DOES 'THE LOCAL' PROVIDE A PATHWAY TO REVITALIZING PRIMARY PRODUCTION IN REGIONAL COMMUNITIES? A CASE STUDY OF PROFESSIONAL FISHING ON THE NSW SOUTH COAST.

Freya Croft
PhD Candidate, Australian Centre for Culture, Environment, Society and Space, School of Geography and Sustainable Communities, University of Wollongong, Wollongong, NSW, 2522, Australia. Email: fec900@uowmail.edu.au.

Michelle Voyer
Vice Chancellor's Post-Doctoral Research Fellow, The Australian National Centre for Ocean Resources and Security, University of Wollongong, Wollongong, 2522, Australia.

Michael Adams
Associate Professor of Geography, Australian Centre for Culture, Environment, Society and Space, School of Geography and Sustainable Communities, University of Wollongong, Wollongong, NSW, 2522, Australia.

Candice Visser
PhD Candidate, The Australian National Centre for Ocean Resources and Security University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia.

Duncan Leadbitter
Visiting Fellow – The Australian Centre for Ocean Resources and Security, University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia.

James Reverly
Associate Professor of Management, University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia.

Frances Steel
Associate Professor of History, University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia.

Jade Kennedy
Academic Developer Indigenous Knowledges, University of Wollongong, Northfields Avenues, Wollongong, NSW, 2522, Australia.

ABSTRACT: Economic development in regional areas is a high priority social and political objective in Australia. Regional and rural coastal towns have suffered as a result of the declining value of primary production from traditional industries, including fishing, farming and forestry. As a result, attention has shifted to alternative employment and revenue sources, especially from service industries such as tourism and hospitality. Using a case study of the New South Wales (NSW) South Coast fishing industry combined with a review of global trends gaining prominence in food systems, we argue that primary industries—like professional fishing—are now well positioned to foster a revival in rural and regional communities. Consumer interest in food provenance and sustainability, a movement towards 'localism', and the growth in food-based tourism have created new opportunities for the sector. The industry will, however, need support from regional development agencies to assist the transition to new business models, and recover from a prolonged, and at times traumatic, period of reform.

KEY WORDS: Localism; food provenance; regional development; sustainability; fishing; tourism.

ACKNOWLEDGEMENT: We would like to acknowledge that this project was funded by a grant from the University of Wollongong's Global Challenges Program for research into Sustaining Coastal and Marine Zones.

1. INTRODUCTION

Many regional coastal and rural towns have experienced economic hardship in recent decades as a result of a decline in traditional industries, prolonged periods of drought, and an increasingly city-based population (Gibson and Connell, 2011). Furthermore, the nature of an industrialised, globalised world has brought about a shift from local, small scale levels of production to large

scale national and global enterprises (Winter, 2003) and trading patterns that make locally produced goods seem less economically attractive to consumers (Donaher and Lynes, 2017). This has had extensive ramifications for primary industries such as agriculture and fishing. These industries were historically operated through small family run businesses, operating on local scales, but in recent years they have become far more industrially organised and are often owned by large corporations rather than individuals or family units (Olson, 2011). These changes have constituted a challenge for regional coastal and rural towns, which have subsequently declined in population and economy (Van Putten *et al*., 2014). Some towns are now looking to alternative industries to overcome economic challenges, and especially to service-based industries including tourism and hospitality. These alternative industries may also have the potential to reinvigorate existing primary production and associated cultural traditions, by bringing local history to the fore and attracting visitors to regional and coastal areas (Hall, 2005; Feenstra, 1997; Wiskerke, 2009). In particular, three interrelated and closely connected cultural trends are gaining prominence in food systems, which have potential to revitalize primary production in regional communities. Firstly, there is an increasing focus on food provenance, secondly a movement towards 'localism', and finally a growth in food-based tourism.

This paper first examines these trends. It then explores how alternative trends in food production may intersect and disrupt the movement towards industrialisation and consolidation seen in many primary industries around the world. It does so by examining a case study of the professional fishing (also known as commercial fishing) industry on the South Coast of NSW.

Interest in Food Provenance

The benefits and opportunities of alternative food systems have captured the interest of stakeholders (Donaher and Lynes, 2017) at different scales, both for reasons of economic development and for sustainability. A shift into sustainable food trends has come from an international level which is shown in the policies of organisations such as the Food and Agriculture Organisation (FAO), The World Bank and the United Nations (UN). There is an acknowledgement that current industrial food systems may become unsustainable into the future as we face growing food insecurity in the face of anthropogenic climate change and population growth (UN, 2019). Unequal

economic development and climate change, which is impacting agricultural productivity, natural resources and food production "has led to major shifts in the way in which food is produced, distributed and consumed worldwide" (UN, 2019, p. vii). The adjustment into new food systems and their commitment to enacting change is reflected in the UN Sustainable Development Goals (SDGs) and in the focus areas stipulated by the World Bank, including Climate Smart Agriculture and Food Security (the aim of which is to "improve food security and build food systems that can feed everyone, everywhere, everyday") (World Bank, 2019).

This international level of interest in reforming food systems is also seen on a local level as consumers have become increasingly concerned about the impacts their food choices have both environmentally and socially (Olson *et al*., 2014). This has led to a growing recognition of the importance of knowing where food is from and how it has been produced, or, food provenance (Morgan *et al*., 2008). Food provenance and alternative systems of food have been extensively examined by scholars attempting to theorise movements of resistance against industrial food systems (Murdoch *et al*., 2000; Winter, 2003; Brinkley, 2017; Seyfang, 2006). Morgan *et al*. (2008) suggest that the term 'food provenance' has a spatial, social and cultural dimension. The spatial dimension refers to the place where the food originated; the cultural dimension to the quality and reputation of the product, and the social dimension to the ways in which it was produced and distributed. They go on to argue that "the social dimension is particularly important because it helps consumers to deal with the ethical issues in globally dispersed food supply chains" (Morgan *et al*., 2008, p. 4). These ethical issues are concerned with labour conditions, the treatment of animals and the environmental cost—and have led to a 'moral economy' within food supply chains and food systems more generally (Morgan *et al*. 2008, p. 4). Alternative food systems then are "recovering a sense of morality within the food and agriculture sector" (Sage, 2003, p. 49).

