

## Making space for community in super-productivist rural settings

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### ABSTRACT

This paper contributes a perspective on an enduring debate in rural studies about the transformation of rural areas in developed market economies into *more* or *less* ‘productivist’ landscapes. We focus on the conceptual category of ‘super-productivism’ and its reference to distinct super-charged production zones that are fundamentally shaped by the practices of high input and yielding, highly technical, narrowly profit-orientated agri-businesses operating at regional, national and global scales. Our contribution to this debate is to argue that while super-productivism is a useful category for thinking about transitions in agricultural regions, under particular structural conditions, it is important not to lose sight of the fact that these highly intensive agri-landscapes are *also* home for their residents and recreational settings for local and neighbouring urban communities. Studying this aspect of super-productivism requires a relational perspective and a naturalistic research method. We illustrate this argument using a study of the Lower Waitaki Water Sports Park in the South Island of New Zealand.

### 1. Introduction

This paper contributes a perspective on an enduring debate in rural studies about the transformation of rural areas in developed market economies into *more* or *less* productivist landscapes (Ilbery and Bowler, 1998; Calleja et al., 2012; Roche and Argent, 2015). We are interested particularly in the conceptual category of super-productivism, which is now embedded in rural change discourses (Dibden et al., 2009; Woods, 2011; Burton and Wilson, 2012; Rosin, 2013; Roche and Argent, 2015; Wilson and Burton, 2015). This conceptual category points to the overwhelming dominance of agricultural land use intensification in some rural settings. As theorised presently, these super-charged production zones are distinct in that they are fundamentally shaped by the practices of high input and yielding, highly technical, narrowly profit-orientated agri-businesses operating at regional, national and global scales (Dibden et al., 2009; Woods, 2011; Burton and Wilson, 2012). Under these conditions, Halfacree (2007) argues, everyday lived rurality has little scope to diverge from the structured coherence of agri-industrial rhythms.

Our contribution to this debate is to argue that while super-productivism is a very useful category for thinking about transitions in agricultural regions under particular structural conditions, it is important not to lose sight of the fact that these highly intensive agri-landscapes are *also* homes for local and neighbouring urban communities, and the setting for meaningful community cultural and

recreational ventures and activities. Part of the structured coherence of super-productivism is a set of socio-spatial arrangements and settings which speak also of consumption and community rather than only bulk production, material outputs and links to international trade. Consistent with an emerging thread in debates about this structured coherence, we agree that research effort demands paying “greater attention to the relationship between actors at and across different scales” and the interconnections between autonomous farmers, their practices livelihoods and priorities, globalised agriculture and environmental outcomes (Stock et al., 2014, p. 411). We illustrate our argument by reporting a study of the creation of the Lower Waitaki Water Sports Park in the North Otago region of the South Island of New Zealand. This collaborative community venture, initiated by local farmers and supported by an array of community members and organisations, is set in, and part of, a landscape that is overwhelmingly super-productivist.

We begin by outlining the developments in the rural change literature focusing particularly on the conceptual category of super-productivism. We note that the dominant macro-scale approach to super-productivism highlights the structural elements of rural change and produces a description of the countryside that is overwhelmingly exploitative of the environment. While clearly of value, we argue that this perspective needs to be tempered by relational approaches, thus allowing insights into the everyday lives of rural residents *in* the super-productivist countryside. We then discuss our naturalistic methods and case study area. This is followed by a historical account of the making

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of the super-productivist countryside under study. The creation of the Lower Waitaki Water Sports Park by local commercial and community actors is discussed, emphasising how it has been constructed in processes of grounded community action and collaborative private- and public-sector interaction. Our conclusion emphasises the importance of relational and naturalistic approaches to research into the super-productivist countryside. Examination of such places using this approach will certainly identify industrial scale production of particular agri-commodities, but will also get researchers closer to the rhythms of everyday rural life and the diverse other activities also present but not so immediately obvious in these settings.

