off-ramp	Hinterland Way	Myocum Road	NB on-ramp	Overpass
NB off-ramp	Light	0	1	10	0	228
	Heavy	0	0	0	0	7
Hinterland Way	Light	0	1	14	367	432
	Heavy	0	0	6	26	7
Myocum Road	Light	0	34	0	13	216
	Heavy	0	3	0	0	150
NB on-ramp	Light	0	0	0	0	0
	Heavy	0	0	0	0	0
Overpass	Light	0	620	130	667	4
	Heavy	0	31	16	27	0

Table 4 | Western interchange roundabout, 4pm – 6pm

From:	To:	NB off-ramp	Hinterland Way	Myocum Road	NB on-ramp	Overpass
NB off-ramp	Light	0	1	4	0	160
	Heavy	0	0	3	2	1
Hinterland Way	Light	0	0	18	194	483
	Heavy	0	0	2	21	1
Myocum Road	Light	0	11	0	20	150
	Heavy	0	1	0	6	0

NB on-ramp	Light	0	0	0	0	0
	Heavy	0	0	0	0	0
Overpass	Light	0	696	213	1197	3
	Heavy	0	4	9	11	0

Table 5 | Eastern interchange roundabout, 8am – 10am

From:	To:	SB off-ramp	Woodford Lane	Ewingsdale Road	SB on-ramp	Overpass
SB off-ramp	Light	0	33	1327	1	351
	Heavy	0	4	31	0	25
Woodford lane	Light	0	0	46	8	36
	Heavy	0	0	1	0	0
Ewingsdale Road	Light	0	57	12	70	1123
	Heavy	0	0	1	11	41
SB on-ramp	Light	0	0	0	0	0
	Heavy	0	0	0	0	0
Overpass	Light	0	33	914	8	2
	Heavy	0	3	38	2	0

Table 6 | Eastern interchange roundabout, 4pm – 6pm

From:	To:	SB off-ramp	Woodford Lane	Ewingsdale Road	SB on-ramp	Overpass
SB off-ramp	Light	0	15	722	1	277
	Heavy	0	0	16	0	4
Woodford lane	Light	0	0	32	6	20
	Heavy	0	0	0	0	0
Ewingsdale Road	Light	0	45	13	225	1805
	Heavy	0	0	0	4	32
SB on-ramp	Light	0	0	0	0	0
	Heavy	0	0	0	0	0
Overpass	Light	0	7	427	9	2
	Heavy	0	1	11	0	0

Table 7 | William Flick Lane

Approach leg		8am – 10am	4pm – 6pm
William Flick Lane, left	Light	22	27
	Heavy	10	3
William Flick Lane, right	Light	3	12
	Heavy	0	0
Ewingsdale Road EB, straight	Light	2218	1247
	Heavy	87	40
Ewingsdale Road EB, right	Light	14	12
	Heavy	8	0
Ewingsdale Road WB, left	Light	12	8
	Heavy	2	0
Ewingsdale Road WB, straight	Light	1342	2036
	Heavy	78	93

Table 8 | Hospital roundabout, 8am – 10am

From:	To:	Hospital	Ewingsdale Road, western leg	Ewingsdale Road, eastern leg
Hospital	Light	0	29	22
	Heavy	0	4	6
Ewingsdale Road, western leg	Light	74	13	2130
	Heavy	6	0	109
Ewingsdale Road, eastern leg	Light	33	1135	6
	Heavy	5	116	0

Table 9 | Hospital roundabout, 4pm – 6pm

From:	To:	Hospital	Ewingsdale Road, western leg	Ewingsdale Road, eastern leg
Hospital	Light	0	44	35
	Heavy	0	4	4
Ewingsdale Road, western leg	Light	20	10	1196
	Heavy	6	0	52
Ewingsdale Road, eastern leg	Light	19	1888	4
	Heavy	3	132	0

Table 10 | McGettigans Lane

Approach leg		8am – 10am	4pm – 6pm
McGettigans Lane, left	Light	147	130
	Heavy	6	5
McGettigans Lane, right	Light	201	120
	Heavy	7	2
Ewingsdale Road EB, straight	Light	1948	1158
	Heavy	85	53
Ewingsdale Road EB, right	Light	190	91
	Heavy	9	5
	Light	154	161

Ewingsdale Road WB, left	Heavy	7	4
Ewingsdale Road WB, straight	Light	1059	1815
	Heavy	74	77

Table 11 | Ewingsdale Road tube counter

Direction		6pm – 6pm	8am – 10am	4pm – 6pm
Eastbound	Light	9922	2162	1249
	Heavy	718	133	62
Westbound	Light	9544	1192	1951
	Heavy	977	128	141

2.4. Byron Shire Council

Byron Shire Council (BSC) have provided us with traffic survey data for site BSC 54/13, which is located on Ewingsdale Road between the Holcim plant access and the Hospital access. The survey results are summarised in Table 12, with a traffic profile for the Friday in the survey period in Figure 10.

Table 12 | BSC 54/13 survey summary

	2006 (26 Sept – 4 Oct)	2008 (18-24 Sept)	2010 (22-30 Sept)	2012 (16-24 Oct)	2016 (28 Sept – 6 Oct)
Monday	10,920	-	16,640	17,006	15,767
Tuesday	15,192	-	16,466	16,327	20,159
Wednesday	13,600	-	17,147	16,725	21,254
Thursday	16,285	-	17,703	17,036	21,790
Friday	16,614	16,357	17,677	18,415	22,680
Saturday	12,980	14,375	13,988	14,907	18,670
Sunday	13,663		13,497	14,941	18,553
7-day ADT	14,179	-	16,160	16,480	19,944
5-day ADT	14,522	-	17,127	17,102	20,398

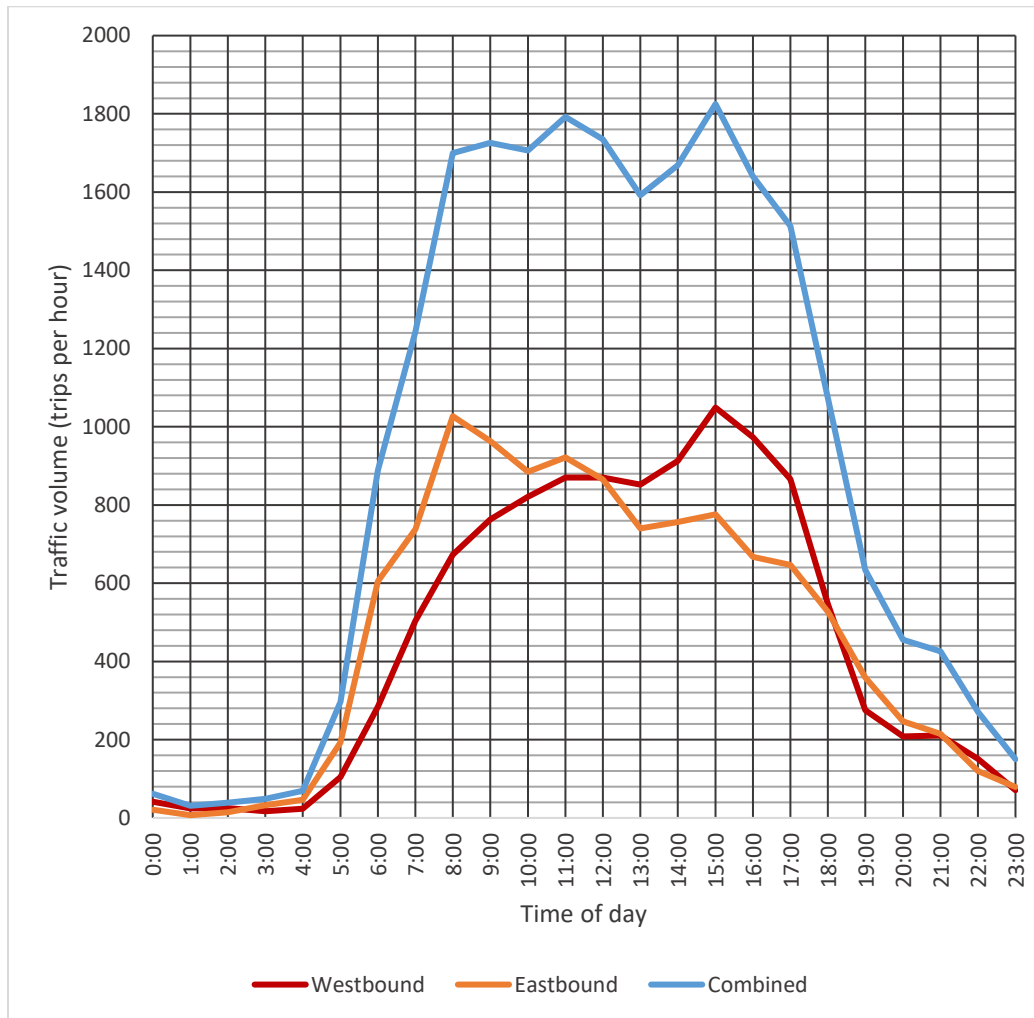


Figure 10 | BSC 54/13 traffic profile for Friday 30 September 2016

BSC also carried out a traffic survey on Woodford Lane from the 30th of March 2018 to the 13th of April 2018. Automated tube counts were taken on both sides of the entrance road to The Farm, in order to estimate traffic generated by The Farm. A summary of relevant result data is provided below.

Table 13 | Woodford Lane survey

Parameter	Woodford Lane 30m North of Ewingsdale Road (SP054), Northbound	Woodford Lane 30m North of Ewingsdale Road (SP0542), Southbound	Woodford Lane 30m North of Ewingsdale Road (SP0543)
Light vehicles ADT	963	956	287
Heavy vehicles ADT	52	58	24
Light vehicles AWDT (weekdays)	903	898	276
Heavy vehicles AWDT (weekdays)	54	60	27
Light vehicles AWET (weekend)	1113	1101	315
Heavy vehicles AWET (weekend)	47	53	16
Average Weekday AM peak	130	109	30
Average Weekday PM peak	115	118	47
Average Weekend AM peak	169	137	39
Average Weekend PM peak	132	145	37

3. EXISTING CONDITIONS

3.1. Site entrance

Existing sight lines for traffic exiting the access road of The Farm are currently uninterrupted, provided roadside vegetation is maintained. The sight lines to the left extend to the eastern Ewingsdale Interchange roundabout and to the right the sight distance is approximately 115 metres. The posted speed limit at the site entrance is 60 km/h, for which a sight distance of 83 metres is required in accordance with figure 3.3 of AS/NZS 2890.2. Thus, adequate sight distance exists at the site.

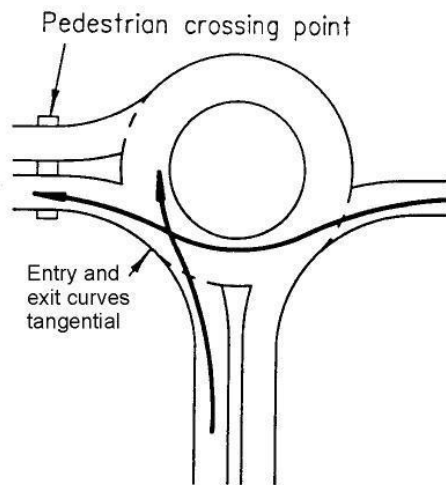
3.2. Eastern Ewingsdale Interchange roundabout

From various sources we understand that there has been an increase in the number of crashes and near-misses on the eastern Ewingsdale Interchange roundabout, since completion of the T2E project. This may be due to the high speed at which vehicles travel along the southbound off ramp and insufficient speed controls on the approach to the roundabout, combined with limited sight angles to oncoming traffic from the right.

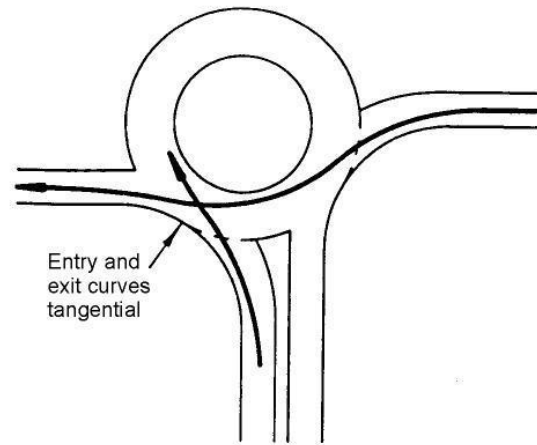
The Austroads Guide to Road Design Part 4B: Roundabouts (AGRD4B) provides guidance to assessing the problem. AGRD4B section 4.9 indicates that an inadequate separation between legs can increase entering and circulating vehicle crash rates. When comparing the separation between the southbound off ramp and the overpass leg (highlighted with the black oval in Figure 12) to the scenario highlighted with the red rectangle in Figure 11 it is illustrated that the inadequate separation between these legs may be one of the causes of the increased rates of vehicle crashes and near misses.



Figure 11 | Sharp angle between approaches on eastern Ewingsdale Interchange roundabout,
Source of image: Google Maps 2018

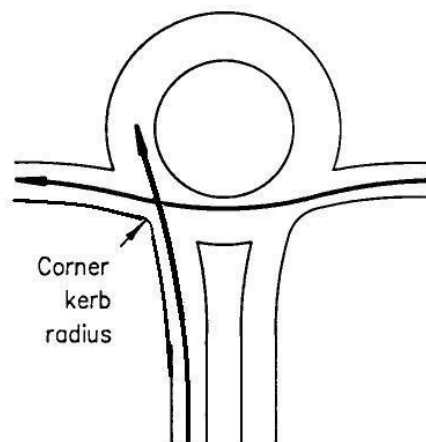


Low speed exit
(Suitable where pedestrian crossings are required)

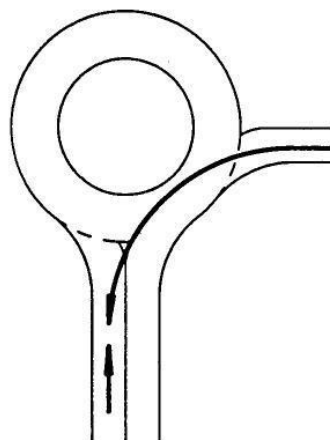


High speed exit
(Suitable where pedestrian crossings are not required)

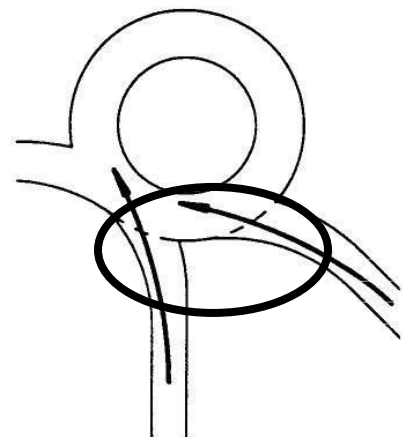
EXAMPLES OF GOOD SEPARATION BETWEEN LEGS



Use of corner kerb radius increases relative speed between entering and circulating vehicles



No kerbed splitter island between approach and departure legs



Approach legs too close

EXAMPLES OF UNDESIRABLE SEPARATION BETWEEN LEGS

Figure 12 | AGRD040B examples of inadequate roundabout design, Source: AGRD04B-15

The point above is illustrated by carrying out a sight angle envelope assessment based on the diagram provided in figure C21 of the Austroads Guide to Road Design Part 4A. We have incorporated those angles into the sight angle envelope assessment, as depicted in Figure 13. In this assessment, green represents easy vision, orange where sight becomes increasingly difficult and red where a mirror is required. The vehicle is placed at the holding line at an angle that is typical of vehicles at this location.

This assessment illustrates the difficulty for drivers to see traffic turning from Ewingsdale Road into Woodford Lane or traffic coming off the overpass.

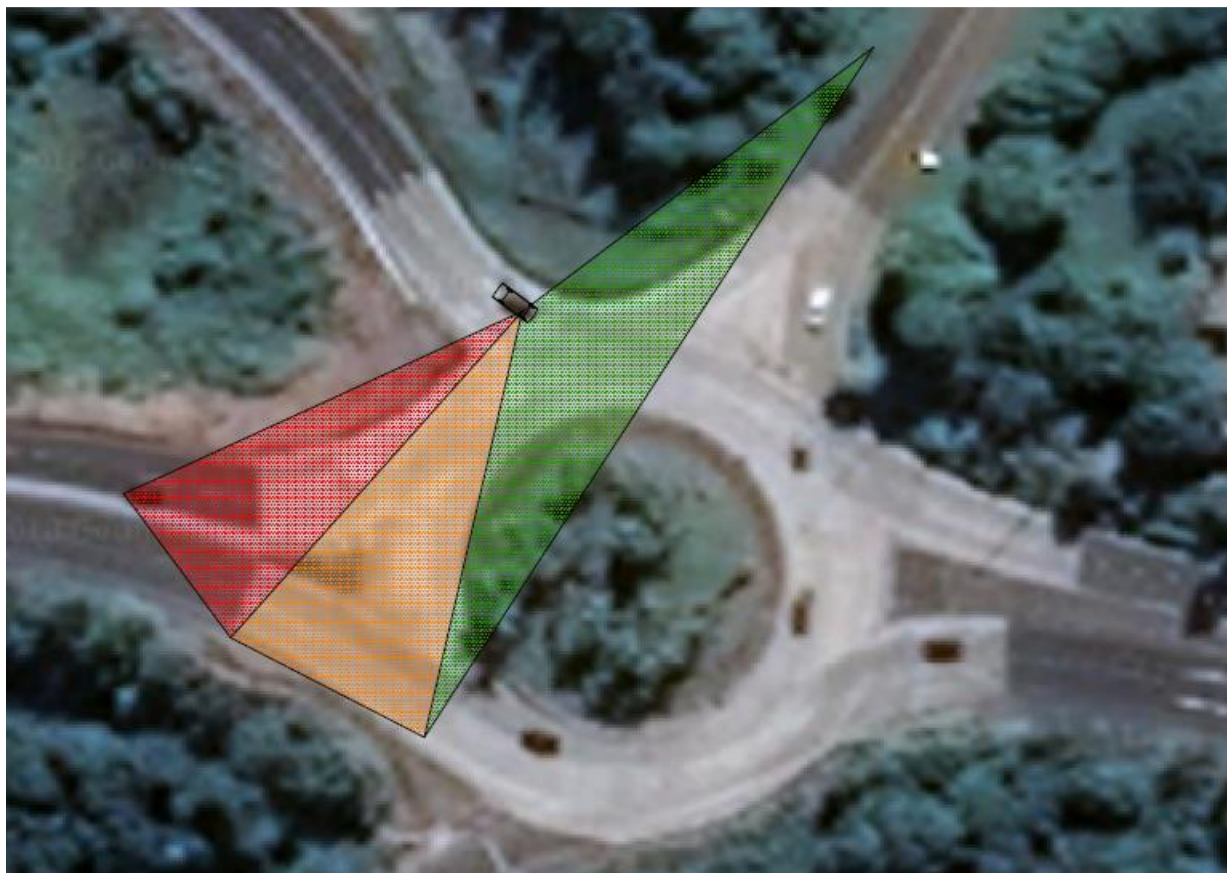


Figure 13 | Roundabout approach sight angles

The roundabout layout issues can be summarised by comparing the layout against the fundamental roundabout design principles provided in section 2.2 of part 4B of the Austroads Guide to Road Design. In Table 14 we summarise with which roundabout design principles the current roundabout layout complies. Please note this is a desktop assessment only, meant as a preliminary investigation into the causes of the safety issues that have been identified. We recommend that the road authority carries out its own detailed analysis to address the problem. This assessment shows that four out of nine principles are not met,

including the fourth principle that is labelled as 'essential'. We understand that RMS is assessing the Ewingsdale Interchange currently and investigating upgrade options to address the issues.

Table 14 | Roundabout design compliance check

Austroads roundabout design principles	Compliance achieved?
The roundabout should be clearly visible from the approach sight distance at the road operating speed in advance of the roundabout approach.	Yes
The number of legs should be desirably limited to four (although up to six may be used at an appropriately designed single-lane roundabout).	No
Legs should desirably intersect at approximately 90 degrees, especially for multi-lane roundabouts.	No
It is essential that appropriate entry curvature is used to limit the entry speed.	No
Exits should be designed to enable vehicles to depart efficiently.	Yes
The periphery of the roundabout (inscribed circle diameter) must be large enough to accommodate all entries and exits to an appropriate standard without them overlapping.	Yes
The circulating roadway should be wide enough to accommodate the swept paths of the design vehicles plus clearance to kerbs for both through movements and right-turn movements.	Yes
Entering drivers must be able to see both circulating traffic and potentially conflicting traffic from other approaches early enough to safely enter the roundabout.	No
Sufficient entry, circulating and exit lanes should be provided to ensure that the roundabout operates at an appropriate level of service.	Yes

3.3. Existing AM peak congestion issues

Currently, there are congestion issues in the eastbound lane of Ewingsdale Road and the southbound off ramp during the AM peak. Our office carried out a site inspection on the morning of Tuesday the 15th of May 2018 to investigate the underlying dynamics of the problem. The congestion was observed from approximately 8:15 AM and it cleared after 9:05 AM.

We generally observed two modes of queuing during the site inspection. The first and most frequently occurring mode is a traffic shock wave starting at the merging point, where Ewingsdale Road EB merges from two lanes to one, in front of the Holcim batching plant. There was often stopping traffic upstream of this point, whereas traffic downstream was accelerating (resulting in reduced traffic density) towards the hospital roundabout. From this particular congestion mode, we can draw the following conclusions:

- The hospital roundabout has sufficient capacity to deal with the large existing eastbound traffic flow; and
- The traffic upstream of the merging point is of sufficient density to sustain a shock wave onto the eastern Ewingsdale Interchange roundabout.

The second and less frequent mode of congestion was when traffic slowed down for a short period of time at the hospital roundabout. This was the case when a truck would travel through the roundabout, or traffic was turning right out of the hospital roundabout leg. From this we can draw the following conclusions:

- The hospital roundabout geometry is such that larger vehicles have to slow down significantly to drive through the roundabout; and
- The traffic upstream of the roundabout is of sufficient density to sustain a shock wave that travels to the eastern Ewingsdale Interchange roundabout.

It is interesting to note that the actual vehicle stopping time in the section between the merging point and the hospital roundabout was quite brief, and traffic at the roundabout would be driving again at normal speed by the time the shock wave made it to the merging point.

For both modes of congestion, then from the merging point, the shock wave kept travelling across the eastern Ewingsdale Interchange roundabout, causing traffic to stop on the roundabout. This then results in queues of stopped traffic on both the southbound off ramp and the overpass. After the downstream queue dissipates, the off-ramp traffic has to wait for the overpass traffic to clear before it can start clearing, resulting in even longer queues on the southbound off ramp, as observed on a regular basis by RMS staff operating the St Helena tunnel.

Throughout the observed peak period between 8:15 AM and 9:05 AM, the following typical travel speeds were estimated for the various sections of Ewingsdale Road EB:

- Between southbound off ramp and Ewingsdale Road (on the roundabout): 0 – 5 km/h
- Eastern Ewingsdale Interchange roundabout to William Flick Lane: 0 – 10 km/h

- William Flick Lane to merging point: 10 – 20 km/h
- Merging point to hospital roundabout: 20 – 30 km/h

We will calibrate our SIDRA model to reflect these intricate dynamics. We will use the 2017 RMS turning movement survey data as a basis for the calibration, but it is noted that since that survey the following alterations have been made to traffic lanes in that area:

- Lengthening of the merging lane for eastbound traffic, further east past William Flick Lane;
- Lengthening of the right/through lane on the southbound off ramp;
- Removing the left turn lane on the eastbound leg of the overpass approach to the roundabout; and
- No right turn out of William Flick Lane.

3.4. SIDRA model calibration

The survey data provided by RMS allows calibration of the SIDRA intersection model for the hospital roundabout. RMS in conjunction with the traffic monitoring officers at the St Helena tunnel, has indicated that during the morning peak, the traffic queue from the hospital roundabout (eastbound) typically extends back to Johnson Lane and at times even further down the M1. The distance from the hospital roundabout to Johnson Lane is approximately 1.6 kilometres.

The SIDRA analysis was carried out for the busiest AM peak hour on the eastern Ewingsdale Road roundabout during the survey periods. The busiest time is roughly from 8:15am to 9:15am, therefore the turning movement volumes for this time period are adopted for the hospital roundabout as shown in Table 14.

Table 15 | Hospital roundabout calibration turning movements

From:	To:	Hospital	Ewingsdale Road, western leg	Ewingsdale Road, eastern leg
Hospital	Light	0	15	8
	Heavy	0	2	4
Ewingsdale Road, western leg	Light	45	4	1233
	Heavy	3	0	63
Ewingsdale Road, eastern leg	Light	18	558	3
	Heavy	1	61	0

Because the congestion currently (in the off-peak period) only occurs during one hour in the morning (roughly 8:15 AM to 9:15 AM) and BSC traffic survey data of Ewingsdale Road shows the eastbound traffic volume during that period being only some 10% higher than in the next hour when the congestion dissipates, it is understood that at current, the road network is operating at a critical point, which results in short term congestion. As traffic volumes grow this period of congestion will increase in duration in the future.

This can be modelled in SIDRA by carrying out a flow scale sensitivity analysis, and adjusting the roundabout environment factor such that exponential growth of the 95th %ile back of queue and significant reduction of the travel speed around the 100% point. We found that by increasing the default value of 1.00 to 1.10, for both the hospital roundabout and the eastern Ewingsdale Interchange roundabout, the critical point reduces from 110% flow scale to approximately 100% flow scale.

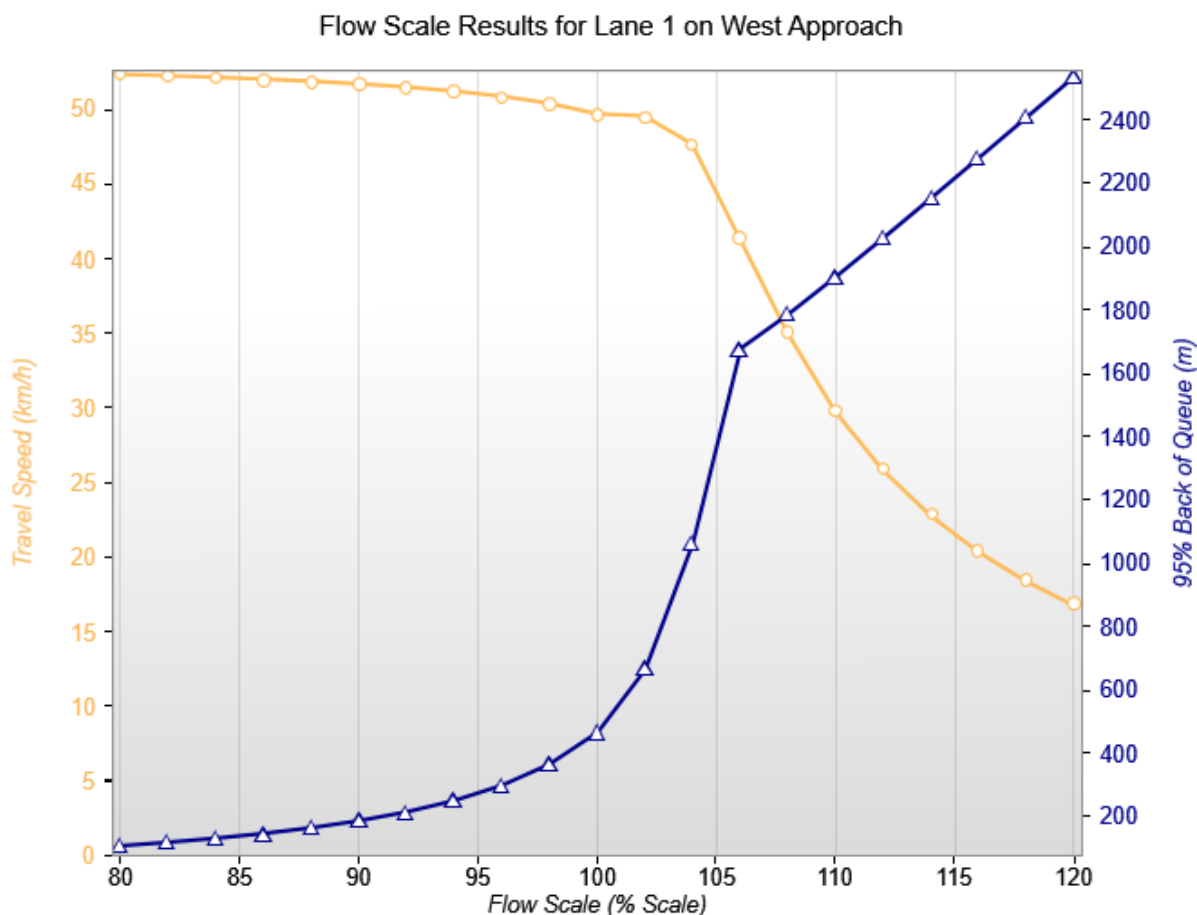


Figure 14 | Sensitivity analysis for Hospital Roundabout

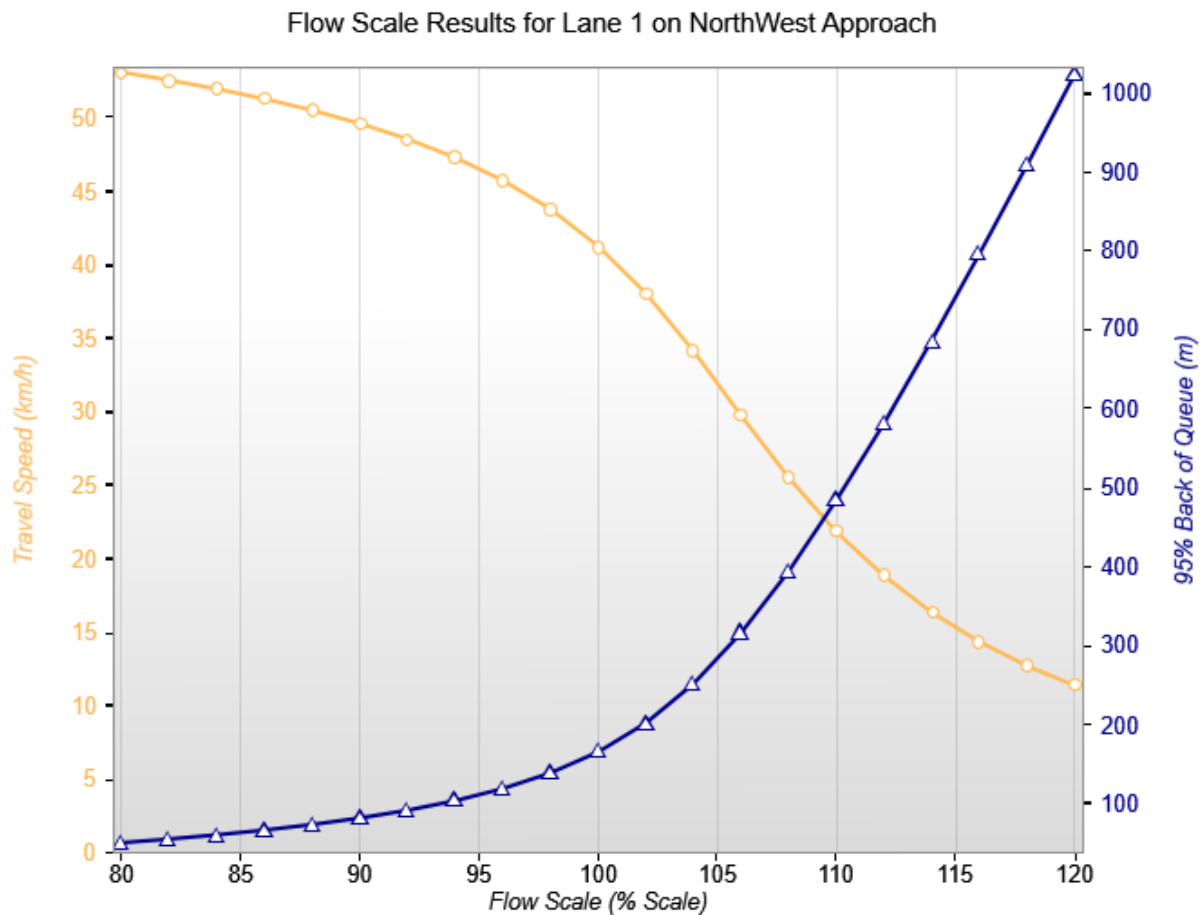


Figure 15 | Sensitivity analysis for eastern Ewingsdale Interchange roundabout

The intersection modelling in the remainder of the report is carried out with these settings. It should be noted that in each model it is assumed that downstream conditions are not hindering intersection performance. In reality this is not the case due to the vicinity of the intersections and therefore the modelling results should be interpreted as valid under the condition that downstream congestion issues have been resolved. Thus, the modelling assist in clearly identifying any congestion problems for each individual intersection as a stand-alone intersection, without obscuring analysis results due to the effects of downstream congestion.

4. DEVELOPMENT DESCRIPTION AND METHODOLOGY

The Farm Byron Bay is a one-of-a-kind business in the Northern Rivers and offers a variety of services, including retail, outdoor recreational activities, education and food and drinks. The site is located close to the Pacific Motorway and therefore draws some traffic away from Byron CBD. Any traffic that would travel to Byron CBD as well as The Farm would do so over a longer time period, thus reducing the impact of traffic peaks on the road network.

When determining traffic and parking generation rates for The Farm Byron Bay, the facility should be approached in a way similar to a shopping centre, where all uses are assessed in a holistic manner, rather than determining trip generation and parking requirements for each individual sub-use. A common methodology is to adopt a parameter such as Gross Leasable Floor Area (GLFA) and in this case we would only apply this to publicly accessible areas.

Although this Traffic Impact Study has been prepared in conjunction with a Planning Proposal to seek permission for some of the uses on site, not all uses are included in the Planning Proposal, as some can be carried out without requiring alterations to the zoning permissibilities. Due to the holistic approach to estimating and addressing the traffic impact however, traffic generated by both existing permissible uses and uses that form part of the Planning Proposal, will be analysed together.

In order to establish a baseline for trip generation rates and parking demand, we have created Table 16 below, which lists buildings and structures that were in use, what they were used for and the relevant floor area, as current at the time of the traffic and parking survey by Greg Alderson and Associates. The combined Gross Leasable Floor Area (GLFA) of these uses is 2004 m².

The uses included in the development that would be a combination of existing permissible uses and uses covered in the Planning Proposal, are listed in Table 17 below. The combined GLFA in this table is 1,914 m², which is a reduction of 90 m² compared to the area in operation during the Dec 2015 – Jan 2016 GAA traffic and parking survey. Thus, the trip generation and parking demand for the proposed development are 4.5% less than during the GAA survey.

Table 16 | Details of site use during Dec '15 – Jan '16 period

Building/ Structure	Use Description	Floor Area (m ²)
Main building (bakery)	Agricultural produce bakers	165
Main building (restaurant and toilets)	Restaurant / Café	571
BBQ area main building	Restaurant / Café	290
Main building (produce store)	Roadside stall and retail	132
Plant nursery	Flower shop	83
Bales	Gelato bar	47
Farm house	Back of house / admin	196
Stables	Children's information and education facility	80
Farm cottage	Agricultural training facility and education facility	98
Production Kitchen	Production Kitchen	142
Shed 1	Agricultural training & information and education facility	200

Table 17 | Applicable uses

Building/ Structure	Use Description	Floor area (m ²)
Main building (restaurant and toilets)	café / restaurant	571
Main building (bakery)	Agricultural produce industry & industrial retail outlet – bakers	165
Farm house	Ancillary office to restaurant / farm & staff amenities	196
Shed 2	Agricultural produce industry & industrial retail outlet	200
Plant nursery	Retail	83
Main building (Produce Store)	Maintain and add store	132
Bales	Gelato bar	47
Farm cottage	Agricultural training facility and education facility	98
Production Kitchen	Production Kitchen	142
Shed 1	Agricultural training facility & Education facility	200
Stables	Children's Education Facility to cater for up to 50	80

5. PARKING AND SERVICE VEHICLE ACCESS

Given the location of the subject site, all parking and service vehicle bays will be retained on-site. This chapter describes the infrastructure required to achieve this.

5.1. Summary of survey findings

During the December '15 – January '16 survey, GAA identified the following car parking demand. Based on a publicly accessible Gross Leasable Floor Area of 2004 m² (refer to Chapter 4) that was applicable at the time of the survey, the following parking generation rates can be calculated:

- Off peak: 2004 m² GLFA / 150 parking spaces = one space per 13.4 m² GLFA
- Peak holiday period: 2004 m² GLFA / 260 parking spaces = one space per 7.7 m² GLFA

As shown in Table 17, the total GLFA applicable to the proposed development (including both uses that are permissible under the current zoning, and those included in the planning proposal) is 1,914m². Thus, the following parking demand can be calculated:

- Off peak: 1,914 / 13.4 = 143 parking spaces
- Peak holiday period: 1,914 / 7.7 = 249 parking spaces

These values will form the basis of the car parking and service bay calculations in this chapter.

5.2. Car park construction

In the previous section, a distinction is made between the off-peak parking demand and the peak holiday period demand. The larger demand during the holiday period will occur a number of times a year, but for the vast majority of the year, the off-peak demand would be relevant. Therefore, it is proposed to construct sufficient all-weather sealed car parking to cater for the off-peak demand, and have a grass overflow area available for the peak holiday period demand. Currently a grass overflow car parking area is in use which has worked well, therefore it is proposed to continue this methodology.

The sealed all-weather parking area needs to cater for 143 spaces. The grass overflow parking area would need to cater for the remaining 106 spaces.

5.3. Division of parking types

Following from the base values of 143 sealed parking spaces and 106 grass overflow spaces to cater for the occasional peak holiday traffic, the car parking demand is divided into the following categories, in accordance with the requirements of chapter B4 of the 2014 Byron Shire DCP:

- PWD parking
- Motorbike parking
- Bicycle parking
- Regular car parking
- Staff car parking
- Service vehicle bays

PWD parking rates are specified in the National Construction Code. A variety of building classes would be applicable, resulting in various applicable rates. We will adopt the most conservative rate of 1 PWD space per 50 car parks in order to establish the recommended number of PWD spaces for this site. All PWD spaces will be within the sealed all-weather car park, and will include the PWD spaces required to also service the peak holiday demand. Using a rate of 1 PWD space per 50 parking spaces, we recommend that 5 PWD spaces be established within the sealed all-weather parking area.

We propose that 2% of the parking spaces is converted to motorbike parking, as is required by chapter B4 of the 2014 Byron DCP for commercial developments with a GFA exceeding 1,000m². As such, 5 parking spaces are to be converted to motorbike spaces, of which 3 in the sealed all-weather car park. Using a conversion rate of 4 motorbike spaces per converted car parking spaces, this creates 12 motorbike spaces in the sealed all-weather parking area and 8 in the grass overflow area.

During the GAA parking survey, no distinction was made between staff parking and patron parking. Therefore, staff parking is included in the overall parking demand numbers provided in this chapter, and no additional allowance for staff parking needs to be made.

For calculating the bicycle and loading bay requirements, the various uses are to be split into the following categories:

- Food and drink
- Retail
- Educational
- Business / office
- Industry

Table 18 indicates which use is allocated to which category.

Table 18 | Categories

Building/ Structure	Use Description	Floor area (m ²)	Category
Main building (restaurant and toilets)	café / restaurant	571	Food and drink
Main building (bakery)	Agricultural produce industry & industrial retail outlet – bakers	165	Retail
Farm house	Ancillary office to restaurant / farm & staff amenities	196	Business / office
Shed 2	Agricultural produce industry & industrial retail outlet	200	Retail
Plant nursery	Retail	83	Retail
Main building (Produce Store)	Maintain and add store	132	Retail
Bales	Gelato bar	47	Food and drink
Farm cottage	Agricultural training facility and education facility	98	Educational
Production Kitchen	Production Kitchen	142	Food and drink
Shed 1	Agricultural training facility & Education facility	200	Educational
Stables	Children's Education Facility to cater for up to 50	80	Educational

The GLFA's of the various categories can be summarised as follows:

- Food and drink – 760m²
- Retail – 580m²

- Educational – 378m²
- Business / office – 196m²
- Industry – 0m²

The bicycle spaces are calculated below. Bicycle spaces do not replace car parking spaces but are additional infrastructure items.

Table 19 | Bicycle space calculations

Use	Rate	GLFA (m ²)	Spaces
Food and drink	1 space per 25 m ²	760	30.4
Retail	1 space per 50 m ²	580	11.6
Educational	1 per 5 students over 4	Allowance for 100 students	20
Business	1 space per 50 m ²	196	3.9

The total number of bicycle spaces required is 65.9, which rounds off to 66 spaces. We understand from the General Manager of The Farm Byron Bay, that to date there have never been 66 bicycles on site. A more realistic number would be 40, which is the number we recommend for this report. The risk of overflow onto the public road by underestimating bicycle spaces is nil, and additional bicycle spaces could be created at a later date if the demand regularly exceeds 40.

In order to determine service vehicle infrastructure required, both chapter B4 of the 2014 Byron DCP and the 2002 RTA Guide to Traffic Generating Developments are consulted. The latter applies for uses not covered under the DCP, including food and drink premises (one service bay per 400 m² GLFA). Loading bays are not considered for educational facilities, as these do not include their own hospitality provisions and as such do not generate a demand for service vehicles.

It is noted that the GTTGD does not specify the type of service vehicle that applies to food and drink premises. From the GAA traffic and parking survey it is concluded that there would be several single body truck (Heavy Rigid Vehicle under AS2890.2) deliveries during the week and at least one prime mover with semi-trailer (Articulated Vehicle under AS2890.2) per week. Table 20 shows the loading bay calculations based on the information above.

Table 20 | Loading bay calculations

Use	GLFA (m ²)	SRV	MRV	HRV	AV
Food and drink	760			1	1
Retail	580		1		
Business	196	1			
Industry	0				
Total		1	1	1	1

5.4. Summary and dimensions

Following the analysis above, the parking and loading bay requirements can be summarised as follow.

Table 21 | Car parking and loading bay summary

Type	Sealed all-weather spaces	Spaces in grass overflow area
Regular car spaces	135	107
PWD	5	0
Motorbike	12	8
Bicycle	40	0
SRV loading	1	0
MRV loading	1	0
HRV loading	1	0
AV loading	1	0

The dimensions of the various spaces are determined in accordance with parts 1, 2 and 6 of the AS/NZS 2480 series. The following user classes are applicable to the development:

- Class 1 – Employee and commuter parking
- Class 1A – Residential, domestic and employee parking
- Class 3 – Short-term city and town centre parking, parking stations, hospitals and medical centres
- Class 3A – Short-term, high turnover parking at shopping centres
- Class 4 – Parking for people with disabilities

Typically, staff car parking occurs in the back of house area. As a result, the back of house parking spaces should have the following minimum dimensions:

- 6.2m aisle width
- 5.4m depth (this can be reduced to 4.8m if there is a wheel stop with 0.6m overhang)
- 2.4m parking space width

We recommend the following minimum dimensions for the regular parking spaces in the sealed all-weather parking area:

- 5.8m aisle width
- 5.4m depth (this can be reduced to 4.8m if there is a wheel stop with 0.6m overhang)
- 2.6m space width

PWD spaces should be 5.4m x 2.4m, with a 2.4m wide shared area between spaces. All PWD spaces are to be suitably signposted and line marked, with a bollard in the shared areas. All PWD spaces are to be situated such that compliant PWD access to the facilities is available.

6. TRIP GENERATION

6.1. Overall trip generation

The 2016 GAA traffic survey at The Farm provides the following data.

Table 22 | Trip generation rate calculations

Period	Type	Survey Result	Generation Rate
Outside holiday period	Daily trip generation	1500 trips/day	75 trips/day/100m2 GLFA
	Combined peak	179 trips/hour	8.9 trips/hr/100m2 GLFA
During holiday period	Daily trip generation	2125 trips/day	106 trips/day/100m2 GLFA
	Combined peak	338 trips/hour	16.9 trips/hr/100m2 GLFA

Given the GLFA for The Farm is 1,914m², the development trip generation can be calculated as follows:

Table 23 | Trip generation calculations

Period	Type	Generation Rate	Volume
Outside holiday period	Daily trip generation	75 trips/day/100m2 GLFA	1435.5
	Combined peak	8.9 trips/hr/100m2 GLFA	170.3
During holiday period	Daily trip generation	106 trips/day/100m2 GLFA	2028.8
	Combined peak	16.9 trips/hr/100m2 GLFA	323.5

6.2. Directional distribution

The RMS survey of the eastern Ewingsdale Interchange enables establishing trip distribution for The Farm, by studying the turning movements in and out of Woodford Lane. If it is assumed that The Farm is the major contributor to traffic on Woodford Lane, then the measured distribution would apply to The Farm traffic.

During the 2-hour AM monitoring period, the following Woodford Lane turning movements were recorded:

- From off-ramp to Woodford Lane: 37 (16.7%)
- From overpass to Woodford Lane: 36 (16.3%)
- From Ewingsdale Road to Woodford Lane: 57 (25.8%)
- From Woodford Lane to Ewingdale Road: 47 (21.3%)
- From Woodford Lane to overpass: 36 (16.3%)
- From Woodford Lane to southbound on ramp: 8 (3.6%)

During the 2-hour PM monitoring period, the following Woodford Lane turning movements were recorded:

- From off-ramp to Woodford Lane: 15 (12.0%)
- From overpass to Woodford Lane: 7 (5.6%)
- From Ewingsdale Road to Woodford Lane: 45 (36.0%)
- From Woodford Lane to Ewingdale Road: 32 (25.6%)
- From Woodford Lane to overpass: 20 (16.0%)
- From Woodford Lane to southbound on ramp: 6 (4.8%)

These percentages will be used when calculating the impact of The Farm on various components of the adjacent road network.

7. BACKGROUND TRAFFIC CHARACTERISTICS

7.1. Annual compound traffic growth

Ewingsdale Road adjacent the subject site is currently a 2-lane 2-way sub-arterial road, connecting the Byron CBD with the Byron Industrial Estate and the Pacific Motorway. Ewingsdale Road forms part of the Gazetted Road number 545. An overview of Ewingsdale Road traffic volume survey results as collected by Byron Shire Council and RMS during recent years is provided in Table 24 below.

Table 24 | Ewingsdale Road traffic volume summaries

Source of data	Location of survey	Survey period	Volume, trips per day
BSC	BSC 54/13	2006 (26 Sept – 4 Oct)	14,179 (7-day ADT)
BSC	BSC 54/13	2010 (22-30 Sept)	16,160 (7-day ADT)
BSC	BSC 54/13	2012 (16-24 Oct)	16,480 (7-day ADT)
BSC	BSC 54/13	2016 (28 Sept – 6 Oct)	19,944 (7-day ADT)
RMS	50 metres east of Hospital Roundabout	2017 (16-17 Aug)	21,161 (Wednesday/Thursday traffic)

From the Byron Shire Council (BSC) data we can calculate an average annual compound traffic growth rate of 3.47%, with an R^2 value of 0.95, from 2006 to 2016. It is noted that the traffic growth between 2012 and 2016 has increased with respect to the earlier years in the set.

In March 2016, Greg Alderson and Associates issued a Parking and Traffic Impact Assessment for The Farm. As part of this report, a detailed analysis of historical traffic data on Ewingsdale Road was analysed, as well as seasonal fluctuations on the Pacific Motorway at Brunswick Heads. Key findings of this analysis are listed below:

- Ewingsdale Road annual compound traffic growth = 4.4% between 1982 and 2012
- Ewingsdale Road annual compound traffic growth = 3.5% between 1992 and 2012

- Ewingsdale Road annual compound traffic growth = 2.1% between 2002 and 2012
- Daily Traffic Volume on Pacific Motorway fluctuates between 80% and 120% of AADT
- During holiday periods, the additional daily traffic loading can be as much as 55% of average daily traffic
- During holiday periods, the largest peak hour traffic volume exceeds the average daily peak hour traffic volume by 65%

Although the historical traffic data analysis by GAA shows declining annual compound traffic growth up to 2012, the difference between the 2012 and 2016 traffic surveys as well as the 2017 RMS survey in Table 24 is remarkable, suggesting a significant increase in traffic growth since 2012.

The 2014 Brunswick Heads WIM station data analysis by GAA, shows that around mid-August, the average daily traffic volume would be between 80% and 100% of AADT, with the majority between 84% and 92% of AADT. If it is assumed that the 7-day average ADT in the week during which the one-day count by RMS was carried out would represent to be approximately 90% of AADT, then the 2017 AADT for Ewingsdale Road between the hospital and McGettigans Lane can be estimated to be around 23,500 vehicles per day. This is an increase of 57% compared to the 2012 AADT of 14,987 published by Byron Shire Council in 2012, representing an annual compound traffic growth rate of 9.4% since 2012.

In order to determine an appropriate annual compound background traffic growth rate between 2017 and the design year of 2028, a few factors would need to be considered:

- Annual compound traffic growth rate 2.1% in the 10 years leading up to 2012 and 3.5% in the 20 years leading up to 2012;
- 3.47% annual traffic growth between 2006 and 2016;
- Typical adopted rate by others for Byron Shire Local Roads is 2.5% (2006 T2E Traffic and Transport Assessment); and
- Large planned developments in the Ewingsdale Road catchment, such as West Byron.

We will not further consider West Byron as part of this development, as the likely traffic generated by that development will warrant its own Ewingsdale Road upgrades and need not be taken into account when assessing the minor traffic impact of The Farm on Ewingsdale Road.

For the purposes of this report, we will adopt the 3.47% annual compound growth rate, as calculated from the BSC data set.

7.2. Scaling the survey data

The survey data from BSC at site 54/13 allows the calculation of daily load factors, which indicate a traffic load factor that can be applied to each day of the week, when compared to the weekly average. From the 4 years of data provided by BSC, the following daily load factors can be calculated for Ewingsdale Road:

- Monday – 0.90
- Tuesday – 1.02
- Wednesday – 1.03
- Thursday – 1.09
- Friday – 1.13
- Saturday – 0.91
- Sunday – 0.91

As discussed above, the RMS turning movement survey which forms the basis of the intersection analyses in this report, were carried out in August, when the weekly traffic volume would be around 90% of AADT. Therefore, a scaling factor of $1/0.9 = 1.11$ would need to be applied to the 7-day average ADT during the week of the RMS survey to calculate AADT-averaged volumes.

Thus, to scale the RMS survey results to AADT volumes, the Thursday survey results are to be multiplied by the following factor: $1.11/1.09 = 0.982$. Then, to calculate the Friday volumes (as this is the assessment day, the busiest day of the week), this factor of 0.982 is multiplied by 1.13, which gives 1.11. Thus, in order to estimate Friday turning volumes scaled to AADT, the RMS results are to be multiplied by 1.11.

