

Which Farmers Turn to Tourism? A Continental-Scale Analysis.

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Abstract

Many urban tourists like to visit farms, but only some farm landholders offer tourism accommodation and activities. Their motivations have been explored previously in several countries, using stated-preference approaches. Here we report the first continental-scale revealed-preference analysis, which yields significant additional information and insights. Using multiple data sources, we inventoried, mapped and characterised all known Australian farm tourism enterprises, and examined patterns using both size-based and multi-criterion classifications. There are clusters of farm tourism enterprises close to cities and gateways, and isolated operations in more remote areas. We identified four groups: full-time, part-time, retirement and lifestyle operators. Characteristics of the farm property and business, the farming family, and the farm tourism business differ significantly between groups. The groups appear to reflect the joint dynamics of farm succession and rural amenity migration.

Keywords: motivations, family-business, rural, Australia, cockies, blockies

Introduction

Worldwide changes in agricultural commodity prices and production systems, coupled with increasing demand for rural tourism in urbanised developed nations, have lead many farm landholders to turn to tourism operations as an alternative or additional source of income (Brandth and Haugen 2011; Busby and Rendle 2000; Cox and Fox 2003; Dimianos and Skuras 1996; Evans and Ilbery 1992; Ilbery et al. 1988; Meert et al. 2005; Ollenburg and Buckley 2007; Ollenburg 2008; Phillip et al 2010; Sharpley and Vass 2006). The proportions of farmers and rural landholders who have made this move, however, differ considerably from one country to another, and between different areas in the same country (Bateman and Ray 1994; Bowler et al. 1996; Burton and Walford 2005; Canoves and Priestley 2003; Dernoï 1983; Garcia-Ramon et al. 1995; Hall and Rusher 2004; Ollenburg 2008; Weaver and Fennell 1997).

The reasons why only particular farmers establish farm tourism enterprises are significant for agricultural economics, tourism supply, and rural sociology. Their motivations have therefore been examined in a number of countries, using surveys (Frater 1983; Hill and Busby 2002; Hogh 2001; McGehee and Kim 2004; Nickerson et al. 2001; Opperman 1998; Sharpley and Vass 2006; Weaver and Fennell 1997), interviews (Pearce 1990) or both (Ollenburg and Buckley 2007). These methods are analogous to stated-preference techniques in economics or market research. Approaches analogous to the more reliable though less detailed revealed-preference techniques do not previously seem to have been employed in this context. Here, therefore, we employ such an approach for farm tourism operators in Australia, at a nationwide scale, and compare the results with the stated-preference approach reported previously by Ollenburg and Buckley (2007).

There is no single theoretical model for the study of farm tourism (Sznajder et al. 2009). Farm tourism is a rural activity and an industry subsector, and many different theoretical approaches have been applied to analyse its various aspects. In addition to enquiries into motivations, these include, e.g.: rural studies approaches which examine so-called post-productivist landscapes (Marsden 1999); family business models which examine issues of intra- and intergenerational equity (Getz et al. 2003); gender-oriented analyses which aim to elucidate how the addition of tourism into farm economies has modified the role and opportunities for women (Iakovidou and Turner 1995; Garcia-Ramon et al. 1995); and

identity-based studies which examine how farm tourism affects how farmers present themselves to other farmers and to their customers (Brandth and Haugen 2011).

Our approach here is principally empirical. Initially, we set out simply to analyse the patterns and structures of the farm tourism sector using comprehensive data at a continental scale. We test these data against previous models of farm tourism motivations, including a stated-preference approach from Australia itself. Such models include classifications based on the area of the farm landholding, referred to in relevant previous literature as structural classifications. Since the structural model proves inadequate to account for the empirical patterns we describe, we develop and present a more complex four-component model based on multiple criteria. This is a new theoretical approach with application elsewhere, and we refer to it as a functional classification. We show that there are statistically significant differences between each of these four types, in regard to many different functional and operational as well as structural parameters. We then show that these four types can be understood in terms of the larger-scale dynamics of farm communities, farming industries and rural land-use. Specifically, they appear to reflect two contrasting dynamics: the ageing of landholders with a long-term history and strong personal identity as farmers; and the simultaneous in-migration of new landholders with broader business backgrounds. In Australian vernacular terms, these two groups are referred to by analysts of land tenure as “cockies” and “blockies”. Our results, however, are derived from snapshot and retrospective views. Our four-type functional classification is immediately and directly testable in other countries, but the dynamic interpretation can only be tested by following the future trajectories of individual farms and their tourism operations.

Methods

Farm tourism is used here to mean rural enterprises which incorporate both a working farm environment and a commercial tourism component (Ollenburg 2008; Sharpley and Vass 2006; Weaver and Fennell 1997). This definition excludes other forms of rural tourism such as: bed and breakfast establishments in rural townships; rural wine tourism operations; and nature-based tourism enterprises which do not incorporate a working farm. A recent analysis of farm tourism typologies (Phillip et al. 2010) indicated that most authors have required the working farm as a critical component of their definitions. A few analysts, most recently

Brandth and Haugen (2011), have also included some properties which were formerly working farms, but no longer operated in that way. This, however, is not the commonly adopted approach. As noted by Phillip et al. (2010), the term “working farm” is itself somewhat imprecise. They construe it to mean farms “where agriculture is being practised,” whether or not it is at commercial scale.

We compiled two distinct but overlapping sets of data on the characteristics of individual Australian farm tourism operations, as outlined below. We compared the two sets against each other for representativeness, but analysed them separately and then compared the results. The first set, referred to here as the national database, was compiled by extracting statistical information on individual enterprises from publicly available sources. The second set, referred to as the survey responses, was compiled by mailing a questionnaire to every known Australian farm tourism operator nationwide. We sought similar data from both sources, but in practice they yield somewhat different levels of detail.

The national database, including all known farm tourism operators in Australia, was compiled from classified telephone directories, internet sites and directories, regional and state tourism organisations, local business associations, and regional and national industry associations. This database was maintained for two full years, supplemented when new businesses were listed, screened to remove enterprises which did not qualify as farm tourism, and cleaned to remove businesses no longer operational. In aggregate these adjustments yielded a 6% overall change in the database over two years, or 3% p.a. This is less than the 5% per annum real turnover in Australian outdoor tourism businesses generally (Buckley 1998), providing a high level of confidence that the farm tourism listings are complete and accurate. For each property, statistical information was sought, from the same sources, on: the total area of the property; the principal types of agricultural activity other than farm tourism; the maximum guest capacity; and average advertised prices per couple per night. Where different rooms were offered at different rates, an average rate was calculated, weighted by the proportion of rooms in each category. Rates are presented in inflation-adjusted US\$ converted as of 1 January 2011.