As consumers have become more aware of the environmental and social impacts of current dominant global agri-food systems, other characteristics of the mass global food industry have become evident. These include the use of chemicals, the genetic engineering of produce, unethical treatment of animals, unfair conditions for workers, discrepancies in the supply chain, and the often-vast distances that produce travels (sometimes in refrigerated transport) to

reach markets—a concept known as 'food miles' (Maye and Kirwan, 2010; DeWeerdt, 2009). While there are complexities associated with the concept (see Rama and Lawrence, 2008), it can still be generalised that food that has not travelled long distances from 'paddock to plate' will be less detrimental in relation to Greenhouse Gas (GHG) emissions than food that has travelled from interstate or overseas. Food that has required extensive refrigeration while in transit (such as seafood) will also contribute a greater amount of GHG (Garnett, 2011). The consumer interest in food miles reinstates the central question relating to food provenance—namely, where does my food come from in relation to both its production and distribution? This growing interest in food provenance has seen a shift away from conventional agri-food systems and has led to a proliferation of alternative food systems which are deemed to be a more sustainable and traditional mechanism for both producers and consumers (Maye and Kirwan, 2010).

Local Food Systems

A prominent movement within alternative food networks is the concept of 'localism'. The growing

interest in provenance has given rise to an increased focus on the 'local' within food systems (Morgan *et al*., 2008). These local food systems then "pose increasingly visible structures of resistance and counter pressure to conventional globalising systems" (Feagen, 2007, p. 23). Local food movements have manifested in a variety of ways, including a proliferation of farmers markets, paddock to plate initiatives, produce boxes, community gardens, small-scale market gardens and small-scale free-range livestock production. Localised food systems are seen to connect communities to local food and businesses: "they have been seen as a way to reduce the spatial and social distance between producers and consumers, with a host of accompanying changes like fostering trust, enhancing community development and food security and promoting ecological sustainability" (Olson *et al*., 2014, p. 104). The vastly increased public interest in local food movements, has led to the term 'locavore'—meaning an individual who endeavours to eat local food where possible (Byker, 2010). This popularity of local food has become so pervasive that it has become a dominant force in retail, marketing, restaurants and as a tourism strategy (Tropp and Morghan,

2017). Locality is attached to a product through strategic marketing and trademarks that work specifically to tie a product to a place or region:

> "*The association with regional tourism and the products incorporated within such marketing schemes such as 'cheese trails' helps to promote regional or local identity. Public qualification thus also plays a role in building quality… The process of embedding thus involves the careful assembling of domestic, public, civic and ecological qualities.*" (Murdoch *et al*. 2000, p. 117).

These highly embedded, local systems of production and distribution emphasise a link between eating and ecology, where consumers not only eat food but in doing so recognise their environmental and social impact (Tidball *et al*., 2013). In this sense they are part of a larger network of alternative food movements in which both community and civic engagement are significant factors.

A component of these alternative food movements is the use of traditional methods or knowledge to assist in primary production—as can be seen with organic, chemical free agriculture (Sage, 2003). In the evolving future of primary industries in a rapidly changing world, it is likely that traditional and cultural knowledge will be further recruited—to not only respond to the limitations and impacts of industrial mechanisms but to redefine the sustainability of future food production. As the global population exponentially increases, making future food security uncertain; traditional, Indigenous and historical techniques of production that relied on subsistence and sustainability will likely become more important (Onakuse, 2012).

Local Produce and Culinary Tourism

While some argue that the benefits of local food have been overstated (Wiskerke, 2009; Delind, 2011), proponents of eating 'local' suggest that such consumption aids regional development. This is based on the premise that a local food industry boosts the local economy, provides employment and encourages tourism (Hall, 2005). When local food is intertwined with regional tourism, it can help to promote regional and local identity. As Murdoch *et al*. (2000) found 'attaching a locality' to a food raises its value in the eyes of

consumers, we can begin to see how various places embed their local identity within a food tourism framework. Hall (2005, p. 149) argues that "since the early 1970s rural regions in industrialised countries have been substantially affected by successive rounds of economic restructuring within a new globalised economy and society." This has prompted diversification within local industries, which have shown an increase in new forms of agricultural products and food tourism. Local culinary tourism can reinforce ideas of cultural community identity and can help foreground local history (Hall, 2005). A study of local food and tourism in the UK, found that over 60 per cent of tourists that were interviewed had chosen to consume food and drink that they considered to be local to the region they had visited (Sims, 2009). The consumption of local products can also help to provide authenticity to the tourist experience (Sims, 2009). Tourism is one of the largest global industries and is increasing annually (UNWTO, 2018), suggesting strong potential for local culinary tourism as a strategy for regional development.

Local Food Systems and the Potential for Regional Development

These systems of locally embedded food production can be used as a tool to boost regional development and accordingly local food systems have been seen as "a logical and appropriate way to revitalize a community" (Feenstra, 1997, p. 28). Local food, and the notions of quality that accompany it, have the potential to "become the basis for a new economic dynamic in areas largely bypassed by the productivist logic of treadmill agriculture and mainstream business" (Sage, 2003, p. 47). Wiskerke (2009, p. 383) suggests that place embedded food geographies can help vulnerable places in 'regaining relevance' and in forming more 'resilient and robust regions'. What has been largely missing from this however, is the place of seafood within local food systems as a mechanism to promote regional development. We explore this idea through a case study of the professional fishing industry on the South Coast of NSW.

For the purposes of this paper, the South Coast of New South Wales is deemed to be the coastal region stretching from Wollongong (60km south of Sydney) to the border of Victoria (Fig 1). The region supports a population of approximately half a million people, with ocean and maritime industries estimated to provide more than 2 000 full time jobs and at least $356M AUD gross value added (Herath, forthcoming). The region also faces a range of

challenges, including higher than average unemployment, which is particularly concentrated amongst youth and the relatively high Indigenous population within the region. Industries in this region include tourism, agriculture, fishing, forestry, manufacturing and coal; however many of these industries have declined substantially over recent decades.