8. INTERSECTION MODELLING

Intersection modelling is carried out for the eastern Ewingsdale Interchange roundabout, the William Flick Lane intersection and the hospital roundabout. For each intersection it is assumed that there are no downstream blockages. Therefore, any modelling results for the eastern Ewingsdale Interchange roundabout and the William Flick Lane intersection are carried out with the assumption that the hospital roundabout has been rectified.

8.1. Scenario's

The modelling scenario's that are assessed are depicted in Table 25. We will assess both the Friday AM peak, as this is the time of the day that is most impacting on the operations of the Pacific Motorway (southbound) and Friday midday, as The Farm traffic peaks at midday, and this is superimposed onto the already busy Friday traffic.

Table 25 | Modelling scenario's

When	Friday AM background peak	Friday midday The Farm peak
2018 off-peak, with The Farm	A1	A2
2018 holiday peak, with The Farm	A3	A4
2028 off-peak, without The Farm	B1	B2
2028 holiday peak, without The Farm	B3	B4
2028 off-peak, with The Farm	C1	C2
2028 holiday peak, with The Farm	C3	C4

8.2. Friday AM peak

The first set of scenarios analysed is the Friday AM peak. The SIDRA modelling results are depicted in the tables below. From these modelling results, the following conclusions can be drawn:

- Results for the 2018 off-peak scenario (A1) are similar to what can be observed on site currently, both with respect to queue lengths and average travel speeds;
- The eastern Ewingsdale Interchange roundabout is operating over-capacity for all scenario's;
- The William Flick Lane capacity issues will start affecting the Ewingsdale Road through traffic (eastbound) between 2018 and 2028 (off-peak traffic) and is already affecting Ewingsdale Road through traffic during peak holiday conditions. This is due to queue growth for the right turn into William Flick Lane. Traffic exiting William Flick Lane is already subject to a Level of Service F;
- The hospital roundabout is operating over-capacity for all scenario's; and

- The cause of the issues is the combination of a high volume of traffic and inadequate infrastructure. Traffic generated by The Farm (as by any other development) exacerbates the issues but does not cause them.

Table 26 | Friday AM, Level of Service

Intersection	Approach leg	Lane	A1	B1	C1	A3	B3	C3
Eastern Ewingsdale Interchange roundabout	Overpass		A	A	A	A	F	F
	Off ramp	Left	F	F	F	F	F	F
		Right	C	E	F	F	F	F
	Woodford		B	B	B	C	D	D
	Ewingsdale Road	Left	A	A	A	A	A	A
		Right	A	A	A	A	A	A
William Flick Lane	William Flick Lane		C	E	F	F	F	F
	Ewingsdale Road, western leg	Left	A	A	A	A	F	F
		Right	B	C	C	F	F	F
	Ewingsdale Road, eastern leg		A	A	A	A	A	A
Hospital roundabout	Hospital		A	B	B	D	F	F
	Ewingsdale Road western leg		F	F	F	F	F	F
	Ewingsdale Road eastern leg		A	A	A	B	F	F

Table 27 | Friday AM, 95th %-ile queue distance (m)

Intersection	Approach leg	Lane	A1	B1	C1	A3	B3	C3
Eastern Ewingsdale Interchange roundabout	Overpass		37	64	77	143	1747	2045
	Off ramp	Left	953	3247	3705	5778	9643	9654
		Right	26	103	193	951	1917	1760
	Woodford		5	5	11	14	21	34
	Ewingsdale Road	Left	20	39	42	42	82	98
		Right	20	39	41	42	82	98
William Flick Lane	William Flick Lane		1	7	7	34	371	402
	Ewingsdale Road, western leg	Left	0	0	0	0	361	389
		Right	1	3	3	9	302	299
	Ewingsdale Road, eastern leg		0	0	0	0	0	0
Hospital roundabout	Hospital		4	11	12	27	47	47
	Ewingsdale Road western leg		2361	5160	5275	7099	12101	12253
	Ewingsdale Road eastern leg		63	147	161	554	2778	2951

Table 28 | Friday AM, Control delay (sec)

Intersection	Approach leg	Lane	A1	B1	C1	A3	B3	C3
Eastern Ewingsdale Interchange roundabout	Overpass		3.6	3.2	3.5	4.1	121.3	2442.5
	Off ramp	Left	233.1	1016.7	1334	3352	12128.9	9836.1
		Right	22.8	64.8	124.1	880.7	2384.3	2133
	Woodford		10.5	17.5	17.2	19.6	44.6	42.5
	Ewingsdale Road	Left	4.7	6.4	6.8	5.4	6.4	8
		Right	12.3	14.1	14.5	13.1	14.2	15.9
William Flick Lane	William Flick Lane		20.7	47.3	54.5	317.8	7331.6	8103.6
	Ewingsdale Road, western leg	Left	0	0.1	0	0	106.1	109.9
		Right	11.6	22.1	23.7	56.3	5679.4	5666
	Ewingsdale Road, eastern leg		0	0.1	0.1	0.1	3.2	6.4
Hospital roundabout	Hospital		7.8	14.5	15.4	40.5	76.6	79
	Ewingsdale Road western leg		86.2	492.3	505.7	763.9	1443.5	1461.5
	Ewingsdale Road eastern leg		5.7	6.3	6.4	17.2	312.8	335

Table 29 | Friday AM, Average travel speed (km/h)

Intersection	Approach leg	Lane	A1	B1	C1	A3	B3	C3
Eastern Ewingsdale Interchange roundabout	Overpass		55.4	56.6	54.6	51.8	13.5	7.6
	Off ramp	Left	10.3	2.7	2.1	0.9	0.2	0.2
		Right	44.1	27.6	18	3.3	1.3	1.4
	Woodford		38.3	31.7	32.2	30.5	19.5	20.2
	Ewingsdale Road	Left	51.8	50.4	50.1	500.8	49.9	49.1
		Right	39.1	38.1	37.8	38.4	37.7	36.9
William Flick Lane	William Flick Lane		37.9	26.2	24.1	6.3	0.3	0.3
	Ewingsdale Road, western leg	Left	59.9	58.5	59.8	59.7	10.1	9.8
		Right	43.1	36.1	34.8	23	0.4	0.4
	Ewingsdale Road, eastern leg		59.6	59.5	59.5	59.3	50.1	43.1
Hospital roundabout	Hospital		23.9	22.3	22.1	17.8	14.1	13.9
	Ewingsdale Road western leg		21	5.2	5.1	3.5	1.9	1.9
	Ewingsdale Road eastern leg		49.9	48.4	48.2	42.5	7.8	7.3

8.3. Friday midday traffic

In order to establish the direction distribution into and out of Woodford Lane during the Friday midday, we will use the average of the percentages of the AM peak survey and the PM peak survey depicted in section 6.2. The resulting trip distribution is:

- From off-ramp to Woodford Lane: 14.4%
- From overpass to Woodford Lane: 11.0%
- From Ewingsdale Road to Woodford Lane: 30.9%
- From Woodford Lane to Ewingdale Road: 23.5%
- From Woodford Lane to overpass: 16.2%
- From Woodford Lane to southbound on ramp: 4.2%

The traffic generation by The Farm during the midday period was calculated to be 170.3 vph (outside holiday period) and 323.5 vph (holiday peak).

The modelling results are shown in the tables below and the following conclusions can be drawn from these results:

- Results for the 2018 off-peak scenario (A2) are similar to what can be observed on site currently, both with respect to queue lengths and average travel speeds, although the queue length results for the hospital roundabout appear on the conservative side;
- Currently the road network operates satisfactory on an off-peak midday (A2), as the level of service on all legs is C or better. Breakdown occurs however under peak holiday conditions (B2);
- All intersections fail in the 2028 scenario's (C2, A4, B4 and C4); and
- The cause of the issues is the combination of a high volume of traffic and inadequate infrastructure. Traffic generated by The Farm (as by any other development) exacerbates the issues but does not cause them.

Table 30 | Level of Service

Intersection	Approach leg	Lane	A2	B2	C2	A4	B4	C4
Eastern Ewingsdale Interchange roundabout	Overpass		A	A	A	A	F	F
	Off ramp	Left	C	F	F	F	F	F
		Right	B	F	F	F	F	F
	Woodford		B	C	C	C	E	F
	Ewingsdale Road	Left	A	B	B	B	F	F
		Right	A	C	B	C	F	F
William Flick Lane	William Flick Lane		E	F	F	F	F	F
	Ewingsdale Road, western leg	Left	A	A	A	A	E	F
		Right	C	F	F	F	F	F
	Ewingsdale Road, eastern leg		A	A	A	A	F	F
Hospital roundabout	Hospital		B	D	D	E	F	F
	Ewingsdale Road western leg		A	F	F	F	F	F
	Ewingsdale Road eastern leg		A	F	F	F	F	F

Table 31 | 95th %-ile back of queue (m)

Intersection	Approach leg	Lane	A2	B2	C2	A4	B4	C4
Eastern Ewingsdale Interchange roundabout	Overpass		29	62	69	96	1222	1629
	Off ramp	Left	175	2478	2836	4190	7895	7816
		Right	26	199	349	1001	2736	2629
	Woodford		8	19	24	19	63	157
	Ewingsdale Road	Left	32	135	127	163	776	1084
		Right	32	129	121	157	715	988
William Flick Lane	William Flick Lane		3	126	151	147	388	388
	Ewingsdale Road, western leg	Left	0	0	0	240	311	328
		Right	2	13	16	177	251	251
	Ewingsdale Road, eastern leg		0	0	0	0	0	0
Hospital roundabout	Hospital		7	24	24	31	60	61
	Ewingsdale Road western leg		339	3418	3533	5119	9281	9490
	Ewingsdale Road eastern leg		110	999	1123	2282	5301	5562

Table 32 | Control delay (sec)

Intersection	Approach leg	Lane	A2	B2	C2	A4	B4	C4
Eastern Ewingsdale Interchange roundabout	Overpass		3.4	3.7	4.2	4.2	148.2	237.4
	Off ramp	Left	30.2	781.2	999.4	1844.7	6921.9	6048.8
		Right	18.7	93.6	177.5	625.2	3321.2	2875.8
	Woodford		10.3	21.2	22.1	20.5	62.2	120.7
	Ewingsdale Road	Left	5.9	19.9	17.8	19.1	106.7	167.1
		Right	13.6	28	25.9	27.2	114.9	175.2
William Flick Lane	William Flick Lane		41.5	1410.1	1999.7	2761	7945.8	7945.8
	Ewingsdale Road, western leg	Left	0	0	0	40.5	80.5	84
		Right	19.8	146.3	207.9	3310.8	4744.7	4744.7
	Ewingsdale Road, eastern leg		0.1	0.2	0.2	0.6	79.9	87
Hospital roundabout	Hospital		12.6	37.6	38.6	50.7	108.7	113.5
	Ewingsdale Road western leg		5.7	270.5	283.2	491.9	1055.8	1080.3
	Ewingsdale Road eastern leg		6	75	91.1	248.5	644.9	676.5

Table 33 | Average travel speed (km/h)

Intersection	Approach leg	Lane	A2	B2	C2	A4	B4	C4
Eastern Ewingsdale Interchange roundabout	Overpass		56.1	53.9	52.6	51.9	11.5	7.7
	Off ramp	Left	37.8	3.5	2.8	1.2	0.4	0.5
		Right	46.8	22	13.7	4.6	0.9	1.1
	Woodford		38.3	29.4	28.9	30	15.8	9.5
	Ewingsdale Road	Left	50.7	39.2	40.7	39.8	14.8	10.4
		Right	38.3	28.8	29.9	29.2	10.6	7.4
William Flick Lane	William Flick Lane		28.1	1.4	1	0.7	0.3	0.3
	Ewingsdale Road, western leg	Left	59.9	59.9	59.9	21.1	12.6	12.2
		Right	37.1	11.9	8.9	0.6	0.4	0.4
	Ewingsdale Road, eastern leg		59.6	59.1	59	57.7	10.2	9.5
Hospital roundabout	Hospital		22.7	18.3	18.2	16.6	11.9	11.6
	Ewingsdale Road western leg		49.8	8.9	8.5	5.2	2.6	2.5
	Ewingsdale Road eastern leg		49.2	22.7	21.1	9.5	4.1	3.9

8.4. Site entrance off Woodford Lane

We have prepared a SIDRA model for the intersection of the site entrance driveway and Woodford Lane, to demonstrate its performance in the worst-case scenario, being 2028 midday peak during a holiday period. The sensitivity analysis shown in Figure 16 indicates that there are no issues predicted with the operation of the southern leg of this intersection, which includes traffic turning right towards the site. Level of Service is A, and there is minimal queueing expected.

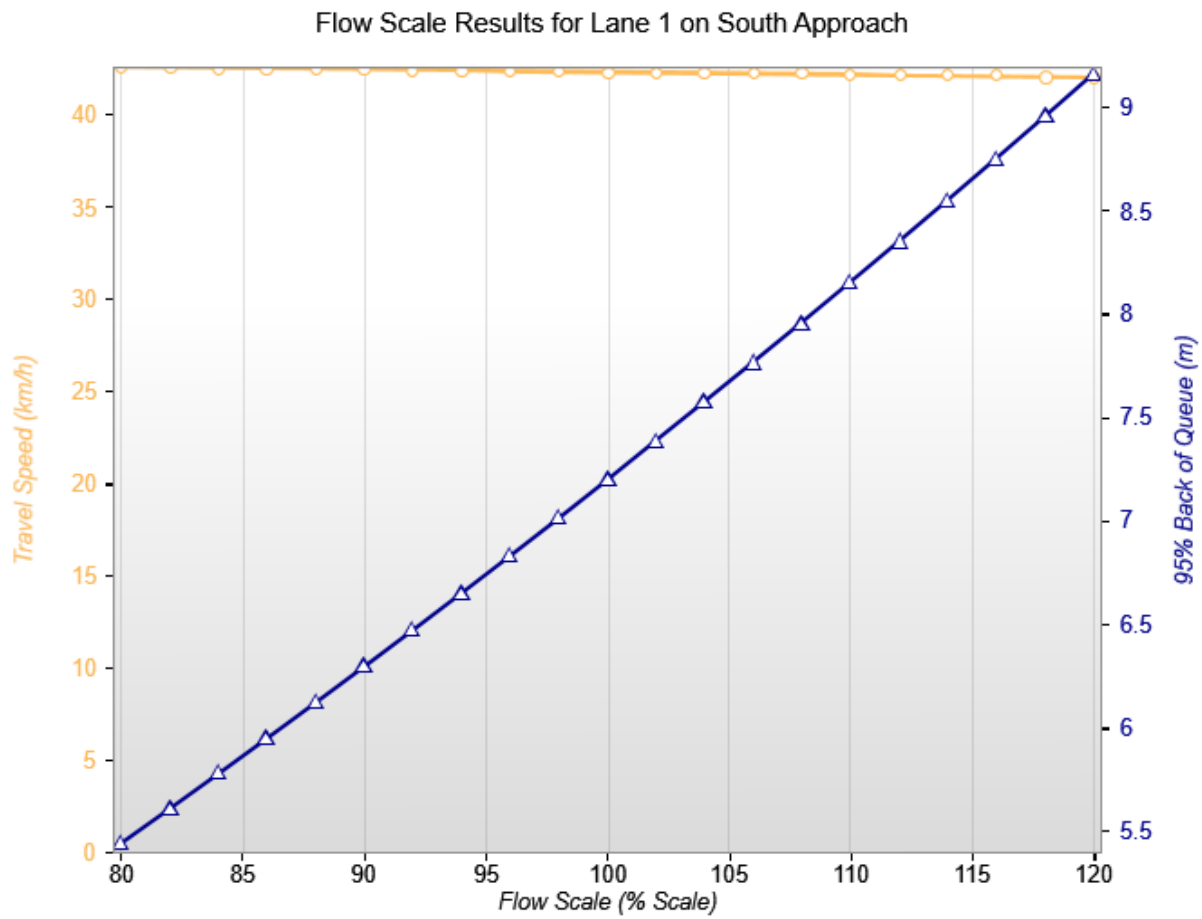


Figure 16 | Access road sensitivity analysis

9. EWINGSDALE ROAD CAPACITY

9.1. Lane capacity

The lane capacity for Ewingsdale Road can be estimated based on the methodology outlined in section 4.1 of the Austroads Guide to Traffic Management Part 3 – Traffic Studies and Analysis.

This method suggests the following equation to determine lane capacity:

$$C = 1800 f_w \times f_{HV}$$

Where,

C = laneway capacity under prevailing traffic and roadway conditions, in vehicles per hour

f_w = narrow lane and lateral clearances adjustment factor

f_{HV} = heavy vehicle adjustment factor.

The heavy vehicle adjustment factor is calculated as

$$f_{HV} = 1 / (1 + P_{HV} \times (E_{HV} - 1))$$

where,

P_{HV} = proportion of heavy vehicles in the traffic stream

E_{HV} = average passenger car equivalent for heavy vehicles, based on roadway incline.

For the automated tube count carried out by RMS in August 2017, the AM peak (8:15 – 9:15) heavy vehicle portion is calculated to be 5.9% for the eastbound traffic lane, which has a volume of 1323 vehicles per hour. Thus:

$$E_{HV} = 2$$

$$P_{HV} = 0.059$$

$$F_{HV} = 1 / (1 + 0.059 \times (2 - 1)) = 0.944$$

$f_w = 0.95$, therefore, $C = 1800 \times 0.95 \times 0.944 = 1614$ vph. Therefore, at the time of the survey, the eastbound Ewingsdale Road traffic lane was at 82% capacity.

When proportionalised for the 2017 AADT and 2017 holiday peak, the laneway would be at:

- 91% capacity for the 2017 AADT AM peak
- 150% capacity for the 2017 holiday peak hour (55% above average peak hour traffic)

This analysis demonstrate that the Ewingsdale Road laneway capacity requires increasing. It is our understanding that between BSC and RMS plans exist to duplicate Ewingsdale Road, to future-proof this main road into the Byron CBD.

9.2. Portion of The Farm traffic on Ewingsdale Road during the design year

If an annual compound traffic growth rate of 3.47% is adopted for Ewingsdale Road, then the 2028 AADT AM peak hour traffic volume in the eastbound lane can be estimated to be: $1470 \times 1.0347^{11} = 2139$ vph. (1470 would be the baseline 2017 AADT AM peak volume, if the surveyed 1323 vph is 90% of the annual average AM peak hour volume)

The AM peak hour (8:15 – 9:15) trip generation by The Farm is estimated to be 91.3 vph. From the RMS turning movement survey, it can be calculated that during the AM peak hour, 25.7% of traffic generated by The Farm travels from Woodford Lane into the eastbound lane of Ewingsdale Road. Furthermore, RPS have estimated that only 54% of The Farm traffic is destination traffic, in other words, 46% of traffic accessing The Farm would have been driving on the adjacent road network anyway. Therefore, in order to estimate the contribution of The Farm to the traffic generated within the road network, a factor of 0.54 can be applied.

Thus, we can calculate that the traffic added by The Farm to the eastbound Ewingsdale Road lane during the AM peak is $91.3 \times 0.257 \times 0.54 = 12.7$ vph. The contribution of The Farm to the design year AM peak hour traffic is $12.7 / 2139 = 0.0059$, in other words, only 0.6%.

10. CONCLUSIONS AND RECOMMENDATIONS

The purpose of this report is to quantify the impact of the operations of The Farm Byron Bay on the surrounding road network, in particular with respect to traffic generation and parking demand. This report demonstrates:

- Compliance with the requirements of chapter B4 of the 2014 Byron Shire Development Control Plan
- Compliance with the relevant items recommended for a Traffic Impact Study in the 2002 Guide to Traffic Generating Developments (RTA)
- The contribution of generated traffic to the traffic volume on Ewingsdale Road, from the Pacific Motorway to McGettigans Lane
- of the impacts on safety and capacity of the eastern Ewingsdale Interchange roundabout.

Based on our assessment, we provide the following conclusions:

- Sufficient car parking can be provided on site to comply with the requirements of chapter B4 of the 2014 Byron Shire Development Control Plan (see table below);
- The existing road network adjacent the subject site is currently operating over-capacity and this issue is likely to get worse in the future. Traffic generated by any development in the catchment of Ewingsdale Road would contribute to the worsening of the traffic conditions;
- The Farm is located in the best possible location given the existing congestion issues, as only a small portion of traffic generated by The Farm will travel onto Ewingsdale Road, the rest is accessed directly off the Pacific Motorway, without needing to access Ewingsdale Road;
- The existing eastern Ewingsdale Interchange roundabout layout raises safety concerns regarding sight angles between various approaches, following recent modification works that were part of the T2E project;
- The capacity of the access intersection on Woodford Lane is sufficient and no capacity issues or queueing is predicted as a result of the proposed development; and
- During the congested period in the AM peak, only 0.6% of traffic on Ewingsdale Road (eastbound) is contributable to The Farm.

Additionally, we note that as part of this proposal, the traffic generated by The Farm is not proposed to increase with respect to its current trip generation. As the background traffic volumes are likely to increase, the proportional contribution of The Farm traffic to the overall traffic volume will reduce.

Figure 17 | Parking and service vehicle requirement summary

Type	Sealed all-weather spaces	Spaces in grass overflow area
Regular car spaces	135	107
PWD	5	0
Motorbike	12	8
Bicycle	40	0
SRV loading	1	0
MRV loading	1	0
HRV loading	1	0
AV loading	1	0

We understand that both BSC and RMS have planned upgrades to the road infrastructure near The Farm. These are listed below:

- Duplication of Ewingsdale Road including two lanes eastbound and two lanes westbound, vegetated median strip and a footpath;
- Upgrade of hospital roundabout to an adequately sized 2-lane roundabout; and
- Alterations to the entire Ewingsdale Interchange. A scope of works for this project has not been made available to us yet but should address both the safety and capacity issues identified in this report.

REFERENCES

New South Wales Development Design Specification D1 – Geometric Road Design (Urban and Rural), Northern Rivers Local Government AUS-SPEC, August 2013

Guide to Traffic Generating Developments, Roads and Traffic Authority, Version 2.2, October 2002

Guide to Traffic Generating Developments – Updated Traffic Surveys TDT 2013/04a, Roads and Maritime Services, August 2013

Austroads Guide to Road Design Part 4A: Unsignalised and signalised intersections, Austroads Inc., Sydney, June 2017

Austroads Guide to Road Design Part 4B: Roundabouts, Austroads Inc., Sydney, 2015

Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis, Austroads Inc., Sydney, November 2017

Australian / New Zealand Standard 2890 series

The Farm economic assessment, RPS Australia East Pty Ltd, Robina, v3.0, 16 August 2017

Appendix D LUCRA

Land Use Conflict Risk Assessment

Planning Proposal to Byron Shire Council to
enable certain land uses to be undertaken at Lot
1 DP780234 Woodford Lane and Lot 5
DP848222, 11 Ewingsdale Road, Ewingsdale



Land Use Conflict Risk Assessment

Planning Proposal to Byron Shire Council to
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1 DP780234 Woodford Lane and Lot 5
DP848222, 11 Ewingsdale Road, Ewingsdale

Prepared for: The Farm at Byron Bay Pty Ltd

Date: 18 June 2018

Job No. 39/2015_LUCRA

Version: REVISED FINAL

Tim Fitzroy & Associates

ABN: 94120188829

ACN: 120188829

environmental

Tim Fitzroy

Environmental Health Scientist

Environmental Educator

Environmental Auditor

**61 Pine Avenue
East Ballina NSW 2478**

T | 02 6686 5183

M | 0448 483 837

tim@timfitzroy.com.au

www.timfitzroy.com.au

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1. Introduction

Tim Fitzroy & Associates (TFA) has been engaged by *The Farm at Byron Bay Pty Ltd* to undertake a Land Use Conflict Risk Assessment (LUCRA) to accompany a *Planning Proposal* to Byron Shire Council to enable certain land uses to be undertaken at Lot 1 DP780234 Woodford Lane and Lot 5 DP848222, 11 Ewingsdale Road, Ewingsdale (see Locality Plan **Illustration 1.1**). The purpose of this report is to review the relationship of existing land uses on the site with development on surrounding land.

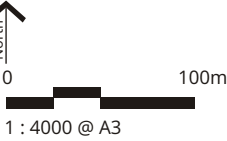
The land is presently zoned *RU1 Primary Production* in accordance with the provisions of Byron Local Environmental Plan 2014 (BLEP14). The Planning Proposal seeks to include additional permissible land uses on part of the site. Following the reporting of the draft Planning Proposal to Council's Ordinary Meeting of 26 October 2017, Council resolved that the Planning Proposal be amended to deal only with the following land uses on the site:

- Wholesale bakery;
- Agricultural training/education facilities;
- Administration offices; and
- Small-scale Information Centre


The subject site is described in real property terms as Lot 1 DP780234 Woodford Lane and Lot 5 DP848222 11 Ewingsdale Road, Ewingsdale. The site has 610 metres frontage to Woodford Lane; a boundary of approximately 860 metres to Ewingsdale Road; and 150 metres frontage to Quarry Lane. The site has an area of approximately 32 hectares.

Existing development on the site is accessed from Woodford Lane. The current commercial land uses are clustered in an area adjacent to the intersection of Woodford Lane and Ewingsdale Road at about RL20m AHD. The land falls to the east and west towards branches of Simpsons Creek. The locality of the site is a mixed use precinct with an existing concrete batching plant immediately southward of the subject site. To the east of the batching plant, directly opposite the site, is the Central Byron District Hospital facility. This Central Byron District Hospital site is immediately adjacent to the ambulance station fronting Ewingsdale Road. Also in the vicinity is Ewingsdale Public Hall and the rural residential enclave of Ewingsdale is further south east of The Farm. Land to the immediate north of the site comprises agricultural land presently used for the growing and processing of macadamias and beef cattle grazing.

A number of Development Applications have been approved in relation to The Farm, including a cheese making facility and farm café, agricultural training facility, plant nursery and farm produce kitchen. The area outside the commercial cluster is used for agricultural purposes including horticulture and the keeping of cattle, pigs, chickens and bees.



Legend

 Subject site

Plan 2.1
THE
SITE

A site inspection coupled with a review of aerial photography (see **Site Plan Appendix A**) has confirmed:

1. The distance between the commercial area of *The Farm* and the existing macadamia plantation to the immediate north (Lot 7 DP 7189, Quarry Lane Ewingsdale) is more than 350 metres.
2. The existing Macadamia de-husking shed (Lot 7 DP 7189, Quarry Lane Ewingsdale) is located more than 620 metres from the restaurant of *The Farm*.

The actual width of the any buffer should in practice be dependent on the most limiting factor involved (i.e. the factor that will require the widest buffer). In theory, this would lead to all other factors being adequately addressed.

The Planning Proposal for *The Farm* should be designed to minimise instances of incompatibility such that normal farming practice are not inhibited and natural ecosystems and attributes are enhanced where possible. Where such instances do arise, measures to ameliorate potential conflicts should be devised wherever possible.

It is important to note that in the case of the subject Planning Proposal, the majority of *The Farm* site is used for agricultural purposes and therefore any issues of incompatibility in terms of potential land use conflict with surrounding agricultural land uses are markedly reduced.

When considering potential land use conflict it is important to recognise that all agricultural activities:

- should incorporate reasonable and practicable measures to protect the environment in accord with the Protection of the Environment Operations Act (POEO) and associated industry specific guidelines; and
- are legally conducted as required by other legislation covering workplace health and safety, and the use and handling of agricultural chemicals.

Nevertheless, certain activities practised by even the most careful and responsible farmer may result in a nuisance to adjacent areas through, for example, unavoidable odour drift and noise impacts. Typical conflicts between cropping and residential development as provided in Table 1 below:

Table 1 Typical Conflicts between cropping and adjoining residential areas

Noise	<ul style="list-style-type: none"> • Farming equipment, pumps, spray machines, transport. • Ancillary equipment associated with on-farm processing.
Odour	<ul style="list-style-type: none"> • Fertilisers and chemicals.
Health concerns	<ul style="list-style-type: none"> • Chemicals. • Spray drift.
Water	<ul style="list-style-type: none"> • Access. • Pumping. • Quantity. • Runoff, sedimentation
Smoke and ash	<ul style="list-style-type: none"> • Burning of pasture, stubble or 'rubbish'.

The *Living and Working in Rural Areas Handbook* (NSW DPI et. al 2007), in particular Chapter 6 Development Control, provides guidance in the assessment and mitigation of potential land use conflict matters and has been used as a resource for this Land Use Conflict Risk Assessment (LUCRA). This LUCRA has been prepared to assist Council in assessing potential land use conflicts between the proposed development at the subject site and the neighbouring agricultural developments.

It is important to note that the *Living and Working in Rural Areas Handbook* does not include reference to separation distances between agriculture and commercial activity such as those approved on the site.

In assessing the potential risk of land use conflict associated with the existing land uses undertaken on The Farm, two key documents are relevant, namely, *Living and Working in Rural Areas – A handbook for managing land use conflict issues on the New South Wales North Coast, produced by NSW Department of Primary Industries 2007*, and Byron Shire Development Control Plan 2014 *Chapter B6 Buffers and Minimising Land Use Conflict*. The key provisions of these documents are addressed as follows:

Living and Working in Rural Areas

This publication presents a consolidation of best practices and strategies arising from managing land use conflict on the North Coast. The publication addresses land use conflicts and interface issues arising between agricultural practices and neighbouring residents. It is important to note that in the case of the subject Planning Proposal, the majority of The Farm site is used for agricultural purposes and therefore does not raise any issues in terms of potential land use conflict with surrounding agricultural land uses.

In the case of the subject site, it is understood that the issue of perceived potential conflict is associated with the macadamia farm to the immediate north and that no issues have been identified by the concrete plant, hospital or ambulance station to the south. In terms of quantifying the potential land use conflict the publication provides recommended minimum buffers for primary industries. These buffers represent a separation and distance which is considered to constitute best practice and a level of separation that will assist and minimise rural land use conflict. The minimum separation distance recommended for rural dwellings and education facilities from surrounding agricultural land uses is 50 metres for grazing, 200 metres for horticulture and 300 for Macadamia de-husking. As indicated on the plan accompanying this document, the minimum separation distance between the commercial cluster of uses and the area used for grazing is greater than 200 metres. The distance between the commercial area and the existing macadamia plantation to the immediate north is more than 350 metres. The existing Macadamia de-husking shed is located more than 620 metres from the restaurant.

It is evident that the separation distances provided in the site planning exceed the minimum best practice recommendations and are sufficient to address the potential for land use conflict between the uses. It is also noted that the table does not include reference to separation distances between agriculture and commercial activity such as those approved on the site.

Byron Shire Development Control Plan 2014 Chapter B6 Buffers and Minimising Land Use Conflict

This Chapter of the DCP aims to provide planning principals to avoid or minimise land use conflicts and ensure that development proposals are designed to minimise land use conflicts. The Chapter refers to the *North Coast Living and Working in Rural Areas handbook*. The development standards contained in B6.2.1 Responsibility for Managing Land Use Conflict notes that separation between conflicting land uses are an effective means of preventing conflict.

B6.2.2 Conflict Risk Assessment (CRA)

Objectives

1. To ensure that potential for land use conflict is identified and addressed systematically in the early stages of the development application process.

Performance Criteria

1. All development applications must identify any potential for land use conflicts and the means proposed to address those conflicts. In cases where potential for conflict is evident, development applications must be accompanied by a formal Conflict Risk Assessment (CRA) and associated mapping that defines and addresses at least the following:
 - a) The nature, intensity, extent and operational characteristics of any intended activities or uses within the proposed development that may create potential for land use conflicts in the locality.
 - b) Details of all geographical, topographical, vegetation, meteorological and other factors in the surrounding environment that may influence the potential for land use conflict.
 - c) Location, separation distances and use of all adjoining and other lands likely to create or influence potential for conflict between the proposed development and existing or proposed land uses.
 - d) The nature, intensity, extent and operational characteristics of activities or land uses within the adjoining and nearby lands that may create potential for land use conflicts with the proposed development.

- e) An assessment of the external effects and impacts likely to be generated by both the proposed development and the adjoining land uses and their potential to cause conflict.
 - f) Details of the proposed management measures, buffers and other planning or operational strategies to be incorporated in the proposed development to manage potential land use conflicts, together with an evaluation of the nature, extent and quantum of mitigation expected to be achieved.
2. The format, level of detail and assessment criteria for each CRA will vary depending on factors such as the nature and scale of the proposed development, the likely intensity and significance of potential conflicts, local environment and circumstances.

Consequently no prescriptive format is specified for a CRA, however valuable guidance can be found in the 'North Coast Living and Working in Rural Areas Handbook'.

Prescriptive Measures

There are no Performance Criteria.

Comment:

Whilst it is not conceded by the proponent that the activities undertaken at the Farm result in potential land use conflict with the macadamia undertaking to the immediate north, given representations made by the owner of the subject land in relation to perceived land use conflict, an assessment has been undertaken to assist Council's consideration of this matter.

The existing approved uses on the land have been assessed and determined as satisfactory in relation to their relationship with surrounding land uses. In relation to the potential land uses conflict resulting from the additional uses identified in the Planning Proposal, it is submitted that the risk of conflict is very low, given the separation distances between the land uses and the nature of the land uses proposed. The additional land uses envisaged by the Planning Proposal include agricultural produce industry (bakery), information and education associated with people visiting the Farm and agricultural related training. The separation distances provided well exceed the recommendations of 50 metres for grazing, 200 metres for horticulture and 300metres for macadamia de-husking, contained in Table B 6.1. These distances represent the desirable buffers for conflict avoidance.

B6.2.3 Planning Principles to Minimise Land use conflict

Objectives

- 1. To ensure that development applications are designed to avoid land use conflicts.
- 2. To define planning principles to be applied to proposed development to minimise the risk of land use conflicts.

Byron Shire Development Control Plan 2014 – Chapter B6 – Buffers and Minimising Land Use Conflict

Adopted 26 June 2014 Effective 21 July 2014 7

Performance Criteria

When considering development applications and associated CRAs where potential for land use conflict arises, Council will apply the following principles adapted from 'North Coast Living and Working in Rural Areas Handbook'. Development applications involving potential land use conflict must demonstrate how the proposed development addresses each principle and achieves the above Objectives.

1. General

- a) Decisions about new development should ensure that the natural and built resources of importance to the local, regional or State economy are not unreasonably constrained, impacted or sterilised by the location of incompatible land uses.
- b) Buffers between incompatible land uses do not take the place of sound strategic planning though they do offer an added level of conflict risk avoidance in land use planning and development.
- c) It is the responsibility of the encroaching development to provide the necessary setback and buffer to incompatible land uses. The extent of a buffer should not extend beyond the boundary of the property required to provide the buffer except via negotiation and agreement.
- d) The most effective means of preventing conflict is to plan for adequate separation between conflicting land uses.
- e) Potential risks of conflict created by residential expansion towards rural lands should be systematically assessed as early as possible in the planning process.
- f) New development next to or near to farmland, extractive resources, waterways, wetlands, and areas of high biodiversity value should incorporate buffers to avoid land use conflict.

2. Environmental Protection

- a) New urban development, rural settlement and other development should be sited and designed to protect key environmental assets and, where possible, enhance environmental assets including high conservation value vegetation and habitats and ecosystems, ecosystem corridors, waterways, endangered ecological communities and key habitat.
- b) The potential for land use conflict and development of mitigation measures should be assessed as part of any proposed intensification of use, in particular proposed residential development at the urban/rural interface and within the rural areas.
- c) Natural resources and environmental assets should not be damaged, constrained or sterilised by the location of incompatible land uses.

3. Community engagement

- a) Community engagement, including consultation with adjoining landowners and operators of 'scheduled activities' (as defined by the Protection of the Environment Operations Act), should be part of the development planning process to identify and avoid land use conflict.

4. Protection of resource access and use

- a) New urban development, rural settlement and other development in rural areas should be sited and designed so they do not interfere with legitimate and routine rural land uses on adjoining lands.
- b) Landscape values of rural lands should be protected.
- c) The different values of rural lands should be co-managed.
- d) Rural land uses should be protected from conflict with residential uses.
- e) The compatibility of proposed development in rural areas with the rural land uses currently or expected to take place in the locality and on adjoining lands should be documented and assessed before determining an application for new development in rural areas.
- f) Current best practice and the most likely intensive rural land use should be adopted in assessing the compatibility of adjoining land uses.
- g) Agricultural farmland should remain available in large contiguous areas for future rural industry activities. Lack of current viability of a property or farming areas is not enough justification to convert rural land to non-rural uses.
- h) The potential for land use conflict and development of mitigation measures should be assessed as part of any proposed residential development at the urban/rural interface and within rural areas.

- i) In rural zones, rural land uses should generally take precedence over non rural land uses in order to protect resource access and use.
- 5. Cultural heritage recognition
 - a) Aboriginal cultural heritage should be taken into account in the planning, siting, design and management of developments where there is a threat or perceived threat to Aboriginal cultural values including significant sites and places.
 - b) Early consultation with Aboriginal communities in a culturally appropriate manner is a fundamental prerequisite of any development application where these sensitivities require consideration. Consult the local council's Aboriginal liaison officer or Local Aboriginal Land Council community support officer.

Prescriptive Measures

There are no Prescriptive Measures.

Comment:

The proposed development adopts the most effective means of preventing conflict. That is, site planning including the provision of adequate separation between potentially conflicting land uses.

The land owner has consulted with adjoining land owners in order to identify perceived land use conflicts and address them.

The underlying premise on which The Farm operates is to 'grow, feed & educate' and the operation focuses on the agricultural activity on the subject site. This land use is entirely consistent with the agricultural undertakings to the immediate north.

B6.2.4 Buffers

Objectives

1. To avoid land use conflicts between proposed new development and existing, legitimate land uses.
2. To outline controls for buffers aimed at reducing land use conflicts between proposed new development and existing, legitimate land uses where development design and siting cannot deal satisfactorily with land use conflict.
3. To provide for existing, legitimate agricultural and associated rural industry uses to take precedence over other rural land uses within primary production rural zones and where appropriate in other rural zones.
4. To protect significant environmental and natural resources through incorporation of buffers into developments.

Performance Criteria

Where development design and siting cannot deal satisfactorily with potential for land use conflict between a proposed development and existing or proposed developments or land uses, Council will apply the following requirements and principles for the establishment of buffers. Much of the following has been adapted from Chapter 6 of 'North Coast Living and Working in Rural Areas Handbook'. Measures to ensure that buffers are maintained for the life of the proposed development should be nominated in the development application. Development applications involving such potential for land use conflicts must demonstrate how the proposed development addresses each of the following criteria and achieves the above Objectives:

1. The Role of Buffers

Defining minimum buffer distances between incompatible land uses and key natural resource assets is a useful mechanism for reducing and avoiding the threat of land use conflict issues between incompatible land uses. However, buffers have their limitations

and need to be used with caution and in combination with other strategies to reduce land use conflict risks and manage interface issues.

Complying with prescribed buffer setbacks will help decrease the potential for conflict, though it cannot guarantee that land use conflict and interface issues will be totally removed. Variables such as changes in ownership of adjoining lands, changes in land use and management practices and variable climatic conditions can affect the success of land use buffers.

Similarly, complying with a buffer setback does not guarantee that Council will grant consent to a development application. Equally, where a buffer is found to not be suitable for the subject site Council may reduce the width of the buffer. Mitigation of land use conflict and the application of land use buffers are part of a broader consideration of environmental, social and economic factors which Council must take into account in determining the merits of a given land use proposal.

In circumstances where the use of a buffer does not deal satisfactorily with conflicts or impacts (e.g. in cases where farm machinery, crop spraying or other agricultural practices are used on an adjoining property) it will be necessary for the proposed development to incorporate further design or management measures to address those impacts.

2. Types of Buffers

Different types of buffers may be used to deal with differing land-use conflicts and planning scenarios, including the following:

- a) Separation buffers are the most common and involve establishing a physical separation between land uses where conflict could arise. The aim of doing this is to reduce the impacts of the uses solely by distance separation, rather than by any physical means such as earthworks or vegetation planting. These can be fixed separation distances or variable. Fixed separation distances generally apply in the absence of evidence that an alternate lesser buffer will be effective in the circumstances. Variable separation distances are calculated based on the site specific circumstances given factors such as the scale of the development, risk of conflict and risk to the adjoining environment having regard to accepted procedures for assessing these risks.
- b) Biological and vegetated buffers are buffers created by vegetation planting and physical landscaping works. They are most commonly designed to reduce visual impact and reduce the potential for airborne-created conflict such as chemical spray drift and dust. They can help provide environmental protection through vegetated filter strips and riparian plantings.
- c) Landscape and ecological buffers refer to the use of vegetation to help reduce the ecological impacts from development. They are mostly used to protect a sensitive environment by maintaining or enhancing existing habitat and wildlife corridors.
- d) Riparian buffers are a particular form of separation, biological and ecological buffers. They are designed to protect the biophysical and geophysical integrity of riparian environments.
- e) Property management buffers refer to the use of alternative or specialised management practices or actions at the interface between uses where the potential for conflict is high. The aim of these buffers is to reduce the potential of conflict arising in the first place. Examples include siting cattle yards well away from a nearby residence to reduce potential nuisance issues, and adopting a specialised chemical application regime for crops close to a residence or waterways with the aim of minimising off-site impacts on neighbours and the environment.

- f) Other buffers: There are other statutory and recommended buffers that can apply to a specific sites and situations. These include:
- i) Bushfire protection buffers.
 - ii) Mosquito buffers.
 - iii) Airport buffers.
 - iv) Power line buffers.
 - v) Rifle range buffers.
 - vi) Railway line buffers.
 - vii) Cultural heritage buffers.

Prescriptive Measures

1. The buffer distances in Tables B6.1, B6.2 and B6.3 (adapted from 'North Coast Living and Working in Rural Areas Handbook') apply generally to development. Because each case will be different depending on the nature of the local environment and the extent and intensity of existing and proposed land uses, Council may vary the buffer distances specified herein following consideration of a formal Land Use Conflict Risk Assessment, planning principles and resultant management measures as referred to in Sections B6.2.2 and B6.2.3.
2. In circumstances where the proposed buffer does not satisfactorily deal with conflicts or impacts the proposed development must incorporate further management measures to ensure that those impacts are addressed.

Table B6.1 – Recommended minimum buffers (metres) for primary industries
(Note: The desirable buffer in the circumstances will be the separation distance and conflict avoidance strategy that protects: community amenity, environmental assets, the carrying out of legitimate rural activities in rural areas and the use of important natural resources.)

	Residential areas & urban development	Rural dwellings	Education facilities & pre-schools	Rural tourist accommodation	Watercourses & wetlands	Bores & wells	Potable water supply/catchment	Property boundary	Roads
Piggeries ¹ Housing & waste storage (9) Waste utilisation area	1000	500	1000	500	100	SSD	800	100	100
	500	250	250	250	100	SSD	800	20	20
Feedlots ² Yards & waste storage (9) Waste utilisation area	1000	500	1000	1000	100	SSD	800	100	100
	500	250	250	250	100	SSD	800	20	20
Poultry ³ Sheds & waste storage (9) Waste utilisation area	1000	500	1000	500	100	SSD	800	100	100
	500	250	250	250	100	SSD	800	20	20
Dairies ⁴ Sheds & waste storage (9) Waste utilisation area	500	250	250	250	100	SSD	800	100	100
	500	250	250	250	100	SSD	800	20	20
Rabbits ⁵ Wet shed, ponds & irrigation. Dry shed	300	150	150	150	100	SSD	800	50	50
	120	60	120	60	100	SSD	800	20	20
Other intensive livestock operations ⁶	500	300	500	300	100	SSD	800	100	100
Grazing of stock	50	NAI	50	50	BMP	SSD	BMP	NAI	BMP
Sugar cane, cropping & horticulture	300	200	200	200	BMP	SSD	BMP	NAI	BMP

Greenhouse & controlled environment horticulture	200	200	200	200	50	SSD	SSD	50	50
Macadamia de-husking	300	300	300	300	50	SSD	SSD	50	50
Forestry & plantations	SSD	SSD	SSD	SSD	STRC	SSD	SSD	BMP	STR C
Bananas	150	150	150	150	BMP	SSD	SSD	BMP	BMP
Turf farms ⁸	300	200	200	200	50	SSD	SSD	BMP	SSD
Rural industries (incl. feed mills and sawmills)	1000	500	500	500	50	SSD	SSD	SSD	50
Abattoirs	1000	1000	1000	1000	100	SSD	800	100	100
Potentially hazardous or offensive industry	1000	1000	1000	1000	100	SSD	800	100	100
Mining, petroleum, production & extractive industries	500 1000*	500 1000*	500 1000*	500 1000*	SSD	SSD	SSD	SSD	SSD

* Recommended minimum buffer distance for operations involving blasting

Comment:

As previously noted, the proposed development meets the best practice buffers identified as appropriate separation distances between dwellings and grazing, horticulture and macadamia de-husking.

It is evident from a review of the applicable policies and controls that the additional land uses proposed in accordance with the subject Planning Proposal are not likely to result in land use conflict, particularly having regard for the separation distances provided. Notwithstanding this, consultation with the neighbours to the immediate north has identified a number of issues that they have with the present and proposed continued operation of The Farm. Again, it must be emphasised that a number of the existing commercial land uses on the site are subject to existing development approvals.

1.1 Scope of Works

The purpose of this report is to review the relationship of existing land uses on the site with development on surrounding land. The land is presently zoned RU1 Primary Production in accordance with the provisions of Byron Local Environmental Plan 2014 (BLEP14). The Planning Proposal seeks to include additional permissible land uses on part of the site. Following the reporting of the draft Planning Proposal to Council's Ordinary Meeting of 26 October 2017, Council resolved that the Planning Proposal be amended to deal only with the following land uses on the site:

- Wholesale bakery;
- Agricultural training/education facilities;
- Administration offices; and
- Small-scale Information Centre

A site layout plan for the Planning Proposal is provided in **Appendix A**. The actual width of the buffer should in practice be dependent on the most limiting factor involved (i.e. the factor that will require the widest buffer). In theory, this would lead to all other factors being adequately addressed.

The tasks involved in undertaking this assessment were to:

Step 1: Gather information

- Determine the nature of the land use change and development proposed.
- Assess the nature of the precinct where the land use change and development is proposed.
- Appraise the topography, climate and natural features of the site and broader locality
- Conduct a site inspection
- Describe and record the main activities of the surrounding agricultural land use and their regularity, including periodic and seasonal activities that have the potential to be a source of complaint or conflict

Step 2: Evaluate the risk level of each activity

- Record each activity on the risk assessment matrix, and identify the level of risk of a land use conflict arising from the activity.

Step 3: Identify the management strategies and responses that could help lower the risk of the issue resulting in a dispute and conflict

- Identify management strategies for each activity
- Prioritise Strategies
- Provide Performance targets for each activity

Step 4: Record the results of the LUCRA

- Summarise the key issues, their risk level, and the recommended management strategies

2. Gather Information

2.1 Nature of the land use change and development proposed

The subject site is described in real property terms as Lot 1 DP780234 Woodford Lane and Lot 5 DP848222 11 Ewingsdale Road, Ewingsdale. The site has 610 metres frontage to Woodford Lane; a boundary of approximately 860 metres to Ewingsdale Road; and 150 metres frontage to Quarry Lane. The site has an area of approximately 32 hectares.

Existing development on the site is accessed from Woodford Lane. The current commercial land uses are clustered in an area adjacent to the intersection of Woodford Lane and Ewingsdale Road at about RL20mAHD. The land falls to the east and west towards branches of Simpsons Creek. The locality of the site is a mixed use precinct with an existing concrete batching plant immediately southward of the subject site. To the east of the batching plant, directly opposite the site, is the Central Byron District Hospital facility. This Central Byron District Hospital site is immediately adjacent to the ambulance station fronting Ewingsdale Road. Also in the vicinity is Ewingsdale Public Hall and the rural residential enclave of Ewingsdale is further south east of The Farm. Land to the immediate north of the site comprises agricultural land presently used for the growing and processing of macadamias and beef cattle grazing.

A number of Development Applications have been approved in relation to The Farm, including a cheese making facility and farm café, agricultural training facility, plant nursery and farm produce kitchen. The area outside the commercial cluster is used for agricultural purposes including horticulture and the keeping of cattle, pigs, chickens and bees.

2.2 Nature of the precinct where the land use change and development is proposed

2.2.1 Topography, Climate and Natural Features

The current commercial land uses are clustered in an area adjacent to the intersection of Woodford Lane and Ewingsdale Road at about RL20mAHD. The land falls to the east and west towards branches of Simpsons Creek.

The soils within the subject site are generally red basaltic – landscape variant. They are generally deep well drained alluvial kransozerm, described as the Wollongbar soil landscape group by Morand (1992).

Due to its latitude and proximity to the coast, Byron Shire has a coastal sub-tropical climate. As a result, daily temperatures are in the warm to very warm range during summer months (19.5 - 27.5°C) and are milder during winter months (11.7 - 20.3°C). Rainfall is mainly distributed throughout December to June with 1260 mm (72%) of the mean annual rainfall of 1747 mm falling during this period. The highest monthly

rainfall occurs in February/March while the months July-September are much drier, generally receiving less than 100 mm each.

Evaporation levels between September and January often exceed rainfall levels. However, as evaporation rates are low during the winter months, rainfall exceeds evaporation on an annual basis (see **Table 2.1**).

2.2.2 Wind Regime

The wind regime for the site is based on annual wind roses for Ballina Airport AWS. Cape Byron Weather Station has not been used as the wind experienced on the exposed headland whilst closer to the subject site does not reflect conditions at Ewingsdale. The Ballina Airport Wind regime is more closely aligned to the subject site.

Annual wind roses for the times of 9am and 3pm are shown in **Illustration 2.1**. The wind roses are based on records from 1992 to 2010. The annual wind roses indicate that light to moderate winds are generally experienced from all directions. The wind roses also indicate the following:

- winds in the mornings are typically light winds from the west and south-west and to a lesser extent from the north;
- winds in the afternoon are typically more moderate winds from the south, north-east, south-east and east; and
- Calm conditions are experienced 8% of the time in the morning and only 1% of the time in the afternoons.

The wind frequency towards any of the sensitive receptors is less than 35% if three quadrants are added together (e.g. south east + south-east + south).