The survey was conducted as follows. A detailed, pre-piloted written questionnaire, with a cover letter and postage-paid return envelope, was mailed to every farm tourism operator nationwide at the start of the principal holiday season, with a reminder at the end of

the season. The survey was confidential but not anonymous, to check that responses were representative. It complied with established principles of survey design (Groves 2004; Marshall 1999).

The survey included four main sets of questions, on: the farm, the family, the tourism business, and ownership of businesses and land. Questions about the farm included: property size, farm type, classification as primary production for tax purposes, percentage of area used for farming, proportional income from farming, and distance to next major airport. Questions about the family included: age, gender and professional background of the operators; number of school-aged children; and number of family members living and/or working on the property full- or part-time.

Farm tourism business variables included: guest capacities, occupancy rates, farm tourism product information, client profiles, marketing approaches, and employment. Employment parameters included: number of full-time and part-time employees or family members working full-time or part-time in the farm tourism business; and hours per week allocated to the tourism business by the owner(s). The final questions examined both the ownership of the property, notably how many generations the land had been held by the same family, and the ownership structure and history of the farm tourism business.

We analysed these two data sets as follows. First, we tested them against each other. We compared the geographic and socioeconomic distributions of the two sample sets to check that they were equally representative; and we compiled aggregate nationwide statistics for all variables represented in both data sets, and compared the results.

Second, we examined geographic patterns. We classified the entire national database by postcode (zip code), and mapped the main clusters of farm tourism enterprises. We also compared statistical parameters between Australia's eight States and Territories.

Third, we searched for distinct subgroups within the overall population of farm tourism operators. The nationwide frequency distributions of key statistics revealed a very wide range of variation for most of the parameters examined, even though we had adopted a narrow definition of farm tourism. We therefore tested whether the enterprises can usefully be classified into categories which are both statistically distinct and operationally meaningful.

Following previous research practice in the USA (McGehee and Kim 2004; Nickerson et al. 2001), we first tested differences in each parameter for properties above and below the median area. This single-criterion structural classification, however, proved too simplistic to account for the richness of variation within the survey data. A distinction between longer-term residents and recent migrants also proved unduly simplistic: some first generation owners are full-time and highly effective farmers, whereas some landholders in second or higher generations are running their farms in semi-retirement mode, similar in many ways to recent amenity migrants.

To generate a simple but operationally meaningful classification of Australian farm tourism operators, therefore, we constructed a more detailed multi-criterion classification, referred to here as a functional classification. This is the major methodological innovation of this contribution. To derive this classification, we constructed a mixed decision-tree using a combination of monothetic and polythetic criteria. Operations run by owners aged 65 or over were classified as retirement farms. Those run as commercial working farms but with over 50% of total family income derived from off-farm wage income (i.e. not investment income) were classified as part-time farms. Smaller landholdings with less than 20% of total income from farming, and small-scale livestock or specialist farm types inadequate for commercial commodity production, were classified as lifestyle farms. Relatively large landholdings in each major climatic area, with full commercial-scale crop, dairy, meat or wool production yielding the majority of total income, were classified as full-time farms. Note that, in line with the definition adopted for farm tourism, all four categories included both a commercial tourism enterprise and a working farm. To test the consistency and reliability of the classification, the order of cases in the database was randomly re-shuffled and the classification process was repeated after an interval of several days. The second classification agreed with the first to within 99%.

We used a decision tree rather than a generic multivariate approach such as ordination or factor analysis because the latter would not be meaningful or valid, even with normalisation of variables, for the data available. The parameters recorded were of widely different types; some were uncoded and some dichotomous; different questions addressed different components of the family, farm and tourism business, and ownership; and different questions were not necessarily of equal importance.

Results of these analyses are presented below in successively greater detail. First, we present an overview of the entire farm tourism sector at continent-wide scale. Second, we describe geographic patterns. Third, we compare details of the farm, family and farm tourism enterprises for farms smaller and larger respectively than the median area, the structural classification. Fourth, we present the outcomes of the more detailed functional classification. And finally, we compare the different patterns and insights obtained from each of these analyses, both with each other and with patterns produced earlier from stated-preference studies (Ollenburg and Buckley 2007).

Aggregate National Patterns

Summary results from the national database are presented in Figures 1 - 4 and Table 1, and from the survey responses in Figure 5 and Tables 2 - 5. The national database initially identified 685 farm tourism enterprises nationwide. The mail survey and follow-up identified 82 of these as no longer operational, so there are 603 operational farm tourism enterprises in Australia. This is <0.5% of the total number of farms in Australia. That is a much smaller proportion than in the USA or Europe (Ollenburg 2008). The State of Montana, USA, for example, has 22,000 farms and ranches of which 63% operate a recreation business (McGehee and Kim 2004; Nickerson et al. 2001). Data on property area were publicly available for 306 of these (51%), data on maximum guest capacity for 376 (62%), and data on rates and prices for 367 (61%). A total of 278 completed surveys were returned, a response rate of 46%. The distribution of responses between States was closely representative of the distribution in the national database.

All these frequency distributions are somewhat left-skewed, even using logarithmic scales: there are larger numbers of small to medium enterprises in each category and smaller numbers of larger enterprises. Data from the national database and the survey responses yielded very similar frequency distributions for each of these parameters, giving strong confidence in the results.

Land areas range from under 10 ha to over 1 000,000 ha, with a mean of 8900 ha. The median property size, derived from the survey responses, is 150 ha. This indicates that about 53,700 km², or 0.7% of Australia's total land area, is used for farm tourism, though not exclusively. This is about 1.15% of Australia's total agricultural landholdings.

Guest capacities range from 2-500 people. Results from both the national database and the survey responses show similar frequency distributions. Total guest capacity nationwide is 14,000 guests per night based on the national database, and 14,030 based on the survey responses. This close correspondence between these two estimates gives high confidence in their accuracies.

Prices range up to almost \$1,000 per person per night twinshare (ppnt), but the national mean weighted price is \$76 ppnt. Prices and guest capacities are not correlated significantly with property areas. Figures from the national database, and survey responses agree to within 1%.



Figure 1. Property areas. Data from national database. Note log scale.