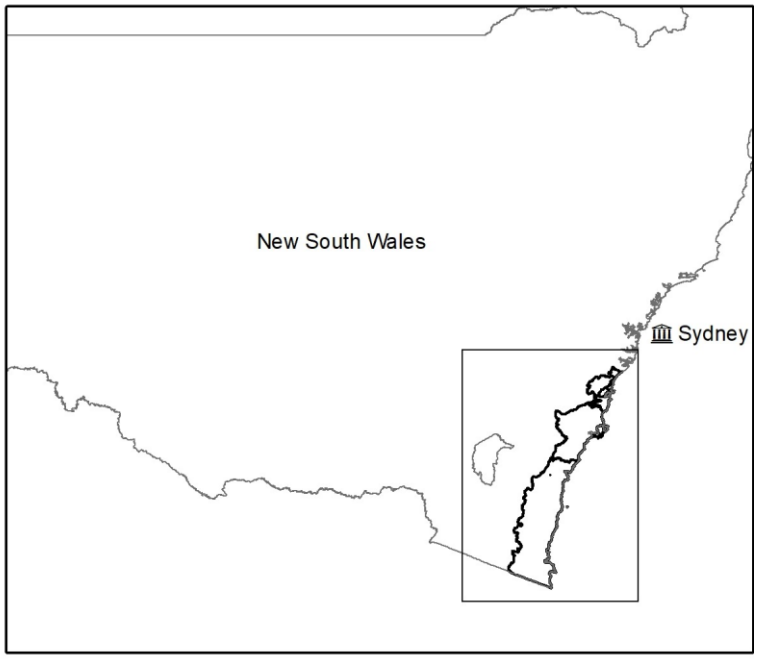

Figure 1. The NSW South Coast Region. Source: University of Wollongong.

We explored the past, current and potential future role of the professional fishing industry as a source of regional development through an analysis of existing data and published literature to identify potential regional development opportunities from the professional fishing industry. Further empirical work would be required in order to quantify and track the scale and nature of these opportunities.

2. LOOKING BACK: THE HISTORY OF THE NSW SOUTH COAST FISHING INDUSTRY

Professional fishing has played a significant role in the historical development of many NSW coastal towns, especially on the NSW South Coast. The industry was an important economic driver of growth for many of the larger regional centres throughout much of the late nineteenth and early twentieth centuries and was the main source of employment in many 'fishing villages' up and down the coast (Clarke, 2011; Hoskins, 2013). The importance of fishing to these coastal regional centres has, however, declined significantly in recent years (Van Putten *et al*. 2014). This section will track these developments, focusing on three key stages: 1) sustainable fisheries (pre and early colonisation) 2) expansion and diversification (war and post war years) 3) regulatory reform and rationalisation (1980s to the present).

Fisheries from Pre-Colonisation to Late 1800s

Trade and exchange of seafood products amongst Aboriginal communities is known to have occurred both before and after colonisation (Bennett, 2007). Fishing was, and remains, central to cultures of South Coast Indigenous people, and a wide range of marine species were a consistent part of Aboriginal diets (Attenbrow, 2012). Archaeological records indicate Aboriginal fishers developed a range of new technologies: bone-tipped spears are estimated to have been in use at least 6 000 years ago, and shellfish hooks appear to have been developed at least 1 000 years ago (NSW Fisheries, 2002). As it was easily accessible at low tide, abalone (*Haliotis*)—known locally as walkun or mutton fish—was a staple part of the Aboriginal diet, along with pipis (*Plebidonax deltoides*), mussels (*Mytilus Edulis)* and lobster (*Nephrodpiadae*) (Cruse *et al.*, 2005). From around 1 500 BP Aboriginal people appeared to develop a range of fishing technologies including fish hooks, nets and fish traps that led to finfish playing an increased role in the Aboriginal diet (Bennett, 2007; Nicholson and Cane, 1994; Waddell, 2010).

Following colonisation, Aboriginal people were able to use their superior knowledge of fishing to conduct trade with settler-colonists, exchanging fish for flour, tea or sugar (Bennett, 2007). Stories are still told on the South Coast of the times European colonists would have starved if not for Aboriginal fishers. Indeed, the celebrated explorers, Bass and Flinders, were given water

and some fish by Aboriginal people on their exploration south from Botany Bay (Duffy, 2013).

Indigenous people played a crucial role in the development of the fledgling professional fishing industry in the colony's earliest days. In this period fishing was mostly for local trade and focused particularly around supplying miners, timber workers and workers engaged in other emerging industries on the South Coast. Difficulties with transporting fresh fish to the Sydney markets led to several reports that plentiful fish supplies were being 'wasted' (i.e. underexploited) due to these transport problems (Fisheries of the Colonies, 1883).

From the mid-late 1800s the fishing industry included large numbers of Chinese and Aboriginal fishers who often worked together to catch and process fish and abalone. In fact, from 1850, the government, through the Aboriginal Protection Board, began to supply many Aboriginal Communities on the south coast with boats, the majority of which were used for fishing including professional fishing (NSW Fisheries, 1905).

Chinese fishermen were first recorded in Wollongong in 1859 amid the Australian gold rushes. Local newspapers reported that a large party of 'celestials' arrived in Wollongong Harbour on a vessel from Sydney. Observers stated that they disembarked, loaded their equipment onto bullock carts and proceeded overland to Lake Illawarra, in the Wollongong area's south, where they set up camp. From this base, they caught fish, salted and packed them on-site and sent them to their countrymen on the goldfields. Chinese abalone fishermen often worked further south of Wollongong in cooperation with Aboriginal people. Abalone was sought after by the Chinese in a number of locales around the world, though it seldom attracted European fishermen (*Illawarra Mercury* 1862).

Expansion and Diversification (Early Twentieth Century)

From its earliest origins the professional fishing industry in NSW was small-scale and, until the commencement of truck transportation in the 1930s, the South Coast was largely regarded as an 'underexploited' fishery (Wilkinson, 1997). The State Government did attempt, on a number of occasions, to expand into industrial scale operations. In 1882 the Government began experimenting

with steam trawlers, with the first trial occurring on the South Coast. This fishery rapidly depleted stocks of tiger flathead (*Neoplatycephalus richardsoni*). In 1914 the Government established its own State Trawling Industry, with associated retail outlets. The fleet consisted of at least six steam trawlers which targeted fish to supply the growing popularity of fish and chips. This venture was ultimately unsuccessful with the business and many of the retail outlets sold off to private owners or closed down (Wilkinson, 1997).

In the 1920s the first Italian fishermen began to arrive in Wollongong and also to migrate down the coast, bringing with them new forms of fishing, new tastes for different fish products and distinct fishing traditions. Recognising the potential of the area they introduced Italian fishing practices including long-lining, especially for snapper (*Pagrus auratus*) and tuna (*Thunnini*) (Puglisi and Puglisi-Inglis, 2008).