Table 2.1 Monthly Climate Statistics –BALLINA AIRPORT AWS)

Statistics	Month												Annual
	J	F	M	A	M	J	J	A	S	O	N	D	
Mean Max. Temp. (°C)	27.8	27.5	26.4	23.9	21.2	19.3	18.6	20	22	23.6	25.1	26.4	23.5
Mean Min. Temp. (°C)	21.1	21	19.9	17.6	14.9	13.1	12	13.1	15.2	16.9	18.6	19.8	16.9
Mean Rain (mm)	164.4	166.6	127.7	183.5	99.4	164.9	96.3	75.4	47	95.8	93.4	139.3	1509.2
Mean no. rain days	10.8	12	11.6	12.6	10.3	11.5	9.2	5.5	5.5	8.3	8.3	10.6	116.2
9 am conditions													
Mean Temp. (°C)	24.5	23.9	22.5	21.1	18.1	15.5	15.0	16.5	19.7	21.5	22.3	23.9	20.4
Mean Rel. Humid. (%)	74	78	80	75	75	75	72	66	63	66	72	70	72
Mean Wind Spd. (km/h)	13.3	12.8	12.5	13.2	13.5	12.7	13.3	13.3	14.5	15.7	14.2	14.2	13.6
Dominant Direction ¹	SW	SW	SW	SW	W	W	W	W	N & SW	N	N	N	W

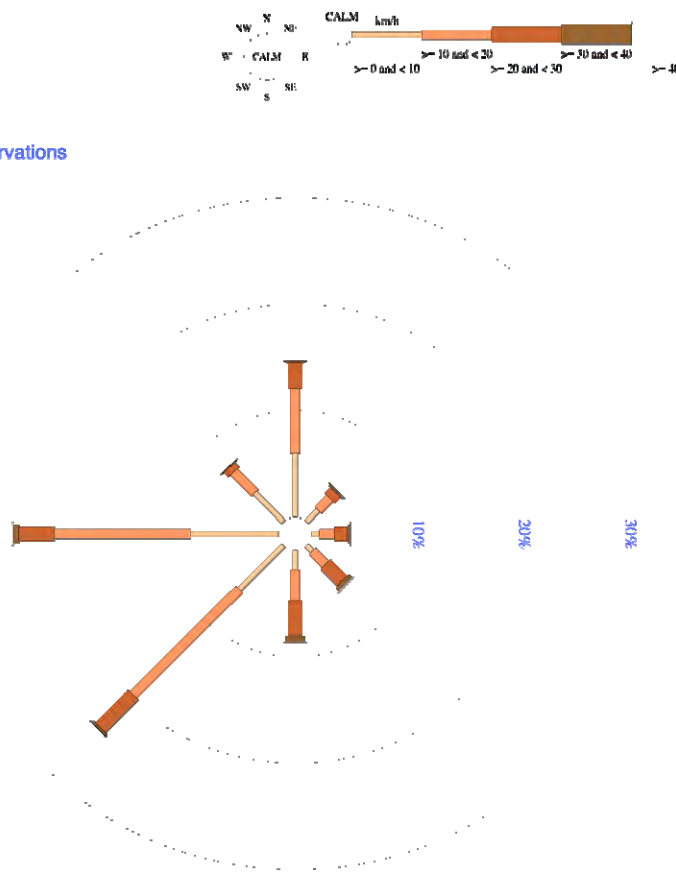
Statistics	Month												Annual
	J	F	M	A	M	J	J	A	S	O	N	D	
3 pm conditions													
Mean Temp. (°C)	26.7	26.5	25.4	23.4	21.0	19.0	18.7	19.8	21.6	22.8	24.4	25.9	22.9
Mean Rel. Humid. (%)	67	68	67	65	64	62	59	55	59	62	65	64	63
Mean Wind Spd. (km/h)	24.4	23.0	21.5	18.9	16.8	15.9	18.1	19.9	23.7	24.8	24.8	24.7	21.4
Dominant Direction ¹	NE	NE	SE	S	S	S	S	S	NE	NE	NE	NE	S

Table 2.2 Annual Wind Directions and Strength

Direction	9am	9am Wind Speed	3pm	3pm Wind Speed
N	15%	light	9%	moderate
NE	3%	light	21%	moderate
E	3%	light-moderate	14%	light-moderate
SE	5%	light-moderate	18%	light-moderate
S	9%	light-moderate	24%	light-moderate
SW	24%	light	5%	light
W	25%	light	5%	light-moderate
NW	8%	light	3%	light
Calm	8%	-	1%	-

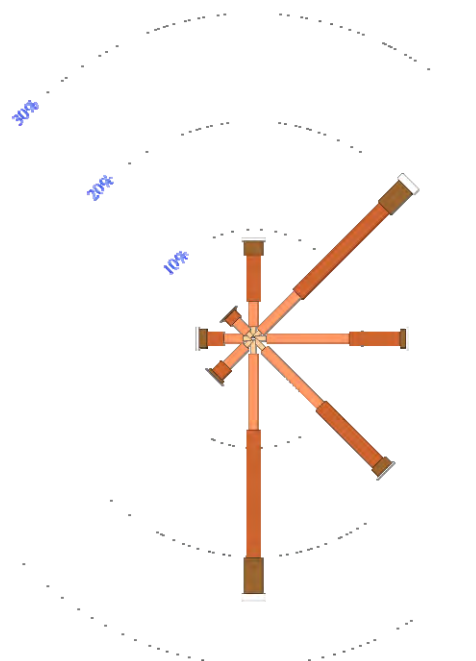
9 am
6359 Total Observations

Calm 8%



3 pm
6356 Total Observations

Calm 1%



Source: Bureau of Meteorology

Illustration 2.1 Annual Wind Roses (9am and 3pm) for Ballina Airport

2.3 Site Inspection

A site assessment was undertaken on the 20 November 2017 by Tim Fitzroy. On the day of the site assessment the weather was overcast with intermittent showers. The site is undulating consisting of pasture, limited cropping (macadamias) on the northern boundary, a series of vegetable patches on the southern boundary, clusters of commercial buildings, carpark, onsite wastewater system, fencing, and accessways. The land falls to the east and west towards branches of Simpsons Creek.

Discussions were undertaken with the property manager, Johnson Hunter as well as inspection of the property. Photographs of the site subject and surrounds were taken (see **Appendix B**).

2.4 Meeting with Mr Tony Flick

On 20 November 2017 Tim Fitzroy held a meeting with Mr Tony Flick, the owner and operator of the adjoining Macadamia and Beef Cattle grazing property (Lot 7 DP 7189) to the immediate north of the subject site. The purpose of the meeting was to confirm the current and potential future uses of Mr Flick's property and to identify any potential land use conflicts between the continued operation of Flick's property and the Planning Proposal at The Farm, 11 Ewingsdale Road Ewingsdale.

Mr Flick nominated the following potential land use conflicts between his operation and that of *The Farm*:

1. Mr Flick does not believe that *The Farm* should be allowed to operate in a RU1 zone operating as a tourist facility;
2. Future expansion of the farm and potential impacts on his farm operation;
3. Mr Flick wishes to plant more macadamias (approximately 4,000 trees) along the southern boundary of his property adjacent to *The Farm* and has delayed installation due to concerns about future possible expansion of *The Farm* and potential land use conflicts;
4. Spray drift and potential impacts on visitors to the farm, especially to the macadamia plantation on *The Farm*;
5. The two cells of the Subsurface Irrigation Area for the Onsite Sewage Management System which drain towards his property may be contaminating his property. He has been advised by Site Auditor for *Farm Fresh* that trees adjacent to the SSI should not be harvested until the land application area draining towards Mr Flick's land from the septic tank is relocated;
6. Biosecurity: Mr Flick is concerned with cross contamination from visitors to The Farm
7. Privacy: Mr Flick is concerned with Visitors to The Farm immediately adjacent to his property taking photos
8. Lack of monitoring and spraying at The Farm may cause disease in his plants
9. Noise from Weddings associated with The Farm activities
10. The Farm's restaurant scraps being dumped in the paddock attracting large flocks of crow's and ibis. These birds have been and continue to roost on Mr Flick's young trees, snapping off the grafts and destroying the structure of these trees.

2.5 Potential Land Use Conflicts

The following key items have been identified as potential land use conflicts as a result of the proposed development.

2.5.1 Agricultural Chemical Spray Drift

The off-target movement of agricultural chemicals can be a cause for concern to residents in proximity to farming areas. These concerns are largely based on fears of exposure to agricultural chemicals but also due to detection of odours associated with the chemical.

Mr Flick uses agricultural sprays to help manage insects and fungi. In addition fertilisers are applied to assist the growth of trees.

On macadamia plantations insecticides and fungicides are commonly applied using an Air Blast Sprayer while herbicides are normally applied with a boom spray and wand. Fertilisers are generally feed into the ground around the roots of trees via mechanical spreaders.

As per the Protection of the Environment Operation Regulation spraying is restricted to calm conditions to ensure that spray drift is restricted to the target trees.

No aerial agricultural spraying is known to occur in the area. Given the use of ground cropping chemical application it is assumed that spray drift would be limited.

Very fine or fine droplets pose the highest risk of spray drift; it is the single most important factor controlling drift potential. The selection of applicators and nozzles that give the correct droplet size range is important.

The higher droplets are released, the greater potential for drift. Given the adjacent land use consists of ground vegetable cropping and the relatively low height at which spray released the risk of spray drift is reduced.

A variety of insecticides, rodenticides, fungicides and fertilisers are used each year on commercial Macadamia plantations (see **Table 2.3** below). In addition the average frequency and method of application for chemicals utilised on macadamia plantations is provided.

Table 2.3 Chemicals (pesticides, herbicides and fertilisers) used on Commercial Macadamia Plantations

Chemicals	Type	Frequency Average	Application	Timing
Insecticides	Bulldock (beta-cyfluthrin) Supracide Carbaryl	3 times a year Aug, Oct, Dec	Air Blast Sprayer	Day
Rodenticides	Tomcat	As required	Bait Stations	Day
Fungicides	Carbendazim Howsat	3 times a year Aug, Oct, Dec	Air Blast Sprayer	Day
	Spin (carbendazim)*	3 times a year Aug, Oct, Dec	Air Blast Sprayer	Day
Fertilisers	North Coast Maca Mix	August	Spreader	Day
	Maca Husks	August	Spreader	Day

Herbicides	Roundup	As required	Hand gun/Wand	Day
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The greatest risk of drift potential relates to the use of the Air Blast Sprayer. It is important that all protocols are maintained to minimise drift.

2.5.2 Odour

Odour from cropping and horticulture can arise from use of chemical sprays, fertilisers (inorganic and organic), effluent disposal and composting. Such detrimental odours can impact on residential amenity and have the potential to affect public health.

Odour is often a major factor in many complaints about off-site chemical spray drift where there is sometimes no objective evidence of toxic exposure. Some agricultural chemicals contain 'markers' (strong odours) to allow easy identification and these markers or mixing agents are sometimes detected at a distance from the target area and cause concern even though in some circumstances extremely low levels of the active ingredients may be present.

Receptor's association of the odour with the chemical is sufficient to raise fears of exposure. In addition perceptions of an odour's acceptability and individual capacity to detect particular odours can vary greatly.

Factors affecting complaints from odour are influenced by the frequency, intensity, duration and offensiveness of the odour. An objectionable odour may be tolerated if it occurs infrequently at a high intensity, however a similar odour may not be tolerated at lower levels if it persists for a longer duration.

2.5.3 Noise

2.5.3.1 Noise Impacts from Flicks Macadamia Farm

Noise from macadamia dehusking and general farming operations (tractor use, spraying, collection of fallen nuts), vehicle movements, pruning of trees and general farm activities is a normal part of macadamia farming.

In June 2017 TFA prepared a Noise Impact Assessment (NIA) in response to an RFI request from Byron Shire Council. The RFI related to potential noise impacts from a macadamia processing in a shed located on an adjoining property between 350-400m north east of the proposed dwelling as described in DA 10.2017.3.1 at *The Farm*, Lot 1 DP780234 Woodford Lane and Lot 5 DP848222, 11 Ewingsdale Road, Ewingsdale

The purpose of the NIA was to:

1. Establish existing background noise levels across the subject site;
2. Examine the likely impacts of the adjoining macadamia processing operations on the proposed development in accordance with the NSW EPA Industrial Noise Policy (2000); and
3. Report on noise levels and provide recommendations to ensure that the noise impacts from the adjoining macadamia processing operations on the proposed development will comply as far as practicable with the intent of the NSW EPA Noise Guidelines.

The NIA concluded as follows:

A noise model has been constructed to predict the propagation of noise from Macadamia De-husking and drying at 25 Quarry Lane to the proposed dwelling at 11 Ewingsdale Road. The model includes shielding effects from surrounding buildings and topography. Topography information included in the model was sourced from the NSW Six Maps service (10m contours) and from dwelling site-plan (2m contours surrounding the dwelling).

Noise levels from Macadamia De-husking and Drying Silos are predicted to be within the day-time PSNC at all receptors.

Minor exceedances of the evening PSNC are predicted at the northern façade of the proposed dwelling. Advice from Mark Keen the former Manager of Summerland House Macadamia Processing Facility, Alstonville indicates that dehusking would rarely if ever occur at night. Exceptions would apply where:

- there was a mechanical breakdown; or
- the processing plant was accepting nuts from other farms and acting as a catchment or regional based processing plant.

Noise levels from the Drying Silos are predicted to be within the night-time PSNC at all receptors.

Note: The proposed dwelling was to be located significantly closer to the Flicks macadamia dehusking shed than the existing commercial infrastructure at *The Farm*. The noise impacts from dehusking activities on the Flicks Farm would be significantly reduced at the location of the commercial infrastructure

Any potential conflict related to noise impacts from the macadamia processing activities will be mitigated by noise decay over distance.

The macadamia harvest period generally runs from the end of March to the end of August, however the duration is subject to changeable weather conditions.

A number of routine macadamia farm operations generate noise. These noises are common to macadamia plantations.

The activities are summarised below:

- Mowing (all year round)

Mowing between macadamia tress occurs throughout the year. Mowing machinery includes either small tyro mowers or tractor with slasher.

- Fertilising (4 times a year (August to March))

Fertiliser is applied via a tractor mounted spreader along side the trees. One pass per row is required.

- Spraying of Insecticides/fungicides (3 times a year (Sept/Oct/Nov))

An Air Blast sprayer is utilised to apply insecticides to trees. The initial application each year usually occurs at daytime at pre flowering stage to ensure that non-target species (i.e. bees) are not impacted.

- Spraying of Herbicides (3 times a year (Jan-March-June)
A hand wand (low to ground) or wand is used to apply herbicides.

- Pruning

Trees (depending on their age) are generally pruned on an occasional basis (not regularly).

- Mulching (Once a year (September))

Following pruning limbs are collected and passed through a mechanical mulcher.

- Truck and Vehicle Movements

Harvested nuts will be collected for offsite de-husking and cracking from April to August. It is estimated that when there are approximately 2-3 heavy vehicle movements per season per farm.

2.5.3.2 Noise Impacts from Weddings at *The Farm*

In February 2016 TFA prepared a Noise Impact Assessment for a 'small event' venue for about 400 people at The Farm, Lot 1 DP780234 Woodford Lane and Lot 5 DP848222, 11 Ewingsdale Road, Ewingsdale. This report provides details on the noise assessment and modelling carried out by *Tim Fitzroy & Associates* and *Noise Measurement Services, Brisbane* to establish existing noise levels at the subject site and investigate potential noise impacts on surrounding residences.

The purpose of this noise assessment is to:

1. Establish existing background noise levels across the subject site;
2. Examine the likely impacts of the proposed development on the existing surrounding residences in accordance with the NSW EPA Industrial Noise Policy (2000); and
3. Report on noise levels and provide recommendations to ensure that restaurant complies as far as practicable with the intent of the NSW EPA Noise Guidelines.

A noise model has been constructed to predict the propagation of noise from wedding ceremonies and associated vehicle movements at the proposed venue. Noise levels have been predicted for ceremonies at three specific locations and for truck movements along the driveway. The model includes noise from patrons and amplified speech and entertainment, as well as shielding effects from buildings and topography.

Noise levels from each ceremony location and from vehicle movements are predicted to be within the Intrusiveness Criteria of 42 dB(A) L_{eq} at all sensitive receptors under all weather conditions, provided that the noise level at the ceremony location does not exceed the noise limits presented in **Table 2.4** below.

Each ceremony location has been modelled separately, therefore ceremonies should not be held at more than one location simultaneously.

Table 2.4 Noise limit at each Small Event Stage

Stage Location	Noise Limit as measured 3m from source (dB(A))
A	75
B	81
C	80

2.5.4 On site wastewater Management

In 2015 The Farm Byron Bay Pty Ltd engaged TFA to conduct a review of the system and prepare a report recommending upgrades or modifications to achieve a satisfactory effluent quality for on-site irrigation.

The OSMS review made the following recommendations in order of priority:

- Install five new 10 kL septic tanks (5 x 10 kL) and one new 6kL septic tank (1 x 6 kL) to provide total volume of 56 kL to achieve an 80-90% BOD reduction
- Install a new 5000 L pump well to pump effluent from new anaerobic/septic tanks to the existing 7000L tank. Pump well to include two float-switch operated pumps that alternate in duty/standby mode. Pump well to include: high level alarm with flashing light and audible alarm; secondary back-up measure with overflow pipe near top of well to direct flows to existing absorption trench
- Undertake regular monitoring and record in log book
- Following the above modification monitor:
 - influent and effluent to new anaerobic tanks to assess performance
 - influent and effluent to Kubota aeration system to determine if modifications are required
- Increase area for scullery and dishwashing in the restaurant in combination with other internal changes to reduce organic loading in wastewater
- Visually monitor grease traps to assess performance
- Inspect / monitor flows from Bare Bite kitchen to assess need for grease trap
- Continue to monitor flow volumes and compare with capacities of individual treatment / disposal units to determine timing of upgrades.
- Fit all sinks in food service areas with a dry basket arrestor with a fixed screen and a removable mesh basket and clean daily. The arrestor captures solids and fibrous material from the wastewater. Screened wastewater may then pass through to the grease trap prior to discharge to the OSMS. There are arrestors with a mechanism that does not allow flow to the OSMS when the basket is removed which are worthy of consideration.

The OSMS is a tertiary treatment system including:

- Grease Arrestors;
- Anaerobic digestion;
- Aerated Wastewater Treatment;
- Inline Chlorination; and
- Subsurface Irrigation.

On 1 August 2017 TFA provided a letter report to Byron Shire Council entitled *The Farm – Revised Performance of the On-site Sewage Management System*.

In summary, the effluent results from 2016 to 2017 show a gradual and significant improvement towards the compliance criteria because of various enhancements and upgrades. Disinfection of the irrigation water is now consistently being achieved as indicated by compliance with thermotolerant coliforms in 2017. The OSMS treatment process is currently performing at the higher end of levels typical of on-site aeration systems in terms of BOD and SS. Compliance criteria were consistently met in 2017 for BOD and SS over a five-week period. Some exceedances have occurred in recent months but the quality remains largely improved from 2016 and is returning to the compliance criteria.

The improvement in the quality of the irrigation water over the past year has been achieved by a combination of enhancements and upgrades to both business operations and the on-site treatment process. Enhancements to the treatment process have included:

- Changing the disinfection system from tablets to a more efficient dosing system
- Installing additional anaerobic tanks for improved pre-treatment prior to the Kubota aerated system
- Improving flow distribution to the Kubota system to equally balance flows between the three units.

The effluent results from 2018 continue to show a gradual and significant improvement towards the compliance criteria because of various enhancements and upgrades. Disinfection of the irrigation water is now consistently being achieved including the required chlorine residual in the irrigation field. The OSMS treatment process is generally meeting compliance criteria for BOD and SS.

The irrigation water has met the compliance criteria for thermotolerant coliforms for all sampling events par one in 2018. The general compliance has been achieved by the upgraded disinfection system and subsequent refinements to the dosing rate in combination with other general treatment improvements.

The Farm has undertaken significant steps and improvements to optimise the performance of the approved system. The system in 2018 is generally achieving compliance criteria with some exceedances which, while typical of on-site aeration systems, are being monitored with corrective action taken as appropriate. Therefore, it is considered appropriate to continue operation of the current OSMS system and associated management processes.

The Farm has undertaken soil testing at the irrigation fields to assess any residual public health risk associated with the irrigation scheme. The results show no contamination of soils from operations.

In addition to addressing the treatment process of the on-site sewage management system (OSMS), measures have been undertaken to modify kitchen practices such as:

- Increase areas for scullery and dishwasher to prevent residual food being washed into the OSMS because of hurried practices due to insufficient space
- Increase personnel dedicated to dishwashing in combination with training to assist with above issue
- Using biodegradable chemicals

- Fitting sinks in with a dry basket arrestor, screen and removable mesh basket in combination with frequent cleaning.
- Regularly checking grease traps and cleaning as required.

It is noted that the oil and grease levels in the effluent are of a relatively high quality regarding commercial waste effluent.

It is noted that odour emissions associated with the OSMS have been drastically improved since commencement of the operations because of the various upgrades and enhancements.

2.5.5 Biosecurity

Concerns have been raised by Mr Flick with respect to potential biosecurity issues from visitors potentially trespassing on his property, the spreading of soils and spores and insects from poorly maintained horticulture at *The Farm*. Mr Flick believes that these activities could affect the efficacy of his farming operations.

2.5.6 Privacy

Mr Flick is concerned with visitors at *The Farm* impacting on privacy and potentially operations at the Flicks property due to their ability to access the existing macadamia plantation at *The Farm* which shares the common southern boundary of the Flicks property.

2.5.7 Restaurant Food Waste

Mr Flicks claims that The Farm's restaurant scraps are deposited in the paddock attracting large flocks of crow's and ibis. According to Mr Flick these birds have been and continue to roost on Mr Flick's young trees, snapping off the grafts and destroying the structure of these trees.

2.5.8 Dust

The main sources of dust from cropping include cultivation prior to planting, tractor and transport movements. Contemporary farming practices incorporate measures to minimise loss of soil, but at times it is necessary to leave land unplanted for extended periods, which can lead to the movement of dust. Local conditions, including wind strength and direction, rainfall, humidity and ambient temperatures, soil type, vegetative cover and type of on site activity determine the extent of the nuisance.

2.5.9 Pests

Pests primarily include flies and rodents. Practices that minimise breeding on farm are necessary since pest's impact directly on community amenity and increase the risk of disease transfer. All pest control materials need to be used in strict adherence with labelling directions. They must be correctly stored away from children and domestic animals. Records of pesticide use should also be maintained.

2.5.10 Operating Times

General farm operations are usually during daylight hours. The macadamia harvest period generally runs from the end of March to the end of August, however the duration is subject to changeable weather conditions.

The current Development Approval allow The Farm to operate from 7am to 10-pm, 7 days per week.

2.5.11 Chemical Use

Volatile components of chemicals sprayed may affect neighbours if not used in accordance with manufacturer and workplace health and safety requirements. Spraying should also be avoided during adverse weather conditions that may impact on neighbours.

2.5.12 Surface Water and Sediment Runoff

The Farm will not result in any surface runoff impacting on the adjoining farmland due to the relatively small building footprint, distance attenuation and existing drainage conditions.

3. Land Use Conflict Risk Assessment

3.1 Introduction

In this report, a risk assessment matrix is used to rank the potential Land Use Conflicts in terms of significance. The matrix assesses the environmental/public health and amenity impacts according to the:

- Probability of occurrence; and
- Severity of impact.

The procedure of environmental/public health & amenity hazard identification and risk control is performed in three stages.

1. Environmental/public health & amenity hazard identification,
2. Risk assessment and ranking,
3. Risk control development.

Procedure:

1. Prepare LUCRA Hazard Identification and Risk Control form.
2. List all hazards associated with each activity.
3. Assess and rank the risk arising from each hazard before “controls” are applied on the LUCRA form.
4. Develop controls that minimise the probability and consequence of each risk using the five level methods. Record these controls on the form.
5. Re-rank each risk with the control in place to ensure that the risk has been reduced to an acceptable level. If the risk ranking is not deemed to be acceptable consideration should be given to whether the proposed activity should be allowed to proceed.

3.2 Risk Assessment and Risk Ranking

It is necessary to differentiate between an 'environmental hazard' and an 'environmental risk'. 'Hazard' indicates the potential for harm, while 'risk' refers to the probability of that harm occurring. For example, the presence of chemicals stored in a building is a hazard, but while the chemicals are stored appropriately, the risk is negligible. **Table 3.1** defines the hazard risks used in this report.

The Risk Ratings (severity of the risks) have been established by assessing the consequences of the risks and the likelihood of the risks occurring.

Table 3.1 Measure of Consequence

Level	Descriptor	Description	Examples/Implications
1	Severe	<ul style="list-style-type: none"> Severe and/or permanent damage to the environment Irreversible with management 	<ul style="list-style-type: none"> Damage or death to animals, fish, birds or plants Long term damage to soil or water Odours so offensive some people are evacuated or leave voluntarily Many public complaints and serious damage to Council's reputation Contravenes Protection of the Environment & Operations Act and the conditions of Council's licences and permits. Almost certain prosecution under the POEO Act
2	Major	<ul style="list-style-type: none"> Serious and/or long-term impact to the environment Long-term management implications 	<ul style="list-style-type: none"> Water, soil or air impacted badly, possibly in the long term. Limited damage to animals, fish or birds or plants Some public complaints Impacts pass quickly Contravenes the conditions of Council's licences, permits and the POEO Act Likely prosecution
3	Moderate	<ul style="list-style-type: none"> Moderate and/or medium-term impact to the environment Some ongoing management implications 	<ul style="list-style-type: none"> Water, soil or air known to be affected, probably in the short term No damage to plants or animals Public unaware and no complaints to Council May contravene the conditions of Council's Licences and the POEO Act Unlikely to result in prosecution
4	Minor	<ul style="list-style-type: none"> Minor and/or short-term impact to the environment Can be effectively managed as part of normal operations 	<ul style="list-style-type: none"> Theoretically could affect the environment or people but no impacts noticed No complaints to Council Does not affect the legal compliance status of Council

Level	Descriptor	Description	Examples/Implications
5	Negligible	<ul style="list-style-type: none"> Very minor impact to the environment Can be effectively managed as part of normal operations 	<ul style="list-style-type: none"> No measurable or identifiable impact on the environment

This report utilises an enhanced measure of likelihood of risk approach¹ which provides for 5 levels of probability (A-E). The 5 levels of probability are set out below in **Table 3.2**.

Table 3.2 Probability Table

Level	Descriptor	Description
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur, or 'it has happened'
C	Possible	Could occur, or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

3.3 Risk Ranking Method

For each event, the appropriate 'probability' (i.e. a letter A to E) and 'consequence' (i.e. a number 1 to 5) is selected.

The consequences (environmental impacts) are combined with a 'probability' (of those outcomes) in the Risk Ranking Table (Table 3.3) to identify the risk rank of each environmental impact (e.g. a 'consequence' 3 with 'probability' D yields a risk rank 9).

The table yields a risk rank from 25 to 1 for each set of 'probabilities' and 'consequences'. A rank of 25 is the highest magnitude of risk that is a highly likely, very serious event.

A rank of 1 represents the lowest magnitude or risk, an almost impossible, very low consequence event.

Table 3.3 Risk Ranking Table

PROBABILITY	A	B	C	D	E
Consequence					
1	25	24	22	19	15
2	23	21	18	14	10
3	20	17	13	9	6
4	16	12	8	5	3
5	11	7	4	2	1

NOTE

A risk ranking of 25-11 is deemed as an unacceptable risk.

A risk ranking of 10-1 is deemed as an acceptable risk.

Thus, the objective is to endeavour to identify and define controls to lower risk to a ranking of 10 or below.

3.4 Risk Reduction Controls

The process of risk reduction is one of looking at controls that have and affect on probability such as the implementation of certain procedures; new technology or scientific controls that might lower the risk probability values.

It is also appropriate to look at controls which affect consequences e.g. staff supply with a mechanism to change impacts or better communications established. Such matters can sometimes lead to the lowering of the consequences.

Table 3.4 LUCRA Site Assessment

Site Feature	Condition/Comments	Potential Conflict
Site Location: Vehicular Access	The subject site has access from Woodford Lane. It is unlikely that the existing farm will be significantly impacted by vehicle movements on the subject site.	Negligible
Operating Times	Based on the current configuration intensive horticulture and macadamia dehusking occurs in excess of 200m and 300m from the common property boundary therefore the impacts on patrons during operating hours would be limited. The Farm has development consent to operate 7 days a week from 7am until 10pm. Based on distance attenuation, the implementation of noise limitations and restricted hours of operations the resultant impacts are deemed to be acceptable	Minor
Aspect	North	Negligible
Exposure	The wind roses also indicate the following:	

	<ul style="list-style-type: none"> winds in the mornings are typically light winds from the west and south-west and to a lesser extent from the north winds in the afternoon are typically more moderate winds from the south, north-east, south-east and east Calm conditions are experienced 8% of the time in the morning and only 1% of the time in the afternoons. 	Negligible
Run-on and Upslope Seepage Site Drainage and Water pollution	<p>Run-on or seepage from the development of the subject site on ongoing farm activities on the adjoining farmland will be negligible.</p> <p>Two cells of the existing Council approved subsurface irrigation area drain towards the common boundary with The Flicks property.</p> <p>Concerns have been raised by the Farm Fresh Auditor, Mr Anthony Peart during his audit of the Flick property in February 2016 with regard to potential contamination of crops from effluent dispersal from The Farm :</p> <p><i>Upon review of the situation with the neighbour who has installed a septic system close by to your property.</i></p> <p><i>There is major concern of pathogen carry over to your property from the septic system which has been installed</i></p> <p><i>The concern is that since the macadamia are harvested from ground level, there is the potential for pathogen uptake onto shell and risking a food borne outbreak</i></p> <p><i>The example would Salmonella sp.</i></p> <p><i>Since Salmonella can survive on dry surfaces like macadamia shell and since the carry over from the septic system would definitely carry Salmonella and other pathogens including E coli, Listeria and various virus including Noro and Norwalk virus, It is recommended that this situation be reviewed with the local council to ensure that the septic system is managed such that no carry over e.g. during high rainfall events or in times of heavy loading of the septic system effect your property in any way</i></p> <p><i>It would appear that there is high potential for this to occur as one large section of the transpiration bed falls directly into an area where</i></p>	Negligible to Moderate

	<p><i>you plan to have new macadamia trees</i></p> <p><i>This is a major issue that needs to be addressed as matter of urgency</i></p> <p><i>It is recommended that no macadamia is to be harvested from the affected area until such times as the situation is mitigated</i></p> <p>It appears that Mr Peart is of the opinion that the OSMS is a septic system which is a primary treatment system. The Farm OSMS is a tertiary treatment system. The level of treatment, maintenance and monitoring results affirm the efficacy of the OSMS</p>	
<p>Agricultural Chemical Spray Drift</p> <p>The off-target movement of agricultural chemicals can be a cause for concern to residents in proximity to farming areas. These concerns are largely based on fears of exposure to agricultural chemicals but also due to detection of odours associated with the chemical.</p>	<p>Based on the distance (>200m), the risk of spray drift impacting on the commercial precinct is deemed to be negligible and the risk acceptable. There is a perceptible risk if visitors are within 200m of the macadamia plantation when spraying s being undertaken.</p> <p>There is a moderate risk that agricultural spray drift from Lot 7 DP 7198 may impact on organic crops and potential future organic certification at The Farm.</p>	<p>Negligible to moderate</p> <p>Moderate</p>
<p>Odour</p>	<p>Odour from cropping and horticulture can arise from use of chemical sprays, fertilisers (inorganic and organic), effluent disposal and composting. Such detrimental odours can impact on residential amenity and have the potential to affect public health.</p>	<p>Minor to Moderate</p>
<p>Farm Noise</p>	<p>The adjacent farm on Lot 7 DP 7198 generates noise from macadamia dehusking, general farming operations (tractor use, spraying, mulching, collection of fallen nuts etc), vehicle movements, pruning and mulching of trees and general farm activities. Due to the distance from the macadamia dehusking shed and plantation to the commercial precinct of The Farm the likelihood of noise complaints would be negligible to minor.</p> <p>Conversely noise impacts from commercial activities at The Farm (particularly Weddings and Events) are deemed to be acceptable provided that the activities are restricted to approved hours and noise limits</p>	<p>Negligible to Minor</p>

Dust	The main sources of dust from a macadamia cropping include cultivation prior to planting, tractor and transport movements. Smoother grass is grown between the rows of macadamia trees significantly reducing the area of exposed soil and potential for dust generation.	Negligible
Pests	Pests include rodents. Practices that minimise breeding on farm are necessary since pest's impact directly on nut production, community amenity and increase the risk of disease transfer. Measures to control pests differ across agricultural operations. The level of treatment is a matter for individual farmers. The impact of individual farmer pest control measures in an agricultural setting is not a matter for consideration in a LUCRA .	Minor
Waste	Where food waste from The Farm is treated onsite measures are required to ensure that the site does not become an attractant for pests including birds	Minor to moderate
Biosecurity	The translocation of soil and debris from visitors attending to The Farm to adjoining Lot 7 DP 7198 is deemed to be a low to minor risk.	Low to Minor

The areas of moderate potential conflict outlined in **Table 3.1** will be addressed through the following **Risk Reduction Controls**:

Table 3.5 Hazard Identification and Risk Control Sheet

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
Run-on and Upslope Seepage Site Drainage and Water pollution	Run on from Onsite wastewater Impact on use of adjacent land for commercial crop production	C3 = 13 Unacceptable	<p>The Farm Fresh Auditor has incorrectly referred to the existing OSMS at The Farm as a Septic Tank which equates to primary treated effluent. The OSMS at The Farm is a Tertiary Treated System incorporating: grease arrestors, anaerobic digestion, and Aerated Wastewater Management and inline chlorination. Tertiary treated effluent provides significantly higher quality of treatment as described below.</p> <p>Viral Die-Off - Key Points & Parameters:</p> <ul style="list-style-type: none"> • Viruses are smaller and more resistant to natural die-off than bacteria, so if viral numbers (in effluent/soil) are acceptably low, then it is considered that bacterial numbers are also low • For primary treated effluent it is recommended to use a viral reduction of 7, greywater a value of 5 and for secondary treated effluent a value of 3 • The order of magnitude values for wastewater treatment are: <ul style="list-style-type: none"> ○ Primary treatment - septic 7 order of magnitude 0.0000001 ○ Greywater 5 order of magnitude 0.00001 ○ Secondary treatment 3 order of magnitude 0.001 	Controlled Ranking D4= Acceptable

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
			<p>Method of Control Expected performance of a Septic Tank</p> <p>Septic tanks provide preliminary treatment for the entire wastewater stream by allowing solids to settle to the base of the tank, and oils and fats to float to the top to form a scum layer. Anaerobic (in the absence of oxygen) bacterial digestion of the stored solids produces sludge, which accumulates in the bottom of the tank. Partly treated odorous effluent flows from the septic tank to the soil absorption system.</p> <p>For primary treated effluent it is recommended to use a viral reduction of 7 (<i>Draft Onsite Sewage Technical Guidelines</i>, Ballina Shire Council, 2017).</p> <p>The order of magnitude values for wastewater treatment are:</p> <ul style="list-style-type: none"> • Primary treatment - septic 7 order of magnitude 0.0000001 <p>Septic tanks do not remove nutrients. The wastewater is not disinfected, and because it is highly infectious it must be applied to land below ground level. Typical water quality levels after partial treatment in a septic tank are listed in Table 11 (NSW Health et.al 1998).</p>	

Work undertaking																
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking												
			<p>Table 11: Expected Quality of Wastewater after Treatment in a Septic Tank</p> <table><tr><th>Parameter</th><th>Concentration</th></tr><tr><td>Biochemical oxygen demand (BOD)</td><td>150 mg/L</td></tr><tr><td>Suspended Solids (SS)</td><td>50 mg/L</td></tr><tr><td>Total Nitrogen (N)</td><td>50 – 60 mg/L</td></tr><tr><td>Total Phosphorus (P)</td><td>10 – 15 mg/L</td></tr><tr><td>Faecal coliforms</td><td>10⁵ – 10⁷ cfu/100 mL</td></tr></table> <p>Method of Control for existing Approved OSMS at The Farm</p> <p>Details of the approved system (Approval No 70.2014.1034.4) are:</p> <ul style="list-style-type: none">• Two grease arrestors operating in parallel at restaurant / café / bakery (each 2000L capacity)• Anaerobic tank (or septic tank) with outlet filter (1 x 7000L capacity)• An aerated wastewater treatment system (AWTS) consisting of three Kubota HCB-25 Johkasou systems (3 x 5000L systems providing a total 15,000L/day capacity)	Parameter	Concentration	Biochemical oxygen demand (BOD)	150 mg/L	Suspended Solids (SS)	50 mg/L	Total Nitrogen (N)	50 – 60 mg/L	Total Phosphorus (P)	10 – 15 mg/L	Faecal coliforms	10 ⁵ – 10 ⁷ cfu/100 mL	
Parameter	Concentration															
Biochemical oxygen demand (BOD)	150 mg/L															
Suspended Solids (SS)	50 mg/L															
Total Nitrogen (N)	50 – 60 mg/L															
Total Phosphorus (P)	10 – 15 mg/L															
Faecal coliforms	10 ⁵ – 10 ⁷ cfu/100 mL															

Work undertaking																			
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking															
			<ul style="list-style-type: none"> Two holding tank / pump wells associated with the AWTs One 30,000 L above ground holding tank with pump well (1 x 30,000L) 5784m² of sub-surface irrigation (comprising 6 zones). <p>The approved system is designed for a peak flow rate of 9,652.5 L/day.</p> <p>The Section 68 compliance criteria for effluent quality are shown in Table 2.1.</p> <p>The approval requires monitoring to be conducted weekly until three consecutive results in compliance with the criteria below have been recorded.</p> <p>Results in compliance with the criteria below have been recorded.</p> <p>Table 2.1 – Effluent quality criteria</p> <table> <tr> <th>Sub-surface Irrigation</th><th>Biochemical oxygen demand (BOD) (mg/L)</th><th>Suspended Solids (SS) (mg/L)</th><th>Thermotolerant Coliforms (cfu/100mL)</th><th>Free Chlorine (mg/L)</th></tr> <tr> <td>90% of all samples</td><td>BOD < 20</td><td>SS < 30</td><td>< 30</td><td>0.2 – 2.0</td></tr> <tr> <td>Maximum threshold</td><td>BOD < 30</td><td>SS < 45</td><td>< 100</td><td>< 2.0</td></tr> </table> <p>In 2015 TFA the OSMS was upgraded in accordance with the following recommendations in order of priority:</p>	Sub-surface Irrigation	Biochemical oxygen demand (BOD) (mg/L)	Suspended Solids (SS) (mg/L)	Thermotolerant Coliforms (cfu/100mL)	Free Chlorine (mg/L)	90% of all samples	BOD < 20	SS < 30	< 30	0.2 – 2.0	Maximum threshold	BOD < 30	SS < 45	< 100	< 2.0	
Sub-surface Irrigation	Biochemical oxygen demand (BOD) (mg/L)	Suspended Solids (SS) (mg/L)	Thermotolerant Coliforms (cfu/100mL)	Free Chlorine (mg/L)															
90% of all samples	BOD < 20	SS < 30	< 30	0.2 – 2.0															
Maximum threshold	BOD < 30	SS < 45	< 100	< 2.0															

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
			<ul style="list-style-type: none"> • Install five new 10 kL septic tanks (5 x 10 kL) and one new 6kL septic tank (1 x 6 kL) to provide total volume of 56 kL to achieve an 80-90% BOD reduction • Install a new 5000 L pump well to pump effluent from new anaerobic/septic tanks to the existing 7000L tank. Pump well to include two float-switch operated pumps that alternate in duty/standby mode. Pump well to include: high level alarm with flashing light and audible alarm; secondary back-up measure with overflow pipe near top of well to direct flows to existing absorption trench • Undertake regular monitoring and record in log book • Following the above modification monitor: <ul style="list-style-type: none"> ○ influent and effluent to new anaerobic tanks to assess performance ○ influent and effluent to Kubota aeration system to determine if modifications are required • Increase area for scullery and dishwashing in the restaurant in combination with other internal changes to reduce organic loading in wastewater • Visually monitor grease traps to assess performance • Inspect / monitor flows from Bare Bite kitchen to assess need for grease trap • Continue to monitor flow volumes and compare with capacities of individual treatment / disposal units to determine timing of upgrades. • Fit all sinks in food service areas with a dry basket 	

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
			<p>arrestor with a fixed screen and a removable mesh basket and clean daily. The arrestor captures solids and fibrous material from the wastewater. Screened wastewater may then pass through to the grease trap prior to discharge to the OSMS. There are arrestors with a mechanism that does not allow flow to the OSMS when the basket is removed which are worthy of consideration.</p> <p>The irrigation water has met the compliance criteria for thermotolerant coliforms for all sampling events par one in 2018. The general compliance has been achieved by the upgraded disinfection system and subsequent refinements to the dosing rate in combination with other general treatment improvements.</p> <p>The Farm has undertaken significant steps and improvements to optimise the performance of the approved system. The system in 2018 is generally achieving compliance criteria with some exceedances which, while typical of on-site aeration systems, are being monitored with corrective action taken as appropriate. Therefore, it is considered appropriate to continue operation of the current OSMS system and associated management processes.</p> <p>The Farm has undertaken soil testing at the irrigation fields to assess any residual public health risk associated with the irrigation scheme. The results show no contamination of soils from operations.</p>	

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
			The existing tertiary treatment system coupled with on going maintenance and regular independent monitoring and analysis of the OSMS provides a significant level of surety to reduce the risk of run-on from the subject site to any adjoining site.	
Chemical Storage & Uses	Health and Safety Spray drift and associated odours from an application of agricultural chemicals has the potential to adversely affect the health and safety of persons in non-targeted areas. Overspray; land, surface and groundwater contamination	C3 = 13 Unacceptable	Adopting the <i>precautionary principle</i> it is recommended that a vegetated buffer* (as per Appendix C) based on the following criteria be installed on the subject site along the northern boundary and the perimeter of the sub surface irrigation area: <ul style="list-style-type: none"> • contain random plantings of a variety of tree and shrub species of differing growth habits, at spacings of 1–2 m for a minimum width of 5 m. • include species with long, thin and rough foliage which facilitates the more efficient capture of spray droplets; • provide a permeable barrier which allows air to pass through the buffer. A porosity of 0.5 is acceptable (approximately 50% of the screen should be air space); • foliage is from the base to the crown; • include species which are fast growing and hardy; • have a mature tree height at least 3m; • include an area of at least 2m clear of northern boundary. 	C4 = 8 Acceptable
Waste Management	Health & Safety Attracting vermin	C3 = 13 Unacceptable	Concerns have been raised by the adjoining landowner with respect to the impacts of poorly managed food waste from	C4 = 8 Acceptable

Work undertaking				
Activity	Identified Hazard	Risk Ranking	Mitigation Measures	Controlled Ranking
	and birds, odours	le	<p>The Farm being disposed of onsite. Mr Flick claims that this practice has attracted scavenging birds which have consequently impacted on his newly grafted macadamia trees</p> <p>It is recommend that:</p> <ul style="list-style-type: none"> • A Waste Management Plan be developed to manage food and organic materials. <p>The WMP is to consider:</p> <ul style="list-style-type: none"> • location (to maximise separation distance to sensitive receivers); • manage stock feed to minimise odours and the attraction of vermin; • design system to minimise surface, water and ground contamination; and • management and monitoring components. <p>Subject to the development and implementation of a competent WMP the attraction of vermin and birds is expected to desist.</p>	

***Note 1:** The vegetated buffer:

- will also address concerns regarding biosecurity and privacy identified by Mr. Flick by offering a visual screen between bulk of The Farm and Lot 7 DP 7189.
- has not been designed to buffer the impacts of agricultural spray drift on organically grown crops at The Farm

4 Conclusions and Recommendations

This Land Use Conflict Risk Assessment is based on:

- a review of the Planning Proposal;
- discussions with Property Manager of The Farm, Johnson Hunter;
- discussions with Property Owner of Lot 7 DP 7189, Mr Tony Flick;
- a site inspection; and
- a review of surrounding landuses.

This LUCRA has concluded that the subject site is suitable for the proposed Planning Proposal subject to the recommendations provided below:

1. As a precautionary measure a **vegetated buffer** (as per **Appendix C**) based on the following criteria be installed on the subject site along the northern boundary and the perimeter of the sub surface irrigation area:
 - contain random plantings of a variety of tree and shrub species of differing growth habits, at spacing's of 1–2 m for a minimum width of 5 m.
 - include species with long, thin and rough foliage which facilitates the more efficient capture of spray droplets;
 - provide a permeable barrier which allows air to pass through the buffer. A porosity of 0.5 is acceptable (approximately 50% of the screen should be air space);
 - foliage is from the base to the crown;
 - include species which are fast growing and hardy;
 - have a mature tree height at least 3m; and
 - include an area of at least 2m clear of northern boundary.

The actual risk can be described as negligible however adopting the precautionary principle a risk of moderate has been applied in an attempt to address concerns of the adjoining neighbour to the north, Mr Flick. It should be noted that while the vegetated buffer will act as a visual screen and adequately address concerns related to privacy and biosecurity it has not been designed to address agricultural spray drift onto existing or future (certified) organic plantation/s at The Farm.

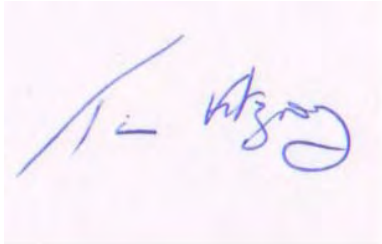
The Farm should be designed to minimise instances of incompatibility such that normal farming practice are not inhibited. Where such instances do arise, measures to ameliorate potential conflicts should be devised wherever possible.

When considering potential land use conflict between The Farm operations and adjoining agricultural activities it is important to recognise that all agricultural activities:

- should incorporate reasonable and practicable measures to protect the environment in accord with the Protection of the Environment Operations Act (POEO) and associated industry specific guidelines; and
- are legally conducted as required by other legislation covering workplace health and safety, and the use and handling of agricultural chemicals.

Nevertheless, certain activities practised by even the most careful and responsible farmer may result in a nuisance to adjacent areas through, for example, unavoidable odour drift impacts.

This report has been prepared by Tim Fitzroy of *Tim Fitzroy & Associates*.



Tim Fitzroy
Environmental Health Scientist
Environmental Auditor

References

Department of Primary Industries et al 2007 Living and Working in Rural Areas-a handbook for managing land use conflicts on the NSW North Coast, NSW

Planning Guidelines Separating Agricultural and Residential Uses, Queensland Department of Natural Resources 1997.

Personal Communication Tony Flick November 2017

Personal Communication Johnson Hunter November 2017

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A Site Plan

B Photographs



Photo A Looking South west from Flicks Dehusking Plant to *The Farm*



Photo B Looking East from The Farm towards Flicks Property

C Vegetated Buffer

Appendix E Social Impact Assessment

Social Impact Assessment to accompany the
Planning Proposal for 'The Farm'
11 Ewingsdale Road, Byron Bay
Lot 5 DP848222 Woodford Lane and
Lot 1DP 780234 Ewingsdale Road

Prepared for:

**The Farm
and Planners North
3/69 Centennial Circuit
Byron Bay NSW 2481**

Tricia Shantz
Social Geographer/Researcher/Planner
[TS Consultants](#)
ABN: 34 459 173 836

PO Box 851
Byron Bay NSW 2481
p: (02) 6685 5776
m: 0421 422 645
e: tsconsultants@iinet.net.au

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Disclaimer

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1.0 Introduction

TS Consultants have been engaged by The Farm to prepare a Social Impact Assessment (SIA) to accompany an amended Planning Proposal by The Farm's planning consultants, PLANNERS NORTH, for The Farm in regard to land described as Lot 1 DP 780234 Woodford Lane and Lot 5 DP 848222 Ewingsdale Road, Ewingsdale.

There is a recent history of development applications and S96 amendment applications for the site.

The Planning Proposal for which a Social Impact Assessment is required is for the use of Lot 1 DP780234 and Lot 5 DP 848222, Woodford Lane, and 11 Ewingsdale Road, Ewingsdale to permit certain additional land uses on the site. A site-specific amendment to the Byron Local Environmental Plan 2014 (BLEP14) is proposed to Schedule 1 to permit the following additional land uses on the subject land:

- retail premises-shop/ food and drink premises; and
- information and education facility.

This report examines the likely social impacts of the proposal.

2.0 Overview of the Application and Site

2.1 Background History

There has been 'farming' activity on The Farm site since the early 1900s. In the autobiography written by Doris Mildred Everitt, the youngest daughter of William Flick, she provides some basic history of the land now known as The Farm and the subject of this planning proposal. The land was originally covered by the Big Scrub rainforest. This was cleared in the late 1800s along with the clearing of rainforest in the Northern Rivers. The Flick family moved to Ewingsdale when the cedar began to run out around Lismore. William Flick, who was a cedar-getter, bought up the land after it was cleared. In the early 1900s sugarcane was planted all over the land. By 1909 the cane was mostly replaced by grass for grazing dairy cattle. Dairying and butter was the big industry in the region for many years. William Flick had left several virgin patches of 'big scrub' on The Farm, but this was later felled by new owners. The Flick family children recall gathering from the land and the orchard both native and introduced fruits such as: Lilly Pillies, raspberry and wild strawberry, finger limes, bush lemons, passionfruit, gooseberries, small tomatoes, cherry guava, pears, peaches, figs, persimmons, oranges, loquats, mulberries, limes, banana, grapes, mushrooms and macadamias. The children helped harvest beans before school often making them late. Surplus fruit was gathered by the children and sold at the 'Mart', which was their only pocket money. The family kept pigs. Piggeries were common everywhere. The small calves they had no use for were boiled for pig food. The children would steal the succulent meat. The house was called Carabene after the Carbeen trees (Moreton Bay Ash) that grew in the area. There was a huge flower garden with blue hydrangeas at the entrance to the home and old fashioned English flowers and shrubs throughout.

The family received deliveries four times a week on the backload of wagons delivering cream, milk and butter into Byron. During the plague the farmers of Ewingsdale supplied the sick with eggs, vegetables, cans full of milk and anything else they had. The women of the Flick family made jam, chilli wine, preserves, soap, and clothes. They baked bread, reared chickens, sold eggs to the grocer, made tea towels, underclothes and pillowslips from flour sacks all to save money. The children gathered eggs from wild turkey and quail nests and climbed the fig trees. The men would go turkey shooting in the rainforest. For entertainment the family held horse races at the farm. Neighbouring farms would bring their horses and race them on a track never meant for racing. One of the daughters of William Flick married a share farmer who worked the land of The Farm. William Flick had established several share farmers at their farm as he grew older, before he passed the farm over to his sons. Doris Everitt, the youngest daughter of William Flick, who was born in 1906, married Ted Everitt. Ted was the son of the first baker for the railroad in Byron Bay. Ted's parents opened and ran a bakery and store in Byron Bay before they moved to a 240 acre farm near Mullumbimby, where Uncle Tom's is now.

The three mile trip to Byron from Ewingsdale was all tea tree swamp. That was until Thomas Ewing, (after whom Ewingsdale is named), who was elected to Parliament, obtained the road across the Belongil Swamps. This was called "Ewing's Mistake" because it was thought impossible. (<http://ewingsdale.org.au/history/>). But, it was not impossible as this is the Ewingsdale Road of today. Anecdotally it is said that the foundations of the road were made from laying down the tea tree logs that were cut from the swamp and that they are mostly likely still there, which may explain the poor state of the road.