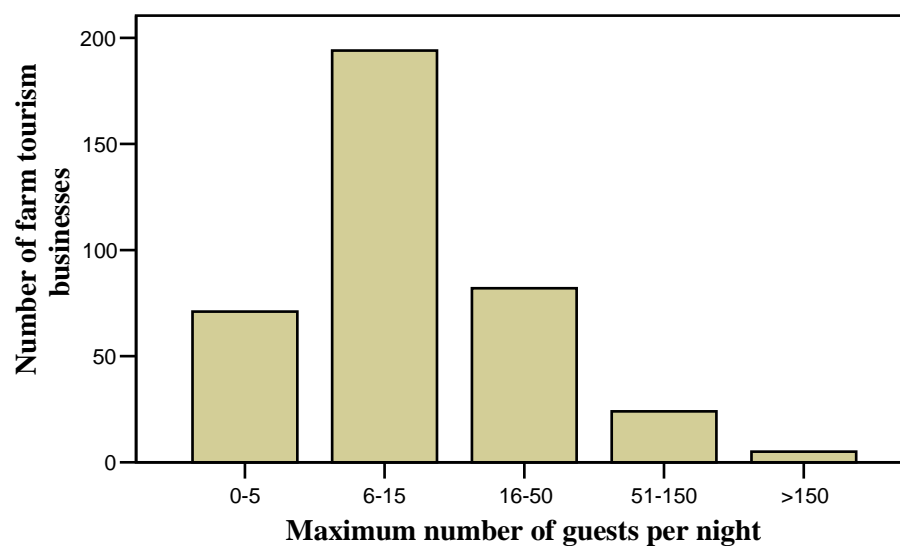


Figure 2. Guest capacities. Data from national database. Note log scale.

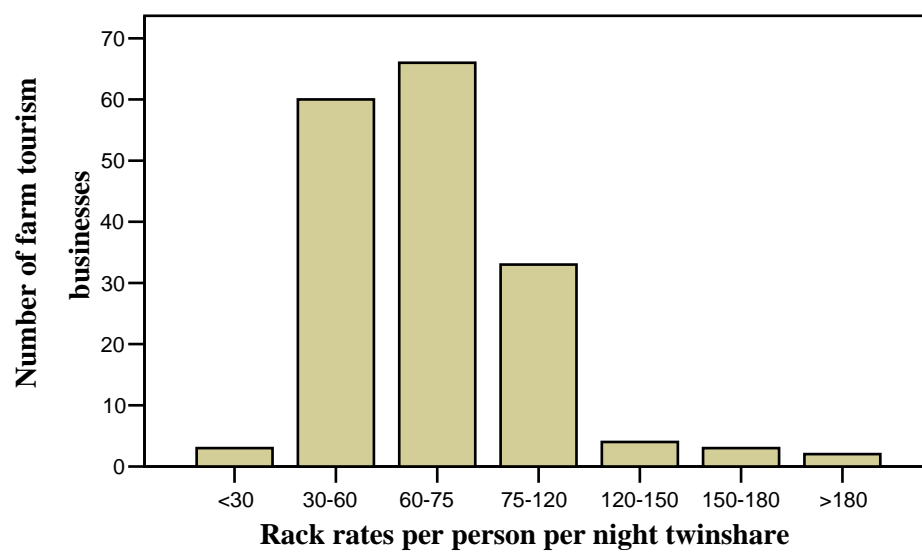


Figure 3. Rack rates. Data from national database.

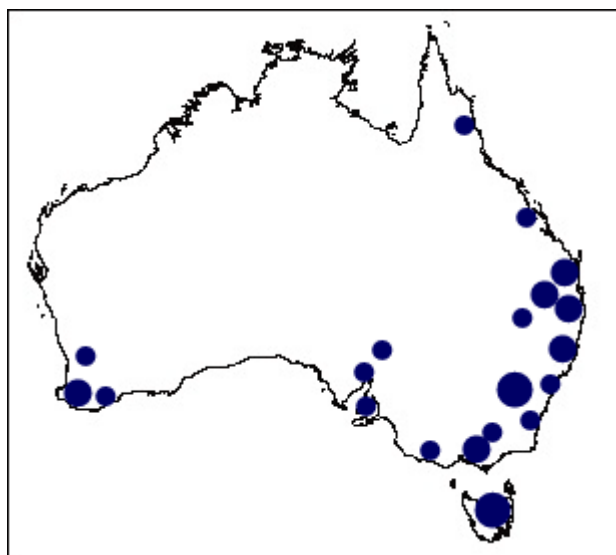


Figure 4. Clusters of Farm Tourism Enterprises in Australia.
Small circles, 10-19 farms; medium circles, 20-49; large circles, 50-100.

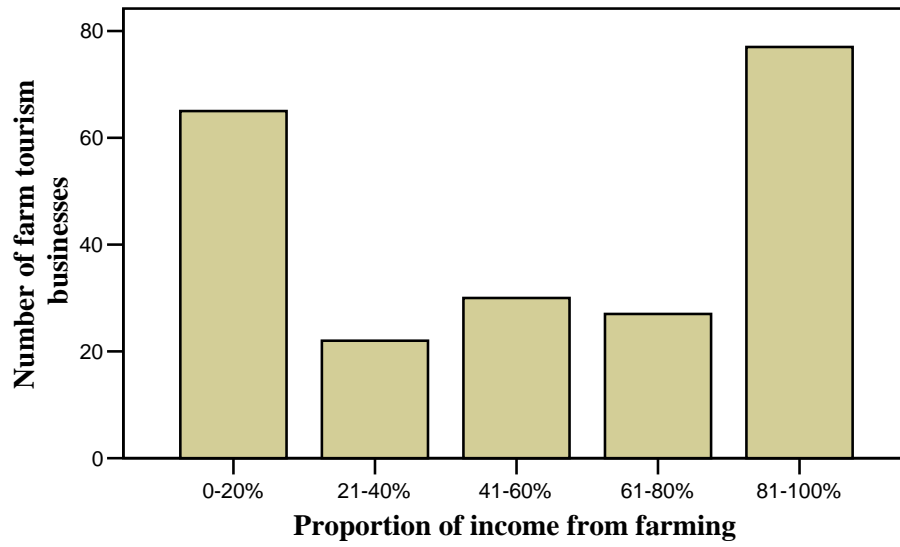


Figure 5. Percentage of Income from Farming

Table 1 Mean Areas, Guest Capacities and Rack Rates, by State and Territory

State	Number of farm tourism properties with data	Number with area data	Mean area, km²	Number with guest data	Mean capacity, guests per night	Number with price data	Price per person per night twinshare, mean across enterprises	Number with both price and capacity data	Price per person per night twinshare, mean across rooms
Qld	93	75	64	73	21	71	42	52	79
NSW	193	106	20	113	25	127	72	78	83
Vic	43	32	28	29	23	11	134	10	91
Tas	74	34	9	73	10	68	70	68	66
SA	20	13	61	12	11	16	69	9	73
WA	77	40	66	71	19	68	64	62	63
NT	7	5	1517	5	20	6	130	5	153
Aust	507	305	89	376	19	367	72	284	76

All price means rounded to nearest whole dollar. Figures in USD as of 1.01.2011.