The decline of the steam trawler fleet was followed by a growth in small diesel-powered boats that used Danish Seine nets, in the 1930s. During this period pelagic fish such as tuna and Australian salmon (*Arripis Trutta*) were targeted. This was in response to the establishment of two canneries on the south coast of NSW in the 1930s and the 1950s (Narooma and Eden). This period saw the most successful attempt to establish industrial scale fishing and processing with these fisheries becoming the most significant contributors to the NSW industry in terms of catch for many years in the mid-1900s. The expansion of the Danish Seine netting fleet also resulted in the establishment of a new ocean prawn fishery in NSW contributing significantly to the growth of a number of minor ports up and down the coast. The use of Danish Seine trawlers began to decline, however, in the 1960s and 1970s and seiners began converting to newly developed light otter trawl gear and smaller, diesel powered vessels (Wilkinson, 1997). The first of the two NSW canneries also closed its doors in the 1960s heralding the beginning of the end for large scale fish processing in NSW (Pacey, 2001).

Regulatory Reform and Rationalisation (1980s to the Present)

The more recent history of the NSW wild-catch fishing industry demonstrates a prolonged period of regular and often traumatic regulatory change, aimed at rationalising and reducing the fleet as well as meeting wider conservation objectives. This period saw a dramatic decrease in the number of

professional fishing licenses right across NSW, down from a peak of over 4 000 in the 1970s to under 1 000 in 2016 (Figure 2).

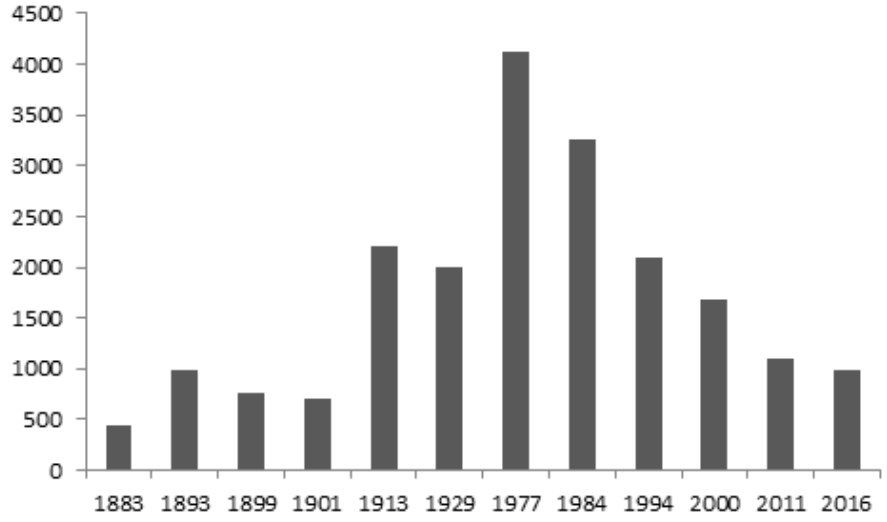

Figure 2. Estimated Fishing Licence Holders 1881-2016. Source: Voyer *et al.* (2016).

During this era there was also significant Commonwealth restructuring of fisheries that involved the South East trawl sector and the tuna fishery. The restructuring occurred under the Hawke government with John Kerin as the Minister for Primary Industries. This brought about a new direction in the management of Commonwealth fisheries through the introduction of a statutory authority (Australian Fisheries Management Authority) as well as a transferable quota system (Australian Fisheries, 1990). The restructuring resulted in a reduction of vessels and was the first phase of a reduction in professional fishing in the South Coast region.

The first five years of the 2000s saw profound shifts in the regulatory environment in which the professional fishing industry operated. These shifts included significant restrictions on access (through marine parks and

Recreational Fishing Havens where all professional fishing is banned), a move towards partial share management and a full assessment of the environmental sustainability of the industry. During this period there was a proliferation of recreational fishing licences, which showed that "fishing as a primary industry and in food production, was being overtaken by tourism and recreation" (Clark, 2017, p. 127). The primary aim of the reduction in licence holders was ensuring long term economic viability, with marine conservation through protected areas and access restrictions an additional strategy.

Rationalisation of the fleet has been aimed at smaller, less profitable or inactive businesses with agency reports clearly indicating a preference for reducing the number of small-scale operators in favour of the more 'productive' members of the industry (Stevens *et al.*, 2012; Wilkinson, 2013). However, this objective has come into conflict with an industry which has historically been characterised by small, family run businesses often subsisting on diverse fishing interests across a range of sectors (Howard, 2012).

Current situation: the contemporary South Coast fishing industry

The most recent period of reform for the NSW fishing industry was aimed at ensuring an environmentally and economically stable future for the sector. Over the last five years, major regulatory changes have been imposed. These include, the implementation of new boat licencing requirements for commercial fishing activity (*Fisheries Management Amendment Act 2015* (NSW)) and the introduction of the NSW Commercial Fisheries Business Adjustment Program (BAP) which features share linkages to catch through quota or effort through day at sea (DPI, 2016). These changes have not attracted the unanimous support of commercial fishers. The validity of the latest regulations was recently challenged by an individual fisher in the Supreme Court (*Elliott v Minister Administering the Fisheries Management Act 1994* [2018] NSWSC 117). However, despite acknowledgement by the court that there is potential for the BAP to produce unfair results in regard to quota allocation, the appeal was unsuccessful (*Elliott v Minister Administering the Fisheries Management Act 1994* [2018] NSWSCA 123). Concerns about the socio-economic effects of the BAP have not, however, been ignored and an independent assessment of the latest reforms is currently ongoing (Marshall, 2019).

Despite its long history of decline, the fishing industry remains an important contributor to the local economy on the NSW South Coast. In 2016 a large scale social and economic assessment of the NSW fishing industry found that on the Illawarra and South Coast it directly generates more than $29 million in revenue and over 270 full-time local jobs (Table 1) (Voyer *et al*. 2016).

Table 1. The Economic Impacts of Professional Fishing on the Respective Regions. The Whole NSW Results Cover All the Areas and Account for Economic Activity Between Areas, Not Calculated in Each Region or by Adding Those Regions (the All Regions Column).