Over the years The Farm land has been used for a variety of agricultural uses, the latest one before its current use was as a small crops and gladioli flower farm, which

closed in 1995. This location, then, has always been the gateway to Byron Bay and a stop off place to buy cut flowers and vegetables, being on the corner of the Pacific Highway and the Ewingsdale Road. Tom and Emma Lane purchased the disused farm land in 2013. They viewed this as an opportunity to transform the site back to a fully functioning farm, albeit with a difference and one in keeping with the changing farming model in Australia. Its instant popularity surprised all, including the owners, staff and the local community.

2.2 The Site and Locality

2.2.1 The Site

The subject site is located on the main road into Byron Bay, the Ewingsdale Road and what was the old Pacific Highway, now re-named Woodford Lane. The site is located within the Statutory Zone under the provisions of the Byron Shire Local Environmental Plan (BLEP) 2014 being mainly RU1 Primary Production. The site comprises 86 acres located six kilometres (approximately eight minutes drive) west of Byron Bay.

2.2.2 Site Characteristics and Constraints

The site, Lot 1 DP780234, Lot 5 DP 848222, Woodford Lane, and 11 Ewingsdale Road, Ewingsdale is currently the site of the existing development known as The Farm. It is for the most part, gentle, undulating farmland/open space, including a macadamia orchard and various farm buildings. Simpson's Creek is located near the eastern part of the site. The existing Farm development takes its access from Woodford Lane.

2.2.3 Existing and Surrounding Landuse

The current land uses are clustered in an area adjacent to the intersection of Woodford Lane and Ewingsdale Road. The locality of the site is a mixed-use precinct with an existing concrete batching plant to the immediate south of the subject site. To the southwest of the site is Ewingsdale Public Hall. To the east of the batching plant is the newly built Byron Central Hospital. Adjacent to the hospital is the Ambulance Station fronting Ewingsdale Road. To the North is cattle grazing and macadamia orchards. The rural residential area of Ewingsdale is southeast of The Farm. The Farm is an active farm used for a range of agricultural pursuits.

2.3 Development Proposal

2.3.1 History of development proposals

The original development approval granted for the site on May 22, 2014 allowed for a cheese making facility and farm café. A number of concurrent Development Applications have been lodged with Byron Shire Council for various other activities on the identified land as well as further S96 amendment applications to the original Development Application with some being successful. A history of the development applications and S96 amendment applications for The Farm is as below:

- DA 10.2013.626.1, Cheese making facility and farm café – approved 22 May 2014;
- Section 96 10.2013.626.2 Modify road works & access – approved 13 November 2014;
- Section 96 10.2013.626.3 Remove requirement for Bitumen Sealing and Change to Gravel Surface – refused 22 April 2016;
- Section 96 10.2013.626.4 Remove requirement to Bitumen Seal the Car Park – refused 9 September 2016;

- DA 10.2015.151.1, agricultural training facility, plant nursery and farm produce kitchen – approved 12 November 2015;
- Section 96 10.2015.151.2 Remove requirement for Bitumen Sealing and Change to Gravel Surface – refused 22 April 2016;
- DA 10.2016.26.1 Construction of 6 car parking spaces with electric charging facilities – approved 26 April 2016;
- Section 96 10.2015.151.3 Remove requirement to Bitumen Seal the Car Park – refused 9 September 2016;
- DA 10.2015.634.1, Change of use of cheese factory to kitchen, administrative facilities, expansion of restaurant areas and car parking, new dwelling house - refused 25 August 2016. In resolving to refuse DA 2015.634.1, Council also resolved as follows: "That Council invites the Farm to lodge a joint Planning Proposal, Masterplan and Development Application within 60 days of the date of this resolution, to regularise unauthorised activities and uses on the land." This was submitted to Council in accordance with the resolution.
- DA 10.2016.698.1, Change of use – cheese making facility to agricultural produce industry and industrial retail outlet (bakers) and Change in use of the existing approved dwelling house for use as ancillary offices for the existing approved restaurant and farm – withdrawn in response to request from Council officers.

2.3.2 Summary of the current proposal

This Social Impact Assessment report is to accompany a Planning Proposal for the site.

The Planning Proposal prepared by PLANNERS NORTH seeks a site-specific amendment to Byron Local Environmental Plan 2014 (BLEP14) to update Schedule 1 to permit certain additional land uses on the subject land, including:

- retail premises-shop/ food and drink premises; and
- information and education facility.

The buildings associated with uses identified above will be restricted to a central part of the land parcel only and will not impact on the current extensive agricultural and horticultural uses being undertaken on the land. The Planning Proposal is a product of many factors. Those factors include:

- policies of all levels of government to promote the orderly development and use of land; and
- the site planning opportunities presented by The Farm, particularly opportunities to support and enhance the agricultural and horticultural use of the site and sustainable agri-tourism in the region.

2.3.3 Existing Uses

The Farm is a unique collection of businesses and activities at the entry way to Byron Bay. It opened in April 2015. The Farm, is on 86 acres at Ewingsdale. Of this 86 acres; four acres is under cultivation, a further seven acres is transitioning into cultivation, commercial development is approximately four to five acres. The rest of the land is given over the livestock, which means that the Farm is producing food off of 80 acres. The 94% of farming wouldn't happen without the 6% of commercial activity. As well as doing their own horticultural growing there are macadamia orchards, beef and pigs, and egg production. The Farm is the umbrella for seven independently owned and operated, local micro businesses that work collaboratively and support each other.

- Three Blue Ducks café/restaurant
- The Bread Social Bakery

- Flowers on the Farm
- The Growers' Collective including: Evan's Edible Ecology, The Plot, Greens from The Farm, and Jess

The Farm was created as a green space for people to gather and experience a working farm – a place where families could visit, free of charge to reconnect to the land and learn about food provenance, small scale agriculture and wellness from the ground up. Parts of the operation function as a social enterprise. The Farm provides the much-needed parkland/playground for the community of Ewingsdale. There are group Farm Tours that begin at 10:00am each day for 45 minutes that do cost. There are self-guided farm tours anytime between 7am-4pm, which are free. Free maps are available at The Farm entry point.

The Farm's guiding principles are to 'Grow, Feed, Educate'. The first goal was to restore the neglected farmland and plant food. A market garden based on organic farming principles was established, while beef cattle and chickens were put to pasture. The Farm is spray and chemical free. While not yet organically certified, this is one of The Farm's goals. Rainwater is one of the primary sources of water in use throughout The Farm. All organic waste is composted. While one of the aims is to have the restaurant on site supplied by the growing on The Farm, the intention is not to have it fully supplied as there is a desire to support other farmers within the region, who have the same ethos.

In addition to The Farm's philosophy and guiding principles, the team work to 'give back' to the local community. The goal was to establish authentic community collaborations and relationships based around 'giving back' that would benefit the wider community. This is the philanthropic arm of The Farm (see **Appendix C**).

Three Blue Ducks

The Three Blue Ducks was founded and is owned by: Sam Reid, Chris Sorrell, Darren Robertson, Mark LaBrooy, and Jeff Bennett.

The Three Blue Ducks was originally founded in Sydney by Sam and Chris, who grew up together. While overseas together they met Mark, also from Sydney, who had worked in top class kitchens since he was 17 years old, in Australia and overseas. At one of these, Tetsuya's, he met Darren, and they became friends.

In 2010 Chris, Mark and Sam all happened to be in Sydney and they threw around the idea of their own café/restaurant. The café opened in September 2010. Their first day was busier than they anticipated and that afternoon they hired their first staff member. Darren joined in after about six months when he and Mark decided to do a pop up dinner in the space. Next door to the café Jeff had done the same thing, taking a run-down, old takeaway food outlet and opening up a pizza shop. Jeff became good friends with the three Ducks and he suggested a merger in 2011. He became the fourth Duck as they combined businesses as the dinner business was growing and in need of more space. Mark approached Darren for advice as they needed more chefs and Darren became the fifth Duck. Darren and Mark began writing their own menus showcasing their type of food. They brought this solid friendship group behind the restaurant to The Farm where they have created a Byron Bay version of the Three Blue Ducks. They employ between 70-80 people.

Their philosophy "is about having good fun with honest food that's sourced sustainably." (<http://www.threeblueducks.com>). They use local produce and fresh ingredients grown on-site or from regional producers. They aim for organic, chemical-free, grass-fed and grass-finished meats. For the Byron restaurant their aim was "We'll be doing the Alice Waters thing," says Darren Robertson. "We'll be following the old-

fashioned notion where you let the farmer determine what goes on the table, rather than saying we require radishes the size of 50c pieces! It won't be fancy but it will be really tasty." (Donnelly, March 2015). Thirty percent of what is grown on The Farm is used in the restaurant. They are working towards getting this to 60%. A local egg grower, who, three years ago before The Farm, used to take 80% of his eggs to Brisbane; now he is the preferred supplier to the Ducks and those supplies go to the Ducks. The Farm tops up any other eggs that are required.

In line with their philosophy towards food they also share a philanthropic interest and support numerous local causes. (See **Appendix C** for full list). Given their short trading hours of three nights/week they are not able to give as much as they would like. One of the things they would like to do is to cook a dinner every two weeks for people sleeping rough in Byron Shire.

The Bread Social

The Bread Social was founded and is owned by three young, local men (two of whom have teacher partners in local schools): Sam Saulwick, Tom Scott and Paul Giddings. Sammy Saulwick, was raised in Byron Bay and has been involved in the food industry here since his parents managed the Beach Café in the early 1980s. He left the area for Sydney where he worked in bakeries and brought this knowledge and skill (along with his family) back to Byron Bay.

Their philosophy at the Bread Social is simple; use organic, local and Australian produce to create Artisan sourdough, breads and baked goods. First and foremost, they utilise any ingredients grown on The Farm to promote sustainability and support local businesses. In time, they hope to develop an educational facet to offer the community. The name *Bread Social* was chosen specifically as it represents a small, community based bakery that brings people together. As the three co-owners had worked in large city bakeries where you can lose touch with your customer they wanted to create a product they could sell with conviction and honesty as being organic, no artificial anything, with rainwater. If they put as much as 10% additives, such as an artificial starter, they could halve the time to make the bread and halve their wages. Over 70% of their products contain ingredients grown on The Farm. All of their ingredients are from Australia. While it would be far cheaper to purchase organic flour from China they don't because it wouldn't contribute to the local community. Their flour comes from Woods Organic Flour in Inverell. The butter used is made locally. They don't retail at The Farm, they wholesale their products to the Three Blue Ducks. The Bread Social is part of The Farm collective that share an ethos and dream of growing food organically and sustainably; paddock to plate. The Bread Social is the only bakery locally that does this. The Bread Social operates in 110 square meters of space, significantly smaller than the 280 square metres that the approved cheese factory was allocated.

The Bread Social employs 33 staff with a number coming from entry-level TAFE centres, disadvantaged youth programs and Byron Shire employment agencies. The team thrives on helping local youth develop a strong work ethic through a positive work place with influential role models. The team also adds significant value to the Liberation Larder by donating any left over product to feed those in need in the community. Currently they supply approximately 100 loaves of bread/week. (See **Appendix C** for full list).

Flowers at The Farm

This micro-business is a mother/daughter owned business; Ros and Elle. Ros has lived in the area for over 30 years, establishing her first floristry business in Byron Bay in 2006. Elle joined her and together they set up Flowers at the Farm in 2015. They employ

eight females casually and one full-time assistant manager, all people from the local area. There are 10-15 local growers of plants and flowers from the Byron Shire who are supplying Flowers at the Farm. Every plant in Flowers at the Farm is grown within a 100km radius. They sell herbs grown at the Byron Bay Herb Nursery, a social enterprise in itself, set up over 20 years ago to employ people with an intellectual disability. Where possible they stock flowers grown in The Farm's market garden, such as the giant sunflowers that greet people on their drive into Byron Bay along the Ewingsdale Road.

The Grower's Collective

The Grower's Collective includes: Evan's Edible Ecology, The Plot at The Farm and Greens from The Farm and most recently, Jess. Collectively they supply the Three Blue Ducks restaurant and Produce Store with fresh produce and Flowers at The Farm with blooms. The Farm supplies The Bread Social bakers with pasture raised eggs and Three Blue Ducks with beef and pork. It's a unique interdependent business relationship.

Evan's Edible Ecology

Evan has hands-on experience in local, small-scale farming, having established three other market gardens in the Byron Shire during the past four years. These experiences have highlighted for him the difficulties associated with setting up a sustainable market garden from scratch, particularly for young people. Evan was given a half-acre of land rent-free for the first year, as well as access to Farm machinery and equipment free of charge. This model is "allowing a space for farmers to grow organic food and be financially viable." (Echo, May 10, 2017, p.4 in **Appendix D**). In another collaboration between Byron Shire businesses, Evan prepares his plot of land with compost from another young, local business, Coastal Feeds, that's made with waste from Stone and Wood Brewery.

Grant- The Plot at The Farm

Grant has worked a half acre plot of land at The Farm for more than a year. He supplies the Three Blue Ducks restaurant and produce store. Together with the other growers at The Farm they have developed a 12 month planting and harvesting schedule for the market garden. This plan enables the Three Blue Ducks' chefs to plan their menus based around their 'farm to table' crops.

Greens from The Farm

Josh and Lynette Dooley are in their third year at The Farm growing organic produce on a 1.25 acre plot, Josh is a fifth generation Byron Bay local.. Their entire harvest of seasonal produce is sold to the Three Blue Ducks restaurant and produce store and to the Bread Social bakery. They supply the sunflowers to the Flowers at the Farm. Their organic vegetable seedlings are supplied by local Tintenbar business, Seedlings Organic. They plant between three to five thousand seedlings a fortnight. "I love meeting the families who visit The Farm as they walk through the market garden while we're working. It's great to see them spending time together. It's beautiful that there is a place in Byron where families can come and connect with each other to the land. It's rewarding to know we're feeding thousands of people organic food that we grew in the ground right here." (Echo, May 10 2017, p.4).

Other small businesses

Farm Kids

Farm Kids employs 4-5 casual employees. They run school tours that inspire and educate school children, teaching them about where food comes from, paddock

rotation, pollination, organic farming, crops, healthy soil, free range egg production composting and other ethical farming practices. Children can get up close and meet heritage black pigs, free range chickens and see egg production. Twenty four schools from NSW and Qld and over 1000 individual students have attended school tours at The Farm to date. In addition to school tours they hold workshops all year round. These are a three hour in-depth exploration of farming through adventure activities. Farm Kids has seen a 20% increase in local participation in the past six months. Approximately 900 children have participated in Farm Kids workshops thus far.

Workshops

A variety of workshops are offered on a weekly basis teaching skills for down-to-earth living. Their mission is to help people cultivate communities that are active, knowledgeable and motivated to create the futures they need. The range of workshops includes: ethical farming, bee keeping, permaculture design, organic growing, natural building.

3.0 Assessment Process

The Social Impact Assessment (SIA) process involved:

- Scoping the project
- Site visit
- Desktop analysis of demographics, community profile
- Review of documents provided by Byron Shire Council and others including relevant strategies and planning documents
- Research into tourism/agri-tourism impacts generally in Australia and overseas
- Research into Byron tourism/agri-tourism, food tourism through studies, anecdotal information and media reports
- Consideration of relevant issues raised through consultative processes such as attendance at meetings and surveys undertaken
- Review of issues raised in submissions/exhibitions for various Development Applications and applications for amendments to approved Development Applications for the site and from the existing uses
- Examination of potential impacts
- Considering whether the social benefits associated with The Farm are consistent with the zone objectives

4.0 Community/Demographic Profile

Demographic information on the immediate neighbourhood, being McGettigan's Lane, Quarry Lane, Parkway Drive, Plantation Drive, and the other various smaller roads that radiate off of these roads is provided from an observational and researched perspective. Australian Bureau of Statistics (ABS) Census data is provided on three levels:

- The overall demographics of the Byron Local Government Area (LGA). This information is drawn from the Australian Bureau of Statistics (ABS) Census of Population and Housing 2011 and 2016 where available.
- Ewingsdale suburb data. In order to make a more detailed analysis of the local site impacts ABS 2011 and 2016 Census of Population & Housing was used.
- Comparison of Ewingsdale and Byron LGA data to that of NSW and in some instances, Australia, where relevant and available. As will be seen in the analysis below, there are considerable differences between the Byron LGA in which this proposal is located and NSW generally.

4.1 History, Community Character, Identity and Amenity

4.1.1 Ewingsdale History

The history of the Ewingsdale locality has always been one of being at the gateway to Byron Bay and one of farming. The locality was named after Thomas Thomson Ewing, who provided the land on which the school was established. In 1909 the Department of Public Instruction acquired the freehold land from Ewing. Also closely associated with Ewingsdale is the name Flick. William Flick and his wife Sarah came in the late 1880s to the area that later became known as Ewingsdale, settling on land owned by Thomas Ewing. The Ewingsdale Hall was built in 1908 and the Church in 1915. Both of these buildings still exist today. In the 1930s the row of Moreton Bay Fig trees was planted along the road in front of the Hall and Church on what was the Pacific Highway until the new highway opened in 2004.

In 1984 the Ewingsdale Protection Association was formed, changing the name in 1986 to the Ewingsdale Progress Association. They merged with the Ewingsdale Hall Committee in 1987 and in 2009 became the Ewingsdale Community Association. The Community Association is active and meets once/month. The Hall is used for a variety of community events, including weddings.

The Fig Tree restaurant on Sunrise Lane was established in 1981 by Heather and Charly Devlin and has traded continuously since then through successive generations of the Devlin family. Their dream was "To convert an original farmhouse into a restaurant and serve food grown and prepared by themselves. In the beginning, the restaurant was the Devlin family home and diners were welcomed to share a table." (<http://figtreerestaurant.com.au/about/>). Son, Che, took over the operations in 2005, growing the restaurant to include a wedding and accommodation venue. "Still, we remain true to our beginnings: food is grown in our own fig tree garden and lovingly prepared in our family kitchen."

The Cape Byron Steiner school was built in 1990, adding the high school in 1995, and expanding to year 12 in 2000. A maximum enrolment of 370 students was set in 2015 and the school has been full since then with a growing waiting list.

In the Byron Local Environment Plan 1988 the land on McGettigans Lane was re-zoned as 1(c)1 small lot holdings. This opened the way for small lot residential subdivision and changed the Ewingsdale community from essentially a farming

community to a rural-residential community. The ABS 2016 Census says that there are 369 dwellings in Ewingsdale with a population of 825 persons. The average persons per household is 2.5. This is likely to have increased since the recent development of two new residential estates over the past few years: Fig Tree Fields with 41 rural residential allotments developed by John Cornell and Capeview Estate with 35 rural residential allotments being developed by Graham Pearson. Both of these developments have not been fully developed yet and much of the housing was under construction when the 2016 ABS census was undertaken.

In 2017 Ewingsdale is a small, but growing, mixed community located six kilometres west of Byron Bay and adjacent to the Pacific Highway motorway. The new Byron Central Hospital is located here, (opening in 2016), along with the Ambulance Station. Some small and large farms grazing cattle still exist in Ewingsdale.

For its population size Ewingsdale is what could be considered a village. Defining a 'village' is difficult. A Discussion Paper released in 2001 by GeoLink for the Northern Rivers Regional Strategy suggests, "DUAP (1995) defines a village as a settlement that provides services and a focus for several rural precincts or a district sub-catchment, ranging in size from 30-500 households. The Northern Rivers Framework for a Sustainable Future (NRRS Secretariat, 1997) suggests that small villages may range in size from about 100 persons up to 1,000 persons." (Geolink, 2001, p.12). DUAP was the NSW Department of Urban Affairs and Planning, the forerunner to today's NSW Department of Planning. At the time of the Discussion Paper the 'village' of Bangalow had approximately 820 persons, the same as Ewingsdale is now.

However, the definition of a village is not limited to population size but considers a range of elements including but not limited to: community identity, walkability, easy access to local services and facilities, multi-functionality, supply of a range of basic needs (eg school, shop, doctor, employment or work-based opportunities, local participation in decision-making, public open space areas in the form of parks, fields, reserves and squares for specific or flexible uses... (Geolink, 2001, p.10). So, while Ewingsdale has the population size it has few, if any, of the other elements for it to be considered a village. "The level of service available tends to reflect factors such as population size and composition, as well as proximity to other centres, which is why the range of services and facilities will differ from village to village." (Geolink, 2001, p.14).

Ewingsdale's proximity to Byron Bay has meant that its residents have always used the town for its needs. Rather, than a village in its own right, it has been a suburb to Byron Bay. As the traffic has increased over the years this has become more difficult. The Farm is providing a meeting place and recreation centre for the Ewingsdale community; or at the very least a corner store where residents can pick up produce and have children play in a playground. The Farm site has long been associated with being a place to buy produce and flowers.

4.1.2 Tourism and Byron Bay

While the subject site is Ewingsdale, its proximity to Byron Bay and its place in Byron Shire requires this report to consider the tourism activity that takes place there. Situated on the North Coast of NSW Byron Bay has been known as a holiday destination since the late 1800s when there was a jetty and a railway line that connected the town. (Ryan, 1984, p.64).

In the mid 1800's there was an extensive shipping business in NSW taking rural products and passengers to Sydney from every major river and harbour of the north coast. Once the ships were fitted with refrigeration, the rich north coast dairy products could be on an overseas ship in a day.

Tourism became the growth industry of the NSW North Coast after WWII and because of greater mobility based on the car, it increased substantially in the 1950's and 1960's making use of low cost accommodation. It was in the late 1960's and 1970's that large numbers of surfers discovered the Byron area because of its now famous, natural surf breaks. It was also discovered by alternative settlers after the Australian Union of Students held their Aquarius Festival in the nearby town of Nimbin drawing thousands of people to the North Coast. Many of these visitors chose to stay and it was during this time that many old dairy farms were converted into communal type living in the Byron Bay hinterland. However, there was still little permanent residential growth in the Shire and as late as 1983 Byron Bay still only had a resident population of 3,000 people.

Since the late 1980's, until the early 2000's, the Byron LGA was one of the most rapidly growing Shires in NSW. It evolved from having a small, local economy based on agriculture to one dependent on national and international tourism with associated retail businesses and a burgeoning festival/event industry. Along with this came strong growth in housing, commercial and industrial development. Byron Bay, the largest town in the shire bore the pressure of this development. Annual visitor numbers to the shire increased dramatically, said to be as high as 1.7 million around 2004.

4.1.3 Farming/Agriculture in Byron Shire

Agriculture has always been an important element of the Byron Shire and played a valuable role in its economy. At the turn of the 20th century the Northern Rivers was covered in rainforests, which were quickly cleared for farming, both beef and dairy, along with coastal banana plantations. Byron Bay was home to Norco the largest butter factory in the southern hemisphere in the early 1900's, exporting butter overseas. When being logged, large ships berthed in Byron Bay to take the logs back to Sydney. Hence, local names with the word 'shoot' in them as the logs were sent down the shoots to the sea at Byron: Skinners Shoot, Coopers Shoot, Possum Shoot, McLeods Shoot. The economic bottom fell out of dairying in the 1960's due to de-regulation of the industry. The 1973 Aquarius Festival, that saw the new settlers come into the area, first of all rented, and then bought up these disused dairy farms. They came to live a new way of life, which included living on the land and growing their own food. While not being large scale farming, it sowed the seed of the current boom of organic growing of a variety of horticultural products and selling their products at monthly markets.

4.2 Byron Shire LGA Population Growth

"In describing baseline conditions upon which change will take place care has to be taken to avoid assumptions that a community is a static entity. Any descriptive categories reflect, in fact, parts of a dynamic social system." (Taylor, 2004, p.109). The ABS 2011 and 2016 Census of Population & Housing have been used for the baseline data. Demographic data includes a range of characteristics about the people who live in the Ewingsdale area and the wider Byron Shire. The ABS undertakes a census every five years, the latest being in August 2016. However, the first limited release of the census was on June 27th, 2017 so not all data was available when preparing this report. Where possible the latest Census data is used. The Byron Shire estimated resident population for 2016 is 31,556. (ABS Quikstats 2016).

4.2.1 Historical Growth/Trends Projection

The Byron Bay and Suffolk Park Settlement Strategy 2002 summarised a period of historical population growth. "Prior to 1970 Byron Shire had experienced a trend

towards a decline in population in the rural areas and a relative increase in the urban areas. This changed in the last 20 years as rural population has grown and stabilised. Such growth can be attributed to a growing interest in rural lifestyles rather than to an upturn in traditional economies. After 1971 the population showed a positive and permanent increase after several decades of fluctuation. (BB&SP Settlement Strategy, 2002, p.16).

Up until 1994 the Byron Council area was "one of the most rapidly growing local government areas in New South Wales. The region had undergone the highest proportional growth, in terms of population, out of any area within New South Wales between 1981 and 1989, excluding the Sydney Metropolitan Area." (BSC, Community Profile, Aug 1994). Byron Shire Council's Community Profile 1994, shows the growth rate for Byron Bay between 1986 and 1991 was a steady 8% per annum, reaching a total residential population of 5,001. "Being the major tourist destination in the local government area, there is a large transient population in addition to the resident population." (p. 32). "Between 1996 and 2001 Byron Shire experienced a slower rate of growth at 1.9% per annum (1.1% for NSW) compared to 3.3% per annum for the period 1991-1996." (BSC Community Profile, 2001, p.8). This large population growth slowed significantly between 2006 and 2011 with just 0.3% p.a. but has risen again between 2011 and 2016 to 1.55%.

The annual average population growth rate over the ten years to 1997 was 6.2% for Byron Bay and 12.2% for Suffolk Park. These relatively high rates lead to some resistance in the community to growth. Growth rates declined from 1997 due to restrictions on development imposed by limited sewerage treatment capacity. (BB&SP Settlement Strategy, 2002, p.7). A trend developed in Byron Bay that saw the resident population decline between 2001 (5241) and 2006 (4981) and again between 2006 (4981) and 2011 (4959). At the same time the Shire grew from 28,175 to 28,766 residents. However, in the 2016 census the usual residents in Byron Bay has risen to 5521 persons. There is no hard data on why Byron Bay was losing population while the overall shire was increasing. Anecdotaly, it is said that short-stay visitor numbers have increased, which, in part, can be attributed to overseas students studying at Southern Cross University, and the various English Language schools, along with longer stay travellers living in group houses, and housing turned over to holiday letting, pushing up housing costs and forcing out residents. It appears that the residential population growth rate for Byron Bay has slowed considerably, but the total population of the Shire is steadily increasing.

Table 1 - Byron Shire Local Government Area Usual Resident population 2001 to 2016

Year	Population	% Growth Per annum	Additional Persons per annum
2001	28916		
2006	28766	-0.1	-150
2011	29209	+0.3	+443
2016	31556	+1.55	+2347

Source; ABS Census of Population & Housing Census 2001, 2006, 2011 and 2016 Census Quikstats

The low population projections by the NSW Dept. of Planning shows an increase of 5,850 persons over the period 2011-2036, which is 19.0% overall and 0.7% per annum.

Table 2 - Past and Projected total population of Byron LGA, 2011-2036

Year	Total Population (a)
2011	30700
2016	32250
2021	33500
2026	34650
2031	35700
2036	36550

Source: NSW LGAPopulation Projections 2006-2036. Low series NSW Dept. of Planning 2016.

a) population numbers are for 30th June of the year shown

4.3 Summary Social Demographics Ewingsdale

Key Demographic Characteristics – Ewingsdale 2016 Residential Population compared with 2011 and 2006 where available:

- The population was 825 persons in 2016 an increase from 713 persons in 2011 and from 677 persons in 2006
- The median age has risen in 2016 to 44 years up from 43 years in both 2011 and 2006. The 2016 NSW and Australian median age was 38
- In 2016 there were 191 families an increase from 185 in 2011 and 188 in 2006
- Average people per household has decreased to 2.5 in 2016 from 2.8 in 2011 and 2.7 in 2006
- There were 10 Aboriginal and Torres Strait Islander people resident in Ewingsdale in 2016, compared with 7 in 2011 and 13 in 2006
- In Ewingsdale the median weekly household income in 2016 was \$1,592 an increase from 2011 when it was \$1,153 and in 2006 \$1,068 and compared with NSW at 2016 at \$1,486 and Australia at \$1,438. In Byron Shire in 2016 it was \$1,149
- Median weekly rent in 2016 has decreased to \$395 from 2011 when it was \$525 and was \$250 in 2006. In 2016 median weekly rent was \$380 in NSW and \$335 in Australia
- In 2016 12.9% of households in Ewingsdale had rent payments greater than 30% of household income, which was the same for NSW and was 11.5% for Australia. In 2011 it was 18.1% In Ewingsdale, 11.6% for NSW and 10.4% for Australia
- In 2016 11.4% of households had mortgage repayments greater than 30% of household income compared with 7.4% in NSW and 7.2% in Australia.
- The age cohort in Ewingsdale with the greatest proportion of people in 2016 was 50-54 year olds with 10.1%, (compared with 6.5% in both NSW and Australia); in 2011 it was 55-59 years with 10.1%
- The proportion of persons born overseas has increased substantially in 2016 with 283 persons (34.2%) compared with 2011 when there were 179 persons (24.9%) born overseas. The largest proportion was from England (4.6%), New Zealand (2.2%) and Germany (1.8%). These were the same countries as in 2006. In Byron Shire the proportion of persons born overseas is 31.6% and with the same most popular countries of origin
- At 2016 in Ewingsdale 9.1% of persons were university or tertiary educated, which has decreased from 2011 when it was 11.5%. However, in 2016 It is a higher rate than in Byron Shire (8.0%) but lower than NSW with 16.2% and 16.1% in Australia
- In 2011 38.0% of occupied private dwellings were owned outright in Ewingsdale compared with 33.2% in NSW and 32.1% in Australia and an increase from 2006 when it was 35.5%
- In 2016 there were 257 (83.2%) occupied private dwellings and 52 (16.8%) unoccupied private dwellings. This compares with NSW having 9.9% unoccupied private dwellings and Australia with 11.2%. In 2011 there were 47 unoccupied private dwellings (16.4%) compared with 9.7% for NSW and 10.7% for Australia

- The proportion of occupied private dwellings at 2016 Ewingsdale is substantially different with 92.2% being separate houses, compared with NSW with 66.4% and Australia with 72.9%
- In 2016 just 1.1% of dwellings in Ewingsdale had no vehicle compared with 9.2% in NSW and 7.5% in Australia, while 29.7% had 3 or more vehicles compared with 16.7% in NSW and 18.1% in Australia
- In 2011 45.1% of households had 2 motor vehicles per household compared with 34.0% in NSW and 36.1% in Australia. 28.3% of households had 3 or more vehicles compared with 14.6% for NSW and 16.5% for Australia
- The highest employing industry in Ewingsdale in 2011 was: Cafes, restaurants and Takeaway food services (6.2%), pharmaceutical and other store-based retailing (5.2%) and Accommodation (5.2%). In 2006 it was: accommodation (6.7%), followed by Allied Health Services (4.2%) and Building installation services (3.6%)
- The main occupations in Ewingsdale in 2011 were: Professionals (22.9%), Managers (18.3%) and Technicians and Trades Workers (15.5%). Main occupations of residents in 2006 were Managers (22.7%), followed by Professionals (20.0%) and then Technicians and Trades Workers (11.8%)
- In Ewingsdale in 2011 there were 29 persons unemployed (8.2%) compared with 5.9% in NSW and 5.6% in Australia. There were 169 persons working FT (47.9%) compared with NSW (60.2%) and Australia (59.7%) and 127 persons working PT (36.0%) compared with NSW (28.2%) and Australia (28.7%). At 2006 there were 19 persons unemployed (5.4%), 158 persons worked FT and 145 persons worked PT

Table 3 – Age Ewingsdale, Byron LGA, NSW, Australia 2016

Age	Ewingsdale No.	Ewingsdale %	Byron LGA %	NSW %	Australia %
0-4 years	28	3.3	4.9	6.2	6.3
5-9 years	60	7.1	5.9	6.4	6.4
10-14 years	62	7.4	6.0	6.0	6.1
15-19 years	39	4.6	5.1	6.0	6.1
20-24 years	36	4.3	3.8	6.5	6.7
25-29 years	56	6.7	5.2	7.0	7.3
30-34 years	38	4.5	5.5	7.2	7.3
35-39 years	38	4.5	6.3	6.7	6.7
40-44 years	70	8.3	7.6	6.7	6.8
45-49 years	75	8.9	7.6	6.6	6.8
50-54 years	85	10.1	7.9	6.5	6.5
55-59 years	64	7.6	8.7	6.3	6.2
60-64 years	68	8.1	8.7	5.6	5.6
65-69 years	52	6.2	6.7	5.1	5.1
70-74 years	33	3.9	4.0	3.9	3.8
75-79 years	17	2.0	2.4	2.9	2.8
80-84 years	15	1.8	1.6	2.1	2.0
85 years & over	6	0.7	2.2	2.2	2.1
Total	825		31556		

Source: ABS 2016 Census Quikstats

As at 2016 Ewingsdale has a significantly larger proportion of couple families without children than that of Byron Shire, NSW and Australia as well as for Group households. In 2011 there were 40.5% of couple families without children in Ewingsdale, an increase of 5.3%. Family type households in Ewingsdale have decreased since 2011 when they were 73.9%, compared with 69.8% in 2016.

Table 4 –Household structure Ewingsdale, Byron LGA, NSW, Australia 2016 and 2011

Family Structure	Ewingsdale No.& % 2016	Ewingsdale No. & % 2011	Byron LGA %	NSW %	Australia %
Couple Family without Children	87 45.8%	75 40.5%	39.8	36.6	37.8
Couple Family with Children	74 38.9%	83 44.9%	38.1	45.7	44.7
One Parent Family	29 15.3%	24 13.0%	20.8	16.0	15.8
Other Family	0 0.0%	3 1.6%	1.3	1.7	1.7
Household Structure					
Family	183 69.8%	176 73.9%	64.6	72.0	71.3
Lone Person	55 21.0%	41 17.2%	27.6	23.8	24.4
Group	24 9.2%	21 8.8%	7.9	4.2	4.2

Source: ABS 2016 and 2011 Census Quikstats

4.3.1 Economic Base

Byron Shire, and particularly Byron Bay, has had a history of economic boom and bust, based mainly around primary industries. As noted earlier dairying suffered a major decline in the 1960s. Whaling in Byron Bay finished in the 1960's also. Sand mining closed in the 1970s. Walker's Meatworks was the major employer in Byron Bay until it closed suddenly in 1983. From that time on tourism and residential development became the dominant industries. There were active efforts by the Council to develop a tourism industry with the appointment of Council's first Tourism Officer in approximately 1986. The Byron town/shire has encouraged, promoted and relied on tourism as its main economic base ever since. Commercial fishing licences were bought back when the Cape Byron Marine Park was established in 2002

Tourism includes retail, accommodation and event-based businesses. With the advent of the computer age there has been a significant growth in home-based businesses. Since the 2000s there has been an encouragement of the development of farm/food businesses as evidenced by the formation of the Byron Farmers' Market in 2002, followed by the Bangalow Farmers' Market in 2004, New Brighton in 2007 and the Mullumbimby Farmers' Markets in 2010. The markets are "an experience where farmers build relationships with customers, and customers come to appreciate where their food comes from, and learn more about local agriculture and food production." (<http://www.byronfarmersmarket.com.au/info/about>).

The industry body, Northern Rivers Food (NRF) commenced around the same time as the group Sustain Northern Rivers. The NRF is run by the people who are developing and marketing food businesses from Grafton to Tweed. A group of growers, food artisans, manufacturers, restaurateurs, retailers and distributors are working as a group to facilitate the development, growth and sustainability of the food businesses in the Northern Rivers. To be a member of NRF the business must conduct a food business primarily located in the Region, and the goods and/or services produced by the member must be primarily created with the Region using produce of the Region where available; and the member has a commitment to using labour from the Region for its operations. They currently have approximately 100 members and it is continually growing.

Sustain Northern Rivers undertook the Food Links project that finished in 2011 as well as the Sustain Food Roadmap 2013-2015. The Roadmap was about creating food security within the region. To do this their objectives were to: increase the sustainability, resilience and diversity of local food production, increase the availability of local food through improved distribution and increase affordable and nutritional local food consumption. Outcomes were to: better linkages between farmers and consumers, more community gardens and farms producing more food, food producers respected and supported in their communities, agriculture and food production is an attractive and desirable career, amongst others.

Currently, the main economic base of Byron Shire is tourism with an associated accommodation, hospitality and retail industry. "Byron Shire's economy is now dominated by tourism with Byron Bay accounting for more than 55% of the Shire's \$1.37 billion gross business revenue. There are approximately 3,700 businesses in the shire of which 60% are sole traders. Of the remaining balance of businesses, 60% employ less than 5 people and 31% employ between 5 and 19 people. About 45% of these businesses are located in the Byron Bay precinct with the balance evenly distributed throughout the shire. Income generated by businesses in the Byron Bay precinct represents 55% of the total. "Retail and Trade" accounts for the highest proportion of sector income (25%) as well as employing the highest number of persons in the Shire (1490), Furthermore, "Accommodation, cafes and restaurants" accounts for 12% of sector income and has 1438 employees"(BSC, 2009, p.51).

According to idprofile's economic profile of Byron Shire, in 2015/16, the total tourism and hospitality sales in Byron Shire was \$304.1m; the total value added was \$220.2m.

According to idprofile's economic profile of Byron Shire:

- In 2010/11 the total value of agricultural output in Byron Shire was \$29m, which decreased from \$40m in 2005/06. The largest commodity produced was Nurseries and cut flowers, which accounted for 32.1% of Byron Shire's total agricultural output in value terms. Nuts accounted for 16.7%, milk for 11.6%, Vegetables for 3.2%, broad acre crops, 2.6%, other fruit, 8.1% and citrus fruit 0.1%.
- Agriculture, Forestry and Fishing employed 555 workers (3.9%) compared with NSW with 2.3%, Accommodation and Food Services employed 14.3% (2,011 people) compared with NSW with 7.0%.

Agricultural statistics for Australia include: (ABS Cat. Number 712.0-Agricultural Commodities, Australia 2014-2015):

- As at June 30 2015 there were 384.6 million hectares of agricultural land owned or operated by 123,000 agricultural businesses in Australia. These estimates represent a 21.7 million hectare, or 5.3%, reduction in land area and a 5,400 or 4.2% reduction in the number of agricultural businesses when compared to the 2013-14 estimates. Of the 384.6 million hectares of land 82% was used for grazing. The area of land used for crops decreased by 910,000, or 2.8%, to 31.4 million hectares in 2014-15
- Almost half of Australia's total land area was used for agriculture. Of all the states and territories NSW had the second highest proportion of agricultural land with 72%.
- In terms of the key attributes of Australian farm management, the number of male respondents greatly outweighed the number of female respondents with 77% of respondents being male
- The average number of years respondents were involved in farming was 34. In NSW it was 33 years.
- The average age of farmers in NSW was 58 years. This is higher than the Australian average at 57 years.

- The majority of business income for agricultural producers in 2014-2015 was from agricultural production (74%), up from 70% in 2013-14.

The average pay for a Farmer in Australia in 2015 was \$56,841 per annum. An entry level Farmer with less than five years experience can expect to earn an average total pay of \$50,000. This compares with an Investment Banker whose average salary is \$98,471/year. (<http://www.payscale.com/research/AU/Job=Farmer/Salary>). As at 2012 there were approximately 134,000 farm businesses in Australia, 99 percent of which were family owned and operated. (This number includes those for whom farming is not their primary business. There were 120,112 farms solely dedicated to agricultural production). Australian farmers produce almost 93 percent of Australia's daily domestic food supply. In NSW there are 36,554 farms, which is 32.1% of the Australian total. As at 2010-11 there were 307,000 people employed in Australian agriculture, down from 325,000 in 2009-10. As of May 2011, 236,000 people were directly employed on-farm, full-time, in the Australian farm sector. In NSW the number was 63,400 persons. The complete agricultural supply chain, including the affiliated food and fibre industries, provide over 1.6 million jobs to the Australian economy. In 2006 the median age of farmers was 52 years, much higher than the median age of 40 years in all other occupations. The largest proportion of farmers were in the age group 65 years and over followed by 55-59 years. The size of Australian farms has been in a steady decline since 2001. (<http://www.nff.org.au/farm-facts.html>)

In Australia in 2001, households that contained at least one person whose main income came from agriculture had a mean income of about 90% of those households where no person was employed in agriculture. In view of the economic situation of people related to agriculture, traditional family farms may be forced to combine income from several sources. The income comes from non-agricultural work, e.g. from running small service, trade or craft enterprises, or it has a non-profit character and comes from other transfers into agriculture, such as pensions and annuities. Rural people are usually poorer than parts of the city population. Therefore, redistribution of financial resources from cities to the country and increasing the possibility of rural people generating income are important goals of social policy. Redistributive activity by the state is often initiated to enhance social cohesion. (Lockie, 2015).

4.3.2 Employment

Byron Shire falls into the Richmond-Tweed and Clarence Valley Priority Employment Area. According to a report/presentation (Dept. of Education, Employment & Workplace Relations, 2012. Slide 10), as at June 2012 the proportion of working age population (WAP) living in the Richmond-Tweed and Clarence Valley priority employment area who received a Centrelink payment was 31%, compared with 18% in NSW and 17% in Australia. Byron Shire had 33% overall and was equal with Kyogle LGA for the highest WAP on unemployment benefits (both 11%) more than double that of NSW and Australia.

This compares with the same type of report three years earlier (Dept. of Education, Employment & Workplace Relations, 2009, p. 8), "As of the September 2009 quarter, the number of people living in the Richmond-Tweed and Clarence Valley priority employment area who received a Centrelink payment was just over 57,568 people, or approximately 29% of the working age population (compared with Australia – 18%)." This had been an increase of 6% from the year before. "Another indicator of labour market vulnerability is a high concentration of employment in industries that are sensitive to economic downturns, such as the Retail Trade, Accommodation and Food Services and Construction industries." The Byron Shire is an area heavily reliant on these industries, as they have been the highest employing industries in the Shire

and Byron Bay since 1996. Employment for this area was concentrated across four key industries:

- Retail Trade 15% of total employment
- Health Care & Social Services 14% of total employment
- Accommodation & Food Services 10% of total employment
- Construction 9% of total employment

"Over the year to August 2009, Accommodation and Food Services and Health Care and Social Assistance have grown. By contrast, employment in Construction and Retail Trade has decreased." (p. 10). From the 2012 report (slide 6), Byron Shire had the highest unemployment rate of 8.0% (along with Tenterfield LGA) at March 2012 of all the LGAs in the Richmond-Tweed and Clarence Valley Priority Employment Areas (PEA), compared with the whole of the Richmond-Tweed and Clarence Valley PEA with 6.4%, NSW with 5.2% and Australia with 5.1%. The Richmond-Tweed and Mid-North Coast Statistical Region has the second lowest participation rate in Australia at June 2012 with 53.9% compared with 63.5% for NSW and 65.4% for Australia. (DEWAR PEA. 2012. slide 7), even having decreased from June 2011 when it was 54.7%. Long term unemployment for this region was 29% at June 2012 compared with NSW (22%) and Australia (19%). (DEWR PEA 2012. Slide 9).

In Byron Shire in 2011 Health Care and Social assistance was the highest employing industry with 1,613 persons (12.78%) followed by Accommodation and food services (12.59%) and then Retail Trade (11.87%). In 2006 Retail Trade was the highest employing industry with 1,598 persons employed (14.76%), but this had decreased from 2001. This was followed by Accommodation, cafe and restaurant with 1,484 persons (13.70%) and Health Care & Social assistance with 1,081 persons (9.98%).

In 2015/16 in tourism sector analysis, direct employment in Byron Shire was 11.2% of the total industry compared with 4.8% for NSW; indirect was 9.5% compared with 1.6%. There were 1,150 Full Time Equivalent (FTE) or 10.6% compared with 4.7% for NSW. Indirect accounted for 10.4% compared with 2.4% for NSW. In 2011 there were 1,366 people who made up the tourism and hospitality workforce in Byron Shire; of this 41.5% worked full-time and 52.6% worked part-time. The tourism and hospitality industries are defined by the ABS not as regular industries but as a set of occupation categories working across a number of industries. (idprofile economic profile Byron Shire).

As at 2011 Ewingsdale has a significantly higher proportion of Managers than that of Byron Shire, NSW and Australia. and a similar proportion of Professionals with 22.9% as that of NSW (22.7%) and Australia (21.3%).

Table 5– Occupation Ewingsdale, Byron LGA, NSW, Australia 2011

Occupation (employed persons aged 15 years & over)	Ewingsdale No.	Ewingsdale %	Byron LGA %	Northern Rivers %	NSW %	Australia %
Technicians & Trades Workers	50	15.5	14.0	14.6	13.2	14.2
Labourers	33	10.2	10.4	12.7	8.7	9.4
Managers	59	18.3	14.8	13.0	13.3	12.9
Professionals	74	22.9	23.4	14.8	22.7	21.3
Community & Personal Service Workers	33	10.2	10.7	11.4	9.5	9.7

Sales Workers	24	7.4	10.2	11.3	9.3	9.4
Clerical & Administrative Workers	33	10.2	10.1	12.3	15.1	14.7
Machinery Operators/Drivers	11	3.4	3.7	3.8	6.4	6.6

Source: ABS 2011 Census of Population & Housing, ABS Quikstats, Draft Social Profile
RDA – Northern Rivers April 2013

In terms of employment, there is a substantially higher proportion of people in part-time employment in the Byron Shire, 42.8%, compared with 28.2% in NSW and 28.7% Australia-wide. This is typical of employment in the tourism and retail industry as they seasonally fluctuate.

Table 6- Labour Force Ewingsdale, Byron LGA, NSW, Australia 2011

Labour Force Population aged 15 years & over	Ewingsdale No.	Ewingsdale %	Byron LGA	NSW %	Australia %
Total Labour Force (incl employed & unemployed persons)	353	-	13790		
worked Full-time	169	47.9	5828 42.3%	60.2	59.7
worked part-time	127	36.0	5906 42.8%	28.2	28.7
away from work	28	7.9	887 6.4%	5.7	5.9
Employed hours not stated	n/a	n/a	336 2.6%	n/a	n/a
Unemployed	29	8.2	1169 8.5%	8.5	5.6
Not in the labour force	n/a	n/a	n/a	n/a	n/a-

Source: ABS 2011 Census of Population & Housing, ABS Quikstats

4.3.3 Income

As at 2016 Ewingsdale has higher median personal incomes as well as median household incomes than that of the LGA, NSW and Australia. It has higher median family incomes than Byron Shire but they are lower than that of NSW and Australia.

Table 7- Income (population 15 years&over) 2016 & 2011 Ewingsdale, Byron LGA NSW, Australia

Income (population aged 15 years & Over)	Ewingsdale 2016 \$	Ewingsdale 2011 \$	Byron LGA 2016 \$	Byron LGA 2011 \$	NSW 2016	Australia 2016
Median personal income (\$ weekly)	699	520	596	477	664	662
Median household Income (\$/weekly)	1592	1153	1149	855	1486	1438
Median family	1708	1294	1389	1053	1780	1734

Income						
Source: ABS 2016 Census of Population & Housing Quikstats, ABS 2011 Census of Population & Housing ABS Table B02						

Ewingsdale has higher gross individual incomes of \$1,250-\$1,499 and \$1,500-\$1,999 than that of Byron Shire, NSW and Australia.

Table 8- Gross Individual Income (weekly) 2011 Ewingsdale, Byron LGA, NSW, Australia

Income Level	Ewingsdale No	Ewingsdale %	Byron LGA No	Byron LGA %	Northern Rivers %	NSW %	Australia %
Negative/Nil Income	46	7.82	1586	6.66	8.8	8.63	8.16
\$1-\$199	51	8.67	1699	7.13	7.9	7.25	7.40
\$200-\$299	78	13.27	2962	12.43	11.6	10.64	10.35
\$300-\$399	53	9.01	3207	13.46	11.1	10.20	9.88
\$400-\$599	73	12.41	3889	16.33	12.5	11.47	11.55
\$600-\$799	64	10.88	2773	11.64	11.1	10.11	10.36
\$800-\$999	41	6.97	1799	7.55	8.7	7.92	8.27
\$1,000-\$1,249	38	6.46	1393	5.85	8.2	7.46	7.90
\$1,250-\$1,499	33	5.61	808	3.39	5.8	5.26	5.53
\$1,500-\$1,999	39	6.63	962	4.04	7.1	5.26	6.46
\$2,000 or more	34	5.78	839	3.52	7.2	6.49	6.23
Individual income not stated	38	6.46	1904	7.99	n/a-	7.95	7.91
Total	588	100%	23821	100	n/a	100	100

Source: ABS 2011 Census of Population & Housing, ABS, Basic Community Profile Ewingsdale and Byron LGA, NSW, Australia Table BCP 17b
RDA Draft Profile April 2013

SEIFA scores indicate the collective socio-economic status of an area's residents. The socio-economic conditions of individual residents in any one area will vary. A lower SEIFA score indicates that an area is relatively disadvantaged compared to an area with a higher score. The Northern Rivers is lower than the NSW average on most measures of socio-economic status and is in the most disadvantaged 30% in Australia. (DEWR, 2009). The Byron LGA SEIFA is skewed due to some individuals/families with substantially high incomes, which make it appear a wealthier LGA than it is.

The SEIFA index reflects disadvantages such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations. In 2011 Byron Shire scored 976.6 on the SEIFA Index of Disadvantage. This compares with 995.8 for NSW and 1,002.0 for Australia. A higher score on the index means a lower level of disadvantage. A lower score on the index means a higher level of disadvantage. In 2011 Ewingsdale had the lowest level of disadvantage in Byron Shire with a SEIFA index score of 1,023.4. (idprofile Byron Shire). Bangalow was second least disadvantaged, while Byron Bay had the highest disadvantage with 976.4, lower than the Shire, NSW and Australia.