Table 2 Classifications and Comparisons, Farm and Family Characteristics

Variable	All Farms N = 250	Farms > 150 ha	Farms < 150 ha	Statistics and Significance	Full-time Farms N = 83	Part- time Farms N = 48	Retire- ment Farms N = 48	Life- style Farms N = 69	Statistics and Significance
Mean area in ha	8899	17823	46	t = - 3.6***	18582	13202	680	95	F = 3.9**
% farm area < 150 ha	50	NA	NA	NA	13	56	56	86	X ² = 81.1***
mean % area used for farming	81	87	75	t = - 3.5***	90	73	90	70	F = 12.4***
% = primary production	81	98	64	X ² = 43.3***	100	92	87	45	X ² = 79.5***
% farm type = cattle	40	44	36	X ² = 67.9***	33	42	57	36	
% farm type = sheep	18	29	7		31	13	22	4	
% farm type = dairy	3	3	1		10	0	0	0	
% farm type = crop	10	17	3		22	6	6	0	
% farm type = other	30	7	50		5	39	15	60	
mean % income from farming	56	70	40	t = - 7.1***	87	48	60	11	F = 127.6***
% < 2 hr to airport	65	56	74	X ² = 9.9***	55	60	65	79	X ² = 9.9
% owner age < 45	17	18	14	X ² = 5.8	22	27	0	11	X ² = 71.7***
% owner age 45-55	30	30	29		40	38	0	36	
% owner age 55-64	40	40	44		31	35	65	38	
% owner age >65	13	12	13		7	0	35	15	

Note: all statistical tests carried out on raw data, even where table shows percentages for ease of comparison.
Significances: * = p<0.05; **p<0.01; ***p<0.001

Table 3 Classifications and Comparisons, Farm Tourism Business Characteristics

Variable	All Farms N = 250	Farms > 150 ha	Farms < 150 ha	Statistics and Significance	Full- time Farms N = 83	Part- time Farms N = 48	Retire- ment Farms N = 48	Life- style Farms N = 69	Statistics and Significance
% of income from tourism									
0-5%	26	35	16	$X^2 = 36.7^{***}$	51	13	20	9	$X^2 = 129.3^{***}$
6-25%	23	32	15		30	25	35	6	
26-75%	25	22	29		14	45	37	17	
76-95%	14	6	23		4	15	9	31	
96-100%	11	5	17		1	2	0	36	
Mean year tourism business established	1994	1993	1995	$t = 2.3^*$	1994	1993	1994	1995	$F = 0.8$
% female tourism business manager	63	66	60	$X^2 = 1.1$	66	75	63	52	$X^2 = 6.9$
% tour & farming separate	44	50	38	$X^2 = 3.6^*$	57	42	36	35	$X^2 = 8.6^*$
% market as “outback”	19	32	7	$X^2 = 22.9^{***}$	34	15	9	12	$X^2 = 17.7^{***}$
% with business plan	36	28	43	$X^2 = 5.9^{**}$	29	27	30	54	$X^2 = 13.6^{**}$
% with previous career	59	41	77	$X^2 = 34.5^{***}$	40	65	60	77	$X^2 = 21.9^{***}$
% with homestead	49	51	46	$X^2 = 0.6$	48	49	50	49	$X^2 = 0.01$
% with bunkhouse	18	28	8	$X^2 = 15.3^{***}$	33	12	2	15	$X^2 = 20.3^{***}$
% with camping	16	26	6	$X^2 = 16.8^{***}$	28	15	2	14	$X^2 = 14.4^{**}$
% with cottage	68	67	68	$X^2 = 0.01$	65	68	74	65	$X^2 = 1.3$
Mean guest capacity	28	37	17	$t = -2.6^{**}$	26	42	11	33	$F = 2.4$

Variable	All Farms N = 250	Farms > 150 ha	Farms < 150 ha	Statistics	Full-time Farms N = 83	Part-time Farms N = 48	Retirement Farms N = 48	Life-style Farms N = 69	Statistics and Significance
Mean occupancy rate	35	35	35	t = - 0.9	30	32	35	42	F = 3.3*
Mean price per couple/ night	129	125	134	t = 1.1	120	140	129	131	F = 1.1
% with farm activities	92	94	91	$X^2 = 0.5$	92	92	92	94	$X^2 = 0.4$
% clients= family, couples	93	93	93	$X^2 = 0.00$	93	90	98	91	$X^2 = 9.6^*$
% clients= backpackers	10	16	4	$X^2 = 9.9^{***}$	16	8	2	10	
% clients= tours, groups	24	27	22	$X^2 = 0.99$	25	38	10	24	
% ads= word of mouth	42	69	40	$X^2 = 6.7^{**}$	47	22	6	25	$X^2 = 5.1$
% ads= website	58	31	60		25	21	16	38	

Note: all statistical tests carried out on raw data, even where table shows percentages for ease of comparison.
Significances: * = p<0.05; **p<0.01; ***p<0.001

Table 4 Classifications and Comparisons, Tourism Employment Patterns

Variable	All Farms N = 250	Farms > 150 ha	Farms < 150 ha	Statistics and Significance	Full- time Farms N = 83	Part- time Farms N = 48	Retire- ment Farms N = 48	Life- style Farms N = 69	Statistics and Significance
<i>time commitment by tourism business manager</i>									
% <25 hr/wk tourism work	44	49	39	$X^2 = 5.5$	57	35	54	30	$X^2 = 24.1^{***}$
% 25-40 hr/wk tourism	22	24	20		22	27	24	16	
% >40 hr/wk tourism work	34	27	41		21	38	22	54	
<i>family member work full-time in tourism business</i>									
				F = 0.1					F = 4.4**
0 family work F/T in tour, %	46	50	42		54	42	61	32	
1 family work F/T in tour, %	26	19	33		20	21	30	35	
2 family work F/T in tour, %	23	24	22		21	31	9	28	
>3 family work FT in tour,%	5	7	3		5	6	0	5	
<i>family members work part-time in tourism business</i>									
				F =					F =
0 family work P/T in tour, %	32	33	32		27	33	33	38	
1 family work P/T in tour, %	32	37	29		40	38	24	25	
2 family work P/T in tour, %	28	23	32		24	21	39	28	
>3 family work PT in tour,%	8	7	7		9	8	4	9	
<i>full-time employees</i>									
				F = 2.3					F = 2.4
0 F/T employees	88	85	92		87	80	100	88	
1 F/T employees	5	7	4		2	13	0	7	
2 F/T employees	3	4	2		6	2	0	1	
>3 F/T employees	4	4	2		5	5	0	4	
<i>part-time employees</i>									
				F = 2.6					F = 4.5**
0 P/T employees	55	55	56		58	60	59	48	
1 P/T employees	18	23	13		18	15	28	13	

2 P/T employees	12	11	13	16	6	7	16
>3 P/T employees	15	11	18	8	19	6	23

Note: all statistical tests carried out on raw data, even where table shows percentages for ease of comparison.
Significances: * = $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 5. Classifications and Comparisons, Ownership Characteristics