Regions	Far North Coast	Clarence	Mid North Coast	Great Lakes - Hunter	Central Coast	Illawarra	South Coast	All Regions	NSW
Initial expenditure ($m)	6.22	12.00	8.39	13.28	13.59	5.92	6.25	65.66	65.66
Output ($m)	11.87	26.35	19.34	42.06	41.50	15.53	14.16	170.81	219.21
Value Added ($m)	4.45	12.32	8.57	22.49	18.62	7.43	7.63	81.50	104.85
Household income ($m)	2.48	5.55	3.97	9.42	10.30	3.43	3.38	38.54	50.85
Employment (no.)	95	238	154	310	209	121	152	1 279	1 403

Source: Voyer *et al*. 2016

This same study conducted a survey which indicated that residents of the South Coast recognise the economic importance of the wild-catch industry to their region—90 per cent thought that it provides important employment opportunities, 86 per cent believed it is an important industry for NSW, and 88 per cent of people believed that professional fishing plays an important part in tourism in their region through, for example, the supply of local seafood. The

survey also indicated that consumers on the South Coast have a strong preference for local product (46 per cent prefer seafood sourced from their own town or region, 42 per cent prefer Australian sourced seafood). Consumers from this area were some of the most likely in the state to *often* (51%) purchase local seafood. Most (62%) purchased seafood once a fortnight or more, with a preference for fish followed by prawns (Voyer *et al*., 2016).

This study highlighted the important complementary role that the fishing industry plays with the tourism industry. The vast majority (89%) of NSW residents indicated in the survey that they expect to eat locally caught seafood when on holidays. Eating out is one of the most popular activities undertaken by domestic visitors to the South Coast and the fishing industry provides an important and valued product to local tourism and hospitality markets (Voyer *et al*., 2016). Furthermore, the working harbours of Bermagui and Eden provide an important tourism attraction, in what could be acknowledged as place based industrial tourism.

3. LOOKING FORWARD: GLOBAL TRENDS PROVIDE INSIGHT INTO LOCAL SOLUTIONS

Opportunities for Regional Fishing Towns

The contemporary South Coast fishing industry, with the inclusion of aquaculture, provides insight into how the opportunities associated with increased interest in seafood provenance, and the rise of localism and food tourism may be creating opportunities for a beleaguered and declining industry.

In envisioning a local seafood industry, it is important to recognise that 'local food' is inherently connected to ideas of place and therefore also concerned with scale. Scholars have presented differing analyses of what might constitute 'local' (Selfa and Qazi, 2005; Trivette, 2015) and have illustrated that it is important to remain aware of the socially constructed nature of 'local' and thus be sensitive to its many diversities (Feagan, 2007). In attempting to conceptualise 'local' within seafood industries it is apparent that an approach different to terrestrial food systems is necessary. Fish and other seafood live in a fluid, dynamic environment, in which they are not necessarily fixed to a particular corresponding terrestrial locale, with the exception of products of aquaculture such as oysters. As a wild resource fish are not bound by the

constraints of modern agriculture as other animals and crops may be (Adams, 2016) again with the exception of aquaculture. However, by focusing on place of capture and the offloading port, we can begin to define what a 'local' seafood industry might entail.

As the local food movement gains momentum (Tropp and Morghan, 2017), the opportunities to foster a robust local seafood industry that supports regional development also increase. These opportunities stem from an expansion and development of programs and technology that promote sustainability, transparency and traceability. This has led to a resurgent draw of 'the local' within the seafood industry. Seafood is frequently marketed based on place of origin—for example Sydney Rock Oysters. This focus on local product has been particularly prominent in the aquaculture industry on the South Coast but is also emerging within wild catch fisheries. Local fishers have begun to build a profile based on their family history in the region and a business model that significantly shortens the supply chain to the consumer. One local family-owned fishing company website gives a detailed history and uses the slogan "Fresh, locally caught seafood, direct from our family boats to you" (http://naroomaseafood.com.au/index.html). We would argue that this not only satisfies the needs of conscious consumers but also adds value to produce. This creates possibilities in terms of the desirability of a product, consequent production including increases in employment, and can help to create a tourist market.

Local produce is often used to attract tourists, and this has been seen (predominately with land based local produce) on the South Coast of NSW. However, there are also examples within the seafood industry. Examining the menus of prominent restaurants illustrates the significance placed on how local seafood is being used to build a food-based tourism. As examples, the popular South Coast seafood restaurant 'Rick Stein's Bannisters' promotes local seafood on its menu, often linked to specific towns or locations in the region such as the Clyde River and Eden (Bannisters, 2018). The Whale Restaurant in Narooma also regularly features local seafood on its menu including fish products which reference the name of the local catch vessel. Both these restaurants are linked to popular hotels in the region. Wollongong's iconic seafood restaurant 'The Lagoon' offers 'local snapper fillet' on the menu, advertising that it is 'fresh catch direct from local trawlers' (The Lagoon

Seafood Restaurant, 2019). Similarly, Harbourfront—another popular Illawarra restaurant—states on their website that they "source only the freshest of locally caught seafood and produce from local suppliers" (Harbourfront Seafood Restaurant, 2019). Whilst focused more specifically on the aquaculture industry, events like the annual Narooma Oyster Festival (https://www.naroomaoysterfestival.com/) exemplifies the ways in which the south coast seafood industry showcases itself to tourists and locals.

The local food movement has captured the interest of a generally affluent and niche market with high levels of support for local food coming from adults who have higher education levels and a high income (Byker, 2010). The marketing of local seafood as not only desirable, but also reflecting historical and cultural values will work to tap into this emergent market. Examples from overseas would suggest that local fishing businesses on the South Coast have not yet fully realised the potential that may exist for regional development based around these alternative trends (Andreatta, 2011). However, there is growing interest in exploring where opportunities might lie through an emerging paradigm of a 'Blue Economy' (Voyer *et al*., 2018). For example, Indigenous fishers in the region are beginning to explore how they might use storytelling and history to provoke interest in their small-scale fisheries. A first step down this path began through a partnership with Illawarra filmmaker Sandra Pires (in collaboration with the UOW Global Challenges Program), who developed a short documentary clip *Moruya Fishing* which explores the stories of the Nye and Brierley fishing families (see Pires, 2018). This represents an initial step towards linking the stories and culture of these fishers with the generally low value fish they target—mullet (*Mugilidae*) and Australian salmon. There is future potential to market these generally low value fish as a more desirable product. In these local enterprises, the past and present are entangled, where ancient techniques, cultural practices and family ties are as significant as ever. The skills and knowledge associated with fishing have been passed down through these families, and for them "fishing has always been an important part of their culture, diet and livelihood" (Pires 2018). The continuation of long-standing Indigenous tradition, coupled with the idea of locally caught and sustainable seafood, without issues related to traceability or fraud could be beneficial in a multitude of ways. The Nye and Brierley families are beginning to explore how they might use storytelling and history to provoke interest in their small-scale fishery. By telling a provenance story that is rich in history and culture, the mullet and salmon fisheries have

the potential to sell produce that exemplifies some of the key concepts of a local food industry.