Table 9 - SEIFA Index of Disadvantage 2011

SEIFA Index of Disadvantage LGA (ranked from greatest to least disadvantaged)	2011 SEIF index of disadvantage	Ranking within NSW (of 140 LGAs)	Ranking within Australia
Ewingsdale	1023.4		
Northern Rivers	950.4		
Ballina	988.7	101	338
Byron	976.6	88	279
Tweed (A)	958.5	68	218
Lismore	952.7	57	194
Clarence Valley (A)	919.4	18	90
Kyogle	907.1	11	75
Richmond Valley	899.5	8	62
NSW	995.8	-	-

Source: ABS, SEIFA, 2011, idprofile social atlas 2011

4.3.4 Health

The Byron Central Hospital is located across the Ewingsdale Road from The Farm. This opened in June 2016. The small, local Byron Bay Hospital on Shirley St. closed as did the Mullumbimby and District War Memorial hospital when the new hospital opened. The new hospital is designed to provide integrated services for hospital patients and community health clients. Services offered include: 24 hour emergency attention, 43 overnight inpatient beds, low-risk maternity services, new 20 bed, non-acute mental health unit, enhanced x-ray and medical imaging, dental service, satellite chemotherapy, and ambulatory care. "Because Byron Bay is a tourist hub, the Hospital's Accident and Emergency department is a very busy unit which is open seven days a week, twenty four hours a day." (NCAHS website, Byron District Hospital). The Community Health Service offers access to workers in the following fields: palliative care, mental health, social work, child and family health, drug and alcohol, sexual assault, domestic violence, as well as others. Health issues specifically and consistently raised in Byron Shire over the past decade include: mental health, drug and alcohol, and "accessing professional workers caused by high levels of transience." (Footprint Directions, 2002, p.26). Staff, visitors and patients are accessing The Farm for a range of uses from food to taking their lunch and eating it in the park-like atmosphere.

4.3.5 Transportation

Transportation within Byron Shire is notably difficult with very little public transportation outside the towns and villages. What is available, eg. taxis, is often too expensive for residents on low incomes. Uber, a car sharing ride system came to Byron in 2016, providing a new option for transportation within the shire. Within the various townships of Byron Shire there are limited public transportation options: taxis, mini buses, buses and bicycles. There is a footpath and cycle network from the Ewingsdale Road near The Farm through to Byron Bay, the main beach and on through to Suffolk Park. The most used mode of transport is the private car.

Traffic into Byron Bay has been identified as a problem area over the past 25 years. Numerous traffic studies have been undertaken in an attempt to resolve the ever-increasing traffic queues on the way into Byron Bay along the Ewingsdale Road/Shirley St. One of these studies by Veitch Lister in 1997 identified "On an average night visitors increase the population by nearly one quarter and during the

peak holiday times they increase the population by nearly one half. The traffic generated by visitors to Byron Bay has a significant impact on the road network in Byron Bay. About 80% of visitor trips are made by private vehicles." (Veitch Lister Consulting as in BSC, 2004, p.74).

The Farm is located immediately adjacent to the Pacific Highway at the turn-off to Byron Bay. This provides easy access to and from The Farm for people from the Shire's hinterland and adjoining Shires as well as people passing by who simply stop in.

The Farm survey taken in June 2017 shows that of 46% of persons visiting The Farm, it was their primary destination and for 54% it was a stopping off point. In the week of the survey 31% of people lived in Byron Shire, along with 11% in the Northern Rivers and 15.3% lived in another part of NSW. Just 11.5% live in Brisbane and 12.2% live in the Gold Coast. (Farm Survey, June 2017).

4.3.6 Housing

The cost of housing, either to buy or rent in Byron Shire and particularly, Byron Bay, is an identified social issue. The reasons for this are many, and complex. One of the pressures on housing for residents in Byron Bay has increased due to the common practice of people holiday letting their houses within residential zones in Byron Bay. "It provides income for home owners and a diversity of accommodation choice for visitors to the Shire, but it can adversely affect the amenity of residential areas particularly through additional traffic, parking and noise." (BSC, 2004, p.74). Pressure has also come from the number of short-stay visitors who are willing to group share houses.

Ewingsdale is comprised of predominantly separate housing, a large proportion of which (16.8%) are unoccupied, compared to NSW (9.9%) and NSW (11.2%). Interestingly, there is far higher proportion of people in 'other dwellings' in Ewingsdale than in the shire, state or Australia.

The locality has a history of small, boutique tourist accommodation located in private, existing housing such as Taylor's Guesthouse, which was the first, and began operating in the 1980s, but not any longer. Victoria's Guesthouse on Balraith Lane opened in 1995. The family owners of La Vista on Cape Vista Drive bought land in Ewingsdale in 1984 and bought the land where La Vista is built in the early 1990s. They began construction in 2004, opening a B&B in 2008 along with a number of other accommodation places since then.

Table 10- Dwelling Characteristics Ewingsdale, Byron LGA, NSW, Australia 2016 & 2011

Dwelling Characteristics	Ewingsdale 2016 No. & %	Ewingsdale 2011 no & %	% of total occupied private dwellings in Byron LGA 2016	% of total occupied private dwellings NSW 2016	% of total occupied private dwellings in Australia 2016
Total private dwellings	309	286	13431		-
Unoccupied private dwellings	52 16.8%	47 16.4%	2057 15.3%	9.9%	11.2%
Occupied private dwellings:	257 83.2%	239 83.6%	11,374 84.7%	90.1	88.8-
Separate house	237 92.2%	234 97.5%	82.1	66.4	72.9

Semi-detached, row or terrace house, townhouse, etc	3 1.2%	0	9.1	12.2	12.7
Flat, unit or apartment	0	3 1.2%	5.4	19.9	13.1
Other dwellings	13 5.1%	0	3.1	0.9	0.8

Source: ABS 2016 Census of Population & Housing, ABS Quikstats, ABS 2011 Census of Population & Housing, ABS Quikstats

At 2016 there were a higher proportion of households in Ewingsdale who are purchasing their home (33.3%) than in the Shire (28.5%) or in NSW (32.3%). Combined with owning with a mortgage this is 71.9% of dwellings indicating that Ewingsdale is an owner-occupied community, giving it a stability that is not usually present in a high rental community.

Table 11- Tenure Type – Occupied Private Dwellings Ewingsdale, Byron LGA, NSW, Australia 2016 & 2011

Dwelling Characteristics	Ewingsdale 2016 No. & %	Ewingsdale 2011 No. & %	% of total occupied private dwellings in Byron LGA 2016	% of total occupied private dwellings in Byron LGA 2011	% of total occupied private dwellings in NSW 2016	% of total occupied private dwellings in Australia 2016
Owned outright	102 38.6%	90 38.0%	36.5	35.0	32.2	31.0
Owned with a mortgage	88 33.3%	83 35.0%	28.5	28.8	32.3	34.5
Rented (inc rent-free)	67 25.4	59 24.9%	30.8	32.3	31.8	30.9
Other tenure type	3 1.1%	0	0.9	0.9	0.9	1.0
Tenure type not stated	0	5 2.1%	3.3	3.0	2.8	2.7

Source: ABS 2011 Census of Population & Housing, ABS Quikstats

While residents in Byron Shire have notably lower incomes than that of Australia people are paying city rents. Byron Shire and Byron Bay's rental market cost is significantly higher than the rest of Australia with the median rent in Ewingsdale at \$395 per week, and \$400 in Byron Shire compared with \$380 in NSW and \$285 per week in the rest of Australia. This can be attributable to the large holiday rental market for visitors. Interestingly, median weekly rent has decreased in Ewingsdale from \$525. The median housing loan repayment in Ewingdale is higher than that of Byron Shire, NSW and Australia.

Table 12 - Payment medians – Occupied Private Dwellings Ewingsdale, Byron LGA, NSW, Australia 2016 & 2011

Dwelling Characteristics	Ewingsdale 2016 \$	Ewingsdale 2011 \$	Byron LGA 2016 \$	Byron LGA 2011 \$	NSW 2016	NSW 2011	Australia 2016
Median rent (\$/weekly)	395	525	400	350	380	300	285

Median housing loan repayment (\$/monthly)	2000	1850	1733	1684	1986	1993	1800
Households where rent payments are 30% or greater, of household income	12.9%	18.1%	17.2%	19.1%	12.9%	11.6%	10.4%
Households where mortgage payments are 30%, or greater, of household income	11.4%	12.3%	8.5%	11.9%	7.4%	10.5%	9.9%

Source: ABS 2016 Census of Population & Housing, Quikstats ABS 2011 Census of Population & Housing, Quikstats

4.3.7 Tourism

"Byron Shire has a history of over 100 years as a tourism destination. Daytrip visitors were first attracted to the area from the early 1900s and camping and caravanning holidays became popular from the 1930s. From the 1960s, surfers were attracted to the area for the excellent surfing conditions. From the 1980s to mid 1990s tourism and development activity within the Shire, in particular Byron Bay increased rapidly. This followed the decline of other industries that had supported the local economy including timber, dairying, agriculture, whaling and meat processing. It was also during this time that international backpackers discovered Byron Bay. (BSC, 2009, p.2).

Byron Shire, with the main community of Byron Bay, has been characterised since the early 1980's as a unique place and a desirable place for people of all ages to visit. Since the turn of the 20th century the train would bring people from inland Casino and Lismore to the coast to holiday. It was called the 'surf train'. Wategos Beach was originally comprised of holiday houses. Residential use only became prevalent in the mid 1970's. All early tourism plans identify Byron Bay as the prime destination, both within the Shire and the North Coast. Byron Shire's most recent tourism planning identifies "The Northern Rivers region is a significant major domestic and international tourism destination region as it receives more tourists than the Northern Territory or Tasmania and the second highest number of visits from international tourists to New South Wales, after Sydney." (BSC, 2008, p.7).

Of the 14 regions in NSW at 2014 the North Coast came in 3rd to Sydney in terms of direct tourism contribution GRP (\$m): Sydney 7,674, Regional NSW 6,259 and North Coast 1,605. In terms of employment ('000) it was the same: Sydney 74.3, Regional NSW 84.6 and North Coast 22.0. In terms of total tourism contribution GRP (\$m) Sydney was the highest with 15,384, followed by Regional NSW with 12,135 and the North Coast with 3,101. (www.tra.gov.au)

Tourism impacts all sectors in the economy, particularly retail, accommodation, cafes, restaurants and construction. There is also a flow-on effect to other industries – from hairdressers to lawyers, from gyms to mechanics. Economists have estimated that one job lost in tourism accounts for 7.5 jobs lost elsewhere. Given the significance of tourism to the Shire's economy and the volatility of domestic tourism in Australia, it is imperative that tourism is maintained and enhanced as an economic driver for the local economy, but planned and managed in a sustainable way to enhance and

conserve the natural environment, protect the well-being of the Shire's residents and attract visitors with shared values. (BSC, 2009, p.2).

Tourism numbers have been increasing since 1983, following the closure of the Walkers Meatworks in Byron Bay and there was a concerted effort by the, then, Council, to actively promote tourism. "The number of tourism visitors to the area almost doubled from 1982/83 numbers, estimated to be 504,800 to 1991/92 visitor nights totalling 966,000. Visitors to the Byron Tourist Information Centre totalled 115,213 in 1993, up 17.4% on 1992 figures." (Byron Council Community Profile, 1994, p. 9).

Analysis of the lifecycle groups of visitors to Byron Shire indicates a decrease in the proportion of 'young singles living at home' visiting the Shire during the period 2002-2007 compared to previous years. Visitation by parents with children under 15 years of age has remained steady at 24% for 2004-2007, an increase on the previous 5 year average of 16%. (BSC, 2009, p.54). However, tourism numbers fell an estimated 20% in the period from 2002 to 2007. In the immediate time after the global financial crisis in 2008 both domestic and international tourism decreased in numbers to Byron Shire. However, in the last few years it has increased once again. In 2013, 680,000 day-trippers are estimated to have visited the Shire. The number of visitor nights in Byron Shire in 2013 was estimated to be 3,076,000. (BSC website. Tourism Research & Resources).

Byron Shire Council's Social Plan 2004-2009 notes that, "The impacts of tourism on the infrastructure, especially, of Byron Bay are not directly recouped from the users." (p.74). The draft Byron Shire Tourism Management Plan, An Options Paper for consideration prepared by Rob Tonge and Associates, December 2002 noted that of the key issues of concerns of the community around tourism many "relate to the pressures on the residents. Not only is there pressure facing the resident community but many community service providers report that their service is funded to meet the needs of the resident population but is increasingly needing to cater for visitors." (BSC, Social Plan, p.75). Consultation with service providers in the developing of the Social Plan "also noted the need to achieve balance between competing interests – local community vs. tourism. The need to support/maintain/promote social cohesion for the local community and noted the strain/contrast between needs and supports of local on-going issues and attraction of tourism related opportunities." (p.75).

Council has estimated the cost of tourism on its infrastructure in its Draft Community Strategic Plan 2011/12 and come up with a figure of 28.17%.

Table 13 - Estimate of Tourism on Infrastructure

Type		Equivalent stays per year
Non-resident	International (day)(1)	347,000
	International (overnight)(1)	185,367
	National (day)(1)	771,000
	National (overnight)(1)	428,000
	Total – visitor Nights per Year	2,982,000
Resident	Resident population (Shire)(2)	10,499,590
	28,766	
	Total-Equivalent "nights" per year	10,499,590
	Estimated % impact Shire Wide	1 (28.17%)

Source: Byron Shire Council Draft Community Strategic Plan 2011/12-2020/2 p.10

4.3.7.1 Statistical Summary Tourism Visitation

In the most recent statistics Byron Shire Council (www.bsc.nsw.gov.au/tourism/quick facts) has published that:

- Tourism expenditure is estimated to have been \$382 million in 2011 increasing to \$426 million in 2014.
- Employment arising from that expenditure is estimated to be around 2,500 FTE jobs.
- In 2011, the estimated 484,000 domestic overnight visitors stayed an average of 4.7 nights while the 151,000 international overnight visitors stayed an average of 6.3 nights. In 2013 the estimated 526,000 domestic overnight visitors stayed an average of 3.5 nights while the 160,000 international overnight visitors stayed an average of 7.6 nights.
- In 2011, 887,000 day-trippers are estimated to have visited the Shire. The increase in domestic day visitors from 2006 to 2011 was 36%, with an increase in total spend by these visitors of 63% between 2006 and 2011. In 2013 it is estimated that 680,000 day-trippers visited the Shire.
- The number of visitor nights in Byron Shire in 2011 was estimated to be 2,886,000 increasing to 3,076,000 in 2013.
- 81% of domestic overnight visitors arrive in the region by road with approximately 18% arriving by air. The majority of domestic overnight visitors are from Queensland (44%) and then from Sydney (18%). (BSC website. Tourism Research & Resources)

While the data in Council's current Tourism Plan may be dated the key findings on visitation during the year January to December 2007 as found in Byron Shire Council's Tourism Management Plan – Situational Analysis & Tourism Product Audit Draft Report 15 May 2008 paint a picture of tourism at that time in the absence of an updated tourism plan (p.1-12):

- European countries are the most common region of origin for international visitors to the Byron Shire (68%)
- Tourism increases the overnight population in the Shire by 22% each night.
- Within the region, Byron Bay is acknowledged as playing an important role in bringing domestic and international visitors to the Northern Rivers region.
- There was a significant increase in the 65+ age group in 2006 and 2007. The proportion of 25-44 year olds decreased during 2006 and 2007 (39.2 and 34% respectively) to below the previous seven year mean average of 42.4%. Visitation by the 15-24 year age group decreased in the period 2002-2006 (mean average 24.2%), but recovered in 2007 to 32.2%.

The main domestic tourism generating regions for overnight visitors to Byron Shire are Brisbane and Sydney. The proportion of visitors from Brisbane increased considerably in 2007, which was attributable to the completion of the Pacific Highway upgrade in 2004. Since then there has been an upward trend in the proportion of visitation from Queensland and a concurrent downward trend in visitation from NSW since 1999: 50% of all domestic visitors in 2007 originated from Qld compared to 34% in 1999 and 36% originated from NSW in 2007, compared to 54% in 1999.

In the year ending March 2015 North Coast NSW (Byron) hosted 3.3% of all backpacker visitor nights compared with Sydney with the highest, 24.2%, followed by Melbourne, 15.4%, Brisbane, 9.9% and Tropical North Qld (Cairns), 6.4%. (<http://www.thebyte.com.au/latest-backpacker-stats-from-tra/>). However, anecdotally, the age profile appears to be changing as new tourism opportunities have opened up in Byron Shire such as the increase of food tourism, food events, classical music concerts, writers festivals and others. New, updated data is required to confirm this.

Table 14 - Age Profile: Overnight International Tourists to Byron Shire 2000 to 2007 (visitors)

Age Group	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %
15-24 years	45	38	48	52	51	52	46	47
25-34 years	38	43	37	34	35	30	35	32
35-44 years	8	7	6	4	6	6	8	11
45-64 years	7	11	7	9	8	11	10	8
65 years	2	1	2	1	2	1	2	2

Source: Original for this study, Table 11 Data sourced from TRA (2007), NVS Time Series data 2000 to 2007 as in Byron Shire Tourism Management Plan Situational Analysis and Tourism Product Audit Draft Report. 15 May 2008. P. 12

4.3.7.2 Tourism Visitation Type

Since the early 1980's Byron Shire grew a unique type of tourism being festivals/music. One of the first of these was the Blues and Roots Music Festival that began at the Arts Factory/Piggery located on Skinners Shoot Road, Byron Bay. Since then there have been numerous festivals/events of all kinds in Byron Shire. Environmental and social impacts are linked to the scale of tourism and the capacity of communities to support festivals with appropriate infrastructure. Festivals have been a means through which Byron Bay's identity as a cultural mecca and 'alternative' tourist destination in Australia has been created, yet it has paradoxically brought intense commercial pressures to bear on the town [Derrett, 2003].... The establishment of key live venues, and new festivals throughout the 1980s, solidified Byron Bay's reputation as a place to experience music, particularly as part of a tourist experience. (Gibson & Connell, 2005, p.243). "Advancing technologies and changing weather patterns (i.e. increase in droughts and floods/storms) have brought about the need for diversification of industry in areas previously reliant on traditional industries such as farming, or narrowly focused tourism industries." (Irshad, 2011, p.2).

An emerging trend began in the 2000s with the rise of food tourism or agri-tourism. There are now numerous food festivals in Byron Shire including Sample, which began in 2011 in Bangalow and in 2016 drew 17,000 thousand people to its one day event. The latest food event was the Byron Bay Fine Food and Beverage Festival held at Elements in Byron Bay in June 2017, bringing chefs from around the country. Northern Rivers Food holds an annual food festival in May. This festival includes farm tours, eg Zentvelds coffee farm at Newrybar, Brookies Gin, St. Helena and many others. Over the past decade people started coming to Byron Shire and the Northern Rivers region for the food; not just at restaurants but for the growers' markets and small, individual restaurants throughout the shire, eg Doma Japanese at Federal. A range of cookbooks have been developed from this industry: Byron Bay Cookbook is into its third edition.

The growing farm/food tourism is a response to this need for diversification in tourism. There has been a backlash to the shire's domination by large music festivals. A changing demographic is just beginning to emerge with the release of the 2016 ABS census data. An early look at the data for Byron Shire seems to be pointing towards a significant increase in the number of babies being born indicating a family structure at the expense of the ageing population. This population type has differing needs to that previously and seem to be embracing the food growing industries in the Shire. In line with people's desire for locally grown food there has been a growth of Farmers Markets in Byron Shire with one on almost each day of the week:

Tuesday - New Brighton

Thursday – Byron Bay

Friday – Mullumbimby

The Farm SIA July 2017 TS Consultants

Saturday – Bangalow

Fresh grown farm food is available at the regular Sunday markets: the first Sunday of the month in Byron Bay and the 4th Sunday of the month in Bangalow.

Agri-tourism is a growing form of tourism in Australia and around the world. It is defined broadly as involving any agriculturally based operation or activity that brings visitors to a farm or ranch. It is also defined as tourism in which tourists take part in farm or village activities. Or, as it is defined in Kline, et al (2007) "Rural farms are becoming attractive tourist destinations also because more visitors are nostalgic for a "simpler" time. They want to escape the hustle of city life and connect with natural and cultural heritage and enjoy a richer and authentic leisure experience. They want to learn, connect with meaning, and meet genuine people engaged in a rural/agricultural lifestyle."

In parallel with Agri-business, food tourism is becoming an increasingly important sector of the Australian economy, providing direct and indirect benefits to Australian agribusinesses and regional economies. Food and wine experiences are being increasingly sought after as consumers desire to better understand where their food comes from, learn how it is produced and experience the ultimate in low food miles by enjoying produce where it is produced." Between 2010-11 and 2015-16 the number of agritourists visiting farms or wineries in Australia has grown significantly. According to data collected by Tourism Research Australia, "The number of domestic tourists who visited a farm on their trip increased by 9% per annum on average, while the comparable number of international tourists increased by 11% per annum.... As agritourism spans a variety of sectors (agriculture, wholesale trade, retail trade, accommodation and food services and recreation) it is difficult to get a precise number of its contribution to the Australian economy."

In looking at the top regions in Australia for agritourists it is the capital cities and surrounding areas that attract many agritourism visitors due to these regions being the easiest to access. Across the five categories: visitors to farms, visitors to farm gates, visitors to food markets, visitors to breweries and distilleries, and visitors to wineries in 2015-2016 the region that attracts the most agritourists annually is the Margaret River Region. However, other "notable results include NSW North Coast being the region with the most farm and farm gate visits." "The increasing interest of consumers to know the provenance of their food is leading to a strong growth in agritourism in regional areas. Recent growth indicates that it has the potential to contribute significantly to sustained regional economic growth for some areas outside of Australia's major cities, and outside of traditional tourist destinations.... Food tourism also provides a draw card from which other regional tourism businesses and experiences can benefit" (<https://www2.deloitte.com/au/en/pages/consumer-industrial-products/articles/agritourism.html>).

5.0 Policy Context

5.1 Planning

5.1.1 North Coast Regional Plan 2036

The North Coast Regional Plan sets out broad ideas for the North Coast of NSW from Port Macquarie to the Tweed border. Under Direction 8: Promote the growth of tourism, "the NSW Government recognises that tourism can both benefit and increase pressure on the environment and smaller communities. Tweed Heads, Ballina, Byron Bay, Coffs Harbour and Port Macquarie are prime tourism development areas, with conference and function centres, access to public transport and large-scale accommodation venues.... Event, dining and accommodation options in rural areas should only be considered where they complement and are consistent with prime agricultural pursuits." "Roadside stalls selling fresh produce, paddock-to-plate cafes and a mix of rural experiences add to the appeal of travelling across the North Coast."

Under Direction 11: Protect and enhance productive agricultural lands, "Encouraging greater diversity in the agricultural sector – for example, through agritourism and the processing and packaging of produce and associated retail services – can make the sector more sustainable. Boutique commercial, tourist and recreation activities that do not conflict with primary production offer similar opportunities."

The Farm planning proposal sits under this Plan with its activities.

5.1.2 Byron Shire Local Environment Plan 2014

According to the Byron LEP 2014 the subject site is located within the Statutory Zone under the provisions of the Byron Shire Local Environmental Plan (BLEP) 2014 being mainly RU1 Primary Production.

5.1.3 Byron Shire Council Development Control Plans (DCP) 2014

The relevant DCPS are Part B: Chapter B12 Social Impact Assessment and Part B: Chapter B6 Buffers and Minimising Land Use Conflict.

5.1.4 Byron Shire draft Community Strategic Plan 2011/12-2020/21 and Community Strategic Plan 2022

In the draft discussion paper it was noted "Managing the impact on tourism on infrastructure and amenity is a major issue for Byron Shire. The relatively small rate base of approximately 14,425 rateable assessments must provide and maintain infrastructure used by residents and more than 1.2 million visitors annually. It is estimated that non-residents account for approximately 28% of the impact on infrastructure annually." (p.20). The Draft Plan considers the long-term aims and goals and four-yearly strategies under five Council themes, one of which is economy.

Under Economy the relevant community concerns and priorities are: "Effective tourism management: No blanket approach for Shire, Encourage sustainable tourism, niche market in environmental and educational tourism, and respect for residents.

The Farm fits this description as they provide sustainable environmental and educational tourism, bringing residents along with them. The 2022 Plan commented that "Sustainable agriculture is also a prominent industry with a range of value-adding produce." (p.21) and further, "The community values the strong arts and

cultural sector and local produce/food producing potential/variety of available food." (p.23).

5.1.5 Byron Bay and Suffolk Park Settlement Strategy 2002

The Strategy notes that Byron Shire is connected to southeast Queensland both economically and socially. This can be looked at in terms of:

Opportunities:

- Employment
- Economics
- Services
- Entertainment
- Flow on improvements to local amenities such as supply and diversity in entertainment and restaurants

Problems:

- Uncontrolled tourism
- Strains and additional costs on infrastructure (roads, sewer)
- Environmental impact
- Diminished amenity through overcrowding
- Social displacement due to increased rent returns during holiday season

"Tourism, especially day-tripper tourism by car, is growing. The motorway connecting the Shire with south-east Queensland will significantly increase the accessibility of Byron Bay and it is assumed that increased traffic and parking demands will follow. (BSC,2002,p.30). This prescient remark has come to fruition. This tourism demand for Byron Bay has been in existence long before The Farm was even considered.

The Strategy notes that Byron Shire is a major tourist destination, featuring in State and Federal government tourism campaigns and corporate advertising. Regional tourism, especially by car, is expected to be the focus of future tourism campaigns and advertising. It was said that it is likely that the wider North Coast region will reap some flow-on economic benefits from Byron Bay being a major attraction. The impacts and costs of tourism on the infrastructure, especially, of Byron Bay are not directly recouped from the users. The survey that was undertaken at The Farm in June 2017 to identify visitation there showed that 45% of visitation was from Byron/Northern Rivers residents and just 25% were day trippers, mainly from Southeast Queensland (SEQ).

5.1.6 Draft Rural Land Discussion Paper June 2017

Byron Council's draft Rural Land Use Strategy (RLUS) was on exhibition during April and May 2016. Prior to this, workshops were held in November 2015. The revised draft RLUS is currently on exhibition until July 2017.

A Discussion Paper was designed and delivered in May 2015 to better understand what the community values about rural land and what issues they thought were important under four themes: Our natural environment, our rural economy, our communities, supporting infrastructure. Council asked respondents to rank their priorities from 1 to 5 with 1 being the highest from the themes being discussed. "Our farmlands" was ranked in the top four priorities.

Under the heading Our Natural Environment one of the strengths identified was:

- Farmer and land managers are undertaking a variety of actions such as riparian reinstatement to help address biodiversity decline and are using methods that

also increase economic sustainability of agricultural pursuits such as water conservation.

Under the heading Our Rural Economy Council heard,

- “Embrace sustainable agriculture; protect our farming land and market place advantage as a leader in local food production, security and consumption.”
- “Enable our farmers to adapt and refresh their businesses quickly to meet demand or changing circumstances.”
- “Provide a diversity of quality tourist and visitor opportunities that are consistent and compatible with our farms, rural communities and natural environment and provide an alternative to what is available in other coastal towns.”

Relevant Strengths identified include:

- Farmers that embrace sustainable land management practices and agriculture rely on an intrinsic relationship with the natural environment.
- Farmers that seek to adapt and diversity their use of land and type of produce; using smaller land parcels, farm-share, horticulture, organic, free range animal husbandry, exotic livestock for example alpaca and buffalo, and bush foods like honey and finger limes.
- Farmers that endeavor to increase their share of the profit by:
 - Value adding with on farm processing
 - Linking with local food outlets – paddock to plate
 - Linking with rural tourism (agri-tourism) such as farm working holidays, farm visits, farm stays, farm gate sales as well as demonstration and education facilities about growing, processing and supplying produce
- Using natural attractions and the landscape as key drivers for ecotourism, sightseeing and outdoor recreation including bush walking, kayaking, cycling, swimming holes and camping.

Relevant Issues raised by the community:

- High farmland prices are contributing to a loss of farms with some farmers cashing in and new farming entrants finding it difficult to be economically sustainable, resulting in farmers looking at different tenure and access approaches including farm share and farm collectives.
- Agricultural based industries range from grazing to broad-acre orchard down to niche horticulture; all have different needs and requirements, including land versatility, lot sizes, production and output techniques. All require diverse planning provisions relating to zoning, land use definitions and buffers.
- Mixed opinions on fragmentation of agricultural land – should the subdivision minimum size be increased or decreased to improve the viability of commercial agriculture and maintain farm valuations?

Under the heading Our Rural Communities, Issues raised by the community:

- The uncertainty as to the future character of Ewingsdale: Will it remain a rural village with a hall, church and farms or develop into a more urban environment?

Council is currently re-exhibiting the draft RLUS for a number of reasons one of which is relevant here: Council wants to hear the community's thoughts on their proposed Action Plan and what the rural land use priorities should be. Some of the important actions relate to matters such as: agriculture and agribusiness, aiming to promote rural enterprise and innovation. The Policy Direction Paper for the draft RLUS reiterates what Council has heard with regard to the theme, Our Rural Economy:

- Embrace sustainable agriculture; protect our farming land and market place advantage as a leader in local food production, security and consumption
- Provide a diversity of quality tourist and visitor opportunities that are consistent and compatible with our farms, rural communities and natural environment and provide an alternative to what is available in other coastal towns.

The paper's background says that "Local agricultural production is important for community self reliance and security. Beyond the food, fibre and other products it directly provides, many of our commercial farming activities generate jobs and income for farmers and the wider community. This can include value-adding activities such as food processing, farm stays, country markets and food festivals. Our agricultural industries also contribute to the special character of the Shire while creating opportunities to deliver improved biodiversity and catchment health. Indeed agriculture with related value added products makes a substantial contribution to the Shire's economic, social and environmental wellbeing.... If the community wants to maintain the benefits of local farming for our growing population, it is necessary to protect our high quality agriculture land and related industries. It can also include encouraging ecologically sustainable farming practices and allowing our farmers to diversity by integrating agriculture with other industries in the Shire such as tourism, knowledge (eg university research) and value adding activities. This will in turn help create an environment that allows agricultural production and associated activities to be pursued with greater security and less potential for conflict with non-agricultural land uses."

Under 3.4 Policy Directions:

- 5) The planning framework will provide flexibility for our farmers to diversity their income sources where ancillary to farming operations.
- 6) Future rural tourist development will build on and complement our agricultural industry, reinforcing the predominant use of the rural area for agricultural production while maintaining the rural character and take into consideration increased road traffic impacts
- 7) Future rural tourist development will be located and designed to avoid adverse visual or noise impacts
- 8) The planning framework will encourage rural based tourism that is committed to the use of ecologically sustainable management practices

5.2 Tourism Studies/Plans

5.2.1 Byron Shire

Since the early 1980s, when Byron Shire embraced tourism as its economic necessity, there have been a range of tourism studies and plans. In the beginning, it was about encouraging people to come visit. Latterly, It has been about encouraging the right kind of visitor through the appropriate tourism product, all the while trying to keep Byron's difference.

5.2.1.1 Keeping Byron Unique 1985

The first study into tourism in the Shire was Keeping Byron Unique, A Tourism Strategy. The study was conducted "in the framework of Council's existing policy of encouraging tourism development which is "natural, low rise, family oriented, low key and in harmony with the natural environment. As the basic objective of tourism is to benefit the local economy, the strategy, which has been developed, seeks to maintain and enhance the quality of the tourism product offered to visitors. The competitiveness of the industry is such that it is imperative that the product offered be unique and of a high quality," Even in these early days this report says that Council

was represented on various tourist promotion committees both local and regional. The report recommended the establishment of a Tourism Initiatives Committee as a sub-committee of Council and said, "If tourism is to be efficiently developed as an industry in the Shire, then investment in the industry through the employment of a Tourism Projects Officer would be the most cost-effective way of doing that." (p.40). There was a recommendation to "employ a Tourism Projects Officer to promote and develop tourism in the Shire and to service the Tourist Initiatives Committee." This was done with Michael Molloy becoming Council's first Tourism Officer in the late '80s.

5.2.1.2 Byron Shire Tourism Plan Ludweig Reider & Associates 1998

The first Shire Tourism Plan was developed in 1988. At that time the main visitor groups included: "the family vacation market, the youth market from within Australia and overseas, younger couples without children and the 55+ age group. Over 65% of visitors came from South East Queensland and the Upper North Coast. Visitors came to the area in their own car, used mostly free or cheap accommodation and tended to be concentrated into the school vacation periods of the year. In summary it said, "The implementation of the proposed tourism plan for the Shire would:

- Boost tourism spending substantially, particularly in the more labour intensive areas of the industry on a year round basis
- Significantly boost small business activity and employment opportunities in the Shire provide the basis for controlling tourism development to ensure that it does not destroy the unique qualities of Byron Shire.

The Plan, for five years, says that it appears it will "generate net benefits for the Shire and the State." (p.34).

5.2.1.3 Byron Shire Council, Southern Cross University & Australian Regional Tourism Research Centre, Tourism Management Plan 2008 to 2018

The Byron Shire Tourism Management Plan (BSTMP) was developed to guide tourism in the Shire over the ten years. From 2008 to 2018. It was developed in consultation with a Byron Shire Council Steering Committee, a Regional Tourism Expert Panel, a range of stakeholder organisations representing governments, business and community interests across local, regional and state levels, and a Citizen Jury that was established to gain input and feedback from representatives of communities within the Shire. Refer to Section 4.3.7 Tourism.

5.2.2 NSW Tourism Plans

5.2.2.1 North Coast Tourism Development Strategy, 1988

At the State level the North Coast Tourism Development Strategy, 1988 identified four Prime Tourism Development Areas, one of which was Ballina-Byron Bay-Lismore. The others were Tweed, Coffs and Port Macquarie. The reason for these was that they shared the same characteristics: were already established as major holiday destination areas, have a well developed road and service infrastructure to support an increased tourist population, proximity to major airports and have a base population capable of supporting hospitality services of a high standard. The plan notes "Byron Bay is an extremely popular holiday destination area that has received wide recognition for being the easterly most point of mainland Australia, for its superb surfing beaches and for its distinctive character and lifestyle." "The plan suggests a range of considerations in further developing tourism in the town and surrounding area ..." (Exec. Summary, p.III)

5.2.2.2 Northern Rivers Tourism (NRT) Inc. Strategic Plan 2009-2011

Vision & direction for Tourism

Northern Rivers Tourism (NRT), until recently, was the regional tourism organisation and peak body for the tourism sector in the Northern Rivers region of NSW. The NRT covered seven local governments and Shires: Ballina, Byron, Tweed, Clarence Valley, Richmond Valley, Lismore and Kyogle. The NRT vision statement was "Tourism is integral to the culture, economy and community of the Northern Rivers." (p.13). The NRT mission statement is "the guiding principle that sustainable economic development improves or maintains the prosperity of the region without prejudicing the capacity for future generations to enjoy the environment. (Framework for a Sustainable Future for the Northern Rivers Region, 1999, as quoted in RIEP Nov 2005;as in NRT Strategic Plan, p.13).

Within the NRT Strategic Plan the NRT wishes to "Competitively differentiate the Northern Rivers based on its strengths" and then "Incorporate these strengths into an integrated plan of marketing." (p.3). In terms of the industry, destination and professional development, the NRT aims to "facilitate sustainable tourism infrastructure and experiences for the region." (p.3). "Tourism employs approximately 7,200 people in the region, or 6.8% of the region's workforce and generates approximately \$1.2 billion in revenue for the regional economy." (p.6).

6.0 Impact Assessment and Mitigation Plan

The Social Impact Assessment of the proposal provides a process for identifying and assessing future potential impacts and benefits associated with the development and operation of the proposal as outlined in Section 2. Given that The Farm has already been in existence in its current form for two years the impacts, both positive and negative, are identifiable. Although, some impacts are difficult to separate from the wider growth of Byron Bay in these two years. The baseline from which to undertake an evaluation of the impacts, either positive or negative is pre-The Farm. This can either be from pre-1995 when it operated as a small crop and flower farm with some grazing until it's closing then, or as a vacant, unused piece of land from 1995 until 2013 when the Lanes purchased it. While operating as the 'flower farm' anyone passing by was able to call in and purchase vegetables and flowers. While it was on a smaller scale than what is currently occurring, the precedent is there. The assessment has relied on research, best practice guidelines, and discussion with relevant stakeholders. Details of the consultation process are provided in **Appendix A, B and D**.

"Impact, on the other hand, is a dynamic concept, which pre-supposes a relationship of cause and effect. Impact can be measured through the evaluation of the outcomes of particular actions. Impacts... can be judged along a continuum from totally negative to totally positive - from net social cost to net social benefits. (Maughan & Bianchini. 2004. 117).

6.1 Scoping

Scoping involves identifying the issues and variables to be described or measured. It delineates the study boundaries and likely areas of impact, involving affected individuals, groups or communities in the assessment process.

The study boundary is the immediate neighbourhood, being the Ewingsdale locality, the wider community being Byron Bay and Byron Shire. The immediate neighbourhood being the Ewingsdale community includes: one immediate adjoining neighbour to the north, which is grazing land, residents of McGettigans Lane, Parkway Drive, Avocado Place, Plantation Drive, (along with the numerous roads leading off from these main roads) and Quarry Lane. The neighbour to the south is a concrete batching plant and the Byron Central Hospital. The Church and Hall are to the southwest. There is one dwelling house opposite Woodford Lane that also fronts the Pacific Motorway. The Ewingsdale Community Association is an interested group, as they represent the residents of the locality.

More widely, as The Farm is on the gateway to Byron Bay it is included as is that of the wider Shire. Given that The Farm has submitted a number of development applications and S96 amendment applications the community, both in the immediate locality and the wider community have had opportunity to raise issues.

6.1.1 Data collection methods and measurement techniques

Primary qualitative and quantitative data was collected from meetings, submissions to development applications and S96 amendment applications, a letterbox drop of 274 mailboxes in Ewingsdale, an on-site survey and attendance at Ewingsdale Progress Association meetings. Information about The Farm has been provided through bi-weekly full-page insertions in The Echo weekly newspaper and monthly newsletters. There has been feedback to The Farm from Byron Council and the community through the various development applications and S96 amendments

submitted to Council over the past three years. The social issues associated with the proposal have been identified through these processes.

Secondary quantitative data was collected from: the Australian Bureau of Statistics (ABS), Council documents, government departments, a range of academic literature from Australia and overseas, other similar type businesses and various media. The primary and secondary data used is listed in section 8.0 Reference List. As a form of information/consultation a survey was developed and distributed over one week in June 2017. The survey is attached as **Appendix B**.

6.2 Consultation

Following Council's resolution to invite the applicant to submit a Planning Proposal, regular and ongoing consultation has been undertaken with Council staff.

The site has been used for farm uses for many years, and as The Farm for the past two years. As The Farm it has been the subject of a number of development applications (including a successful one to enable The Farm to operate on-site) and S96 amendment applications. Given this, identification of potential positive and negative issues relating to the proposal can be made. These have come through submissions made by adjoining residents and the wider Shire/regional community, government agencies and community organisations to the original DA, subsequent development applications and attendance at Ewingsdale Community Association meetings. The opportunity has been available to make comments/raise concerns regarding impacts. No specific consultation took place with adjoining residents for the purposes of this SIA. The Farm representatives have been in regular attendance at the Ewingsdale Community Association meetings. The Farm letterboxed 274 households in Ewingsdale in February 2017 asking them what they think of The Farm and provided a free voucher to come and take a Farm tour. There were just two responses to the letterbox drop: one person liked The Farm, the other said they'd had a bad meal at the restaurant.

It needs to be noted that at the time of liaising with the adjoining community there was no specific proposal as there is now as per this Planning Proposal. A number of the concerns raised at the time have now been rectified.

6.2.1 Survey

A survey was undertaken at The Farm during the week of June 4 -10 2017 from 7am until 4pm. On the evenings that the Three Blue Ducks restaurant was open the survey shifts ended at 7pm. A total of 676 surveys were completed in that week. The survey was undertaken so as to identify a range of data with relation to who is visiting The Farm. The survey is included in **Appendix B**. The results of the survey showed that of those visiting The Farm that week:

- Locals 45% (Byron residents 32% other Northern Rivers 13%)
- Tourists staying in Byron and Northern Rivers – 30%
- Daytrippers (mainly SEQ) – 25%

Further results are provided in the RPS economic assessment report appended in the overall planning proposal report.

6.2.2 Identification and measurement of likely impacts

Generally, issues/impacts of concern that arose for people in the immediate neighbourhood in the course of various development proposals for this site included:

Immediate Neighbourhood:

- Negative impact on adjoining farming
- Night-time sound from the restaurant or events
- Daytime sound from visitors on fence lines adjoining farms
- Traffic management and parking
- Aggravation of Ewingsdale Interchange
- Size of restaurant
- Number of patrons on site
- Scale of business/number of people
- Site contamination
- Effluent management
- Loss of privacy
- Amenity
- Precedent setting
- Hours of operation
- Possibility of events held on site
- Sale of products not produced on The Farm

Since these concerns were raised, most of them have been dealt with: sewerage capability, sound, bitumen sealing of the car park, size of the car park, traffic management and parking. Just eleven submissions were received to the most recent development application. These were from the immediate adjoining neighbours and the Ewingsdale Community Association.

Impacts of concern raised from other relevant applications for the site that are not from adjoining residents:

- NSW Roads and Maritime Services (RMS) regarding future road widening of Ewingsdale Road
- RMS regarding widening of the roundabout located at the Byron Central Hospital entrance

Concurrently positive comments/ impacts of concern raised at this time included:

- The idea of teaching children to grow food is important
- Organic food growing, paddock to plate is what Byron Shire wants to encourage
- It is a beautiful entryway to Byron Bay, a contrast to what is opposite

Generally, positive impacts of farm/food tourism are that it can contribute to economic diversification and profitability by increasing employment, retaining farmland in farm use, educating the general public about farm activities, increasing economic equity between urban and rural populations. Farm tourism activities can help people be more aware of their environment, where food comes from and to perceive new job and business opportunities, and improve quality of life. Possible positive social impacts of farm tourism can be:

- Increased awareness of farm activities
- Increased awareness of where food comes from
- Creation of employment
- Increased expenditures
- Increased health through better food consumption
- Creation of new type of offering for locals and visitor
- Increased awareness of the value of farm/food tourism
- Strengthening of local and regional values and traditions
- Increased diversity of employment

- Development of skills among workers
- Maintain land in rural amenity
- Eases pressure on land for subdivision

The Farm has had to live with a number of perceptions/fears about its operations. Many of the negative perceptions of The Farm are as a result of its rapid growth. These include:

- The Farm is one big business owned by Tom and Emma Lane
- That The Farm is piecemeal development without an overall plan
- It is what is not being said to the community as opposed to what is being said – that there are two stories of The Farm
- That the bakery is retailing their products
- That it's too corporate
- They say one thing and do another
- Is pretentious calling itself The Farm when there have always been farms in Byron Shire
- Lacks authenticity – is a tourist attraction and not a working farm
- Is using the Byron Bay name
- Is directed at people that are not from here but from the city
- Is inaccessible to locals, not fitting into local culture, too expensive
- The land is poisoned from its previous use as a flower farm

Existing Farm Activities

The ethos of The Farm is to *Grow, Feed, Educate, Give Back*. The Farm team is dedicated to creating an environment that nourishes the community, being the Byron Shire community. It began with a small team of people concerned about the future of food security, sustainability and organic farming practices. The team included growers, bakers, restaurateurs and florists. They collectively share the same values as the landowners and support their vision to build a working farm accessible to the community.

The Farm Philosophy

- Grow your food, your people and your community
- Feed and nourish your physical self, your soul and the land on which you live
- Educate yourself, your family and your community so that we can all actively participate as sustainable food growers, producers and consumers

The intention of The Farm was to build a farm for 'the people'. They invite people to wander around, take in their surroundings and reflect on the concept of wellness – wellness of the land, the body, the mind and the community. They encourage people to explore the property and its various food and flower pots, meet the animals, talk to the farmers and get inspired by watching a working farm in progress. This is occurring as people in the community visit The Farm for this reason as do workers at the adjacent hospital.

The Farm's mission is to play a crucial role in improving health and wellness from the ground up. This encompasses the condition of their land, what they grow in it, the foods people consume from it and ultimately people then become from achieving their goals. In the process they hope to create a ripple effect, which can then transform the wellness of individuals and the greater community.

Some Farm Facts as of April 2017

- 4,500 native trees have been planted to regenerate the Simpsons Creek waterway with the assistance of Brunswick Valley Landcare, North Coast Local

Land Services, the Green Army, Mullumbimby Creek Native and Burringbar Rainforest Nurseries

- 72 tonnes of kitchen scraps from Three Blue Ducks restaurant has been composted onsite annually
- 1,000 students have attended 'School Tours' at The Farm and more than 900 children have participated in Farm Kids workshops
- All of the animals are pasture raised.
- The Farm is 100% chemical free. The Growers' Collective follows organic farming principles.
- Collectively, The Farm and the small businesses it is home to, have created more than 120 local jobs.
- The Farm has provided the space, equipment and seedlings for four small local Market Garden businesses
- The Farm has donated a half acre of land for Liberation Larder to grow fresh produce to feed those in need in the local community.
- Grow is about growing food for the community and increasing awareness about sustainability and wellbeing. 100% of the produce grown in the Market Garden by the Growers' Collective goes into Three Blue Ducks kitchen and Produce Store and to The Bread Social.
- Visitors can see the paddock to plate philosophy in action
- Feed is about feeding the animals, the Market Garden crops and the land in order to nourish people. Organic farming principles are paramount and a particular focus is on regenerating depleted sections of farmland with native plantings.
- Educate is about providing an accessible environment for the community of all ages to come together and learn new skills and share knowledge. A fundamental part of this is inviting industry leaders onsite to build partnerships whilst promoting sustainable, ethical and organic farming practices. Children are also a focus through the Farm Kids program.

6.3 Mitigation Measures

From the comments received in relation to previous applications, it appears that it is the size, number and type of activities to be held on site that is of most concern.

6.3.1 Identification and measurement of likely impacts

Impact Assessment and Mitigation Measures

The following series of tables provides an analysis of the potential/experienced and perceived impacts of the proposal on the surrounding community. It uses the framework set out in Council's Development Control Plan (DCP) 21 Social Impact Assessment (even though this is not a requirement here). Against each issue the potential impacts for existing residents within the immediate neighbourhood (Ewingsdale), local (Byron Bay) and Byron Shire will be considered and strategies or mitigating measures proposed if appropriate, to address any impacts identified. There are going to be impacts associated with the land operating as The Farm rather than as a vacant piece of land or farming only. However, it is highly unlikely, as well as unrealistic to think that the land would remain unused. It needs to be noted that many of the recommended mitigation measures here have already been implemented for the existing Farm uses that operate on site.