Variable	All Farms N = 250	Farms > 150 ha	Farms < 150 ha	Statistics and Significance	Full- time Farms N = 83	Part- time Farms N = 48	Retire- ment Farms N = 48	Life- style Farms N = 69	Statistics and Significance
<i>Family Farm Property</i>									
Mean generations owned	1.8	2.34	1.27	t = -7.1***	2.53	1.71	1.67	1.1	F = 18.1***
% owned 1st generation	64	40	87	$X^2 = 58.1***$	34	69	69	92	$X^2 = 57.9***$
% owned 2nd generation	14	21	7		21	12	12	6	
% owned >3rd generation	22	39	6		45	19	19	2	
<i>Farm Tourism Business</i>									
% owned by individual	14	10	18	$X^2 = 12.7*$	8	13	23	17	$X^2 = 25***$
% owned by couple	35	30	39		21	35	47	44	
% owned by family	39	48	31		57	38	21	30	
% inherited the business	6	9	3	$X^2 = 10.1*$	10	10	2	1	$X^2 = 13.7**$
% bought the business	9	5	15		2	10	6	21	
% started business	84	86	82		88	80	92	78	

Note: all statistical tests carried out on raw data, even where table shows percentages for ease of comparison.
Significances: * = p<0.05; **p<0.01; ***p<0.001

Geographic patterns

Geographic distributions are mapped in Figure 4. Only groups of >10 neighbouring enterprises are shown: there are additional individual farm tourism operations throughout the country. Most of Australia's farm tourism enterprises are located along the southeast coast of Australia, within 300 kilometres of major metropolitan areas. There are additional clusters in the hinterland of coastal tourism destinations and alongside major roads in the drier outback regions.

Though similar in total area (7.7 million km²) to the continental USA (9.8 million km²) or the whole of Europe (10 million km²), Australia is divided into only eight States and Territories, as compared to the 50 States of the USA and a similar number of countries in Europe. The Australian States, however, differ greatly in size. The Australian Capital Territory (ACT) is <2500 km² whereas Western Australia (WA) is over 1.0 million km² in area. For comparison, this is 1.5 times as big as Texas. There are individual privately-owned cattle properties in outback central Australia which are larger than some entire European nations. There are also large-scale differences in climate and terrain. Most of WA, the Northern Territory (NT), South Australia (SA), and the western regions of Queensland (Qld), New South Wales (NSW) and Victoria (Vic) are flat and dry, whereas Tasmania (Tas), ACT, the eastern parts of Qld, NSW and Vic, and the far south-western corner of WA are wetter and steeper. This affects the types of farm in different geographic areas, and hence the types of farm tourism enterprises. In addition, the dry outback areas are much more sparsely populated than the eastern seaboard, and access is more intermittent, takes longer and costs more. It is only the areas close to major urban centres which can support large numbers of small-scale, low- to medium-priced family farm tourism enterprises.

Differences between States are summarised in Table 2. Only in the drier areas of the country are there farm tourism properties >100,000 ha in area: one in Qld, three in the NT and four in WA. There are also nine properties in Qld between 10,000 and 100,000 ha in area, and four in NSW. Smaller properties, down to those <10 ha in area, occur in all States and Territories. There are only four farm tourism operations with guest capacities >150: two each in Qld and NSW. There are 24 with capacities between 50 and 150 guests, and 11 of these

are in NSW. Guest capacity is not closely related to property area, because it depends principally on farm type.

By far the majority of establishments (85%) charge between \$30-\$90 ppnt. Only 1% of establishments charge more than \$150 ppnt, and only 1% charge <\$30. There are only five farm tourism enterprises in the NT, but they are large and upmarket. WA and Qld also have a small number of very high-priced farm tourism products. The average price for WA products, however, is low since the majority are self-drive farm stays in the southwest, which offer only accommodation. This also applies in Tasmania.

Generally, farm types simply reflect geographic location. If most of the farms in a given area produce sheep, then farms in that area which are involved in farm tourism are also likely to be primarily sheep farms. Outback cattle stations are large in area, and sheep stations have shearers' quarters which can be adapted for tourists outside shearing season. Small-scale farms in coastal hinterlands and close proximity to metropolitan areas dominate the industry numerically.

Farms, Families and Businesses

Detailed data on the farm properties and farm tourism families derive only from survey responses (Tables 2 - 5). About 64% of the farm tourism business managers are female, and <30% had school-aged children. Only 3% of respondents were <35 years old, and 84% were >45 years old.

Two thirds of the properties are <2 hours by road from the nearest major airport. Over half of current farm tourism operations have been in business for >10 years. The oldest enterprise dated back to 1963; 19% were established before 1980; and 56% between 1990-1999.

All the farm enterprises considered were working farms, as required under the definition adopted, but only 81% of the respondents classified themselves as primary production operations. The most frequent types of farm used for farm tourism were beef cattle operations (40%) followed by: sheep farming (18%); crops (10%); dairy farming (4%);

alpacas (4%) and others including horses, aquaculture and hobby farms. This pattern matched well with the distribution of farm types derived from the national database.

About 88% of respondents reported the proportion of their income derived from farming. The distribution is strongly bimodal. About 30% receive 0-20% of their overall income from farming, 35% receive 81-100%, whilst around 10-12% each receive 21-40%, 41-60% or 61-80% (Figure 5). The proportions of total income derived from tourism are also strongly bimodal. Half the farms earned <25% of total income from tourism, and a quarter earned <5%. About a quarter earned 26-75%, a quarter earned >75% and a tenth earned >95% (Table 3). Distributions of farm income and tourism income are not entirely complementary, however, since a number of enterprises also receive off-farm income.

The great majority of respondents (93%) provide tourist accommodation. Self-contained cottages (68%) and homestead accommodation (48%) are the most common forms, followed by bunkhouses and shearers' quarters (18%) and camping (17%). Most also offer both farm-based activities (92%) and nature-based activities (88%). Nearly all (93%) cater principally to couples and families, but about 25% of also accept groups and package tour customers, and 10% attract backpackers. Occupancy rates range from 1-95% and are strongly left-skewed, with median rate 30% and mean 35% (Table 3). For two thirds of Australian farm tourism businesses, occupancy rates are <40%.

Most of these farm tourism operations have a rather small total staff. Only 10% hire any non-family staff to work full-time in the tourism component of their businesses, and about a third have one or two part-time non-family employees (Table 4). Only 5% have >5 part-time staff, and only 1% hire >5 full-time staff. Most rely principally on family labour: almost two thirds have one or two family members working full-time in the tourism business. Many rely particularly on their founders: one third of respondents work >40 hours per week in their farm tourism businesses, though 44% devote <25 hr/wk to tourism. Allowing for uncertainties in these estimates and for the skewed distribution of hours worked by part-time employees, total employment in the Australian farm tourism sector may be estimated at around 1500 full-time equivalent (FTE) jobs, including family proprietors as well as paid staff.

Almost all Australian farm tourism operators (94%) own their farms: 64% in the first generation, 14% in the second, and 22% in the third generation or higher. Most of the enterprises are owned and operated by the family as a whole (40%) or a couple (35%). Smaller proportions are structured as sole proprietorships (14%), or limited-liability companies and trusts (8%).