Challenges and Constraints

There are several barriers to capitalising on the potential opportunities for the South Coast fishing industry provided by global food trends. These range between cultural, structural and social limitations. For example, the history and culture of the professional fishing industry, which has historically had an adversarial relationship with Government and other stakeholders (e.g. recreational fishers), meaning that there is generally a limited willingness to trust or accept offers of assistance (Voyer *et al*., 2016). Furthermore, structural barriers such as limited place of origin marketing could act as a challenge for the development of a local seafood industry in this region.

It will also be important to consider questions of equity and accessibility in relation to seafood in any movement to capitalise on the opportunities provided through food system trends. For example, it becomes important not to make local products (such as locally caught seafood) a rarefied product that is only marketed and sold to the affluent, making it both niche and classist. As Donaher and Lynes (2017, p. 748) stress; "the emphasis should be on ensuring that local food does not become (in the words of Blake *et al*., (2010, p. 423)) the 'exclusive domain of the few who are wealthy and educated.'" The case of the Moruya mullet fishery is an interesting one in this respect. Mullet is a cheap accessible and culturally significant seafood species for local Indigenous communities. New markets for this product, while opening up some opportunities for Indigenous fishers, may also have ramifications for the supply of mullet in local markets (largely Indigenous and lower socio-economic). Thus, this story could also be one woven into a fabric of changing patterns of production and consumption in Australia, that have seen Indigenous people disadvantaged as products they have traditionally eaten and harvested become available to a more exclusive market, and also become highly regulated in terms of licensing restrictions—such as mutton fish (abalone) (Cruse *et al*., 2005).

4. DISCUSSION

Australia currently imports over 70 per cent of its seafood (Department of Agriculture 2015). This is partially due to the relatively low levels of productivity associated with Australian fisheries in comparison to other countries like New Zealand or Japan, coupled with the highly regulated nature of Australian fisheries management (Van Putten *et al*., 2014; Voyer *et al*., 2017). There is accordingly a potential to further expand and develop some local fisheries, especially by broadening the limited range of species currently consumed in Australia (Farmery *et al*. 2018). The purchasing of locally and sustainably caught seafood from local businesses can also assist in promoting economic development in these areas. This can also be promoted through the use of eco-labels that clearly indicate details about the provenance or sustainability to guide consumers with their seafood choices (Kirby *et al*., 2014).

Not only is seafood provenance an important step to empowering consumers, it is also an important mechanism to reduce illegal and unregulated fishing, reduce the environmental and ecological impacts of the fishing industry and also to ensure food safety (Watson *et al*., 2016). An invigorated local fishing industry would assist in achieving these measures. Fish bought and sold locally have a far shorter supply chain, ensuring transparent traceability. However, the challenges of transparency and traceability in supply chain management may be further mitigated by developments in the use of technology, including blockchain, to accurately track seafood from bait to plate (Visser and Hanich, 2018).

Opportunities exist in the local seafood industry that have the potential to aid regional development, through the expansion of localised production, an emphasis on place-based marketing, the collaboration of local restaurants and food-based tourism. In further developing this concept, efforts must be taken to ensure that we are not simply re-creating global problems in the seafood and agriculture industries at a localised scale. Research from Carteret North Carolina into the opportunities offered by a localised fishing industry that has the support of both community and business, illustrates potential in this arena (Andreatta *et al*., 2011). In establishing a community supported fishery that directly markets their products as locally embedded, this region has established a local fishing industry that promotes their community and their rich cultural heritage. As is an issue globally the nature of a globalised, industrialised

fishing industry tends to often forget the nuance of local heritage, culture and tradition within fisheries. As this industry becomes increasingly challenging in terms of reduced fish stocks and frequent regulatory changes (Andreatta *et al*., 2011) fishers are struggling. However, in the case of Carteret, the local fish brand Carteret Catch™ was established and this has led to a thriving local fishing industry. Local seafood is sold throughout regional restaurants and celebrates a long-standing cultural tradition of fishing in this area. Examples such as this, illustrate the opportunities that exist if similar strategies were developed on the NSW South Coast.

As consumers continue to move away from industrialised food systems, alternate systems continue to grow and expand. While the seafood industry has lagged behind in this respect, avenues of change are underway. With issues of provenance and traceability becoming more widespread within global fisheries, a space is emerging for local and small-scale fisheries that engages conscious consumers. Within this emerging sphere, there is scope for some of the aspects that have found resonance within local food systems to be further expanded upon within local seafood industries. This includes embedding seafood within particular localities and marketing it to a niche consumer base.

The inclusion of historical stories and cultural meaning within this embedded and locally situated market can further promote tourism and this can aid in regional development by boosting visitation to the area. The entanglement of the past and present within this facet of the South Coast maritime industries, exemplifies the significance of history in determining the future path of our local industries and our local regional, rural and coastal areas.

5. CONCLUSION

Our case study of the NSW South Coast fishing industry reveals that a variety of factors are currently converging to create an ideal setting to revitalise and reinvigorate this primary production industry in regional and rural communities. Firstly, the industry has emerged from a sustained period of reform which was designed to secure its economic and environmental sustainability into the future. Whilst the industry has been weakened by this reform, it also presents an opportunity to look forward with greater certainty and allows the industry to demonstrate with some confidence that the sector is

environmentally responsible. Secondly, seafood consumers have demonstrated a strong interest in seafood provenance and a desire to eat local seafood as part of regional tourism experiences. Finally, global trends and innovations focused on seafood traceability (such as blockchain technologies) have created opportunities for fishers to more reliably and effectively tell their provenance stories. Given the cultural and historic influences on the professional fishing sector in NSW it is recommended that regional development planners investigate means of actively supporting professional fishers to take advantage of these opportunities. This may include the provision of advice and support around business management and development, networking opportunities with tourism and hospitality operators and brand development, marketing and promotion.

REFERENCES

Adams, M. (2016). Wild Tradition: Hunting and Nature in Regional Sweden and Australia. In L. Head, K. Saltzman, G. Setten and M. Stenseke (Eds) *Nature, Temporality and Environmental Management* (pp. 108-125). Routledge, New York.