Specific Impacts to be examined & addressed		
1. Local Amenity Change Background Information Issues relating to the cohesion of the proposed development and its surrounds are to be considered to determine the impacts and benefits of the proposed development. These include: <ul style="list-style-type: none"> • Consistency with surrounding development in terms of land use, scale and built form; • Suitability of the site for the proposed development and; • Suitability of the proposal in terms of the character of the surrounding locality. The surrounding area is a mix of rural residential, commercial, community use, farming, and coastal wetlands. The proposal is located immediately adjacent to the Pacific Highway and the new Byron Central Hospital. The impact on the two adjoining farming families is in terms of privacy, amenity, traffic generation, sound, and increased numbers of people/pedestrians in the general vicinity. The education component of The Farm takes people on a tour of the property to show people how farming is done. Capacity and operating hours are a potential point of difference and can affect the overall impact of the proposal on the locality. It comes down to management. Ewingsdale Road is not a quiet road and has not been for a long time. With the hospital located there as of April 2016 there are bright lights, vehicle movements and ambulance noise day and night. In their 1992 book, Barr and Cary insightfully described Australian agriculture as a 200 year search for sustainable land use. In other words, confronting the realities of land and water degradation caused by agriculture has, at times, been a powerful stimulant to change. (Lockie. 2015. P. 5). As many as 75 per cent of Australian farm businesses do not generate sufficient returns to meet both personal needs and business growth. In considering the future of agriculture, this raises at least two questions: First, will social and economic stressors undermine the human capital base of Australian agriculture and, ultimately, its productivity and viability? Second, will these stressors undermine the social license of agriculture or the legitimacy of agricultural policy? The agricultural and rural sectors face a number of inter-related social and economic stressors including depopulation of rural areas, declining participation in agricultural education, low levels of entry into farming as an occupation (particularly by young women), low incomes and poor rates of return for the majority of farm businesses, and comparatively poor health outcomes for farmers and other rural residents including mental health and suicide. The Farm fits within the various policies and plans that relate to this proposal: <ul style="list-style-type: none"> • Far North Coast Regional Strategy 2014 • North Coast Regional Plan 2036 • BLEP 14 • Byron Shire Council Community Strategic Plan 2011/12-2020/21 • Byron Shire Council Agricultural Strategy 2004 		
Specific impact	Impact Description	Proposed Mitigation/Enhancements
1.1 Location of proposal Is it suitable? – in terms of type and intensity of use, character of area	<p>The location of the site is considered to meet the needs in terms of proximity to surrounding activities and infrastructure that are relevant to this use. It is not out of character as Ewingsdale has undergone significant change in the past decade with the increase in housing, the building of the Byron Central Hospital and increased traffic.</p> <p>Byron Bay – having a facility such as this situated outside of Byron Bay is positive as it alleviates the pressure on the town in terms of traffic. It disperses traffic from that point with patrons using it as stopping off point from the Pacific Highway.</p> <p>Byron Shire – having organic farming situated at this location is</p>	<p>Traffic/Parking Management Plan.</p> <p>Design and location of permanent buildings on site not to interfere with visual impacts on adjoining residential properties and the Ewingsdale area generally.</p> <p>Regular, proactive communication between management and immediate neighbourhood.</p>

Specific impact	Impact Description	Proposed Mitigation/Enhancements
1.2 Impacts on surrounding residents, businesses & community use Perceived negative Impact on quality of life of some adjoining residents on Woodford Lane and Quarry Lane	<p>positive as it is at the gateway to the major town in the Shire and showcases why the shire is different to other places.</p> <p>Increased numbers of people on site. Both real and perceived feeling of immediate adjoining neighbours of not having privacy.</p> <p>Loss of privacy & impact of visitors walking along the adjoining fence line has affected adjoining landowners' quality of life- they say they live in a quiet, rural environment.</p> <p>The Old Pacific Highway was directly adjacent to The Farm and adjoining property on Woodford Lane until the main highway upgrade in 2004. Amenity and access has improved with the new highway due to proximity of highway noise and traffic.</p>	<p>Code of respectful conduct set out clearly for management & users of the site- to include a set of protocols to respond to complaints by immediate neighbourhood.</p> <p>Written protocol of complaint making between site management & adjoining properties, eg Management staff made available to adjoining properties. This includes phone numbers to call.</p> <p>Regular liaison with residents of Woodford Lane, Quarry Lane immediate neighbours and Ewingsdale residents generally.</p> <p>Design and location of permanent buildings and parking facilities on site so as not to interfere with visual amenity of immediate and general neighbourhood.</p> <p>Continued maintenance of environmental restoration, eg Simpson's Creek as well as planting of fence lines for privacy with adjoining owners.</p> <p>As The Farm does not use any chemicals and the adjoining farms do use chemicals it is in the interests of all landowners to keep the lines of communication open so as to enable each to farm in their respective styles.</p> <p>Products available in the produce store to be locally grown and/or made.</p>
1.3 Impact on adjoining farmland	In written submissions the two adjoining owners, who are intergenerational farmers wrote that there was a negative impact on their farming, which is cattle grazing and macadamia orchards. It is not specifically stated what that impact is besides privacy.	
1.4 Sale of products not produced on site	The sale of products introduces a retail element to The Farm. The impact of this is difficult to separate from the allowable use of the restaurant and the produce store both of which have development approval as well as historical use.	
1.5 Farm Noise	<p>In written submissions the two adjoining owners made mention of on-farm sound, eg from the restaurant at night or events, daytime sound from visitors on fence lines adjoining farms.</p> <p>This is not really an issue since the hospital opened up next to the concrete batching plant in conjunction with the Ewingsdale Road traffic noise.</p> <p>The land is zoned rural with farming allowable as well as the restaurant use.</p>	<p>Management of any restaurant noise during evening opening hours needs to be monitored.</p> <p>Code of respectful conduct set out clearly for management & users of the site- to include a set of protocols to respond to complaints by immediate neighbours.</p>
1.6 There is a perception that The Farm is a tourist attraction and not a working farm. It lacks authenticity	It is thought by some that The Farm is not a 'real' farm or that it is 'farmworld' and a front for the restaurant side of it. There is distrust from the neighbours.	<p>Regular liaison with residents of Woodford Lane, Quarry Lane immediate neighbours and Ewingsdale residents and the wider community generally through newsletters, media and attendance at Ewingsdale Community Association meetings.</p> <p>Having an open invitation for residents to see for themselves</p>

Specific impact	Impact Description	Proposed Mitigation/Enhancements
2.0 Traffic/Parking		
<p>Background Information</p> <p>The bitumen sealing of the car park became an issue due to dust from the unsealed car park. The car park was bitumen sealed in 2016, alleviating this issue. Byron Shire Council's concerns regarding traffic generation are in the context of anticipated future road infrastructure upgrades, not the current uses on site at The Farm. It is not just The Farm that is generating traffic into Byron, as Council itself acknowledges. The opening of the Byron Central Hospital is generating substantial traffic in that vicinity since opening in 2016. There is acknowledgment that the roundabout built at the hospital entrance is not adequate, therefore creating traffic congestion. Cars parking on the Ewingsdale Road, rather than on site became an issue. The June 2017 survey showed that over half of people visiting The Farm were stopping off on their way to somewhere else. They came from north and south as well as the hinterland and did not drive into Byron Bay. The traffic peak of The Farm is during midday – so it doesn't coincide with the weekday AM and PM traffic peaks on the main road. This was shown in the survey. There are good and bad times for locals to come: 7:30 to 9:30 is a good time. Council staff have had discussions with NSW Roads & Maritime Services' (RMS) representatives regarding significant traffic issues associated with the roundabout to the east of the Pacific Motorway. It is acknowledged that traffic from The Farm is not the key cause of existing traffic queuing issues at this roundabout, but is a contributor. RMS staff are investigating the issues associated with traffic queuing at this roundabout, but it will be some time before there is any resolution regarding future remedial actions.</p>		
Specific Impact	Impact Description	Proposed Mitigation/Enhancements
2.1 Traffic Generation in the context of anticipated road infrastructure upgrades	Ewingsdale - Increased traffic congestion Byron Bay – increased traffic into the town	The Farm continue to negotiate with Byron Council regarding any future Ewingsdale Road upgrades to mitigate the negative impacts on The Farm.
2.2 More activity and visitor numbers increases cars, which leads to more traffic and car parking congestion	Ewingsdale - Increased traffic congestion Byron Bay – increased traffic into the town	On site management of car parking to alleviate any congestion. “No Stopping” signs installed on Ewingsdale Road appear to have addressed parking issues.
2.3 Residents accessing home, work and leisure	Ewingsdale- Adjoining residents accessing home, work and leisure get caught up in traffic congestion	Management practices to ensure adjoining residents are not disadvantaged accessing in and out of the site.
2.4 Aggravation of Ewingsdale interchange	There is confusion where to go when people turn off the Pacific Highway at the Byron Bay turnoff	The Farm to continue to work with Byron Shire Council and the RMS regarding the Ewingsdale interchange
3.0 Effluent/Waste Water Management		
<p>Background Information</p> <p>There have been issues with the operation of the wastewater treatment system.</p>		
Specific Impact	Impact Description	Proposed Mitigation/Enhancements
3.1 On-site effluent system was inadequate	Submissions suggested that the site is not capable of managing its on-site effluent and that there were effluent leakages to adjoining properties	The problems have been alleviated through on-site system adjustments for the uses currently on-site. Continuing monitoring and management of on-site effluent system. Continuing liaison with Rous County Council.
4.0 Concern at loss of agriculture		
<p>Background Information</p> <p>Concerns were raised that there would be a negative impact on farming on the site. This has not eventuated. There is more farming on site now than in the past. This farming is shared amongst young people wanting to be farming through allocation of land for them, with the first twelve months free rent. As the June 2017 survey indicated many families visit The Farm specifically because it is a farm and children love seeing the animals and plants. It is free to visit. Given that Byron Shire Council has a significant low-income population and high unemployment level this offers the opportunity for people to come and grow food to take</p>		

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home, be amongst agriculture, play equipment and enjoy a park –like environment for free. It is enhancing farm awareness and the growing of food. It is farming to support eating local; all of the produce grown on-site goes to the restaurant, has no food kilometres, is hand delivered. There is:			
<ul style="list-style-type: none">• Increased awareness of the value of farming• Increased awareness of farm activities• Increased awareness of where food comes from			
Specific Impact	Impact Description	Proposed Mitigation/Enhancements	
4.1 Concern that opening RU1 land to retail could pave the way for large retail companies to exist on this land in the future.	The precedent exists for the selling of farm produce and flowers as the farm that operated until 1995 retailed produce and flowers to anyone passing by, but it was on a different scale to The Farm.	The commercial activity will be restricted to a very small part of the site in accordance with the Planning Proposal.	
4.2 There is a perception that the bakery is retailing their products.	There are many local products for sale at The Farm through the Three Blue Ducks restaurant, not the bakery.	Only local products are sold at The Farm through the existing produce store.	
4.3 Clause 6.8 BLEP 2014 Rural Tourism Development sets out the scale of tourism in rural zones.	This clause came into effect after the approval for the restaurant, etc. The Planning Proposal seeks to address the issue of 'scale'. The location of The Farm and its context distinguishes it from other locations.	Ensure that farming of the land always takes precedence in decision-making and is the primary function of the land. Continue to liaise with both the local and wider community through newsletters and other media regarding the benefits of organic farming and building awareness of where food comes from.	
5.0 Site contamination			
Background Information Prior to The Farm operating the site has previously been a working farm using conventional farm methodologies, which involved the use of chemicals for plants and animals. There was a dip site for cattle. Concerns were raised that the contamination of specific areas was still there as well as generally on the property.			
Specific Impact	Impact Description	Proposed Mitigation/Enhancements	
5.1 Chemical storage where old dairy bails are, dip site under children's playground	Submissions expressed concern that these areas are poisoned. The areas have been tested and cleared of contamination.	The Farm to regularly test the relevant areas for any contamination or poison residue .	
5.2 There is a perceived impact that the land is poisoned from its previous use as a flower farm	As the site had been used for conventional agriculture, specifically the growing of small crops and flowers, heavy chemicals were used. The Farm does not use any chemicals and are using best practice organic methodologies.	The Farm continues to use best practice organic growing with no chemicals. The Farm to regularly test the relevant areas for any contamination or poison residue.	
6.0 Size of Restaurant			
Background Information The Three Blue Ducks restaurant began operation on the site in 2015. Of the people visiting The Farm one third are restaurant patrons. The restaurant has approval for 90 persons and 60 car parks. When they first opened there were some Farm events, eg weddings that concerned local residents. Their hours of operation are: Breakfast: Monday to Friday from 7am for coffee/pastries, full menu 8am-11:45am Saturday/Sunday, from 7am coffee/pastries, full menu from 7:30am-11:45 am for full breakfast, Lunch: Seven days/week 12-3pm for lunch, Dinner: three evenings/week Friday to Sunday from 5pm-10pm			
Specific Impact	Impact Description	Proposed Mitigation/Enhancements	
6.1 Scale of restaurant	That the restaurant is too big in terms of the number of	The floor area of the restaurant is capable of	

	patrons on site and plans to get bigger. Night time hours impact on adjoining owners due to noise/light. There is an expressed fear by some local residents of the possibility of events held on site and some events did impact on adjoining owners when The Farm first opened. Best practice waste management is used including composting and re-use so that as little as possible ends up as waste from the restaurant and is taken care of on-site.	accommodating more than 90 patrons. The restriction on patron numbers is related to the wastewater system. The Farm will continue to minimise any negative impacts regarding noise and additional traffic generation.
6.2 Waste Management not adequate for the size of the restaurant		Continual monitoring of waste management. Continual exploration of best practice waste management. Continual working with local businesses to manage waste.
7.0 Economic/Employment		
<p>Background Information</p> <p>Issues include employment, short and long term, permanent, casual, Full Time Equivalent (FTE), Part Time Equivalent (PTE). Over the past two decades tourism has become the biggest employer in Byron Bay. "Byron Shire's economy is now dominated by tourism with Byron Bay accounting for more than 55% of the Shire's \$1.37 billion gross business revenue. There are approximately 3,700 businesses in the shire of which 60% are sole traders... About 45% of these businesses are located in the Byron Bay precinct with the balance evenly distributed throughout the shire. Income generated by businesses in the Byron Bay precinct represents 55% of the total. (BSC.2009,p.51). Statistics show that Byron Bay has a significantly higher proportion of part-time workers (42%) compared with NSW (22.2%) and Australia (28%). This is typical of employment in the tourism industry. New types of employment, eg food/farm tourism, will add to the economy and boost confidence in the sector. Extreme weather events over the summers between 2010/2011, 2011/2012 and 2012/2013 impacted on tourism visitation numbers although this has not been quantified. "Advancing technologies and changing weather patterns (i.e. increase in droughts and floods/storms) have brought about the need for diversification of industry in areas previously reliant on traditional industries such as farming, or narrowly focused tourism industries." (Irshad.2011,p.2). There is a perception that The Farm is one big, corporate business owned by the Lanes. While not a planning issue if the community expresses their concerns then it is required to be explored. The Farm is actually the overall name but there are seven, separately, independently owned, micro-businesses that operate under the umbrella of the name. The Farm has a social enterprise model built into it through its employment practices and business development.</p>		
Specific Impact	Impact Description	Proposed Mitigation/Enhancements
7.1 Local & Regional Areas -Potential positive impact on the local economy by stimulating additional demand for goods and services	Increased expenditure within the local community. Creation of employment provides people with more income that is then circulated within the local economy. Creation of new, small food-related businesses.	Maintain a policy of buying local goods first and foremost. Maintain a policy of employing local people first and foremost in permanent employment. Continue to foster the growth of local small, food growing and value adding businesses.
7.2 Impacts on employment – short, long term	The businesses employ a range and number of employees in mainly permanent work that includes FTE and PTE. Development of skills among workers. Businesses within the umbrella of The Farm eg such as The Bread Social employ people from disadvantaged situations, and mentor them in their employment. Creation of employment in the agricultural sector.	Ensure that permanent full-time and part-time employment is maintained rather than a casualised workforce. Encouragement of micro-businesses using assisted employment programs for their employees.
7.3 Catalyst for other development-eg new growers, new value-added businesses	Increased diversity of employment & business development. Employment in farm activity and farm related activity.	Continue the practice of offering free rent for the first twelve months for new growers and community organisations.
7.4 Potential for volunteer work that	Opportunity for volunteers, eg SHIFT program engages	Continue to encourage and embrace volunteers for all

can lead to employment	with The Farm assisting unemployed and disadvantaged women to gain skills that can lead to employment.	facets of the overall Farm and each of the businesses within it.
8.0 Public Realm Background information Will the development significantly affect or add to the cultural identity of Byron Bay? Does the proposal further embellish the view that Byron Bay/Shire is a tourism town or a Shire of agricultural production? The Farm is providing a much-desired activity as evidenced by its immediate success. This shows that there was a need for a place that combined Byron Shire's love of growing and eating food with a venue to demonstrate this. Byron Shire has always had an agricultural economy. Byron Bay has a history of primary industry activity that only ceased in 1983. The Farm is providing a much-needed park/centre, meeting place for the Ewingsdale community, as well as the wider community. The Farm continues the tradition of Byron Bay being a town of giving. "The early townsfolk of Byron Bay were quite civic-minded and they believed in a policy of self-help." (Time and Tide, 2001, p.48.)		
Specific Impact	Impact Description	Proposed Mitigation/Enhancements
8.1 Impacts on Cultural Identity for Byron Bay.	The Farm has increased a certain type of visitation to Byron Shire. People are drawn to The Farm because it is a 'farm', albeit with a difference.	Ensure The Farm does not become a tourist attraction over being a legitimate farming enterprise.
8.2 Farming generally is a visible, accessible activity.	Increased awareness of farm activities by residents and visitors of all ages.	Continue to encourage farm visitation by schools, and local residents to see how farming is done and to participate in it.
8.3 Food growing is a visible, accessible activity.	Increased awareness of where food comes from Increased health through better food consumption.	Continue to encourage farm visitation by schools, and local residents to see how farming is done and to participate in it.
8.4 Is using the Byron Bay name Is directed at people that are not from here but from the city. Is inaccessible to locals, not fitting into local culture, too expensive.	Is pretentious calling itself The Farm when there have always been farms in Byron Shire. Strengthening of regional values and traditions.	The Farm to acknowledge Byron's rich history of farming. Continue to encourage farm visitation by schools, and local residents to see how farming is done and to participate in it. Provide locals' benefits at The Farm.
8.5 Philanthropic activity assists local community organisations	Philanthropy is a positive social impact which will be increased if the proposal is allowed to continue as is currently operating.	Maintain the current model of philanthropy that sees The Farm donating 17% of its net profit. Continue philanthropy of each operating micro-businesses.

Prediction of impacts involves the use of the baseline data to determine the likely impacts of the proposal. It asks the following:

Who will potentially be affected?

- Adjoining landowners
- Ewingsdale residents
- Byron Bay residents
- Byron LGA residents generally
- Visitors to Byron Shire/Bay

In what way will they be affected?

Adjoining landowners will experience:

- Activities other than farming will take place on the land
- Potential change to local amenity
- No chemical spray activity on site

Ewingsdale residents will experience:

- Access to a 'corner store' type facility
- Potential change to local amenity
- Gain a local community meeting place within walking distance
- Gain a 'town centre'
- No chemical spray activity on site
- Don't have to drive into Byron Bay for food, produce, coffee

Byron Bay residents generally will experience:

- Potentially less people driving into Byron Bay
- Accessibility of locally grown organic produce outside of market days
- Increased employment opportunities
- Access to a 'farm' experience for families
- Potentially more visitors

Byron LGA residents generally will experience:

- Access to a café/corner store without driving into Byron Bay
- Increased employment opportunities
- Accessibility of locally grown organic produce outside of market days
- School children having access to a working farm
- Potentially less/more people driving into Byron Bay

Visitors to Byron Shire/Bay generally will experience:

- Not having to drive into Byron Bay
- Access to locally grown organic produce
- Awareness of locally Byron made food and other products
- School children having access to a working farm
- Free, easily accessible parking
- Having a stopping off point on the Pacific Highway that is different to most others

What level of social change will occur?

Adjoining Owners:

- is a recognition that farming on The Farm is not the only use

Ewingsdale residents:

- there is a recognition of need and provision of a town centre for their growing community & The Farm fulfils this role
- there is the gain of a community venue/meeting place
- they don't have to drive into Byron Bay, the industrial estate or Bangalow for foodstuff
- The Farm corner is not just a working farm

Byron Bay residents:

- there is a recognition that the Ewingsdale Road and entrance to Byron Bay is not just open farms on both sides anymore.
- there are increased job opportunities
- there is recognition that Byron Shire has a viable agricultural component to its economy

Byron LGA residents:

- there is a recognition that the Ewingsdale Road and entrance to Byron Bay is not just open farms on both sides anymore.
- there is the slowing down of the Ewingsdale Road
- there are increased job opportunities
- there is recognition that Byron Shire has a viable agricultural component to its economy

Visitors to Byron Shire/Bay:

- there is the slowing down of the Ewingsdale Road
- there is recognition that Byron Shire has a viable agricultural component to its economy
- they have an alternative to driving into Byron Bay

6.3.2 Summary of Mitigation Measures

Some impacts will be measured against facts and others against perception.

Summary of proposed mitigation measures to mitigate against real and perceived negative impacts of the proposed development:

Local Amenity Change

1. Plan of Management for the overall Farm
2. Regular communication between The Farm and immediate neighbourhood
3. Overall plan for permanent buildings on site
4. Continue to grow the farming side of the business

Traffic/Parking

1. Traffic management
2. Adequate parking provided on site

Effluent/Waste Water Management

1. Regular monitoring of on-site system
2. Continuing liaison with Rous County Council

Concern at loss of agriculture

1. Ensure farming is primary function of the land
2. Restrict commercial activity to the precinct identified in the Planning Proposal

Site Contamination

1. Use best practice organic growing with no chemicals

Size of Restaurant

1. Any increase subject to new application or S96 amendment
2. Monitor restaurant waste management

Economic/Employment

1. Policy of using locally/regionally sourced goods and services
2. Ensure, where possible, full-time permanent employment and/ or part-time permanent employment
3. Activities on site are in keeping with the values of the Byron Shire community
4. Encourage locals' to access The Farm through local's pricing of farm produce

Public Realm/Perception of The Farm

1. That The Farm continues to liaise with the immediate neighbourhood and the wider local community to be transparent on Farm activities.
2. Encourage local people's participation at The Farm whenever possible
3. Continue The Farm information campaign to inform the resident community of their farming activities on site
4. Develop strategies to foster cohesion and acceptance
5. Continue and grow the philanthropy on The Farm

The Farm is a one of a kind in Byron Shire and the Northern Rivers. It is the type of activity/business that the community and governments have said they wanted through consultation and various strategies. It has a social enterprise model built into it, as does Stone & Wood boutique brewery, albeit a different model.

6.3.3 Alternatives to not carrying out the development

The alternatives to not carrying out the proposed development, as applied for, are discussed. These are:

Option 1 Keep the site as approved in 2013 and 2015 or No Go

Option 2 Return the land to general farming purposes

Option 3 Develop the site as proposed

Bearing the above potential impacts and mitigating measures in mind, considerations for Council are:

Option 1

Keep the site as approved in 2013 and 2015 or the No Go option

To keep the site as approved or the No Go option are one and the same. There is a current approval (2013) for a cheese making facility and farm. In 2015 approval was given for: an agricultural training facility, plant nursery and farm produce kitchen as well as car parking. The Three Blue Ducks restaurant is open seven days/week for breakfast and lunch and three nights/week- Friday through Sunday – for dinner.

This option would impact on the ability of people to “come and have a look” at the Farm. The information and education component of the Planning Proposal is key to the concept of educating people about farming and produce.

The existing café/restaurant relies on The Bread Social Bakery 100% for its baked goods to be used within the café. This is in line with current best practice of low food miles, paddock to plate, and sustainable agriculture. There would be less need of the cheese for the Three Blue Ducks than the baked goods. People, quite often young mothers with babies and young children, come to The Farm for coffee and pastry. In the survey undertaken it showed that 24% of respondents had people under the age of 15 years in their group visiting The Farm. It is estimated that 21% of total visitors to The Farm were aged under 15 years of age. The survey responses showed that mothers come with their children (and meet other moms) because there is open space, play equipment and easy, free parking, all of which makes it attractive. They can have a coffee and pastry while children play and they socialise.

From an economic perspective there would be a large social and economic loss to the existing Bread Social as it supplies approximately forty local/regional cafes with their baked goods as well as supplying Liberation Larder and many other community organisations with free bread on a weekly basis. The loss of this would be keenly felt. In an area of high unemployment and limited employment opportunities the Bread Social provides 33 skilled jobs, mainly permanent. They train young people and offer jobs to young people from the Byron Youth Service, acting as mentors, not just employers.

Dating back as far as the early 1900s the history of the land upon which The Farm is located is one of farming, but also selling the produce produced on the land. More recently in the 1990s the land was a flower and produce farm where locals stopped by to purchase both of these from the shed located on the farm, where the current restaurant building is located now. The selling of produce is part of the overall ethos of The Farm. To not enable the bakery to operate rather than the cheese making facility or to sell produce would substantially alter the model of operation for the restaurant business and The Farm generally.

Option 2

Return the land to general farming purposes

The Farm has operated in its present form on the current site for two years. If The Farm as it is known were to cease to operate as is and return the site to general farming only there may be more intense use of farm machinery and infrastructure. This could lead to greater noise and loss of amenity within the vicinity than what currently happens on site. Previous farm use included the use of pesticides, given that it was monoculture. There would be no regeneration of Simpson's Creek. As is well known farming is a fickle industry that is notoriously difficult to make a living from. The

commercial part of The Farm is intrinsic to the farming activity itself. It has been well documented in Byron Shire that there has been enormous pressure over the past thirty years on farmland to be subdivided as farmers have struggled to make a living. Prior to the Byron Local Environmental Plan 1988 being adopted farmers were allowed concessional allotments that allowed them to hive off small parcels of land so as to contribute financially. This was not a planned process and was discontinued when the Byron LEP was adopted in 1988. Council's Building Sustainable Agriculture in Byron Shire Strategy 2004 identified one of the biggest pressures on agricultural land was subdivision along with adjoining neighbours complaining of agricultural noises and smells. It is highly unlikely that using the land exclusively for farming would ever generate the income or employment opportunities as provided by The Farm in its current operation. At a time when farms are struggling to stay open and Tourism Australia and NSW are encouraging value-adding to farms through farm tourism and farm/food setups it seems a retrograde step to suggest that The Farm could revert to farming only. In the Australian Bureau of Agricultural and Resource Economics and Sciences Australian farm survey results 2008-09 to 2010-11 at the national level "average farm cash income for broadacre farms is projected to increase from \$58,900 a farm in 2009-10 to \$82,000 a farm in 2010-11." (p.1). There is little comparison with the amount of income derived from farming, as well as employment, with the site being used for value added farm industries where income is substantially higher. It is suggested that the only way that farmers in Byron Shire made any real money was in subdividing land or in owning large tracts of land that have been able to be sold.

Option 3

Develop the site as proposed

The proposal is to enable the use of the site for additional purposes namely limited retail and education. What occurs on site is for the most part what has development approval. The current operation shows that there has not been a negative social impact in having the bakery onsite rather than a cheese making facility. There are no complaints about the bakery activity. The bakery uses less space (110 square metres) than the proposed bakery (280 square meters) to operate. They generate no new car parking spaces than the cheese making facility. The survey showed that next to eating, most people came to The Farm to have coffee/pastry, catch up with family and friends and look at the animals.

Farming is a much talked about profession in Australia as it provides food for the nation while struggling with environmental vagaries, low incomes for farmers leading to declining farming activity. "For the survival of this new generation of farmers, the future lies in taking the old farm and the old operating procedures and implementing new technology and innovations to make farms more profitable. Without profitability, young people won't stay and others will not be enticed to come to the land. (Paul Doneley, sheep producer at Barcaldine ABC rural news July 2015). The Farm is undertaking old practices with new innovations. According to an ABC radio report in October 2015, Australia ranks number one with the most organically farmed land in the world. (<http://www.abc.net.au/news/rural/2015-10-28/australias-organic-farming-future/6891384>)

While there is much more farming occurring on-site than when The Farm opened, the Farm operates as a pseudo town centre for the community of Ewingsdale. There are 80 different local products representing 20 to 30 local businesses on offer at The Farm through the farm store. These range from freshly grown produce to value added products such as jars of sauces, spices, nuts, etc.

The introduction to Byron Council's Sustainable Agriculture Strategy 2004 quotes Tim Flannery, "There are signs that things are changing for the better. Australians are undergoing a radical reassessment of their relationship with the land, particularly

when it comes to basics like food, water and fibre. Revolutionary changes are taking place in the countryside as farmers and graziers strive to make primary production sustainable in Australia's unique conditions....They are throwing out old, inappropriate European-based practices and inventing their own, distinctively Australian futures in a bid to create sustainability in this land. I have no doubt that today many farmers are ahead of the majority of Australians in most aspects of environmental thinking." (Tim Flannery in *Blueprint for a Living Continent. A Way Forward* from the Wentworth Group of Concerned Scientists Nov 2000). The Farm is taking this new challenge of farming seriously. It is what Byron residents wish to see, "Focus group participants were asked to accept the following broad assumptions as the starting point for their discussions: "That we all want to see: Economically viable and environmentally sustainable agriculture as a core element of the local economy and an important aspect of the Shire's social and cultural make-up; (BSC.2004.p.3). The Strategy goes on to say, "Byron Shire has developed a reputation for food excellence and is seen as a community that celebrates food and the environment. We have award winning chefs and food production businesses and local farmers' markets. I believe there are great opportunities for us to support these businesses and provide economic and employment benefits for the shire. The shire has an international reputation as being clean and green..(p.4).

From the Focus group outcomes in the development of the Council's Agricultural strategy it was identified that "preservation of agricultural land is critical so that agricultural production can continue to be a significant part of the Shire's income as well as its landscape. "We want to maintain a rural feel for the Shire and agriculture is the basis of it." It was also identified at that time that Council "Need a strategy for development of infrastructure – co-ordination, pack houses, transport, value adding facilities, etc. " (p.67). It was said, "farm incomes are falling. The average farmer was surviving on less than \$10,000 per year. Prices for produce were set by Coles and Woolworths and do (did) not reflect the costs of production. Returns on agriculture had been falling for decades." (p.70). While that has changed since the Strategy was adopted, the Shire still has to look at the "need to link production with local consumption and promotion of 'local, fresh and clean food'; Need to consider the idea of community assisted agriculture.; From a tourism point of view for the Shire – good to have rural views; People (tourists, etc) like the look of animals – visual amenity." (p.71). This is exactly what is happening at The Farm. There couldn't be a greater contrast at the entrance to Byron Bay than on one side a farm with food, flowers and animals and on the other side a concrete batching plant and a hospital.

In a recent study by Dr. Stuart Lockie, "As many as 75 per cent of Australian farm businesses do not generate sufficient returns to meet both personal needs and business growth. (Lockie.2015.p.5). The retail side of The Farm business provides this return, which then allows for the education side, the philanthropic side, the employment side to grow and flourish. The Farm is doing what appears to be what is desired by both community and council as voiced through various planning and policy documents. To deny the current operations on site has the effect of stifling any positive, allowable business development given that there is no assuery for the business owners operating to invest in their business given the precariousness of their situation.

6.4 Monitoring

Council's SIA Policy Part C Cumulative Impact Review part 9.1 says (p. 9) "Council will collect information over time from development applications, rezoning and Council proposals which have incorporated SIA into their proposals. Proponents will be able to

use this information collected by Council over time and factor the cumulative impact (where data is available) of a type of development on a community." Part 9.3 says, "Council will over time analyse whether the measures put in place were appropriate and effective and incorporate this information into the decision making for future strategic plans and assessment of development applications. "

Opportunities to review and monitor the cumulative social impacts of the proposal occur in the development and reporting on in the following Byron Shire Council plans:

- Community Strategic Plan
- Community Profile
- Management Plan
- Tourism Management Plan
- Cultural Policy
- Building Sustainable Agriculture in Byron Shire
- Byron Shire Rural Land Use Strategy

The public also play an important role in monitoring impacts of developments and are encouraged to provide feedback to Council. Through monitoring of their own activities through the various submissions received to development and S96 amendment applications, as well as attendance at the local Ewingsdale Community Association The Farm have identified mitigation measures that have been put in place in an attempt to alleviate any real or perceived negative social impacts. It is recommended that The Farm and Council continue to monitor the measures imposed to determine whether they are effective over time through ways such as follow ups surveys, development of communications protocol with neighbours and regular meetings with the local Ewingsdale Community Association. On a broader shire wide scale Indicators against which impacts can be evaluated include:

- Economic regeneration goals: jobs and wealth created through The Farm's direct, indirect and induced impacts, changes in perceptions of the locality by economic decision-makers, monitored through ongoing analysis.
- Social regeneration goals: Development of new enterprise, communication and other life skills through participation in The Farm activities by individuals or groups, emergence of community partnerships for the benefit of an area, enhancement of local sense of belonging and pride, measured through meetings/focus groups with the local community and attitudinal surveys.

7.0 Summary of Findings and Recommendations

This SIA has been undertaken to accompany a planning proposal for the land known as The Farm. In attempting to predict the social impacts it is often useful to make comparisons with a similar situation elsewhere, either here in Australia or overseas. No analogy can be perfect; communities are too complex and multi-faceted for precise comparisons. Each community's situation is unique and Byron Bay is no exception. Additionally, there is difficulty in isolating the social impacts of agri-tourism/food tourism related developments from the wider impact of urban development.

Relying on something other than the attitudes of local residents, which are said by some to be subjective and without substance, is really dismissing a whole component of social impact assessment (eg. how residents feel about privacy invasion, about loss of community values, about the image of their own town, etc.). In more than 100 years of study and analysis of human behaviour and communities the disciplines of psychology, sociology and anthropology have continuously maintained that to understand how people think and feel you must ask them. It is the citizen's own account of the world, their fears and their attitudes, which "count" when considering

the impacts of future events and proposed developments. The very language of many social impacts is about perceived impacts and the attitudes of individuals. "While there is a substantial amount of literature documenting a range of methods available for the measure of social impacts, which has its advocates, Burdge (1999), "argues that it is more important to be sensitive to social impacts than it is to precisely identify them." (Fredline et al. 2006, p.2-3). As the Farm has been in existence for some two years, the real and perceived positive and negative social impacts are already known.

There is a perception of some people in the locality of the potential to intensify commercial activity on the site at the expense of agriculture. The intent of the Planning Proposal is to provide for a limited area of commercial activity adjacent to Ewingsdale Road and other non-agricultural land uses. This limited commercial activity will enable the continuation and enhancement of the agricultural activity on the land. With a balance of farming, restaurant and food production/retail on site, activity can be managed with minimal social impacts to the community.

Byron Shire is increasingly known for its growing of food and organic food, as is the entire Northern Rivers. The Farm is providing a much-desired activity as evidenced by its immediate popularity. From day one it was full and continues to be so. This indicates that there was a need for a place that combined Byron Shire's love of growing and eating locally produced, organic food with the venue.

The key findings of this report are:

- The Farm provides a much-needed 'corner store' for Ewingsdale residents
- The Farm is used by a wide range of Byron Bay and Byron Shire residents
- The proposed use of The Farm is, and will, increase the awareness of people (both local and visitors) regarding the growing of organic, healthy food
- The full impacts of The Farm, and its operation on the existing population will be primarily guided by how the facility is managed and operated. Therefore, it is important that a range of community development strategies are developed to enable strong linkages with the existing, surrounding community
- The Farm supports the local economy by providing much needed employment in an area of high unemployment and precarious casual employment.
- Evidence from studies and developments have shown that there are savings in the economy by having people employed in permanent work. Savings include a range of publicly funded services that unemployed people use such as Centrelink, social services, etc.
- There are social benefits in the model of overall operation with each part of the business assisting the other and the community more widely through philanthropic means
- The Farm is providing the type of activity and visitation that is identified in numerous Council plans and strategies

Overall, the benefits associated with the use of the land for farming, food production, restaurant, education, retail and a bakery appear to far outweigh issues or concerns associated with this subject to addressing the mitigating measures.

The majority of impacts identified appear to have been adequately mitigated against, particularly through the existing development consents and monitoring, and the newly created relationships with the surrounding community and wider Byron Shire community. On-site management arrangements will be the greatest mitigating measure that can be utilised to ameliorate perceived and real impacts. The site will contribute positively to having a sustainable working farm that is accessible to the community on the outskirts of Byron Bay as a showcase of sustainable farming practices.

8.0 References

<http://www.abc.net.au/news/rural/2016-10-26/visit-my-farm-agri-tourism-start-up-connects-farmers-city-folk/7965434>

<http://www.abc.net.au/news/rural/2015-07-03/young-australian-farmers-on-the-farm-through-drought/6589872>

Australian Bureau of Agricultural and Resource Economics and Sciences. April 2011. Australian farm survey results 2008-09 to 2010-11. Commonwealth of Australia.

ABS Census 2011 and 2016 Quikstats Byron Shire

ABS Census 2011 and 2016 Quikstats Ewingsdale.

Australian Bureau of Statistics. Catalogue Number 712.0-Agricultural Commodities, Australia 2014-2015

Boyle, Michel. Business and Employment Impacts of Tourism in Byron Shire April 2008. Community Economic Development Officer, Byron Shire Council.

Business Insider: <https://www.businessinsider.com.au/heres-how-much-the-average-australian-earns-in-a-week-2016-2>

Byron Farmers Market: <http://www.byronfarmersmarket.com.au>

Byron Shire Council Draft Rural Lands Strategy amended June 2017.
<http://www.byron.nsw.gov.au/rural-land-use-strategy>

Byron Shire Council Tourism Management Plan – Situational Analysis & Tourism Product Audit Draft Report 15 May 2008 – Australian Regional Tourism Research Centre, Southern Cross University.

Byron Shire Council. Draft Community Strategic Plan 2011/12-2020/2 Community Discussion Paper1.www.byron.nsw.gov.au.

Byron Shire Council. June 2012. Community Strategic Plan 2022.

Byron Shire Council, Southern Cross University & Australian Regional Tourism Research Centre. Tourism Management Plan 2008 to 2018. Adopted September 2009. Byron Shire Council.

Byron Shire Council. 2011. Community Economic Development Strategy and Action Plan 2011-2020.

Byron Shire Council. 2010. Community Economic Policy 10/003.

Byron Shire Council. <http://www.byron.nsw.gov.au/tourism>. Tourism. Quick Facts.

Byron Shire Council. 1985. Keeping Byron Unique. A Tourism Strategy.

Byron Shire Council. May 2004. Building Sustainable Agriculture in Byron Shire.

Carson, Dean. Macbeth, Jim. Ed. 2005. Regional Tourism Cases. Innovation in Regional Tourism. Common Ground Publishing Pty Ltd. Altona, Victoria in association with Cooperative Research Centre Sustainable Tourism.

Commonwealth Department of Education, Employment and Workplace Relations. August 2012. Survey of Employer's Recruitment Experiences . Richmond-Tweed and Clarence Valley Priority Employment Area.

https://docs.employment.gov.au/system/files/doc/other/richmondweed_and_clarence_valley_priority_employment_area_presentation.pdf

Commonwealth Department of Education, Employment and Workplace Relations. July 2009. Survey of Employer's Recruitment Experiences. Richmond-Tweed and Clarence Valley Priority Employment Area.

Crystal Castle: <https://www.crystalcastle.com.au/history/>

Deloittes: <https://www2.deloitte.com/au/en/pages/consumer-industrial-products/articles/agritourism.html>

Donnelly, Fiona. March 18, 2015. Courier Mail.
<http://www.couriermail.com.au/lifestyle/food/new-three-blue-ducks-venture-in-full-flight/news-story/c8fbb35d629e642d07aca8801f251dad>

Echo Newspaper. May 10, 2017, page 4. The Farmers.

Ewingsdale Community Association website: <http://ewingsdale.org.au>

Farmonline: <http://www.farmonline.com.au/story/3508106/agri-tourisms-untapped-potential/>

Figtree Restaurant Ewingsdale website: <http://figtreerestaurant.com.au/about/>

Footprint Directions, 2002. Social and Community Service Priorities as determined by Interagency Forums. Regional Report. Northern Rivers Social Development Council. Lismore

Fredline, Liz, Deery, Margaret, Jago, Leo, 2006. Development of a Scale to Assess the Social Impact of Tourism within Communities. Sustainable Tourism Cooperative Research Centre.

GeoLink. February 2001. A Discussion Paper. A Region of Villages. Northern Rivers Regional Strategy Secretariat.

GeoLink. March 2004. Villages. An Investigation into the Desirable Characteristics of Villages in the Northern Rivers Region: A Case Study of Bangalow and Junction Hill. Northern Rivers Regional Strategy.

Gibson, C. & J. Connell. 2005. Music and Tourism: On the Road Again. Channel View Publications. Bristol, UK

idprofile. Byron Shire. <http://profile.id.com.au/byron>

idprofile. <http://economy.id.com.au/Byron>

Irshad. 2011, p.2. Impacts of community events and festivals on rural places. Government of Alberta. Agriculture and Rural Development. Rural Development Division.

Kline, C., Cardenas, D., Leung, Y., Sanders, S. April 2007 Volume 45/Number 2. Research in Brief. 2RIB2. Sustainable Farm Tourism: Understanding and Managing Environmental Impacts of Visitor Activities

Lawrence, Meredith. December 2005. Unravelling the complexities of tourist destination systems: policy networks and issue cycles in Byron Bay 1988 to 2005. A thesis submitted in fulfilment of the requirements of the degree of Doctor of Philosophy. School of Tourism and Hospitality Management, Southern Cross University.

Liberation Larder: <http://www.liberationlarder.org>

Lockie, Stewart. 2015. Australia's agricultural future: the social and political context. Australian Council of Learned Academics. www.acola.org.au

Ludweig Reider & Associates. 1998. Byron Shire Tourism Plan. Volume 1.

Maughan, Christopher & Bianchini, Franco. 2004. The Economic and Social Impact of Cultural Festivals in the East Midlands of England. Final Report. De Montfort University, Leicester. Arts Council England. East Midlands Development Agency.

Macadamia Castle: <https://www.macadamiacastle.com.au/wp-content/uploads/2017/03/Macadamia-Castle-pdf-118.pdf>

National Farmers Federation: www.nff.org.au/farm-facts.html

Northern NSW Local Health District hospitals: <http://nswlhd.health.nsw.gov.au/about/hospitals/>

Northern Rivers Food: <http://www.northernriversfood.org.au/about-us/>

Northern Rivers Tourism Inc. Strategic Plan 2009-2011. Unpublished.

NSW Planning & Environment. North Coast Regional Plan 2036.

Payscale Human Capital: <http://www.payscale.com/research/AU/Job=Farmer/Salary>

Regional Development Australia – Northern Rivers. 2013. Draft Social Profile. Unpublished.

Regional Development Australia. February 2016.
<http://rdanorthernrivers.org.au/our-region/local-government/byron-shire-council/>

Ryan, M. 1984. Time and Tide, A History of Byron Bay. Northern Star Ltd. Lismore

Southern Cross University. Regional Futures Institute. Transformational Economic Development Symposium 2010. Event Summary.

Sustain Northern Rivers: http://sustainfood.com.au/wp-content/uploads/2013/03/Sustain_Food_Roadmap_2013-2015_web.pdf

Taylor, C. Nicholson, Hobson, Bryan, & Goodrich, Colin. 2004. Social Assessment: Theory, Process and Techniques. Third Edition. Social Ecology Press, Wisconsin.

Tonge, Rob & Associates, Stephen Fletcher & Associates & Concept Tourism Consultants. Byron Shire Tourism Management An Options Paper for consideration. December 2002. Byron Shire Council & Tourism New South Wales.

Tourism Commission of NSW. North Coast Region Tourism Development Strategy. 1988.

Tourism Research Australia:
https://www.tra.gov.au/tra/2016/Tourism_Region_Profiles/Region_profiles/index.html#Methodology

Tropical Fruit World: <http://www.tropicalfruitworld.com.au>

Webster. Larua. October 2015. Australia ranks number one with the most organically farmed land in the world. ABC Radio Country Hour
<http://www.abc.net.au/news/rural/2015-10-28/australias-organic-farming-future/6891384>

Appendix A

Letter to Ewingsdale Residents



Hi,

My name is Lanie, and I live in Mullumbimby. I've worked with the community in the Byron Shire for the past 15 years. I'm passionate about developing sustainable tourism strategies.

Currently I'm working with The Farm, in the role of Community Advocate with a view to building a high level of communication and consultation, between The Farm and the local community. After a month of getting to know The Farm, its people and projects I am excited to begin to work with the Ewingsdale community.

I'm interested in learning more about what it's like being neighbours with The Farm and the businesses it is home to, and would also like to share news on what is happening here.

In order to achieve this, The Farm is inviting you and your family to take a FREE Farm Tour, which lasts approximately 45minutes. (Please see below). You can then see The Farm firsthand and learn more about the operation. Also please read the back of this letter to see what's been happening at the Farm over the past 18 months.

Both the General Manager of the Farm, Johnson Hunter, and I, are available to meet with individuals in our community, attend Ewingsdale Community Association meetings, and address any specific concerns, or requests for information that you have.

I hope to have the opportunity to meet many of you in person at your free tour of The Farm. In the meantime please don't hesitate to contact me. I can be reached by emailing community@thefarmbyronbay.com.au

Kind Regards,

Lanie Loughlin
Community Advocate, The Farm

FREE FARM TOUR OFFER:

- Farm tours operate every day at 10am
- Arrive 5 minutes early and meet at the signposts in front of the dairy bails.
- Offer valid till 30th June 2017
- Please present the enclosed ticket to your guide.
- Wear covered shoes, sunscreen and hat.

The Farm at Byron Bay Pty Ltd, 11 Ewingsdale Road, Ewingsdale, NSW 2481
ACN: 165 596 789

Did you know?

The Farm here in Ewingsdale opened its doors in 2015. Its rapid popularity surprised owners, staff & the local community alike. There was little time for reflection & some misconceptions were born. Many local people don't know that entry to The Farm is free, or that The Farm is home to 7 local independent micro businesses, that are not owned by The Farm. People at The Farm, like many locals, passionately want to preserve Ewingsdale farm land for farming. The current footprint of development at The Farm is less than 5 acres of The Farms total 86 acres. The Farm want to build a high level of communication & consultation with local people.

There are some really great things happening here, such as...

Environmentally

- In May 2016, Brunswick Valley Landcare, North Coast Local Land Services & The Farm collaborated to plant 2,500 Native plants along Simpsons Creek
- All were supplied locally by Mullum Creek Native & Burringbar Rainforest Nurseries.
- In June 2016, The Green Army joined & planted an additional 2000 native plants, maintaining over 4500 plants across the Simpsons Creek & Northern Wetlands areas of The Farm.
- The Farm is spray & chemical free. Both market gardens and regenerated areas are maintained without using chemicals.
- The Farms community of 'Growers' are committed to growing organically, while we are not yet organically 'certified', this is one of our goals.
- The Farms ethos 'Grow, Feed, Educate', will have far reaching, long term health & community benefits for Ewingsdale.
- Our livestock stocking densities are far less than the industry standards, up to 7 times more space per animal to roam.
- All our animals are raised on pasture and are regularly rotated.
- Rainwater is the primary source of water in use throughout The Farm. And ALL organic waste is composted.
- The Farm are proud 2016 Regional winners of NSW Chamber of Commerce 'Excellence in Business Ethics' business award, and Regional Finalists in the 'Excellence in Sustainability' category.

Socially

- In June 2016, The Farm became home to the Northern Rivers Community Foundation 'Wishing Well', 100% of proceeds go to NRCF to support local social, environmental, cultural & education needs. To start the fund The Farm donated \$5,000.
- In September 2016 we partnered with Liberation Larder who supply approximately 550 meals per week across Brunswick Heads, Mullumbimby & Byron Bay. The Farm donated quarter of an acre of land for Liberation Larder to grow produce. Following this, The S.H.I.F.T. Project Byron, a residential transition program for homeless women, came on board, enabling women to gain commercial & horticultural skills. Byron Bay Herb Nursery donated seedlings & offered help with the harvest. The result is that four local organisations are creating a sustainable working model & giving back to the community.
- This year The Farm is running a series of free farm safety workshops, accessible to the whole community.
- In November 2016, Erin Knutt & Misa Alexandra launched their book "Fergus & Delilah" at The Farm. We are proud to support a book which aims to change the way children view those with disabilities, and to break through misconceptions, prejudices & stereotypes.
- The Farm is looking for schools to donate farm land to: 300 metres each, for 6 months each, including seed, equipment use & mentorship. We hope to provide local schools with an income stream and an educational opportunity.
- 'School Tours' of The Farm inspire & educate school children, teaching them about where food comes from, paddock rotation, pollination, organic farming, crops, healthy soil, free range egg production, composting and other ethical farming practices. Children can get up close and meet heritage black pigs, free range chickens and see egg production.
- In addition to school tours, 'Farm Kids', holds workshops all year round. These are a 3 hour in-depth exploration of farming through adventure activities. Farm Kids has seen a 20% increase in local participation in the past 6 months & are excited to be welcoming local home school families to the programs too. Farm Kids hopes to work with Uncle Project in the future.
- 24 schools from NSW and Queensland, and over 1000 individual students have attended 'School Tours' at The Farm to date, while approximately 900 children have participated in Farm Kids workshops.

Economically

- Collectively, The Farm and the small businesses it is home to have created over 120 local jobs. Some of these employees have come through Lismore TAFE & Byron Youth Services.
- The Farm and the small businesses it is home to, support local suppliers. We proudly shop local, meaning the multiplier effect is wide spread, creating strong positive economic outcomes for local business people & their families.
- The Farm has provided the space, equipment and seedlings for 3 small local growing businesses to establish.
- Offering land to growers free for 12 months, providing marketing support, and an instant line of repeat business to the restaurant, ensures food sovereignty, zero food miles & optimum quality produce, which in turn benefits growers, consumers and the environment.

Appendix B

Survey Document



QUESTIONNAIRE
The Farm (INTERCEPT)

Q. NO

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The Farm is confidential under the national Privacy Principles, the Market and Social Research Privacy Principles and the Code of Professional Behaviour of the Market Research Society of Australia. No information about this project, questionnaire or respondents should be disclosed to any third party.

STANDARD INTRO

Good morning/afternoon/evening. My name is (Interviewer's Name) We are conducting some research for The Farm and would like your participation.

If you choose to participate the information and opinions you provide will be used only for research purposes. The survey will take around 3 minutes of your time.

TIME START

--	--

TIME FINISH

--	--

Day of interview

Monday	1	Tuesday	2	Wednesday	3	Thursday	4	Friday	5	Saturday	6	Sunday	7
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ASK ALL QUESTIONS- (DO NOT READ ANSWERS OUT. CIRCLE OR ENTER SINGLE RESPONSE)

Q1 - Where do you live? For example, what Shire AND Town?

Q2 - What area did you stay in last night? For example, at home, in Byron Bay etc?

Locality	Q1	Q2
Byron	1	1
Ballina	2	2
Clarence Valley	3	3
Kyogle	4	4
Lismore	5	5
Richmond Valley	6	6
Tweed	7	7
AND what town or city?		
Brisbane	8	8
Gold Coast	9	9
Other Qld	10	10
Other NSW	11	11
Victoria	12	12
Other Australia	13	13
International	14	14
Other – please specify		

Q3 – Where did you come from today

Q4 – After being at The Farm where are you going to (E.g. Hotel at Kingscliff would be 'Other' then Kingscliff)

Locality	Q3	Q3 Location	Q4	Q4 Location
Home	1	N/A	1	N/A
Where stayed last night	2	N/A	2	N/A
Work	3		3	
Friends place	4		4	
Meet with family/friends	5		5	
Restaurant/Café in Byron Bay	6	N/A	6	N/A
Restaurant/Café other place	7		7	
Lighthouse in Byron Bay	8	N/A	8	N/A
Airport Ballina				
Airport Gold Coast	9		9	
Other – please specify				

Q5. Is the Farm your primary destination or is a stopping off point on your way to somewhere else -

Answer	
Primary	1
Stopping off point	2

Q6 - What is your main reason for visiting The Farm today

Answer	
Coffee	1
Meal	2
Animals	3
Produce	4
Bread	5
Meeting	6
Catching up with family / friends	7
Other – please specify	

Q7 - How did you hear about The Farm

Answer	
Word of mouth	1
Web	2
Print media	3
Passing by – saw The Farm while driving	4
Do not know / cannot remember	5
Other – please specify	

Q8 – How many people under 15 are in your group

Record number	
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The survey is completely anonymous unless you choose to provide your email address, in which case you will go into a draw for two prizes:

1. First Prize has a choice between a dinner at Three Blue Ducks valued at \$150 or a Hamper of Farm Goods to the value of \$150.
2. Either of the above not selected by first.
 - All email addresses and completed surveys will be kept securely.
 - The prizes are to be used within 12 months and are transferable.

To enter you in the prize draw would you like to provide your email address?

INTERVIEWER TO COMPLETE – DO NOT ASK RESPONDENT**D1 – estimate age of respondent**

18 to 24 years	1
25 to 34 years	2
35 to 44 years	3
45 to 54 years	4
55 to 64 years	5
65 and over	6
Do not know / cannot remember	7

D2 – Sex of respondent

Female	1	Male	2
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D3 – Estimate Number of people in the group - - INTERVIEWER TO CODE

Record total number	
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Appendix C

Philanthropy at The Farm

Appendix C

Philanthropy of The Farm and Micro Businesses

The Farm

The Farm as the overarching entity undertakes a range of philanthropic activities. Overall, they have donated \$45,000 worth of landcare, donations, sponsorships, free plot rental and other items which equates to over 17% of the total profit since opening until March 24, 2017. This includes:

Children

Primary Schools: Free half-day farm experience. 24 different schools have visited between Grafton and Brisbane. There have been approximately 1,000 school children visit The Farm between December 2015 and December 2016.

Group Farm Tours
Self-Guided Farm Tours
Farm Kids Workshops

Kids Passports

The Farm issues a 'passport' to young people who visit. It's a learning tool and it's to keep track of what happens during their visit as they fill it out. Each page asks a question; Why do we have resting paddocks? What type of insects do our flowers attract? How many species of bees do we have here in Australia? How many meals does the Liberation Larder give to those in need a week? So, it not only teaches them about farm activity, environmental growing, knowledge of farm animals, but it teaches them about Liberation Larder, the community organisation that provides meals for those in need in the community through the Byron Bay Community Centre.

Environmental

Regeneration of Simpsons Creek

This has been a partnership with the Brunswick Valley Landcare group, beginning in May 2016. Together they have planted more than 2100 native rainforest grasses, shrubs and trees along the Eastern headwaters of Simpsons Creek. The goal has been to improve water quality of the creek, to increase the biodiversity of the area and to restore the natural environment, while creating a healthy habitat for wildlife.

In line with The Farm philosophy to Grow, Feed, Educate, and Give Back, The Farm has planted native bush tucker throughout the rainforest. The idea is that visitors to The Farm can explore and forage the wide range of native plants this area produces. The chefs at Three Blue Ducks will also get to use the native plants on their menu.

Landcare are also working at regenerating Simpsons Creek beyond The Farm. It's about reconnecting the old with the new and re-building the natural environment that was lost many years ago. The Farm has a small, protected segment of the original rainforest. This is being replicated in the regeneration area.