The overall shape of the farm tourism sector across the entire Australian continent may thus be summarised as follows. There are over 600 individual businesses, covering a total area of 54,000 km² with a mean area of 89 km² and a total guest capacity of 14,000 people. The mean price per person per night twinshare is just over \$75, and mean double-room occupancy rate is 35%, so the annual turnover of the sector is around \$136 million. This is about 0.013% of GDP, 0.35% of the agricultural sector as a whole, and 0.13% of the tourism industry. This indicates gross revenue of around \$85,000 per full-time equivalent job. No data are yet available on operating costs and net *per capita* income. The scale and scope of farm tourism differs enormously between individual enterprises. For example, land areas range from 1-400000 ha, guest capacities from 2-500 people and occupancy rates from 1-95%. Similarly, whilst a third of the operators earn less than a fifth of their total income from farming, half of them earn less than a quarter of their income from tourism.

Overall, beef cattle and sheep farms are the most common types of agricultural production on farm tourism properties. Some types of farm are proportionately more common in the farm tourism sector than in the farming industry as a whole: examples include herb farms and alpaca studs. Others are proportionately less common: examples include dairies, sugar-cane producers, and intensive livestock production such as piggeries, feedlots, and poultry or egg production.

Area-Based Structural Classification

The median area for Australian farm tourism properties is 150 ha. Characteristics of the farm and the tourism business for properties smaller and larger than the median are compared in Tables 2 - 5. Results may be summarised as follows. More of the smaller farms are closer (<2 hr) to major airports ($p < 0.001$). Fewer of the smaller farms consider themselves as primary producers ($p < 0.001$). About half of the smaller farms are

non-mainstream farm types such as horse and alpaca studs: a far higher proportion than in the Australian farm tourism sector generally. The smaller farms use smaller proportions of their total property areas for farming ($p < 0.001$). They also earn relatively less of their total income from farming ($p < 0.001$): about half of the smaller farms earn only a quarter of their income from farming, whilst half of the larger properties earn over 80%. The reverse applies for tourism: 40% of the smaller farms earn 75-100% of their total income from tourism, whereas two thirds of the larger farms earn $< 25\%$ ($p < 0.001$).

Average guest capacities are 17 for smaller farms and 37 for larger farms ($p < 0.01$). Mean prices and occupancy rates (35%) are the same for both smaller and larger farms. Most clients for both groups are families and couples, but more of the larger farms cater for backpackers ($p < 0.001$) and offer camping and bunkhouse accommodation ($p < 0.001$). Larger farms rely significantly more on word-of-mouth advertisement, while smaller farms are more likely to advertise through websites ($p < 0.01$). Larger farms are also more likely to market themselves as outback experiences ($p < 0.001$), and to operate their tourism and farming businesses separately ($p < 0.05$). Almost twice as many operators on smaller farms had a previous career in a sector other than agriculture ($p < 0.001$). These operators were also more likely to have established a business plan before starting the tourism business ($p < 0.01$). Interestingly, however, there were no significant differences between larger and smaller farms in regards to the employment patterns in the tourism business.

Smaller farms are more likely to be in first-generation ownership ($p < 0.001$). There are almost six times as many larger farms owned by the third or higher generation of the farm family. More of the larger farms are owned as family businesses ($p < 0.05$), whereas more of the smaller farms are operated by a couple or a sole proprietor. Just over 80% of the operators in both groups started their tourism businesses themselves. Of the remaining 20%, owners of larger properties were more likely ($p < 0.05$) to have inherited their businesses, and owners of smaller properties to have bought them.

Overall, this standard structural classification reflects a contrast between two stereotypes: smaller, first-generation, non-mainstream farms in wetter areas, with a higher reliance on tourism; and larger, multi-generation, mainstream farms in drier areas, with a higher reliance on agriculture. Relatively few enterprises, however, fit either of these stereotypes fully, because the parameters concerned are not tightly correlated. There are

many first-generation landholders amongst the larger properties, whilst some of the smaller properties are in second, third or higher generation hands. There are also many properties where farming and tourism income each makes up only a small proportion of total income, with the remainder thus being derived from other sources. For all these reasons, a division based on area alone does not provide a very useful analytical structure for the Australian farm tourism sector. To identify more clear-cut patterns within the Australian farm tourism industry, a classification based on more than one criterion is needed.

Multi-Criterion Functional Classification

Results of the multi-criterion functional classification are summarised in Tables 2 - 5. Just over a third of the survey respondents are classified as full-time farms, 19% as part-time farms, 19% as retirement farms and 27% as lifestyle farms. The classification into these four groups does not correspond closely with the structural classification based purely on median area as above. Property sizes do indeed differ significantly between the four groups ($p < 0.01$), and the key difference is between full-time and lifestyle properties ($p < 0.05$) with part-time and lifestyle farms intermediate. The frequencies of larger and smaller properties differ between groups, but there are properties larger and smaller than the median area in each group.

One of the defining criteria for farms in the full-time group is that they are mainstream primary production operations: principally cattle, sheep, crop and dairy producers. Cattle and sheep production are the dominant types for the part-time and retirement farms, but these groups also include other farm types such as fruit, horses and aquaculture operations. In contrast, only 45% of the lifestyle farms are mainstream agricultural commodity production operations, as compared to 99% for the Australian agricultural sector as a whole. Although lifestyle farms do have a high representation of cattle properties, more unusual and non-mainstream farms including alpaca and hobby farms dominate, whilst dairy, crop and sheep are not represented. In addition, cattle production on lifestyle farms may not be at commercially viable scale. More of the lifestyle farms are <2hr from major airports than full-time ($p < 0.01$) or part-time farms ($p < 0.05$).

There are significant differences between the four groups in the percentage of income from farming, and the percentage of the total area used for farming ($p < 0.001$). Average

farming income was significantly higher for full-time farms than for any other group ($p < 0.001$) and significantly lower for lifestyle farms than for any other group ($p < 0.001$). There were no significant differences, in regards to these parameters, between part-time and retirement farms. Full-time farms used a significantly higher proportion of their land for farming than part-time and lifestyle farms ($p < 0.001$) but not more than retirement farms. The difference between part-time and lifestyle farms was not significant.

The proportion of income from tourism differs greatly between the four groups ($p < 0.001$). Broadly speaking, the importance of tourism as an income source increases from full-time, over retirement and part-time to lifestyle farms. Whilst half of the full-time farms receive less than 5% of their overall income from tourism, more than two thirds of the lifestyle farms earn 75-100% from tourism. Interestingly, although the return from tourism is relatively low, full-time farms are more likely to separate the tourism and farming businesses ($p < 0.05$). Independent chi-square tests revealed significant differences in proportional income from tourism between each of the four groups taken pairwise, except between part-time and retirement farms.