Andreatta, S., Nash, B. and Martin, G. B. (2011). Carteret Catch™: Raising Awareness of Local Seafood through Community and Business Partnerships. *Human Organization*, 70(3), pp.279-288.

Attenbrow, V. (2012). The Aboriginal Prehistory and Archaeology of Royal National Park and Environs: a Review. *Proceedings of the Linnean Society of New South Wales*, 134, pp. 39-64. Online version accessed 12 July 2019, https://openjournals.library.sydney.edu.au/index.php/LIN/article/view/6079.

Bannisters – Rick Stein (2018). Sample Menu. Online version accessed 12 June 2012, https://www.bannisters.com.au/rick-stein/mollymook-menu/.

Bennett, M. (2007). The Economics of Fishing: Sustainable Living in Colonial New South Wales. *Aboriginal History*, 31, pp. 85-102.

Blake, M. K., Mellor, J. and Crane, L. (2010). Buying Local Food: Shopping Practices, Place, and Consumption Networks in Defining Food as "Local". *Annals of the Association of American Geographers*, 100(2), pp. 409-426.

Brinkley, C. (2017). Visualizing the Social and Geographical Embeddedness of Local Food Systems. *Journal of Rural Studies*, 54, pp. 314-325.

Byker, C., Rose, N. and Serrano, E. (2010). The Benefits, Challenges, and Strategies of Adults Following a Local Food Diet. *Journal of Agriculture, Food Systems and Community Development*, 1(1), 125-138.

Clark, A. (2017). *The Catch: The Story of Fishing in Australia*. National Library of Australia.

Clarke, J. (2011). *Old Salt*: Royal Australian Historical Society. Sydney.

Cruse, B., Stewart, L. and Norman, S. (2005). *Mutton Fish: The Surviving Culture of Aboriginal People and Abalone on the South Coast of New South Wales*. Aboriginal Studies Press, Canberra.

DeLind, L. B., (2011). Are Local Food and the Local Food Movement Taking Us Where We Want to Go? Or Are We Hitching Our Wagons to the Wrong Stars?. *Agriculture and human values*, 28(2), pp. 273-283.

Department of Agriculture (2015). *Australia's Seafood Trade*. Department of Agriculture – Australian Government. Online version accessed 12 December 2018, https://www.agriculture.gov.au/fisheries/aus-seafood-trade.

DeWeerdt, S, (2009). Is Local Food Better? *World Watch*, 22(3), pp. 6-10.

Donaher, E. and Lynes, J., 2017. Is Local Produce More Expensive? Challenging Perceptions of Price in Local Food Systems. *Local Environment*, 22(6), pp. 746-763.

Department of Primary Industries (DPI) (2016). *NSW Commercial Fisheries Business Adjustment Program: Things You Need to Know*. Report. Online version accessed 16 December 2019, http://www.dpi.nsw.gov.au/.

Duffy, J. (2013). 'Fascinating' Lake Illawarra Inspires Author's News Book. Illawarra Mercury, June 30 2013, Online version accessed 19 July 2019, https://www.illawarramercury.com.au/story/1606327/fascinating-lake-illawarra-inspires-authors-new-book/.

Elliott v Minister Administering the Fisheries Management Act 1994 [2018] NSWSC 117.

Elliott v Minister Administering the Fisheries Management Act 1994 [2018] NSWSCA 123.

Feagan, R., (2007). The Place of Food: Mapping Out the 'Local' in Local Food Systems. *Progress in Human Geography*, 31(1), pp. 23-42.

Feenstra, G. W. (1997). Local Food Systems and Sustainable Communities. *American Journal of Alternative Agriculture*, 12(1), pp. 28-36.

Farmery A. K., O'Kane G., McManus, A., Green, B. S. (2018). Consuming Sustainable Seafood: Guidelines, Recommendations and Realities. *Public Health Nutrition*, 21(8), pp. 1503-1514.

Fisheries of the Colonies (1883). *Report of the Commissioner of Fisheries of Year ending 1883.* Fisheries of the Colonies, Sydney

Garnett, T. (2011). Where are the Best Opportunities for Reducing Greenhouse Gas Emissions in the Food System (Including the Food Chain)? *Food policy*, 36, pp. S23-S32.

Gibson, C. and Connell, J. (2011). *Festival Places, Revitalising Rural Australia*. Channel View Publications, Bristol.

Hall, C. M. (2005). Rural Wine and Food Tourism Cluster and Network Development. *Rural Tourism and Sustainable Business*, 26, pp.149-164.

Harbourfront Seafood Restaurant (2019). Dining. Online version accessed 14 December 2019, https://www.harbourfront.com.au/wollongong-restaurant-dinning.

Hoskins, I. (2013). *Coast: A History of the New South Wales Edge*. NewSouth Publishing, Sydney.

Howard, M. (2012). The Challenges with Wild Harvesting Fish for Food: The NSW Example. Proceedings of the 'Seafood Directions Conference' 29th of October 2013.

Illawarra Mercury (1862). A New Article for Exportation. *Illawarra Mercurry*, 31st Jan 1862.

Kirby, D. S., Visser, C., and Hanich, Q., (2014). Assessment of Eco-Labelling Schemes for Pacific Tuna Fisheries. *Marine Policy*, 43, pp. 132-42.

Marshall, A. (2019). Independent Assessment into Commercial Fishing Reforms Announced, Media Release. Online version accessed 14 December 2019, https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/1155468/independent-assessment-into-commerical-fishing-reforms-announced.pdf.

Maye, D. and Kirwan, J., (2010). Alternative Food Networks. *Sociology of Agriculture and Food*, 20, pp. 383-389.

Morgan, K., Marsden, T. and Murdoch, J., (2008). *Worlds of Food: Place, Power, and Provenance in the Food Chain*. Oxford University Press, on Demand.

Murdoch, J., Marsden, T. and Banks, J., (2000). Quality, Nature, and Embeddedness: Some Theoretical Considerations in the Context of the Food Sector. *Economic geography*, 76(2), pp.107-125.

Nicholson, A. and Cane, S. (1994). Pre-European Coastal Settlement and Use of the Sea. *Australian Archaeology*, 39 (1), pp.108-117.

NSW Fisheries (1905). *Annual Report of the Board of Fishers 1905*. NSW Fisheries, Sydney.