Community Projects

Northern Rivers Community Foundation (NRCF)

There is a NRCF Wishing Well located at The Farm. 100% of the proceeds are donated to the NRCF. NRCF is an independent philanthropic foundation dedicated to improving the lives of those in the Northern Rivers' communities who are in most need of support. The Farm hopes to raise a substantial amount for a number of charities throughout our community each year. To kick off the launch of the wishing well the owners of The Farm presented NRCF with a \$5,000 donation.

Liberation Larder

In September 2016 The Farm partnered with Liberation Larder. Liberation Larder is a Byron Bay based organisation that began in 2009 with a motto of "Rescuing Food Fighting Hunger". What they do is rescue good food that would otherwise end up in landfill and make sure this food reaches people who need it, either as meals or fresh food parcels. They provide a practical solution to the problems of food waste and food insecurity in the Byron community

They supply approximately 550 meals/week – breakfast, lunch and takeaway containers. These meals are spread throughout the local community across Brunswick Heads, Mullumbimby and

Byron Bay areas. The Farm donated Liberation Larder a quarter of an acre vegetable plot (part of the Market Garden) to use to grow vegetables. Since then, the project has turned into a social enterprise with a number of local organisations getting involved. The Sustainable Holistic Integrative Focused Transition (SHIFT) Project Inc. now work the plot and the Byron Bay Herb Nursery donate the seedlings and help with harvesting. Lib Larder buys some plants also.

The relationship initially began with the Three Blue Ducks restaurant who were very supportive of the Larder from when they first began operation at The Farm. When the current Farm Manager, came on board he was looking at different school groups to come onsite to grow vegetables. No school took up the offer. So Hannah and Mark from the Ducks put the Liberation Larder name up. The Farm Manager and Helen Hamilton who runs Lib Larder met and both agreed it would be valuable for both. Lib Larder had been growing vegetables on the verge gardens on Fletcher Street along with some growing on private land. But, they had been wanting to do a community garden. The Farm brought it all together for the Larder from what they'd been doing for a couple of years. In October 2016 they started with three rows 57 metres long. They have a group of volunteers to tend to this. Some of the people who worked on the Fletcher St. verge are now growing at The Farm.

Lib Larder has school groups helping them grow at The Farm. The disability group, New Horizons, also helps. Particularly, they have people with disabilities, and mental health issues who help. Byron Herb Nursery also brings some of their people to work.; people with disability and mental health issues.

As of June 2017 there is now a half acre under Lib Larder production at The Farm. There are 19 rows of growing. This is because of the support of The Farm and steady volunteers. Commercial growers at The Farm also give the Larder advice. If they have extra produce they give it to Lib Larder. The Farm also makes available the equipment and supplies on the farm as well as staff labour. There is no rent or water charged.

Because of the help of The Farm Lib Larder doesn't have to buy produce to produce their weekly meals, except on the odd occasion. When Lib Larder started they had no money so they always relied on donations. Now, they are more self-reliant even growing a commercial plot of Rosellas and selling them to the Ducks kitchen for use in the restaurant.

Lib Larder is run entirely with volunteers. None of their volunteers were a commercial grower. Four volunteers started at The Farm. People can tell the difference eating healthy, homegrown food. Lib Larder also educates as they have students and kids come to their plots to learn how to grow food.

When people come to visit The Farm they do walk around and see what Lib Larder is doing. The Farm tours show Lib Larder and what they do and for who. There are Lib Larder signs that people can see independently if walking through The Farm. Feedback from people who visit the Larder at The Farm say they lived on farms and now they want their kids to experience a farm life. Some just want to get out of the city, and the family enjoys being on a farm. Each Saturday morning from 8am-12 noon anyone in the community is welcome to come to help. People who help are able to take home produce that they help grow.

SHIFT Project Inc.

The Sustainable Holistic Integrative Focused Transition (SHIFT) is a local not-for-profit organization which provides short-term educational transition programs for women who are homeless or at risk of homelessness. Women come together to work, care, share and regroup into a positive future. They are working with Liberation Larder at The Farm. One day a week, Tuesday morning, the women (up to five women) from SHIFT come out to help; weeding, seeding, preparation, harvesting in the community plot of land. The women are able to take home the food they help grow.

The Green Army

In June 2016 The Farm joined with The Green Army. The Green Army is a government run practical environmental action programme that supports local unemployed youth by giving them hands on experience in conservation and farming. The programme aims to give youth the skills to better their chances at future employment. The Farm staff and horticulturalist provided onsite training and mentorship to The Green Army. Over a three-month period they

planted and maintained over 4500 trees and bushes, conducted bird surveys and learnt about water quality testing and more.

Fergus & Delilah

The Farm assisted with the launch of the children's picture book, Fergus & Delilah in November 2016. The book is about changing the way children view disabilities. Having the book launch at The Farm encompasses The Farm's focus on inclusion and being a place for the younger generation to come together, learn and enjoy the natural surroundings.

Businesses

The Bread Social (TBS)

The Bread Social provides a wide range of philanthropic donations throughout the community.

- Liberation Larder: Approximately 100 loaves of bread are left over each week and these are donated to Liberation Larder, along with any other bakery items. This assists Lib Larder significantly.
- **Bread is also provided to ??? (Fasha Steen group)**
- Breaking Bread at the Byron Bay Community Centre is a community feast to promote peace and unity in the Shire. TBS donated product and staff to the event
- Jasper Corner: (Federal Hall) is a community facility at the heart of the village of Federal and surrounding areas. As a local facility, they are often the venue used by community groups to host their fundraising events. TBS have supported fundraisers such as "federal loves refugees" through donation on numerous occasions
- Bundjalung Nation Youth Fund raiser: An event to raise funds for local Bundjalung youth to pursue job opportunities in music at SAE Byron Bay. TBS also donated
- Flying Rascals (Jamie Green): A local organisation developing a youth program with the Byron Shire Council that aims to assist disconnected young people find value, self-worth and enter sustainable employment or start their own micro-enterprise. TBS offered support through donation and as a business used to assist youth entering the work force
- Byron Youth Services: BYS is a not-for-profit incorporated community association committed to providing services for young people between the ages of 12 -24 years and their families. TBS established a relationship with them early on in their journey so they may source local youth for job positions as they become available.
- North Coast TAFE: Offers TBS hospitality students as they complete their courses. TBS also conduct work experience for them. Currently they have employed their newest full time apprentice through Lismore TAFE
- Steiner Schools Byron Bay and Mullumbimby: Work with TBS to provide on the job work experience for students from both schools
- Goonengerry Public School: have supported for numerous Fundraising Events to help raise money for classroom equipment not covered by Government.
- People come in to get bread starter for their own bread making

Three Blue Ducks (TBD)

The Three Blue Ducks provide a wide range of philanthropic donations throughout the community.

- Liberation Larder: provided six free cooking/training classes for volunteer staff to upskill them
- Sustainable Holistic Integrative Focused Transition (SHIFT): provided six free cooking/training classes for women in the SHIFT program. The TBD organised for women in SHIFT to work at The Farm in the kitchen to help develop their employable skills
- Byron Community Centre Hub: Food donation for picnic
- Ewingsdale's Biggest Morning Tea: Donation of vouchers and cook books to help raise money
- Mullumbimby & District Neighbourhood Centre: Ran a charity dinner at the restaurant and raised \$4,418.26 for flood victims
- Friends of the Circus: Raffle Prize donation
- Buttery: Prize donations for fundraising events
- Bluesfest Busking Comp 2016: main sponsor, gave our space and fed the organisers and judges
- Bundjalung Nation: Donation to fundraising event

- Bangalow Billy Cart Derby: Major sponsor 2016 & 2017
- Boomerang Indigenous Arts Festival: Major Sponsor 2016 & 2017
- Bay FM: Station Sponsor
- Federal Loves Refugees: Sponsor of fundraising event
- Popped Creative Event Byron Bay: Major sponsor 2017
- Stars of Byron Shire Dance for Cancer: Donation to fundraising event 2017
- Bangalow Community Centre Annual Fundraiser: Donations 2015/2016
- Ocean Shores Public School Festival: Sponsor 2016 and 2017
- Cunning Stunts: regular sponsor of their fundraising events -March 2017
- Team Rubber Ducky in the 2017 Shitbox Rally (Cancer Council) February 2017
- Catering for the Breaking Bread Community Picnic at the Community Cabin June 23-2017
- Northern Bulls Basketball team: Major sponsor
- Suffolk Park FC: Sponsor 2016
- The Board Meeting Surf Charity Event: Major sponsor 2016
- Byron Bay Mal Club Surf Charity Event: Major Sponsor 2016
- Friends of the Library Byron Bay February 2017
- Educate the Future Byron Bay September 2016
- Tweed Ballina Byron Bay Community Transport April 2016
- Byron Bay Longboard 2016
- Byron Respite Services February 2016
- Fundraiser in conjunction with Stone and Wood for NRCF December 2016
- Byron Pre-school July 2015
- Catered for Byron Bay Community Centre's community Christmas dinner December 2015

Appendix D

Newsletters/Advertisements



GREENS FROM THE FARM

It's brassica time! The team at Greens from The Farm has beautiful heads of broccoli ready for the visitors at Three Blue Ducks and is wasted.

Items currently being harvested at Greens from The Farm: Broccoli, cabbage, kohlrabi, bok choy, kale, spinach, ginger. Herbs include coriander, parsley, dill, shallots.

Eight varieties of bitter greens and edible flowers that make up their much loved garnish mix and 3 varieties of large leaf lettuce for their standard mix. And the ever popular baby cos heads.

With the recent cabbage harvest, Lynette has offered readers her favourite sauerkraut recipe. Enjoy!
www.thefarmbyronbay.com/2014/08/23/best-ginger-sauerkraut/

FREE SELF-GUIDED
FARM TOURS

7 DAYS A WEEK

BETWEEN 9AM - 4 PM

Collect one of our maps from below the wooden welcome signs or in the restaurant and follow the trail outlined.



OUR NEW
FARM PASSPORT

Looking for a fun activity to do with the kids?

Collect one of our new kids passports from below the wooden welcome signs. This passport will take you to all our favourite locations around The Farm.



THE BREAD SOCIAL

The creative bakers at The Bread Social have been kneading up a few new tasty creations as winter kicks in. Their Chocolate and Orange Sourdough is proving to be popular with both children and adults. First they slow roast the orange so it is semi-dry – these oranges are sourced locally from up the road at the Newrybar Fruit Farm. The oranges then get mixed in with the dark chocolate starter and then

baked. This is a delicious take on The Bread Social's much loved sourdough and is delicious toasted and served with butter. If you're after something more savoury, the new Beetroot Loaf is a must try. The loaf is made of roasted beetroots, dill, walnuts and seeds. This is great if you feel like mixing up your standard sourdough order and makes for an extra tasty sandwich.

flowers at the farm



WINTER FLORAL WORKSHOPS

Ros and Elle from Flowers at The Farm are pleased to announce that they will be holding their very popular Winter Floral Workshops again this year. The workshop will cover floral care, floral design and styling, picking and foraging and lots of exciting tips and tricks.

The workshop will cover floral care, floral design and styling, picking and foraging and lots of exciting tips and tricks.

For all enquiries and bookings please call Flowers at The Farm on (02) 6684 8092



THE SUNDAY ROAST IS BACK

Three Blue Ducks has exciting news about bookings! The café and restaurant now take breakfast and lunch bookings Monday to Friday.

Breakfast bookings can be made from 7.30am and lunch bookings from 12.15pm. There is still room for walk ins, so please feel free to continue to do this.

For breakfast and lunch on the weekends just turn up and the team will make sure you get seated

as quickly as possible. Dinner bookings from Friday to Sunday continue and you can book a table from as early as 5.00pm.

With Winter well and truly upon us, the team has crafted a new lunch menu with Winter warming dishes based on vegetables from The Farm. The team plans to have a soup of the day and Sunday Roasts are back on!



SCHOOL HOLIDAY WORKSHOPS

The June/July school holidays are rapidly approaching, so Mums and Dads be prepared. The Farm Kids workshops are now live on our website so check out the What's On section to make your bookings early and avoid missing out.

This school holidays there will be the regular 3 hour workshops taking place over 12 days and on 3 days - 3rd, 5th and 7th of July, there will be the full day Mini Farmers Program. Every day has a different focus and

for those regulars, we have added 3 new workshop topics to our list. Kids can now learn about seeds and flowers and the 3rd new workshop will be dedicated to NADIOC week. All details are on these workshops can be found on The Farm website.

So kids...come get your hands dirty and learn some awesome things about farm life. Mums and Dads you too are welcome to join us or you can take a well-earned break and enjoy The Farm.

THE FARM

NUTRITION



SNOW PEAS & SUGAR SNAP PEAS

Snow Peas and Sugar Snap Peas are both climbing plants, they are both members of the legume family, they look very similar and they are both sweet and crisp. However, they have some subtle differences.

Snow Peas are flat pods with very small peas inside. They are harvested before the peas mature. You can eat the whole pod, although the tough 'strings' along the edges can be removed before eating. They are mildly flavoured and can be eaten raw or cooked.

Sugar Snap Peas, sometimes just called Snap Peas, are a cross between Snow Peas and Garden Peas. Sugar Snap Pea pods are thicker than Snow Pea pods and they 'snap' like a green bean, hence the name. Unlike the Snow Pea, the Sugar Snap Pea is picked at a more mature stage when the pods are fully rounded rather than flat. You can eat the whole pod raw or cooked, but it is recommended that you remove the stringy edge. Their flavour is sweeter and their texture crunchier than a Snow Pea.

Keep any eye out for Evan's snow Peas and Sugar Snap Peas on the menu at Three Blue Ducks.

100G SERVING OF RAW EGGPLANT PROVIDES:

	2.8g protein	0.2g fat	7.55g carbohydrate	2.6g fibre
42 cal				

Sources: <https://fdc.nal.usda.gov>

Growing

Both Snow Peas and Sugar Snap Peas grow on vines. They need well drained soil and the support of a trellis system to manage their vigorous growth and to make harvesting easier. They are best grown in the cool seasons like right now!

Cooking and Eating

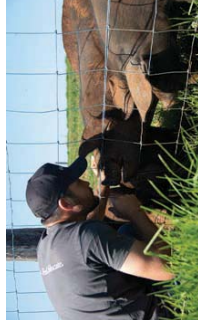
Snow Peas are delicious raw and in salads, steamed or used in a stir fry. The shoots may also be used in Asian cooking and in salads. Snow Peas are often referred to as Chinese Pea Pods and sautéed Snow Pea Shoots are popular in Chinese cuisine. Stir fry some pods in oil with rice wine and sliced Chinese sausage.

Sugar Snap Peas have similar uses but make sure you top and tail them and remove the stringy edge. You can blanch Sugar Snap Peas and add them to a salad or simply stir fry them with garlic and salt and pepper.

Nutrition

Snow Peas and Sugar Snap Peas are low in calories and are a good source of fibre, vitamin C, iron, potassium and magnesium.

THIS MONTH ON THE FARM



PASTURED PIG FARMING WORKSHOP

..... SAT 17 & SUN 18 JUNE
9:00 AM - 3:00 PM



FARM KIDS SCHOOL HOLIDAY WORKSHOPS

..... JUNE & JULY
VISIT OUR WEBSITE FOR MORE INFO



GUIDED FARM TOURS

(SELF-GUIDED TOURS ALSO AVAILABLE)
..... EVERY DAY
10:00 AM - 10:45 PM

WORKSHOP BOOKINGS ESSENTIAL
For more information, on any of our other fun and educational workshops, please visit:
www.thefarmbyronbay.com.au/whats-on

WELCOME

It's officially winter, one of our favourite seasons here at The Farm. We love that the cool nights justify the lighting of our cosy fire pit. There's nothing better than having a drink with colleagues on a Friday afternoon huddled in front of the warming flames at the end of the work week.

We are also super excited about the return of Three Blue Ducks Sunday roasts. We love getting our family and friends together to enjoy the finely cooked farm produce in the warmth of Three Blue Ducks on a Sunday afternoon.

Equally exciting is the introduction of a daily soup that The Ducks have created. The team incorporate farm fresh produce grown with love by our loyal collection of growers into a nutritional bowl of goodness for all that visit the restaurant.

We have winter school holidays fast approaching and a full schedule of workshops especially for the kids. Our little tribe can't wait to take part in the new Mini Farmers Program which will be an exciting educational full day workshop created by the beautiful Trudi from Farm Kids. Read on for more details.

Animal husbandry is up there on our list of priorities and passions and we thought you may be interested to read an interview with our legendary pig educator Lee McCosker below.

Enjoy the open fires, hearty meals and all the beautiful comforts of winter.

Tom, Emma and the farm family

PASTURED PIG FARMING

Just like we pasture raise our chickens here at The Farm, we also pasture raise our pigs. That means that our pigs live in paddocks, free from the confines of feedlots or stalls used in other pig farming methods. It is without doubt the most ethical way to breed pigs, with plenty of room to roam and fresh pastures to forage.

Here at The Farm we have been running Pastured Pig Farming workshops for people wanting to enter the pig farming business or to gain a better understanding of the industry. The workshops are led by industry expert Lee McCosker from the organisation PROOF (Pasture Raised On Open Fields). Lee has helped our workshop participants learn all there is to know about running an ethical, sustainable and profitable pastured pig farming business. We sat down with Lee to chat about the pig farming industry. Here is what she had to say...



In the pig farming world, what does free range mean?

Free range has no legal definition in the pig industry. There are the same consumer expectations as for layer hens, that is, that the pigs should spend their days free to roam and forage on open pastures. The reality is that supermarket free range pork is produced in feedlots with very little opportunity for the pigs to roam and with no real access to pasture.

Do you think this is an ethical way to farm pigs?

The intensive version of free range is a good step forward from pigs grown out on concrete floors never seeing sunlight but, these systems can still employ the use of sow stalls and farrowing crates. The consumer is sometimes misled because they do not understand industry terminology and that the pork that they eat comes from very young animals. Their mothers however may be treated very differently.

What is the difference between free range pigs and pasture raised pigs?

The term free range is just as confusing in the pig industry as it is for eggs. Some genuine producers still use the term free range, unfortunately many take advantage of the demand and keep their pig's feedlot style on dirt. Pastured pigs must have access to open fields and be able to graze and forage.

In comparison to other meats like beef, is pork on par with these farming methods?

It is difficult to compare pigs to cattle and other grazing ruminants that are designed to ferment pastures to meet all their nutritional requirements. Pigs are different because they are single stomach animals, just like us, and need a much more varied diet to keep them healthy and productive. The pigs' ancestors were forest dwellers and scavengers just like the chicken, so we have to provide feed inputs to make sure their nutrition is adequate. Pigs do eat a lot of grass but it is not the only feed they require to stay healthy and feed their abundant litters of piglets.

Why don't we see pasture raised pork products in the supermarkets?

Pasture raised pork is much more labour intensive and requires a lot more land than intensive piggeries, and pastured production also requires a commitment from

the farmer to manage the environment that they are farming while maintaining the welfare of the pigs. This means that pastured pork is not produced at a price or in the quantities demanded by supermarkets. You do see pastured pork occasionally in the independent supermarket chains that support local farmers.

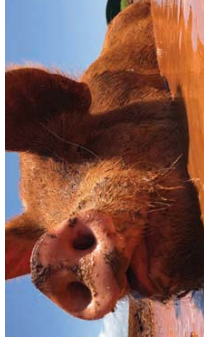
Where can we shop if we want to buy pasture raised pork?

Farmers markets, boutique butchers, independent grocers (IGA for example), box systems direct from the producer, wholesale outlets etcetera. Approach your local butcher and tell them you want pastured pork. These guys are often looking for ways to compete with the supermarkets.

What is your background in pig farming?

I have been involved in pastured pig farming for 17 years. Many of those years were spent operating a 175 sow free range operation. I have written two books on pig farming and have been involved in promoting pastured production through PROOF for many years. For the past five years I have hosted on farm training courses for pastured pig production and I also teach Pork Production at NSW TAFE. My qualifications include Diploma Ag. (Pork Production) Diploma Ag. (Applied Animal Nutrition), Diploma Sustainability. I am also a qualified trainer and assessor and Food Safety Auditor.

Lee will be hosting a one day and a two-day Pastured Pig Farming Workshop at The Farm this month on 17th and 18th June. For more information on this workshop or future workshops please visit the What's On page of our website.



THE FARM

THE FARM began with a small team of like-minded people passionate about the future of food security, sustainability and organic farming practices.

This team included growers, bakers, restaurateurs and florists. They collectively shared the same values and supported the vision of owners Tom and Emma Lane to build a working farm accessible to the community.

With the motto 'Grow Feed Educate' as their guiding philosophy they gently revived the 86 acre site of disused farmland in Ewingsdale, creating a space for anyone and everyone to visit and learn about food provenance.

'The Farm' is now the umbrella for several independently owned local businesses that work collaboratively and support each other. The Growers' Collective supplies Three Blue Ducks restaurant and Produce Store with fresh produce and Flowers at The Farm with blooms. The Farm supplies The Bread Social bakers with pasture raised eggs and Three Blue Ducks with beef and pork. The Farm also provides a venue for Farm Kids educational workshops where children learn about the origins of their food. It's a unique interdependent business relationship.



Emma and Tom chat to Farmer Evan about winter harvest plans.

Some Farm Facts:

- 4,500 native trees have been planted to regenerate the Simpsons Creek waterway with the assistance of Brunswick Valley Landcare, North Coast Local Land Services, the Green Army, Mullumbimby Creek Native and Burringbar Rainforest Nurseries,
- 72 tonnes of kitchen scraps from Three Blue Ducks restaurant has been composted onsite annually,
- 1,000 students have attended 'School Tours' at The Farm and more than 900 children have participated in Farm Kids workshops,
- All our animals are pasture raised. Our hens have up to 7 times more space per animal to roam than industry standards,
- The Farm is 100% chemical free. Our Growers' Collective follows organic farming principles,
- Collectively, The Farm and the small businesses it is home to, have created more than 120 local jobs,
- The Farm has provided the space, equipment and seedlings for three small local Market Garden businesses
- The Farm has donated one quarter of an acre of land for Liberation Larder to grow fresh produce to feed those in need in our local community.



GROW

GROW is about growing food for the community and increasing awareness about sustainability and wellbeing. 100% of the produce grown in the Market Garden by The Growers' Collective goes into Three Blue Ducks kitchen and Produce Store and to The Bread Social 100 metres away. Visitors can take a stroll around and see the paddock to plate philosophy in action.



FEED

FEED is about feeding the animals, the Market Garden crops and the land in order to nourish people. The Farm ethically pasture raises all animals, rotating them regularly to ensure fresh paddocks to forage. Organic farming principles are paramount and a particular focus is on regenerating depleted sections of farmland with native plantings.



EDUCATE

EDUCATE is about providing an accessible environment for the community of all ages to come together and learn new skills and share knowledge. A fundamental part of this is inviting industry leaders onsite to build partnerships whilst promoting sustainable, ethical and organic farming practices. Children are also a focus through the Farm Kids program which is in full swing these holidays.

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THE FARMERS

Meet the farmers, three independent local businesses that form the **Growers Collective** at The Farm.

..... JOSH & LYNETTE - GREENS FROM THE FARM

When I ask fifth generation Byron Bay local Josh Dooley what The Farm means to him he goes unusually quiet and lowers his head. He takes a big breath and looks deep into his dirt stained hands, searching for the right words, while his wife Lynette looks on.

"It means everything," he says finally.

"I love meeting the families who visit The Farm as they walk through the market garden while we're working. It's great to see them spending time together. It's beautiful that there is a place in Byron where families can come and connect with each other and to the land.

"It's rewarding to know we're feeding thousands of people organic food that we grew in the ground right here.

"All the hard work in setting up our plot from scratch and running our business at The Farm has been so worth it."

Lynette nods her head in agreement. "It's definitely one of my happy places," she says. "Even at 5.30am in the middle of winter." They look at each other and laugh.

Josh and Lynette are part of the Growers Collective at The Farm, an initiative that provides land rent free for 12 months to assist small scale growers get their businesses off the ground. Josh and Lynette are now in their third year at The

Farm and say this leg up was invaluable to them in getting started.

Their produce business Greens from The Farm occupies a 1.25 acre plot at The Farm and their entire harvest of seasonal produce is sold to the Three Blue Ducks restaurant and Produce Store and to The Bread Social bakery next door. They also supply sunflowers to Flowers at the Farm for sale during the warmer months of the year.

Making a livelihood growing organic produce wasn't always on the radar for Josh and Lynette. Josh worked at the Retravisition store in Byron Bay for 10 years while Lynette was a chef from Sydney with time in the kitchen at Icebergs and Bills. She made the move to Byron Bay where she met Josh and became head chef at Fishheads before setting up her own business 'Dine at Home'.

It was through Lynette's business that she crossed paths with Tom and Emma Lane, the founders of The Farm. Josh and Lynette's interest in growing and cooking fresh produce increased and it wasn't long before they were maintaining the Lane's half acre vegetable patch in Federal. In hindsight, this was their trial ground for what was around the corner.

When Tom invited Josh and Lynette to take on their own market garden plot at The Farm they took a leap. They also tied the knot!



But there was no time for a honeymoon. One week after their wedding, Josh and Lynette took their first delivery of seedlings and began planting out The Farm. That was almost three years ago. They now have two daughters – Lillian and Amelia who are regular helpers in the market garden.

During peak times, Josh and Lynette plant between three and five thousand seedlings a fortnight. Their organic seedlings are supplied by local business Seedlings Organic at Tintenbar. To ensure their business is profitable and sustainable, Josh and Lynette work with the chefs from Three

Blue Ducks and the bakers from The Bread Social to decide what to grow. Their garnish mix is a regular order for the restaurant and includes 15 ingredients such as salad leaves, herbs and edible flowers. They supply the bakery with a variety of produce including herbs, spinach and Warrigal greens.

Josh and Lynette also grow garlic, kale, spinach and Rainbow chard and this year they are harvesting their first season of Brassicas. They also have a trial ginger plot underway with friend and colleague Farmer Travis from The Farm. Josh says the early results look great!



..... EVAN - EVAN'S EDIBLE ECOLOGY

Evan from Evan's Edible Ecology is the newest independent grower to join The Farm. He has hands-on experience in local small scale farming, having established three other market gardens in the Byron Shire during the past four years. These experiences have highlighted for him the difficulties associated with setting up a sustainable market garden from scratch, particularly for young people.

To help get him started, The Farm gave Evan a half acre plot rent free for the first 12 months.

"This opportunity at The Farm has given me a sense of security," says Evan.

"The investment and vision for the place is allowing a space for farmers to grow organic food and be financially viable. It's a model I have been dreaming about."

The Farm's General Manager, Johno Hunter, is very aware of the costs in setting up a market garden.

"It's not just the seedlings to think about, there's weed mat, compost and organic fertilisers plus your tools and machinery," says Johno.

"If we can help young farmers like Evan make a go of it by providing some farmland rent free and offering them access to our farm machinery and equipment free of charge then, why wouldn't we?"

Evan has spent recent weeks preparing his plot with compost and nutrient enrichment in readiness for his Autumn plantings. He is using compost from another young, local business 'Coastal Feeds' that's made with waste from the Stone and Wood brewery.

Evan is currently growing a wide range of vegetables for the Three Blue Ducks restaurant and Produce Store in his plot including many trellis varieties such as his childhood favourite sugar snap peas, cherry tomatoes, soil grown sunflower sprouts, Japanese turnips, collard greens and kang kong.



..... GRANT - THE PLOT AT THE FARM

I search for Grant in the market garden but there's no sign of him or his faithful four-legged companion Jeta. It's unusual, given it's a beautiful Autumn day on The Farm, with clear skies and sun shining. Then I spy the normally playful Kelpie cross pup lying in a gloom across the farm shed entry. It's a sure sign that Grant is nearby. Moments later he appears. He tells me that Jeta has been sin-binned for her overzealous puppy behaviour out in the market garden. She jumps into his arms for forgiveness and suddenly all is good in the world again.

Those who have met Grant on duty at The Farm in the market garden or on one of his guided Farm Tours know that he is as passionate about his canine bestie as he is about his half acre market garden space at The Farm.

"For me The Farm is an important beacon providing people with an example of how we can move forward to a more responsible way of providing food," says Grant.

"It's great that The Farm provides an opportunity for people like me to take on a passion and benefit the community at the same time."

Grant has been working on the plot for more than a year. His background is in furniture design and hospitality but one of his great passions is permaculture design. So after 10 years serving food and running his own café in Canberra, his heart wasn't in hospitality anymore, so he packed his things and headed north for a new direction.

Landing in the Northern Rivers, Grant formed friendships with many of the young farmers in this area. These networks quickly led him to The Farm where he learned the ropes of small scale farming hands-on. He is now working hard to build his produce business, supplying the Three Blue Ducks' restaurant and Produce Store, and he is about to take on another local farming enthusiast from Mullumbimby to help him manage things.

Grant is currently growing bush beans, carrots, beetroot, radish, swedes, parsnip, fennel purple broccoli and green cabbage. Together with the other Growers at The Farm they have developed a 12-month planting and harvesting schedule for the market garden. This plan enables the Three Blue Ducks' chefs to plan their menus based around their 'farm to table' crops.

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PRODUCE. PEOPLE. PASSION.



From left to right Paul Giddings, Sammy Saulwick and Tom Scott founders of The Bread Social

THE BREAD SOCIAL

The Bread Social is much more than a collective of passionate artisan bakers who founded a successful business at The Farm handcrafting sourdough breads and Instagram worthy pastries. They are also bakers with a social conscience – hence the name 'The Bread Social' - who are passionate about food provenance, who support the 'farm to table' philosophy and who advocate for social causes in the local community.

The Bread Social was established at The Farm two years ago by the three likeminded bakers - Sammy Saulwick, Tom Scott and Paul Giddings. At the core of their business plan was a commitment to using produce

grown at The Farm, supporting local suppliers and giving back to causes they were passionate about.

The three bakers, who originally met and worked together at the Bourke Street Bakery in Sydney, were set on establishing a small, artisan bakery business with an organic focus. Three Blue Ducks introduced the ambitious threesome to Tom Lane who shared their appetite to create an ethical and sustainable food business in keeping with community values. They were the perfect fit for the "Grow. Feed. Educate." model.

For Sam, the new venture meant a return to his hometown, where his restaurateur parents once owned The Beach Café and Orient restaurant. Paul had been working at Harvest

bakery in Newrybar and Tom soon made the move north to complete the picture. It was the starter for The Bread Social.

Sticking by their 'farm to table' commitment, the bakery uses fresh produce grown by the independent growers in The Farm's Market Garden every day. In fact, 70% of the bakery's products include fresh produce from The Farm, including pasture raised eggs, seasonal herbs, tomato varieties and eggplants. The bakers are always keen to try any new produce that the independent growers can supply. Last year The Bread Social even planted, harvested and milled their own trial wheat crop with good success. Stay tuned for more trial crops in 2017. All other ingredients used at The

Bread Social come from local growers, producers and suppliers, except for the organic flour which comes from a small, family owned business in Inverell.

The passionate bakers are also living their word to support social causes in the local community. In particular, they employ local youth. With the aid of Byron Youth Services and TAFE they have given opportunities to many disenfranchised youth who might otherwise be overlooked.

Today, The Bread Social employs 35 staff across two sites. The Farm was their launchpad and in late 2016 they opened their second bakery at Tweed Heads. It seems that their starter is on the rise.



Three Blue Ducks Head Chef Sam Morton

THREE BLUE DUCKS

Three Blue Ducks at The Farm are passionate about honest, ethical and sustainable food. In the kitchen, they use fresh produce grown in The Farm's Market Garden next door. They also sell any excess produce from the independent growers through their Produce Store. That's called zero food miles!

The Chefs from Three Blue Ducks are a 'hands on' team. Don't be surprised to spot them out in the paddocks at The Farm in their kitchen aprons inspecting the cattle herd or drift of pigs destined for the restaurant.

The Farm aims to supply the restaurant kitchen with two ethically pasture raised pigs a week?

Three Blue Ducks Chefs also work collaboratively with The Farm's Growers' Collective and regularly hold meetings in the Market Garden to discuss the upcoming harvest, restaurant menu and future plantings. Where the independent growers can't supply an ingredient to the kitchen, Three Blue Ducks supports other local growers and producers.

During busy times at The Farm, it's all hands-on deck, with staff from across the businesses willing to lend a helping hand. When a new flock of layer chickens arrived last year, the Chefs and Staff from Three Blue Ducks downed pans to help the farmers unload them swiftly and comfortably.



Mother-daughter duo Ros Macdonald and Elle Buckley from Flowers at The Farm

FLOWERS AT THE FARM

It's a family affair at Flowers at The Farm with long-time local resident Ros Macdonald and her daughter Elle the passionate creatives behind the blooming business.

Ros established her first floristry business in Byron Bay back in 2006. Elle joined her in business more recently and together they set up Flowers at The Farm in their rustic nursery and flower shed at The Farm in March 2015.

Flowers at The Farm works with local businesses to stock locally grown plants, herbs and seasonal blooms and they are excited to be expanding their nursery range. They sell a wide variety of herbs grown at the Byron Bay Herb Nursery,

an enterprise that provides employment and training opportunities in the Byron Shire for people with an intellectual disability.

They stock nursery plants from the nearby Bangalow Wholesale Nursery, a small production business specialising in premium trees and shrubs. They also stock sub-tropical plant varieties from Prestige Plants in Alstonville.

Where possible, Flowers at The Farm also stocks flowers grown in The Farm's Market Garden, such as the famous giant sunflowers you see during Summer and Autumn that line the approach to The Farm along Ewingsdale Road.

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GIVING BACK

The Farm was created as a green space for people to gather and experience a working farm - a place where families could visit, free of charge to reconnect to the land and learn about food provenance, small scale agriculture and wellness from the ground up.



In addition to The Farm's philosophy and guiding principles to 'Grow. Feed. Educate' the team work hard to find ways to 'give back' to the local community. The first goal was to restore the neglected farmland and plant food. A market garden based on organic farming principles was established, while beef cattle and chickens were put to pasture. The next goal was to establish authentic community collaborations and relationships based around 'giving back' that would benefit the wider community.



SIMPSONS CREEK REGENERATION PROJECT

The Simpsons Creek Regeneration Project is a long-term community collaboration designed to improve the water quality of the creek that runs through The Farm. The main aim is to increase biodiversity of the area and to restore the natural environment, while creating a healthy habitat for wildlife.

Simpsons Creek runs through The Farm, flowing north towards Brunswick Heads, where it joins the pristine Brunswick River before flowing into the Pacific Ocean.

In May, 2016, Brunswick Valley Landcare, North Coast Local Land Services and The Farm collaborated onsite to plant 2,500 native grasses, shrubs and trees along the eastern headwaters of Simpsons Creek. The grasses planted help bind the ground to prevent wash outs during heavy weather, while the shrubs and trees create a shaded area for fish to breed and to prevent weed growth. All plants were supplied locally by Mullumbimby Creek Native Nursery and Burringbar Rainforest Nursery.

In June 2016, The Green Army joined the project and planted an additional 2,000 native plants. Some native foods were also planted including Davidson Plum, Lily Pilly, Native Ginger, Lemon Scented Tea Tree and native tamarind which will provide opportunities for foraging and education.

The Farm has a full time dedicated member of staff, Jodie, who spends most of her day on the regeneration project. Being a 100% chemical free farm, much of Jodie's time is spent hand weeding and maintaining the regeneration areas, which in turn ensures that the local waterways remain clean and helps protect the delicate ecosystems along the length of the creek.

The Farm is planning Volunteer Days for the Simpsons Creek Regeneration Project in the near future, so sign up to their Newsletter and Social Media for details about these days if you would like to participate in 'giving back'.



LIBERATION LARDER PROJECT

In September 2016, The Farm donated land in their organic market garden to local charity Liberation Larder for growing fresh, nutritious produce to feed those most in need.

Liberation Larder's motto is 'Rescuing Food. Fighting Hunger'. To fight hunger in the local community the charity supplies approximately 550 meals a week through three distribution outlets in Brunswick Heads, Mullumbimby and Byron Bay. The volunteers also supply food parcels containing rescued food from local supermarkets, shops and manufacturers that could otherwise have ended up in landfill.

As a community collaboration, The Farm and Liberation Larder realised they could grow a consistent supply of fresh produce for cooking these prepared meals and for adding to the food parcels. The Farm prepared the market garden plot and a team of independent growers and staff shared their gardening skills and tools to help the Liberation Larder volunteers plant and harvest their first crops.

Since then, the project has turned into a social enterprise, with several local organisations jumping on board. The S.H.I.F.T Project Inc., a local not-for-profit organisation which provides short-term educational transition programmes for women who are homeless or at risk of homelessness, helps maintain the plot along with staff from the Byron Bay Herb Nursery who donate the seedlings.

Liberation Larder is expanding their market garden plot and is keen to expand the team of like-minded volunteers. If you can spare a few hours on Saturday mornings from 8am - 10am, come along to The Farm and the market garden where they will gratefully accept your assistance. Make sure you wear sturdy shoes, sunscreen, and a hat.



NORTHER RIVERS COMMUNITY FOUNDATION

In June 2016, The Farm became home to the Northern Rivers Community Foundation (NRCF) 'Wishing Well'.

NRCF is an independent philanthropic foundation dedicated to improving the lives of people across the Northern Rivers. The community collaboration sees 100% of donations to the 'Wishing Well' support local social, environmental, cultural and education causes.

To start the fund Tom and Emma Lane, the Co-Founders of The Farm, donated \$5,000 towards the foundation.

The 'Wishing Well' is a great way to collect donations from visitors to the region to support charities in our local community.

For more information on how you can contribute to The Farm's 'give back' projects keep an eye on The Farm's social media pages, website and newsletter.

@thefarmatbyronbay

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Appendix E

List of Similar Tourism facilities in Byron Shire and neighbouring Shires

Appendix E
Other 'similar' type farmland businesses in the Region

Tropical Fruit World Tweed

This has been operating for over 30 years. The land (76 hectares) was purchased in 1972. It was a run-down small crop farm. It became Avocadoland in 1983 opening its gates as a tourist attraction for the first time. Avocadoland evolved in Tropical Fruit World in September 1995.

It showcases sub-tropical fruit trees. However, it has wildlife boat cruise, a fauna park, a miniature train, café restaurant, and recreation equipment: putt-putt golf, volleyball, flying fox and games equipment.

There is a safari by tractor train and farm tour. The Plantation Café open from 10-4 every day except Christmas day. The Plantation House restaurant is also available for breakfast, lunch or dinner functions or an event can be catered for. The café and restaurant are fully licensed. They can customise the setting: courtyard dining in Plantation House restaurant; informal eats in Plantation Café; al fresco in the Orchards; or picnic party in bush land setting on The Island.

Tropical Fruit World says they are a "tourist attraction and commercial farming operation distributing quality tropical fruit produce to interstate markets across the country". Three generations of the Brinsmead family are involved. The business is described as agri-tourism. Their website says that the family "continues to focus on best practice environmentally sustainable farming methods – practices promoted by the Founder of Tropical Fruit World for more than 30 years. They carefully select water management and soil conservation techniques together with growing, harvesting and packing methods to prevent any adverse impacts on the environment or harm to consumers." The fruit is sold to the wholesale markets in most Australian capital cities, in addition to selling it at the Fruit Market onsite. They have a year round core staff of 35 employees.

There is free entry to the Plantation Pavilion, which is open from 10am-4pm all year round. The Pavilion houses a fruit market, café, gift market, ice cream bar and juice bar. The activities on site are paid entry only. The cost of the park tour is \$47/adult, \$25 child (4-16 years), a family (2A=2C) is \$115, a family (2A=3C) is \$130, Concession is \$38. There is a half price local's price for Tweed, Gold Coast or Byron Shire residents. You have to sign up.

The website advertises that they are located between Surfers Paradise and Byron Bay, said to be a 35 minute drive (including a photograph of the Byron Lighthouse). Additionally, it advertises Crystal Castle being a 45 minute drive. They have welcomed over 2 million visitors since beginning.

Macadamia Castle, Knockrow

This attraction has been open for over 40 years, opening in 1975. The owners call it an important community asset. They have had their struggle to exist. "... the daily challenges I face at the Castle are nothing new and that ever since we opened, the bureaucracy has struggled to accept our place as an important Northern Rivers icon. I guess that is understandable, after all there is probably no rulebook that tells the various officials how to deal with an English-style castle based around the theme of the macadamia nut but operating as a café retail store and animal park." It is open 8am to 5pm daily. There is an animal park, café, nut bar, 18 hole mini-golf course, train ride, playground, fine food section and retail store. It is considered to be entertainment and education. They operate holiday programs, special events, host birthdays. Facilities include: indoor conference room seating 60 persons or cocktails for 120, outdoor covered BBQ or event area for 100 or 150 standing, pond stage seats 80, fully equipped kitchen and chefs on premises or outside catering permitted, parking for over 100 cars. They employ over 50 staff including various trainees, long-

term unemployed, students and a core staff. They have over 300,000 visitors per year from all over Australia and the world.

There is paid entry to the animal part of the attraction. A 12 month park pass is \$60 for an adult and \$50 for a child. There are group passes for not for profit and care organisations.

Crystal Castle, Montecollum

The 'castle' itself was built in 1980, designed by "eccentric architect" Edwin Kingsbury. The building concept was of "harmonious architecture", a round central building with 4 radiating wings, no 90 degree angles, with reflecting ponds and had it built where the ley lines, or earth's energy lines, intersect. The owner, Mal Cooper, used the very best materials around the region and went broke building it. The current owner, Naren King, found the castle in 1986, which was on 25 hectares of land near Mullumbimby. He was knocked back by five banks but persisted and found backing from a Harley-Davidson-riding bank manager who loved the adventurous nature of the business. And so began Australia's first direct importer, named Crystalight, of quality, natural crystals from around the world supplying wholesale crystals around Australia. Dhira King began years of massive re-planting of the decimated land, which had been cleared for grazing and banana growing. Eventually it became known as the Crystal Castle and was open for limited trading to the public. It evolved as people loved being there so a café was built. The vision has been to create a place of magic and wonder, beauty and energy. There are Shambhala Gardens, world's biggest crystals, daily workshops, the only Kalachakra peace stupa in the southern hemisphere, a café, gift shop.

The entire facility is paid entry only. An adult day pass is \$28, a family day pass is \$68 (2A +2C), concession day pass is \$25, child (4-14 yrs) day pass is \$22, multiple entry pass valid for one month is \$50, an annual pass is \$60, an annual family pass is \$120. There have been over 400,000 visitors since 2011.

Appendix F Economic Impact Assessment



The Farm

Economic Assessment

Prepared by:

RPS AUSTRALIA EAST PTY LTD

Lakeside Corporate Space
Suite 425, Level 2
34-38 Glenferrie Drive,
Robina QLD 4226

T: +61 7 5553 6900
Client Manager: William Owen
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Prepared for:

THE FARM

11 Ewingsdale Road
Ewingsdale
NSW

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In this note, a reference to loss and damage includes past and prospective economic loss, loss of profits, damage to property, injury to any person (including death) costs and expenses incurred in taking measures to prevent, mitigate or rectify any harm, loss of opportunity, legal costs, compensation, interest and any other direct, indirect, consequential or financial or other loss.

Document Status

Version	Purpose of Document	Orig	Review	Review Date
1.0	Client Exposure - Draft	WO	WO	31 July 2017
2.0	Updated information - Draft	WO	WO	2 August 2017
3.0	Version 3.0	WO	WO	16 August 2017

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Summary

The Farm is located 11 Ewingsdale Road, Ewingsdale and consists of The Farm and several tenancies:

- Three Blue Ducks – a restaurant that includes a coffee outlet and produce store.
- The Bread Social.
- Flowers at The Farm.

The Farm is a working operation that provides interaction, education and passive recreation opportunities for visitors to the site. The tenancies are based in the main building and they operate in a seamless manner that is not evident to the casual observer.

Key Indicators

- Visitors to The Farm have an annual direct expenditure of \$11.9m. In turn, \$7.74m is directed to Byron Shire based business and individuals (mainly in the form of wages) by the operations located at The Farm. This local retention of 65% is unusually high and reflects the 'buy local' policy of The Farm and all on-site operations.
- On average, business at The Farm employ 102 people on a full time, part time or casual basis. This can vary by 20% in response to the demands of the peak and low seasons. When considered on a full-time equivalent basis (FTE) this equates to 87.2 FTE annually. 81% of all employees live in Byron Shire with the remaining 19% residing elsewhere in the Northern Rivers. The total annual cost of wages and salaries is \$4.42m with \$3.58 m directed to residents of Byron Shire.
- The Farm is patronised by residents of Byron Shire (31%), residents of other parts of the Northern Rivers (10%), tourists staying in the region (37%) and day trippers (22%). This balance between locals (41%) and visitors (59%) indicates The Farm is well regarded by both groups. A large proportion of local visitors will provide the site with a 'genuine' feel and atmosphere. This atmosphere, in turn, is attractive to visitors and tourists.
- For most people (54%) The Farm was the primary destination of the trip with a majority of people also coming from home/accommodation (59%) or going to home/accommodation (60%). These figures indicate the importance of The Farm as a destination for both locals and tourists. Given the scale of visitation (an estimated 500,000 people per annum), The Farm is considered to be a major cultural/recreation/destination landmark.
- The Farm and on-site operations were responsible for a Gross Value Added (GVA) of \$14.1m. Of this \$8.9m is directed to Byron Shire and \$3.6m to other parts of the Northern Rivers. This GVA indicates The Farm is responsible for an estimated 0.37% of the Byron Shire's Gross Regional Product (GRP).
- Taking into account direct employment, supply chain and household consumption, The Farm generates 181.9 FTE with an associated value of wages and salaries of \$7.9m. The majority is directed towards the residents of Byron Shire with 115.1 local FTE and \$5.0m in local wages and salaries.

Conclusion

The Farm and on-site operations are considered to be a major employer and are a series of locally exporting businesses. The scale of the exports is directly linked to the proportion of tourists that visit the site. Consequently, 59% of the total employment benefit directed to Byron Shire, or 68 FTE jobs, (59% of 115.1 FTE) are attributed to the tourists that visit the site.

The 115.1 total FTE located in Byron Shire represents 0.7% of the total LGA workforce of 16,298¹. To place this employment in perspective, the current unemployment rate in Byron Shire of 5.9% (916 people)² would be reduced to 0% if 8 more businesses the scale of The Farm were to become established.

¹ <http://economy.id.com.au/byron/unemployment> (as at 31 July 2017)

² IBID

I.0 Introduction

The Farm is located 11 Ewingsdale Road, Ewingsdale and consists of The Farm and several tenancies:

- Three Blue Ducks – a restaurant that includes a coffee outlet and produce store.
- The Bread Social.
- Flowers at The Farm.

The Farm is a working operation that provides interaction, education and passive recreation opportunities for visitors to the site. The tenancies are based in the main building and they operate in a seamless manner that is not evident to the casual observer.

This report has been commissioned to assess the economic impact and benefits that can be attributed to the Farm. This assessment will be conducted at a local level (Byron Shire), regional level (Northern Rivers) and the total impacts. These total impacts will include NSW and Queensland due to the sites proximity to South East Queensland.

Information was gathered from published sources, the customer survey and interviews with The Farm and individual tenancies.

I.1 Modelling

This report utilises the RPS model prepared specifically for the Byron Shire area.

2.0 Economic Outputs

The businesses located at The Farm were interviewed and provided financial information including employment, wages, turnover and payments to suppliers.

This information is utilised in the economic modelling and has been aggregated in order to retain confidentiality.

2.1 Direct Business Expenditure

The Farm generates a annual direct expenditure of \$11.9m. The businesses at The Farm utilise this turnover in payments to suppliers, staff and other expenses. Key features of this subsequent expenditure include:

- \$7.74m is directed to Byron Shire based business and individuals. 65% is unusually high and reflects the 'buy local' policy of The Farm and all on-site operations.
- \$3.0m is directed to businesses and individuals in other parts of the Northern Rivers (25%).
- \$1.2m is directed to other areas (mainly SEQ and other parts of NSW). This 10% of expenditure is almost entirely for goods and services that are not available in either the Byron Shire or the Northern Rivers.

2.2 Employment

On average, business at The Farm employ 102 people on a full time, part time or casual basis. This can vary by 20% in response to the demands of the peak and low seasons. When considered on a full-time equivalent basis (FTE) this equates to 87.2 FTE annually.

81% of all employees live in Byron Shire with the remaining 19% residing elsewhere in the Northern Rivers.

The total annual cost of wages and salaries is \$4.42m with \$3.58 m directed to residents of Byron Shire.

3.0 Customer Assessment

The results of the customer survey are detailed in Appendix 4. Key information includes:

- The Farm is patronised by residents of Byron Shire (31%), residents of other parts of the Northern Rivers (10%), tourists staying in the region (37%) and day trippers (22%). This balance between locals (41%) and visitors (59%) indicates The Farm is well regarded by both groups. A large proportion of local visitors will provide the site with a 'genuine' feel and atmosphere. This atmosphere, in turn, is attractive to visitors and tourists.
- For most people (54%) The Farm was the primary destination of the trip with a majority of people also coming from home/accommodation (59%) or going to home/accommodation (60%). These figures indicate the importance of The Farm as a destination for both locals and tourists. Given the scale of visitation (an estimated 500,000 people per annum), The Farm is considered to be a major cultural/recreation/destination landmark.
- People visit The Farm for a diverse range of reasons. Meals (40%), coffee (20%) and bread (10%) are the main reasons given with looking around and other farm based activities accounting for most of the remaining 30%.
- Only 16% of visitors became aware of The Farm from specific marketing and information sources (eg web, print media). The remaining 84% became aware of The Farm by word of mouth, driving by or they live in proximity.
- An estimated 21% of visitors are aged under 15. This compares to 16.8% of the Byron Shire population in the same age group³. This indicates the Farm is an important destination for local families, many of whom undertake recreation and other farm based activities.

The Farm is a popular destination for tourists and locals, and this information will be utilized in assessing the overall economic impact of the operation.

³ Source: Australian Bureau of Statistics 2016 Census

4.0 Economic Impact Assessment

This section provides an assessment and summary of the analysis and demand modelling including both qualitative and quantitative impacts and benefits related to The Farm. The tables containing the output are provided in Appendix 1.

4.1 Economic Output

The total economic output is measured at \$28m with 62.4% (\$17.5m) of the total derived from business and service providers located in the Byron Shire. An additional \$7.1m is derived from businesses elsewhere in the Northern Rivers.

4.2 Gross Value Added⁴

The Farm and on-site operations were responsible for a Gross Value Added (GVA) of \$14.1m. Of this \$8.9m is directed to Byron Shire and \$3.6m to other parts of the Northern Rivers.

This GVA indicates The Farm is responsible for an estimated 0.37% of the Byron Shire's Gross Regional Product (GRP).