Part-time farms have the highest guest capacities, with an average of 42 people per night. Interestingly, lifestyle farms have the second highest average capacity at 33 guests, and a significant higher occupancy rate than full-time farms ($p < 0.05$). Differences in guest capacity amongst groups, however, and differences in occupancy rate amongst the remaining groups, were not significant. The majority of clients, by far, are families and couples. Full-time, part-time and lifestyle farms are more likely to cater for backpackers. Only the difference between full-time and retirement farms, however, is statistically significant ($p < 0.02$). Part-time farms, on the other hand, are more likely to cater for groups and package tours.

Full-time farms have a significantly higher percentage of bunkhouse accommodation available than any other farm group ($p < 0.001$). Full-time, part-time and lifestyle farms are significantly more likely to provide camping accommodation ($p < 0.01$). A third of the full-time farms, significantly more than any other group, market themselves as an outback experience ($p < 0.001$). Full-time farms are also more likely to rely on word-of-mouth advertisement than any of the other groups, whilst lifestyle operators are most likely to use the internet to advertise their farm tourism business. Operators of full-time farms are least likely

to have had a prior career other than agriculture ($p < 0.001$), whilst lifestyle farms were most likely to have developed a business plan before starting ($p < 0.01$).

Part-time and lifestyle farms employ significantly more full-time family members than retirement farms ($p < 0.01$). Lifestyle farms are more likely to have part-time employees than retirement or full-time farms ($p < 0.01$). The majority of full-time and retirement farm operators spend less than 25 hours a week in the tourism business. The difference between these two groups, and lifestyle farm operators, is significant ($p < 0.01$). There were no significant differences in regards to the amount of time allocated to the tourism business between part-time farms and any other farm type, even though part-time farms earn more than 50% of their total income through off-farm employment.

More than half of the full-time farms are in second or higher-generation ownership, a significantly higher proportion than for any of the other groups ($p < 0.001$). Most lifestyle farms (92%) are in first-generation hands, significantly more than for full-time or part-time farms. There were no significant differences between part-time and retirement farms, or between retirement and lifestyle properties. There are significantly more family-owned and family-run businesses in the full-time group than in retirement ($p < 0.001$) or lifestyle groups ($p < 0.01$). Lifestyle farms were more likely to have bought their businesses than full-time farms ($p < 0.001$) or retirement farms ($p < 0.05$).

Differences between the four groups may thus be summarised as follows. A third of the respondents operate mainstream farms on a full-time basis. All dairy farms fall into this category as well as the majority of sheep and crop farms. Other farm types such as alpaca or aquaculture businesses are underrepresented in this group. The majority of these full-time farms are run by second- to seventh-generation owners. The properties are significantly larger, and the average farm income is higher than in any other group. A number of stations in outback regions fall into this category. These commonly have spare facilities such as shearers' or stockmen's quarters and can cater for groups, particularly for backpackers. A farm tourism business allows them to utilise these facilities with little investment. Full-time farm operators were less likely to have developed a business plan, and few had any prior career other than farming. The family business is the predominant form of ownership. The tourism income is supplementary to the main farm income, with about half of the full-time operators earning less than 5% of their overall income from tourism.

Part-time farms are slightly smaller on average than full-time farms. These households already supplement their farming income with off-farm activities. Climatic conditions, notably severe droughts, have forced many Australian farmers to take off-farm employment. Tourism income is more important than for full-time farms, with nearly half of the operators earning at least 25% of their overall income from farm tourism. Family and couple-owned businesses are the dominant forms of ownership. More than 65% of respondents in this group had a previous career other than agriculture. In addition, part-time farms have the highest percentage of female farm tourism operators. As noted previously, women are more likely to pursue an off-farm career so as to earn additional income to support the family and the farm. Female part-time farm operators may run a farm tourism business in parallel to off-farm work, and intend to replace the latter gradually with on-farm tourism.

Farming in Australia is carried out by an ageing population, and this also applies to farm tourism, with 83% of farm tourism businesses run by people aged 45 years and older. Older operators, by definition, are characteristic for retirement farm tourism businesses, but these generally also have relatively smaller properties. The predominant industry is beef production, owing to its low demand on technical investment and labour, which allows production in conjunction with on-farm semi-retirement. Retirement farm operators have generally run commercial farm enterprises in the past, and are hence more similar in their characteristics to full-time and part-time groups than they are to lifestyle operators. These farmers are not motivated to move in their semi-retirement. Farm tourism provides them with a retirement income and social interaction. If respondents in this group have a high equity in their business they can often absorb the declining terms of trade for farming: they are traditional farm enterprises in winding-down mode. They live on their assets, and remain in farming for enjoyment and as long as their health permits it. Farms in these circumstances are generally unable to support two generations at once, so on-farm succession is no longer feasible, even though there are as many second, third and higher generation owners in this group as in the part-time group. The majority of retirement farm tourism businesses are run by a couple or a single operator. The mean guest capacity of 11 people is significantly lower than for any other group. Furthermore, given that more than half of the operators work less than 25 hours a week in the farm tourism business, it appears that retirement operators adjust the tourism business to match diminishing physical capacity, and give greater importance to

social interaction. Retirement farm tourism businesses are least likely to provide bunkhouse and camping accommodation, which have a higher demand on labour and management time.

Nearly a third of the respondents are lifestyle farm tourism operators. The majority of respondents in this group have properties smaller than the median of 150 ha. The mean proportion of income from farming in this group is only 10%, whereas two thirds earn >75% of total income from tourism. Many of these enterprises are hobby farms or other non-mainstream farming types within easy access from a major airport. Most of these lifestyle operators are >45 years old, had a previous career other than agriculture, and bought their farm tourism businesses and/or developed business plans before starting operations. Occupancy rates are significantly higher for lifestyle enterprises than in the other groups.

From a tourism perspective, operators in the full-time, part-time and retirement groups have a common history in farming, though they are currently at different stages of the family and farming lifecycle. They are used to making a living from farming and can provide an authentic farm tourism product. Lifestyle operators, in contrast, are recent arrivals from prior urban careers, and are more likely to provide small-scale staged farm activities specifically as a tourist attraction. They run their tourism businesses professionally, with business plans, marketing strategies and high occupancy rates.

Conclusions

The Australian farm tourism sector is as yet rather small in gross economic terms, <0.13% of the tourism industry and about 0.35% of the farming industry. It may have critical financial significance for individual farm families and regional communities, but its national impact is strategic rather than mainstream. In particular, it is much smaller proportionally than its counterparts in Europe and North America. Potential reasons for this, associated with the history of government subsidies for agriculture, were explored by Ollenburg (2008). This appears to be the first study worldwide to measure the economic scale of the farm tourism sector for an entire continent, using a comprehensive bottom-up aggregative approach from two independent data sets; and the two data sets yield results which agree to within 1%, providing a high level of confidence.