NSW Fisheries (2002). *NSW Ocean Hauling Fishery Management Strategy – Assessment of Impacts on Heritage and Indigenous Issues*. NSW Fisheries. Sydney.

Olson, J. (2011). Understanding and Contextualizing Social Impacts from the Privatization of Fisheries: An Overview. *Ocean and Coastal Management*, 54, pp. 353-363.

Olson, J., Clay, P. M. and da Silva, P. P. (2014). Putting the Seafood in Sustainable Food Systems. *Marine Policy*, 43, pp. 104-111.

Onakuse, S., (2012) The Future of Subsistence Agriculture in the Rural Community of Uzanu, Edo State, Nigeria. *Journal of Agriculture, Food Systems, and Community Development*, 3(1), pp. 61-71.

Pacey, L. (2001). *Narooma's Past - steamers, sawmill and salmon*. Laurelle Pacey, Narooma.

Pires, S. (2018). Moruya Fishing. *Why Documentaries.* Online Version accessed 16 June 2019, https://www.youtube.com/watch?v=68DyyM6zNhw&feature=youtu.be.

Puglisi, M. and Puglisi-Inglis, N. (2008). *Harvesting the Sea – the Story of the Puglisi Family, Fishing Pioneers*, Mini Publishing, Gordon, NSW.

Rama, I. and Lawrence, P. (2008). Food miles–A critical evaluation. Economics and Policy Research Branch, Victorian Department of Primary Industries.

Sage, C., (2003). Social Embeddedness and Relations of Regard: Alternative 'Good Food' Networks in South-West Ireland. *Journal of rural studies*, 19(1), pp. 47-60.

Selfa, T. and Qazi, J., (2005). Place, Taste, or Face-to-Face? Understanding Producer–Consumer Networks in "Local" Food Systems in Washington State. *Agriculture and Human Values*, 22(4), p. 451.

Seyfang, G., (2006). Ecological Citizenship and Sustainable Consumption: Examining Local Organic Food Networks. *Journal of Rural Studies*, 22(4), pp. 383-395.

Sims, R., (2009). Food, Place and Authenticity: Local Food and the Sustainable Tourism Experience. *Journal of sustainable tourism*, 17(3), pp. 321-336.

Stevens, R., Cartwright, I. and Neville, P. (2012). Independent Review of NSW Commercial Fisheries Policy, Management and Administration: Report for the Department of Primary Industries, Sydney (pp. 144).

Tidball, K. G., Tidball, M. M. and Curtis, P. (2013). Extending the Locavore Movement to Wild Fish and Game: Questions and Implications. *Natural Sciences Education*, 42(1), pp. 185-189.

The Lagoon Seafood Restaurant (2019). *Menu*. Online version accessed 14 December 2019, https://www.lagoonrestaurant.com.au/dining/menu/.

Trivette, S.A., (2015). How Local is Local? Determining the Boundaries of Local Food in Practice. *Agriculture and Human Values*, 32(3), pp. 475-490.

Tropp, D. and Morghan, M. (2017). Local Food Demand in the U.S: Evolution of the Marketplace and Future Potential. In A. Dumont, D. Davis, J. Wascalus, T. Cheeks Wilson, J. Barnham and D. Tropp, (Eds) *Harvesting Opportunity – the Power of Regional Food System Investments to Transform Communities.* Federal Reserve Bank of St. Louis. pp. 15-43.

United Nations World Tourism Organisation (UNWTO) (2018). United Nations World Tourism Organisation. Online version accessed 14 June 2019, http://www2.unwto.org/.

United Nations (UN) (2019). The State of Food Security and Nutrition in the World 2019. Online version accessed 14 December 2019, http://www.fao.org/3/ca5162en/ca5162en.pdf.

Van Putten, I., Metcalf, S., Frusher, S., Marshall, N. and Tull, M. (2014). Transformation of Coastal Communities: Where is the Marine Sector Heading? *Australasian Journal of Regional Studies*, 20(2), pp. 286-324

Voyer, M., Barclay, K., McIlgorm, A. and Mazur, N. (2016). Social and Economic Evaluation of NSW Coastal Professional Wild-Catch Fisheries: Valuing Coastal Fisheries (FRDC 2014-301). Fisheries Research and Development Corporation (FRDC), Canberra, Australia.

Voyer, M., Barclay, K., McIlgorm, A. and Mazur, N., (2017). Using a Well-Being Approach to Develop a Framework for an Integrated Socio-Economic Evaluation of Professional Fishing. *Fish and fisheries*, 18(6), pp. 1134-1149.

Voyer, M. Quirk G, McIgorm A. and Azmi, K. (2018). Shades of Blue: What Do Competing Interpretations of the Blue Economy Mean for Oceans Governance? Journal of *Environmental Policy and Planning*, 20(5), pp. 1-22

Visser, C. and Hanich, Q. (2018). How Blockchain is Strengthening Tuna Traceability to Combat Illegal Fishing. *The Conversation*. Online version accessed 10 December 2019, https://theconversation.com/how-blockchain-is-strengthening-tuna-traceability-to-combat-illegal-fishing-89965.

Waddell, J. (2010). *Indigenous Customary and Contemporary Uses and Values of Marine Resources in Batemans Marine Park, Southern NSW. B. EnvSci(Honours) Unpublished*, Southern Cross University.

Wilkinson, J. (1997). *Commercial Fishing in NSW: Origins and Development to the early 1990s. Briefing Paper No 15/1997*. NSW Government, Sydney. http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/0/F3D6C7C7D5B5C121CA2575F900086C09/$File/FISHING.pdf.

Wilkinson, J. (2013). *NSW Commercial Fishing Industry: background to the 2012 review: Briefing Paper No 2/2013*. NSW Government, Sydney, Online version accessed 14 June 2019, http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/V3LIstRPSubject.

Winter, M. (2003). Embeddedness, the New Food Economy and Defensive Localism. *Journal of Rural Studies*, 19(1), pp. 23-32.

Wiskerke, J.S. (2009). On Places Lost and Places Regained: Reflections on the Alternative Food Geography and Sustainable Regional Development. *International Planning Studies*, 14(4), pp. 369-387.

Watson, R. A., Green, B. S., Tracey, S. R., Farmery, A. and Pitcher, T. J. (2016). Provenance of Global Seafood. *Fish and Fisheries*, 17(3), pp. 585-595.

World Bank (2019). Food Security. *The World Bank*. Online version accessed 12 December 2019, https://www.worldbank.org/en/topic/food-security.