4.3 Income (Wages and Salaries)

The total direct and indirect type 1 wages and salaries attributed to The Farm is summarised as follows:

- Byron Shire – \$3.5m
- Other Northern Rivers – \$1.4m
- Total (inc Northern Rivers, Byron Shire and other) – \$5.4m

The total wages and salaries taking into account direct employment, supply chain and household consumption is:

- Byron Shire – \$5.0m
- Other Northern Rivers – \$2.0m
- Total (inc Northern Rivers, Byron Shire and other) – \$7.9m

These figures take into account total employment including on-site staff and the employment generated by the expenditure of the businesses.

4.4 Employment

The total direct and indirect type 1 employment attributed to The Farm is summarised as follows:

- Byron Shire – 79 FTE
- Other Northern Rivers – 31.2 FTE
- Total (inc Northern Rivers, Byron Shire and other) – 123.6 FTE

The total employment (including direct employment, supply chain and household consumption) attributed to The Farm is summarised as follows:

- Byron Shire – 115.1 FTE
- Other Northern Rivers – 46 FTE
- Total (inc Northern Rivers, Byron Shire and other) – 181.9 FTE

⁴ Value added: value of output after deducting costs of goods and services used in the production process. Value added is the preferred measure for assessing economic impacts

The 79 direct and type 1 FTE located in Byron Shire represents 0.48% of the total LGA workforce of 16,298⁵. To place this employment in perspective, the current unemployment rate in Byron Shire of 5.9% (916 people)⁶ would be reduced to 0% if 11.5 more businesses the scale of The Farm were to become established.

4.5 Conclusion

The Farm and on-site operations are considered to be a major employer and are a series of locally exporting businesses. The scale of the exports are directly linked to the proportion of tourists that visit the site. Consequently, 59% of the total employment benefit directed to Byron Shire, or 68 FTE jobs, (59% of 115.1 FTE) are attributed to the tourists that visit the site.

The 115.1 total FTE located in Byron Shire represents 0.7% of the total LGA workforce of 16,298⁷. To place this employment in perspective, the current unemployment rate in Byron Shire of 5.9% (916 people)⁸ would be reduced to 0% if 8 more businesses the scale of The Farm were to become established.

These figures are considered to be conservative as they do not account for any off-site expenditure that is undertaken by visitors to The Farm. It would be reasonable to include expenditure on accommodation, food and other items for those visitors who would not have otherwise undertaken a trip to the region.

⁵ <http://economy.id.com.au/byron/unemployment> (as at 31 July 2017)

⁶ IBID

⁷ <http://economy.id.com.au/byron/unemployment> (as at 31 July 2017)

⁸ IBID

Appendix I – Economic Impact Tables

The following table⁹ have been derived based on the information described in the previous sections. The input/output model prepared by RPS has been regionalised to reflect the individual nature of the local and regional economies.

Total	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$12.0	\$6.0	\$4.1	97.7
Indirect Impact (Type I)	\$6.1	\$2.6	\$1.3	25.9
<i>Sub-Total</i>	<i>\$18.1</i>	<i>\$8.6</i>	<i>\$5.4</i>	<i>123.6</i>
Indirect Impact (Type II)	\$9.9	\$5.5	\$2.5	58.3
Total Impact	\$28.0	\$14.1	\$7.9	181.9

Byron LGA only	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$7.7	\$3.9	\$2.6	63.2
Indirect Impact (Type I)	\$3.7	\$1.6	\$0.8	15.8
<i>Sub-Total</i>	<i>\$11.4</i>	<i>\$5.4</i>	<i>\$3.5</i>	<i>79.0</i>
Indirect Impact (Type II)	\$6.1	\$3.4	\$1.5	36.1
Total Impact	\$17.5	\$8.9	\$5.0	115.1

Northern Rivers (not inc Byron LGA)	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$3.0	\$1.5	\$1.0	24.7
Indirect Impact (Type I)	\$1.5	\$0.6	\$0.3	6.5
<i>Sub-Total</i>	<i>\$4.6</i>	<i>\$2.2</i>	<i>\$1.4</i>	<i>31.2</i>
Indirect Impact (Type II)	\$2.5	\$1.4	\$0.6	14.7
Total Impact	\$7.1	\$3.6	\$2.0	46.0

All Other	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$1.2	\$0.6	\$0.4	10.0
Indirect Impact (Type I)	\$0.6	\$0.3	\$0.1	2.6
<i>Sub-Total</i>	<i>\$1.8</i>	<i>\$0.9</i>	<i>\$0.6</i>	<i>12.6</i>
Indirect Impact (Type II)	\$1.0	\$0.6	\$0.3	6.1
Total Impact	\$2.8	\$1.5	\$0.8	18.7

⁹ Assumptions

Constant returns to scale and no substitution between inputs

Production within an industry is homogenous across firms in that industry (i.e., same proportion of inputs are used by every firm in a given industry)

Each industry has only one primary output

The effect of carrying out a given level of production by one firm or many is the same

The economy examined is in equilibrium at given prices and

There are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions.

Appendix 2 - Glossary and Reference

Types of Impacts Assessed

An input-output framework has been used to identify the direct and flow-on impacts, these direct and flow-on impacts to the economy have been estimated based on four key measures:

- **Output:** The total gross value of goods and services produced, measured in the price paid to the producer. Output includes any associated taxes or subsidies on its final production. Output values typically overstate the impacts as it counts all goods and services used in one stage of production as an input into later stages of production resulting in double counting.
- **Gross Value Add:** the additional value of a good or services over the cost of goods used in producing the good or service.
- **Incomes:** the level of wages and salaries paid to employees in each industry as a result of the development.
- **Employment:** the number of additional jobs created as a result of the additional expenditure, estimated as the number of jobs, expressed in terms of full-time equivalent (FTE) positions.

To measure these four indicators of the economic impact, three types of multipliers are used, these are:

- **Direct:** The construction or operational expenditure from the project under investigation. These involve the activities directly attributable to the development including operating expenditures and additional revenues. Direct impacts should only include the impacts which would not have occurred should the project not have gone ahead.
- **Indirect Type 1 Impacts (Supply Chain):** Represents the impacts arising from changes in activity for suppliers as a result of the direct stimulus. Type 1 impacts involve the impact on what the upstream supply chains do to fulfil the new increased level of spending.
- **Indirect Type 2 Impacts (household consumption induced):** Represents the household consumption induced activity arising from additional household expenditure as a result of the additional incomes received from the direct and type 1 industry impacts.

Criticisms of Economic Impact Assessments

Economic Impact Assessments based on IO-tables and Economic Multipliers have been criticised by Government and academia. RPS recognises Economic Multipliers are based on limited assumptions that can result in multipliers being a biased estimator of the benefits or costs of a project.

Shortcomings and limitations of Multipliers for economic impact analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply-side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For

example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount;

- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- **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. For small regions multipliers tend to be smaller than national multipliers since their inter–industry linkages are normally relatively shallow. 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 regions¹⁰.

Despite this, IO tables and Economic Multipliers remain popular due to their ease of use and communication of results. RPS has undertaken a number of steps and made appropriate adjustments to the EIA methodology to address and mitigate these concerns.

Firstly, this Assessment does not rely solely on the use of Economic Multipliers to inform the recommendations for the project. The study includes analysis of the characteristics of the local economy and tourism market and demonstrates economic benefits of the project. The EIA represents one of a number of assessments, allowing the results to be appropriately contextualised.

Secondly, RPS has provided results for direct, supply chain and household consumption induced benefits. This allows for the individual rounds of benefits to the economy of the project to be identified and separated.

Thirdly, the catchment Northern NSW is a large area with a critical mass of population and business activity and a diverse economy. Adjustments have also been made to national Economic Multipliers to calculate the impacts on the Northern NSW and State economies individually, through the development of regional transaction tables.

Fourthly, RPS regards the use of Economic Multipliers as part of the EIA for the development as appropriate and measured and the results of the assessment as conservative, defensible and suitable for informing decision making.

¹⁰ ABS (2013) Australian National Accounts: Input-Output Tables, 2009-10, Cat No 5209.0.55.001, Australian Bureau of Statistics, Canberra

Appendix 3 – Customer Survey

RPS

The Farm – initial analysis

Date – 3 July 2017

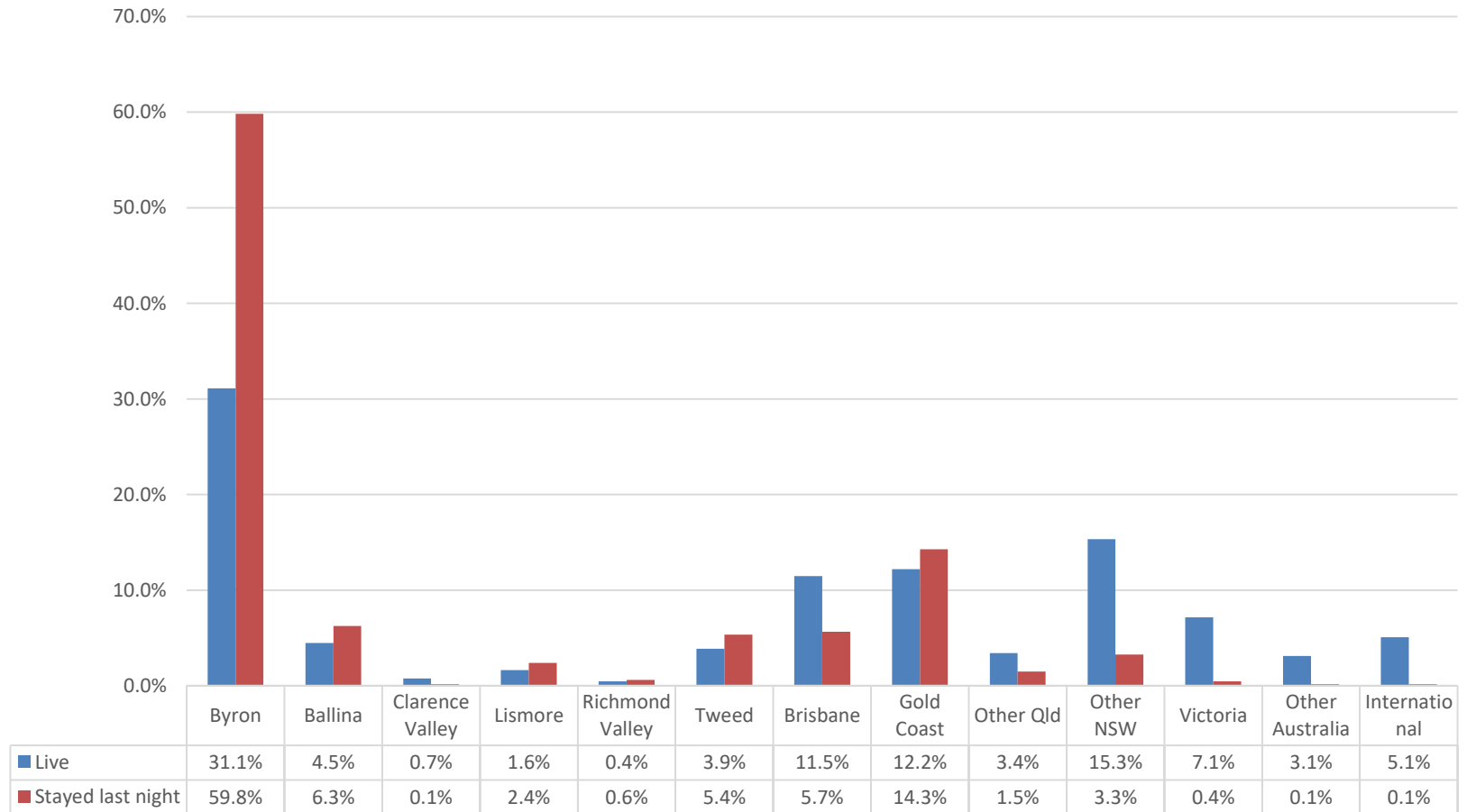
Local Knowledge
INTERNATIONAL EXPERTISE



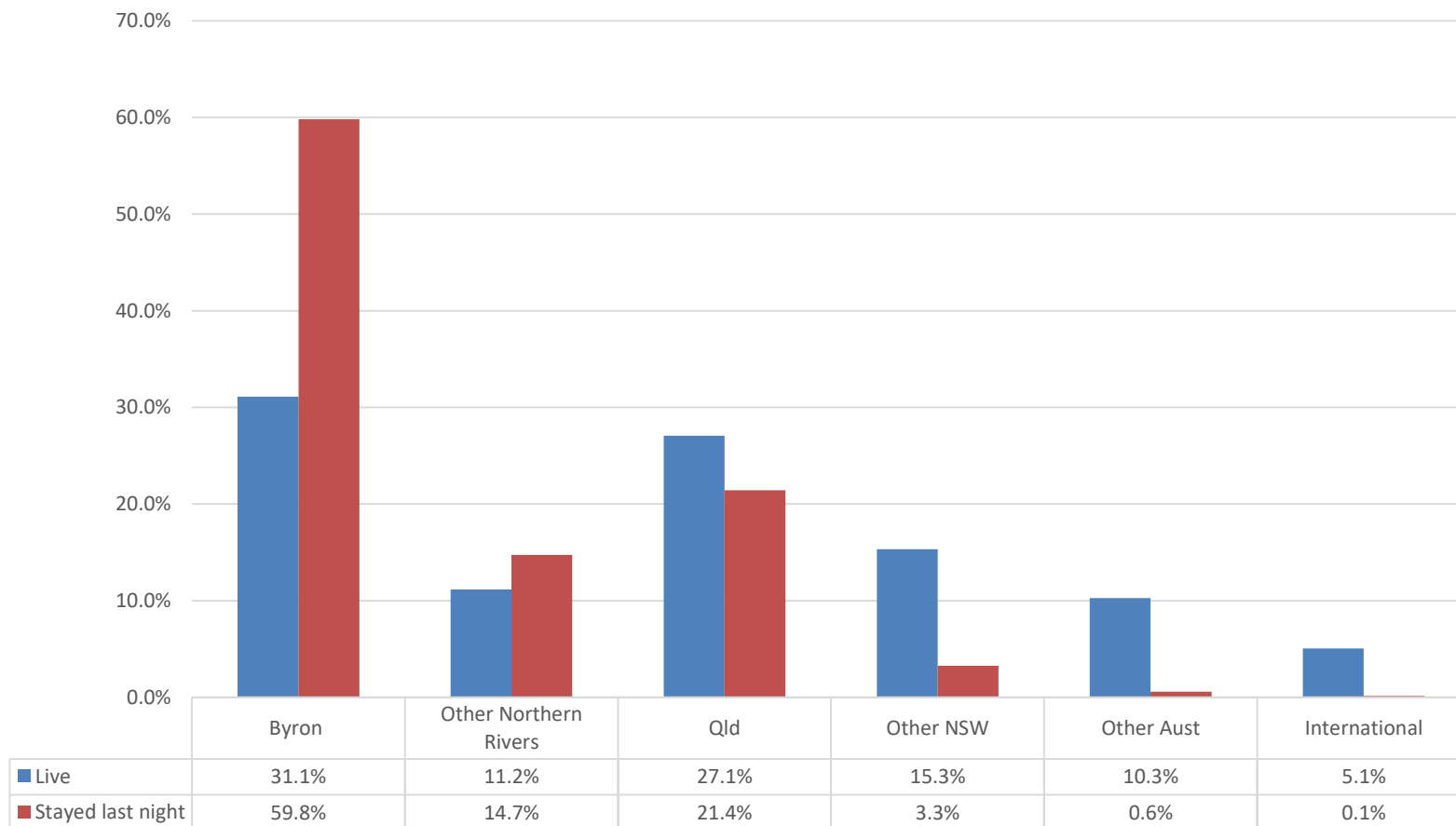
An intercept survey was conducted at The Farm from Sunday the 4th of June, 2017 to Saturday the 10th of June, 2017.
The surveys were collected between the hours of 7am and 7pm.
A total of 672 surveys were completed.

RPS

Q1/2 – Where so you live/did you stay



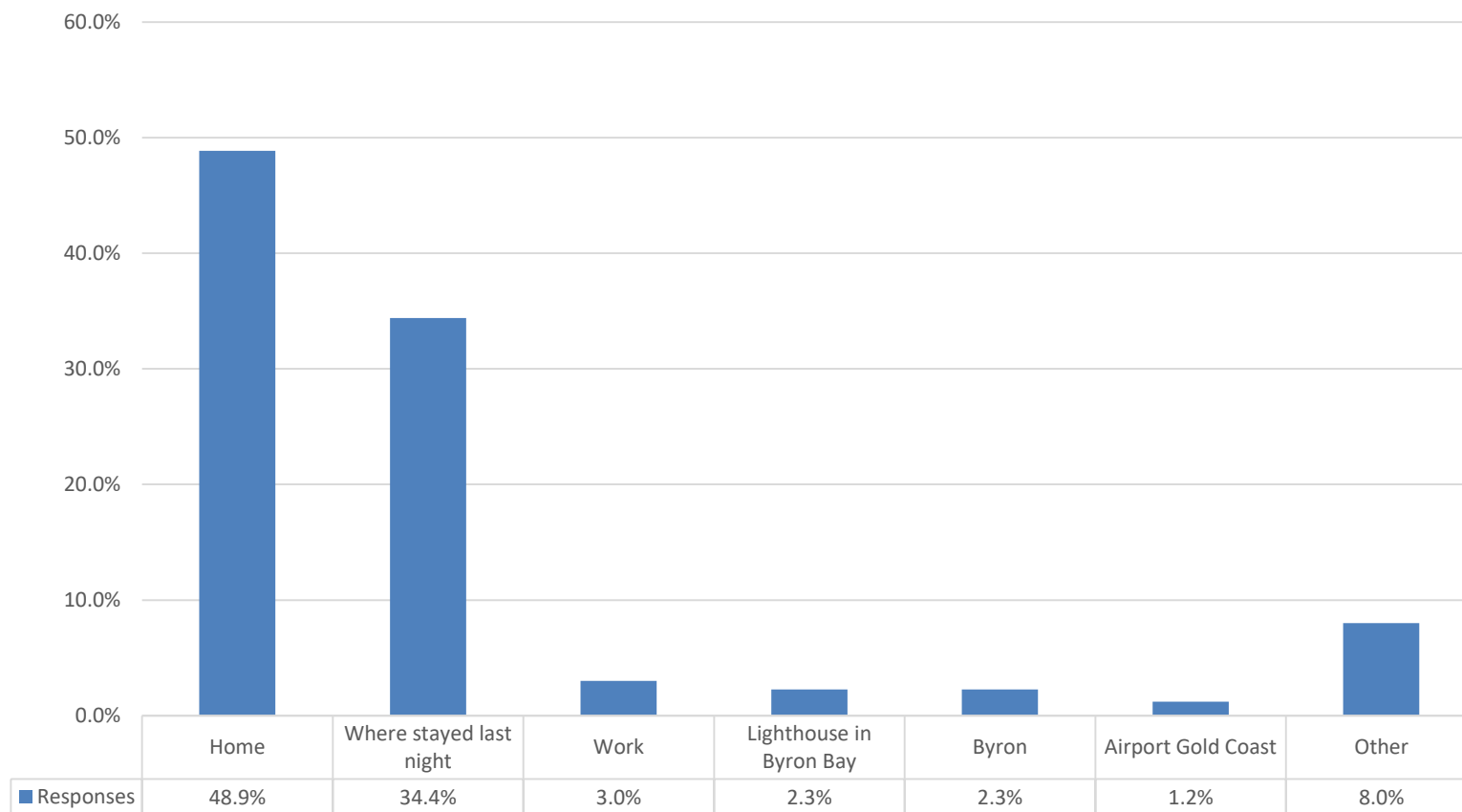
31% live in Byron and 11% in other Northern Rivers
60% stayed in Byron and 15% in other Northern Rivers



Q3 – Where did you come from

83% from where they were last night.

Other includes a variety of (mainly Northern Rivers) origins.

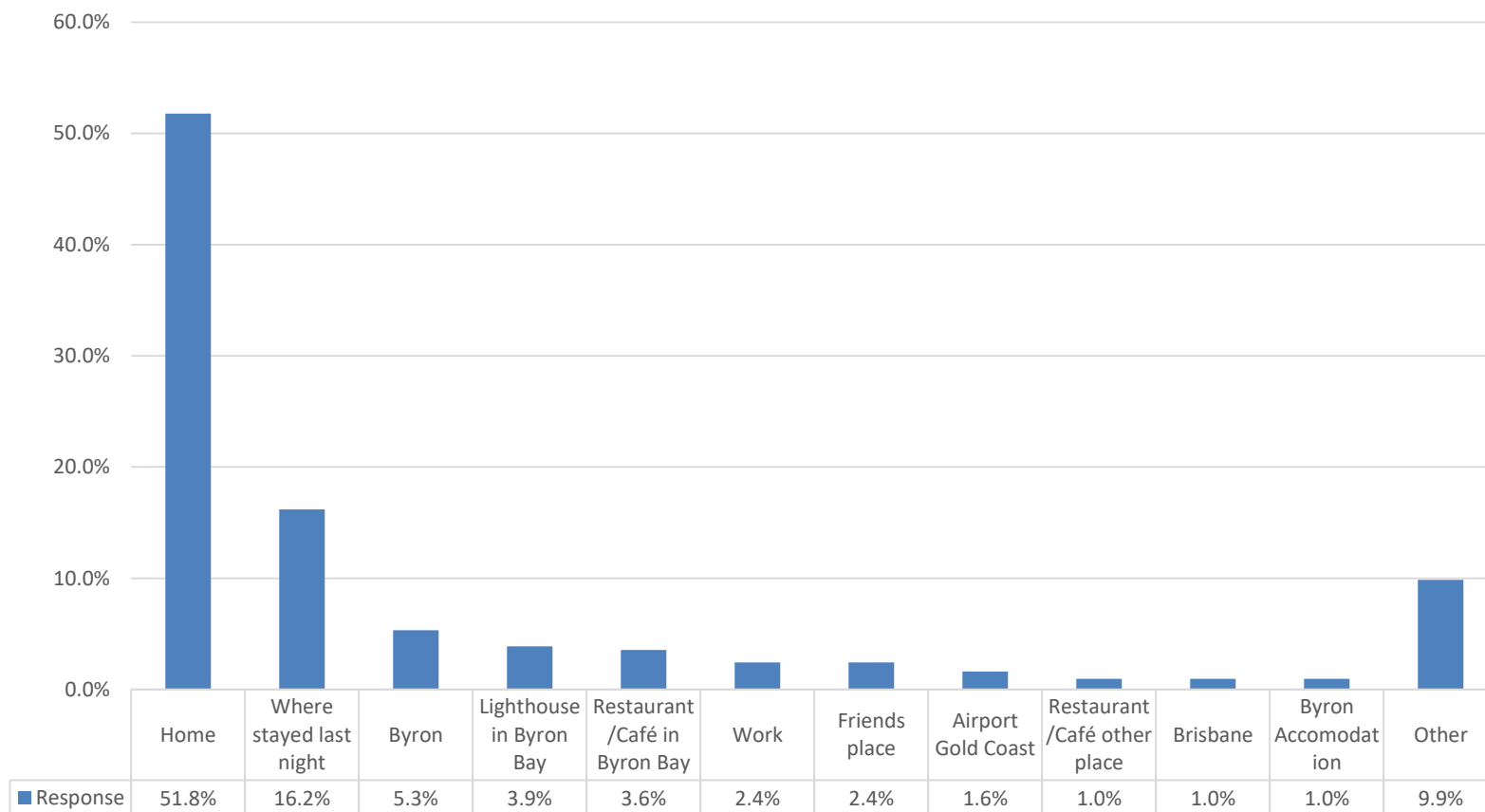


Q4 – Where are you going to

68% from where they were last night.

48% went from home/accom to The Farm and back to home/accom.

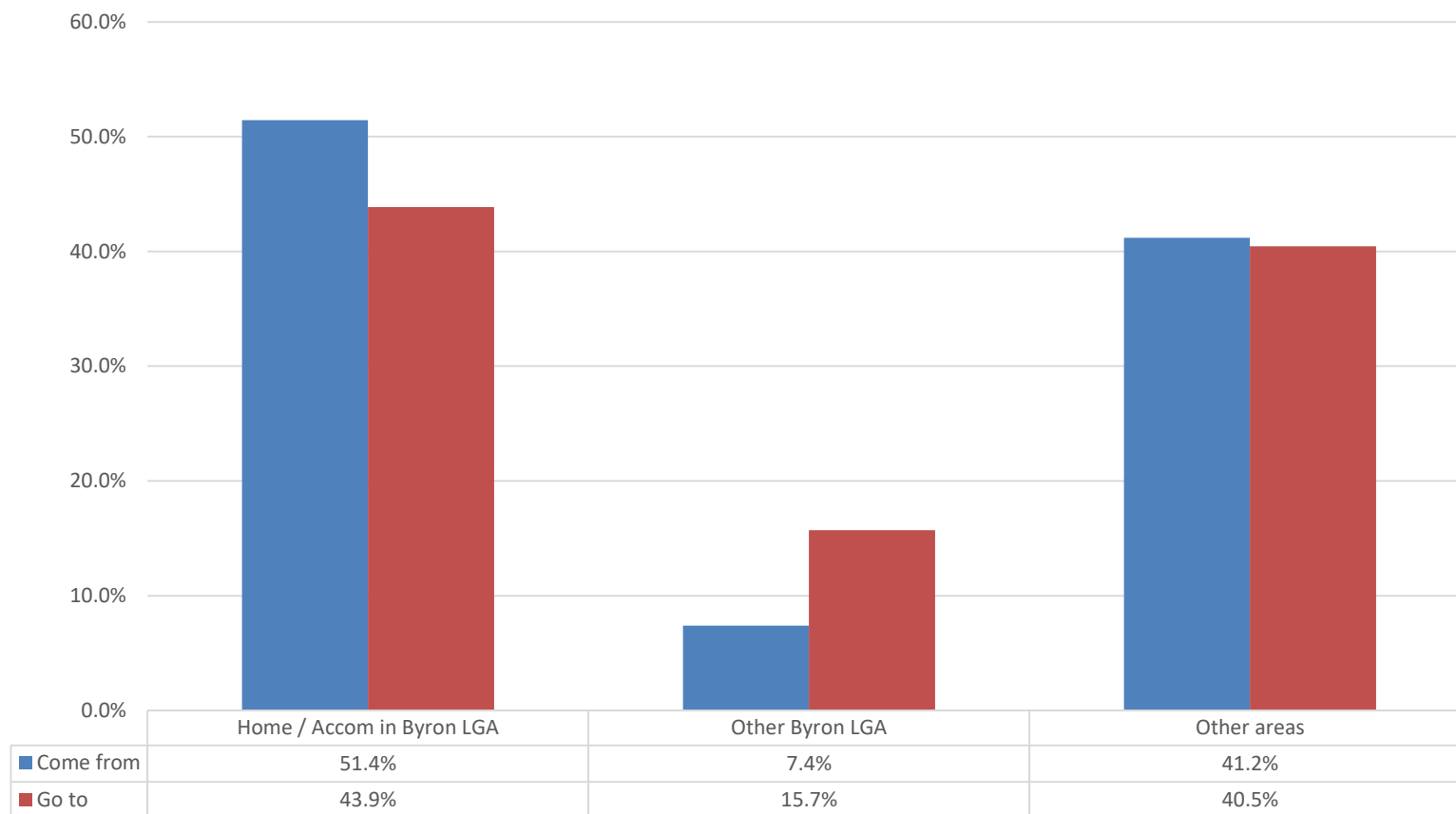
Other includes a variety of (mainly Northern Rivers) destinations.



Byron LGA , origin and destination

58.8% of trips to The Farm originated from within Byron Shire.

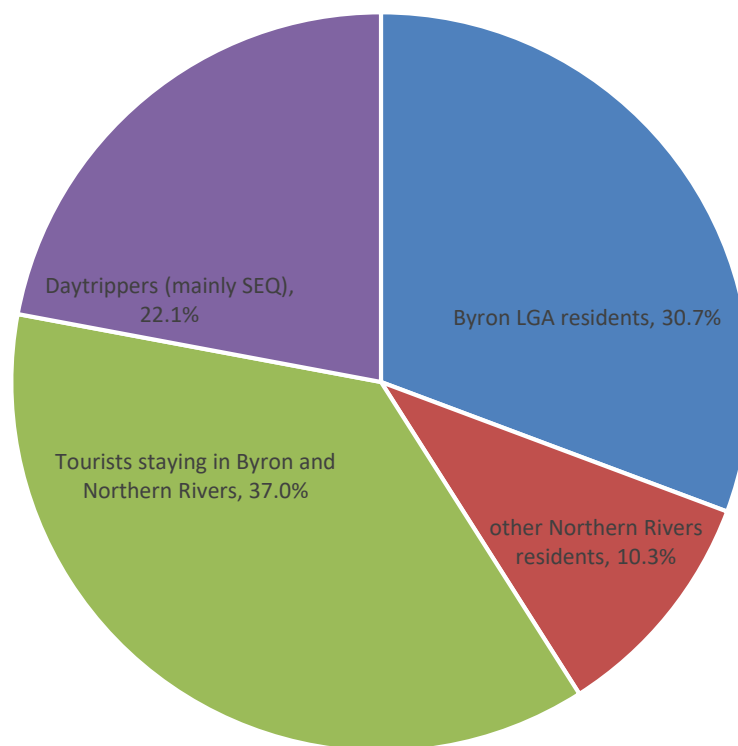
59.5% of visitors to The Farm stated their next destination was within Byron LGA.



Visitor Classification

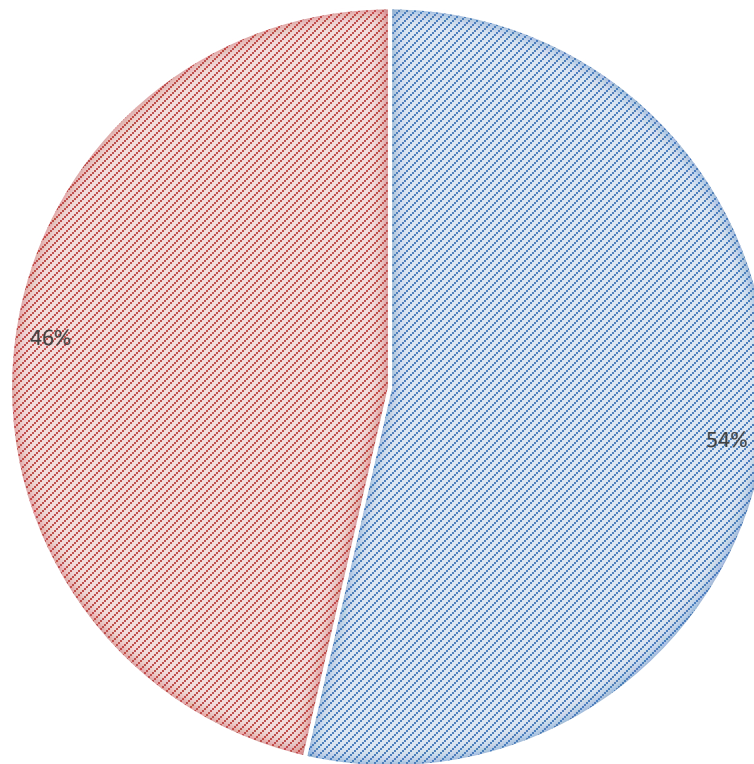
78% of trips to The Farm were undertaken by people living or staying in the Northern Rivers.

22% of visitors to The Farm were undertaken by day-trippers (mainly from SEQ).



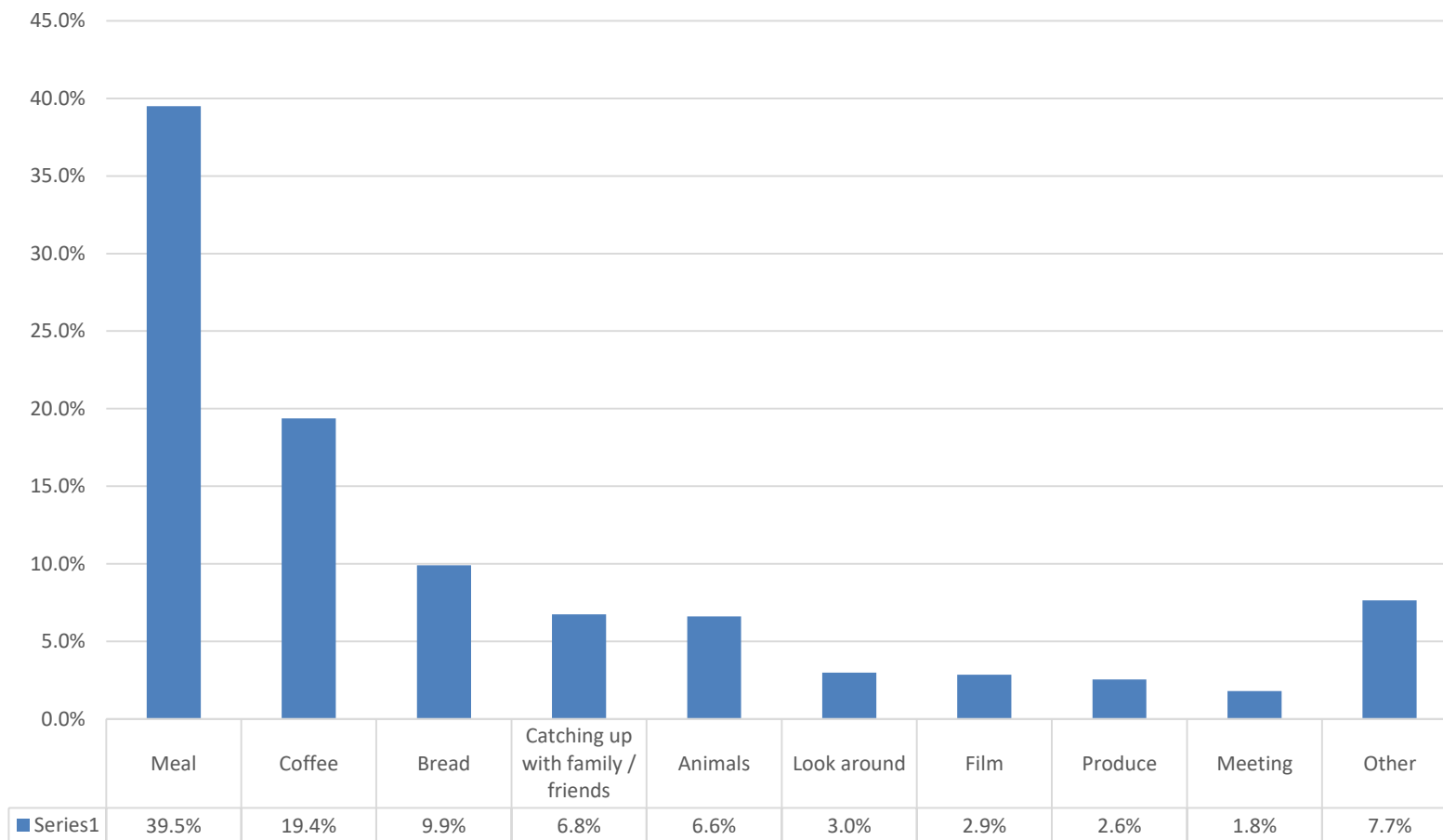
Q5 – Primary destination

■ Primary ■ Stopping off point



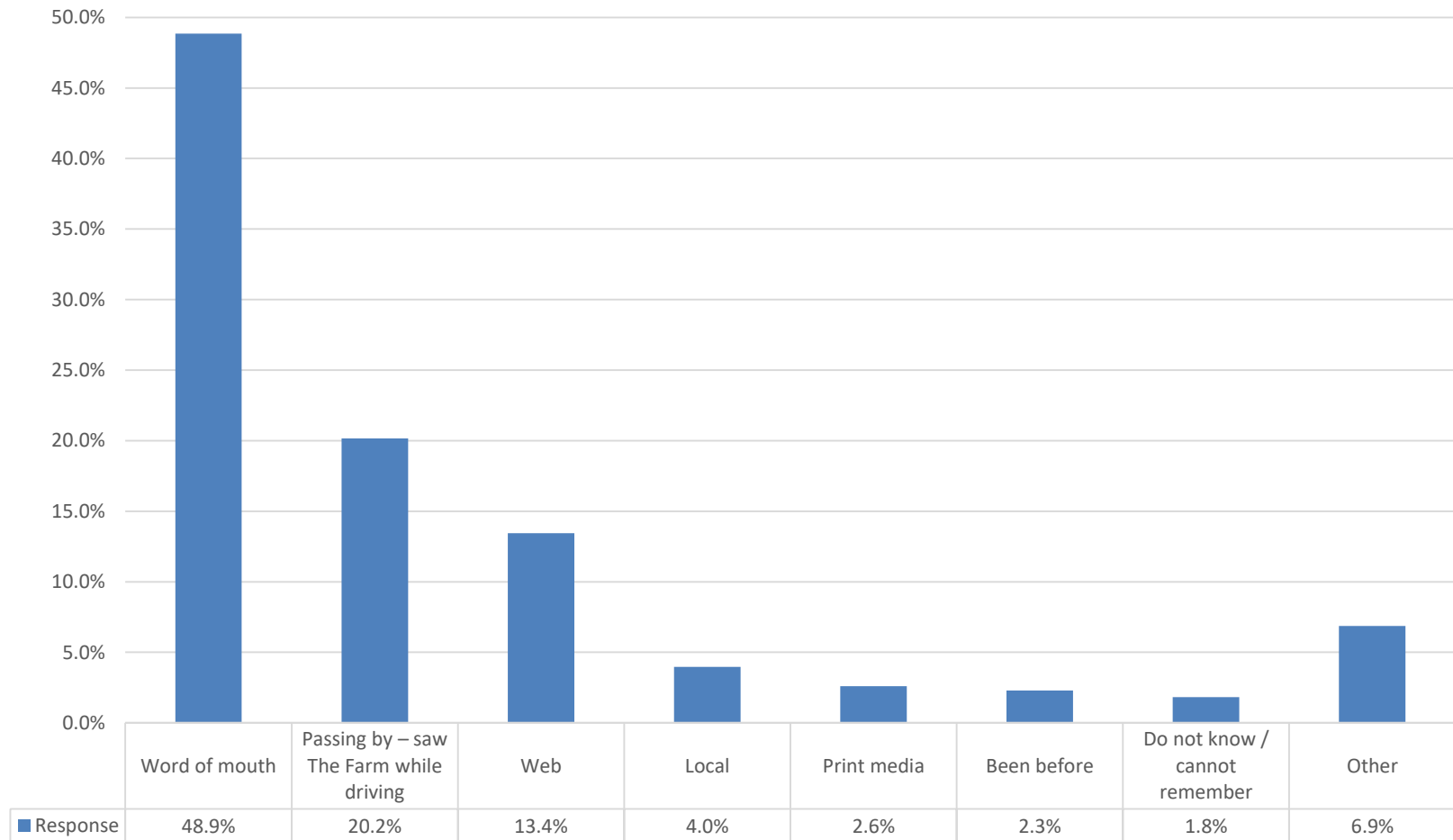
Q6 – Main reason for visit

Other mainly consists of some form of 'looking around'.

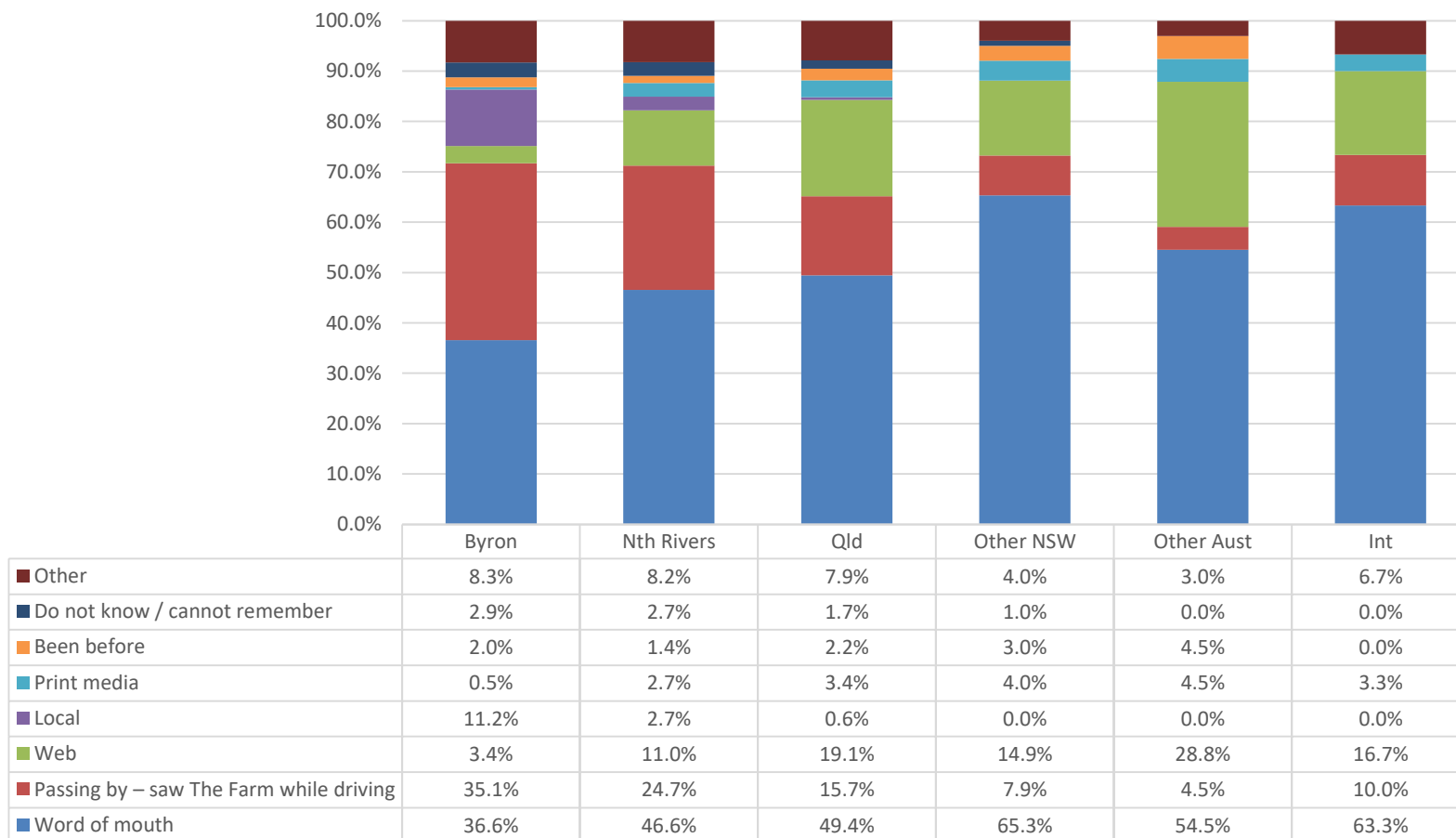


Q7 – How did you hear about The Farm

Other mainly consists of some form of 'live nearby'.



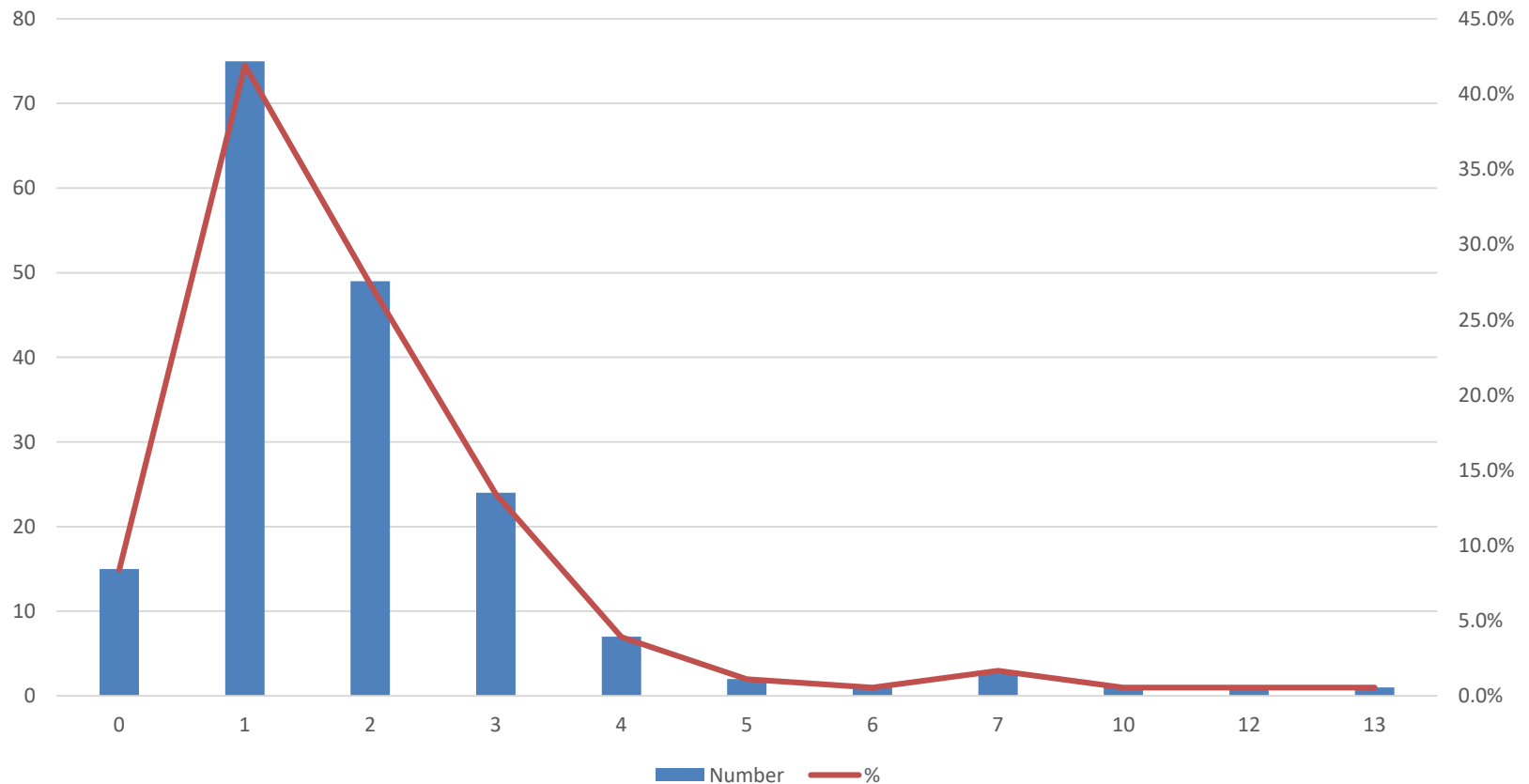
How did you hear about The Farm by Where do you live (expressed as % of responses by area of residence).



Q8 – People under 15 in your group

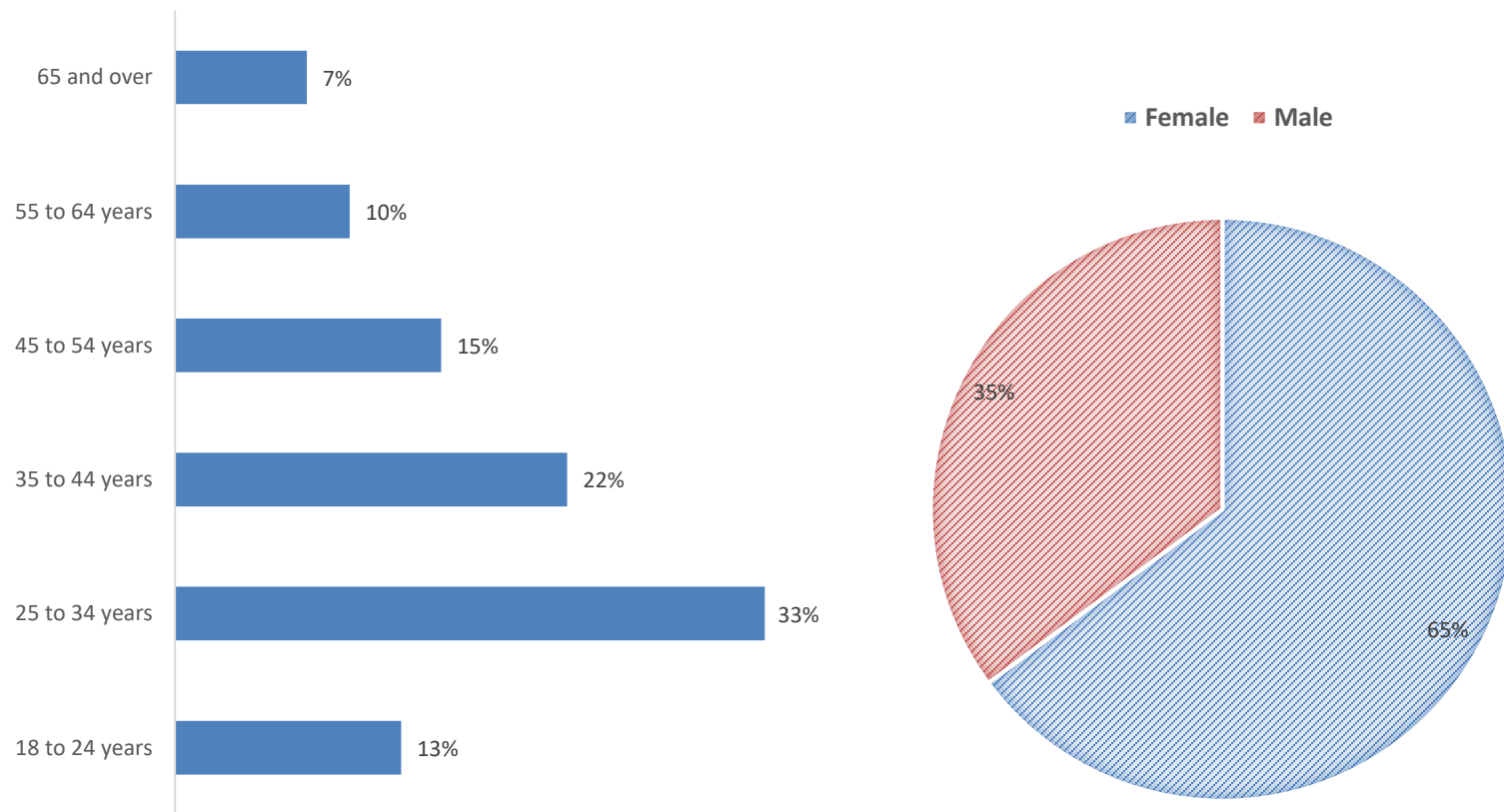
24% of respondents had people under 15 in the group.

Estimated that people under 15 account for 21% of total visitors



D1/2 – Age and Sex of Respondent

Use caution when using this data. Ages were estimates provided by interviewers.



Use caution when using this data. Group sizes were estimates provided by interviewers.