It is a truism, but an oft-forgotten one, that farm tourism enterprises are involved in both the farming and the tourism sectors. Indeed, every farm tourism transaction is a transfer between the two sectors, analogous to, e.g., a purchase of minerals by the manufacturing sector or timber by the construction sector. The purchasers of farm tourism products are tourists, but the providers are farmers first and foremost. As noted by Brandth and Haugen (2011), “it is easier to get the farmer out of farming than it is to get farming out of the farmer.” Farm tourism is thus subject to two simultaneous sets of constraints. On the one hand, the features of farm tourism enterprises reflect the characteristics of the farms on which they are based. On the other, only those farms which are attractive and accessible to tourists can operate viable farm tourism businesses. It is the interaction of these two sets of constraints which determines the geographic distributions, size and capacity distributions, and farm types of Australia’s farm tourism enterprises.

The four functional farm tourism types derived from our multi-criterion classification, may reflect the twin dynamics of an ageing farming population, with younger generations leaving the land for a city life; and a new generation of amenity migrants leaving the city for a rural life. In terms simply of the statistical parameters examined, these four groups are equally distinct, and form a progression from full-time farms through part-time and retirement farms to lifestyle properties.

In terms of the interaction of farming and tourism, however, the first three groups share a basic similarity in that they are all derived, historically at least, from viable full-time farming enterprises. Those in the full-time group still are. They take in a few guests but they do not depend on them. Those in the part-time group are now economically marginal for agriculture alone. They depend on external income sources, and are attempting to substitute on-farm tourism for off-farm employment. If they succeed, then tourism will have kept those properties in farm commodity production. Properties in the retirement group are either no longer viable for farm commodity production, or not attractive to younger generations of former farming families. It would appear that necessarily, these properties will soon be sold outside the family. Depending where they are, they may be sold to neighbouring farms as part of a consolidation process, or they may be sold to newcomers who can render them economically viable through different farming approaches.

Alternatively, they may be sold to amenity migrants who will take them out of agricultural commodity production. Such buyers may still run a farm, but solely for taxation advantages, personal recreation and/or commercial tourism. The last of these are the lifestyle group of farm tourism operators, those who generally do not have a family background in farming, but who have moved to the country and set up farm tourism operations so as to combine livelihood and lifestyle. Often they have the business background to run successful tourism enterprises, and generally they have no particular historical allegiance to farming.

Taken together, therefore, these four functional groups illustrate a change in land use and ownership patterns, that cannot be seen in the purely area-based structural classifications used in previous studies. The functional types appear to reflect the twin dynamics of two countervailing migrations. Many long-term farmers are ageing and moving to retirement, and in many cases their children either do not want, or cannot afford, to take over the family farm (Ollenburg and Buckley, 2007). Farm tourism provides a way for the older generation to remain on the land, but not indefinitely. At the same time, in some parts of the country there has been a “tree change” or “green change” movement for city dwellers to buy rural properties for lifestyle reasons (Buckley et al., 2006), and tourism provides them with one source of income. In Australian terms, these two groups are referred to colloquially as “cockies” and “blockies”. The former is a traditional vernacular term for the owner of a farm, from the days when many farm workers were itinerant. The latter is a new variant created to refer to urban purchasers of rural “blocks”, which is the vernacular term for a parcel of land, of any size. Our results indicate that this may apply in farm tourism as in agricultural land tenure more broadly.

Taking these results in conjunction with the stated-preference data provided previously by Ollenburg and Buckley (2007) gives both a broader and deeper picture of the continent-wide farm tourism industry in Australia than either taken alone. The results presented here show the size, shape and structure of the sector and the families involved in it: which farmers have turned to tourism. The interviews and Likert-scale questionnaires presented by Ollenburg and Buckley (2007), in contrast, provided detail on why they have done so.

Whilst farm tourism may be a financial saviour for some individual farm families in Australia, is unlikely to provide a large-scale boost for rural development. Policies promoting

farm tourism as a potential panacea, however, remain active in a number of nations, most recently France (TIME Magazine, 02 August 2010, cited by Brandth and Haugen, 2011). In Australia, relatively few farms have taken up tourism, and over half of them are in the full-time and retirement categories, which are not dependent on tourism for critical income. They take in guests for social reasons and ready cash (Ollenburg and Buckley 2007), but they may leave the tourism sector at any time. Of the remainder, only those properties easily accessible to tourists can expect to run viable enterprises. Encouraging cash-strapped farmers to make capital-intensive investments in tourism (Bailey 2007) is as likely to accelerate bankruptcies as to alleviate them.

Private farmlands will become increasingly significant for conservation under climate change, to provide connectivity and buffers between and around existing public protected areas. Publicly-funded financial incentives to encourage conservation are likely to become an increasingly important income stream for rural landholders, perhaps in conjunction with carbon offset programs (Buckley 2007). Most (88%) of the farm tourism operators in Australia offer nature-based as well as farm-based activities; and in aggregate, they use only four fifths of their land for farming; with the remaining fifth, presumably, potentially available for conservation. These properties and landholders, therefore, and particularly the amenity-migrant lifestyle operators (Buckley et al. 2006) may provide particularly good targets for conservation incentive programs.

As noted by Brandth and Haugen in their recent Norwegian study, farm tourism operators need to become “service minded” in order to succeed commercially, and the same applies in Australia (Ollenburg and Buckley, 2007). Not all have made this transition; and even fewer have good market intelligence on who their clients are and what they want. Few, for example, know what proportions book their farm tourism holidays in advance, and what proportions arrive unexpectedly during self-drive vacations. Few know whether their visitors treat the farm as their primary holiday destination, or as convenient accommodation close to a national park, or just a casual stop-off during an extended tour? These are topics commonly covered in conversation between farm tourism hosts and their guests, but rarely recorded or formalised. The data reported here indicate that families are the main clients for most farm tourism enterprises. For some farms, the same families visit routinely every year. The results presented here refer largely to the farm tourism enterprises, the supply side. Equally

important, for future research, will be an understanding of the demand side: client demographics, motivations and expectations.

Australia is a large continent, about one fifth smaller than either Europe or the USA. It is a significant contributor to a number of international agricultural commodity markets. Australian wheat exports, for example, are third in scale globally, after the USA and Canada. What happens to farming in Australia is arguably more significant, on a global scale, than what happens in any single European nation. Worldwide changes in agricultural commodity prices and production systems, referred to at the outset of this contribution, affect many other nations in the same way as Australia. The four-type functional classification of farm tourism enterprises, derived here from comprehensive empirical analysis at continental scale, seems likely to be equally applicable in other continents, perhaps with some local adjustments; but no corresponding data sets are yet available to test it. Our interpretation of these patterns in terms of land-use dynamics remain to be tested, by following the trajectories of individual farm properties. Corresponding approaches would also be equally valid elsewhere.

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