## 2. Theoretical context

Since the 1980s, studies of change in the rural areas of advanced industrialised nations have proliferated. The literature is now expansive, canvassing a range of perspectives, from the structural-economic, through to the cultural and on to the processual (Mackay et al., 2009; Woods, 2011). Of particular relevance to this paper is a set of these studies that extend analyses of 1980s rural restructuring and re-regulation (e.g., Cloke, 1989, 1996; Britton et al., 1992; Marsden, 1998). They include research on new forms of rural production and the rise of a globalising and multifunctional rural space, which we discuss below. While each of these fields has its own particular meta-theoretical orientation, they have all contributed to our understanding of how ‘the rural’ in New Zealand, and elsewhere, has been transformed both materially and symbolically over the last 30–40 years. Our main focus is on the development of the theorisation of super-productivism.

### 2.1. Tracing the evolution of an idea: super-productivism

The term productivism describes the form of agriculture that dominated the period from the end of World War II to the 1980s and which was characterised as “a commitment to an intensive, industrially-based and expansionist agriculture with state support based primarily on output and increased productivity” (Lowe et al., 1993, p. 221; see also Marsden et al., 1993). Among the measures implemented by governments to boost farm outputs were farm input subsidies (such as for fertiliser, pesticides and farm equipment), minimum price guarantees for farm outputs (such as meat, wool and grain), state support for rural research and development, and the establishment of tariffs to shield local primary production from global competition (Ilbery and Bowler, 1998; Albrecht, 2007; Burton and Wilson, 2012; Calleja et al., 2012. See also Dibden and Cocklin, 2005 for the Australian story). By the mid-1980s, questions of oversupply, escalating costs and a growing awareness of the environmental impact of farming under a productivist regime provided reason to withdraw the protectionist measures in many developed market economies (Cloke, 1989; Rayner, 1990; Britton et al., 1992; Le Heron and Pawson, 1996).

In New Zealand, the state took a radical approach. In the 1980s, it withdrew its sophisticated and extensive post-war farm subsidy programme in favour of non-interventionist market-reliant approaches. This forced a major transition in agriculture, with farmers becoming fully exposed to, and needing to adapt to, the vagaries of international market forces. Little financial support was provided to New Zealand farmers to weather the transition. Other jurisdictions had somewhat different experiences. In the European Union, new financial policies supported farmers through this period of change. This included measures designed to encourage and reward environmental stewardship, particularly on uneconomic farm land (Calleja et al., 2012) and, more broadly, fiscal support for new modes of rural economic activity and community development (Ray, 2006). These examples suggest that responses to this 1980s rural restructuring varied across the globe, and there is now an extensive literature capturing the empirical detail of how the change process worked (for early conceptualisations see: Lowe et al., 1993; Marsden et al., 1993; Marsden, 1998; Murdoch et al.,

2003).

During the early 1990s, some researchers began to write about a transition from productivism to a new rural formation termed ‘post-productivism’ – an idea that soon became entrenched in the UK literature (e.g., Shucksmith, 1993; Ward, 1993; Ilbery and Bowler, 1998; Morris and Evans, 1999; Walford, 1999; Mather et al., 2006; Mackay et al., 2009). Ilbery and Bowler’s (1998) contribution was to attempt a clear demarcation of post-productivism from productivism. In their terms, the emerging post-productivist era could be “... characterised by the integration of agriculture within broader rural economic and environmental objectives” (Ilbery and Bowler, 1998, p. 57) and a low-input/low-output farming ethos emphasising the quality (not quantity) of the agricultural commodities produced. A debate about the veracity of the transition from productivism to post-productivism then ensued (e.g., Morris and Evans, 1999; Argent, 2002; Evans et al., 2002; Jay, 2004; Mather et al., 2006; Roche and Argent, 2015).

The critiques published by those interested in rural change in the Antipodes and the Global South scrutinised the exportability of the productivist/post-productivist transition idea to non-European places, with some commentators questioning its explanatory value (Argent, 2002; Smailes, 2002; Holmes, 2002; Jay, 2004; Burton and Wilson, 2006, 2012; Dibden et al., 2009; Roche and Argent, 2015). In New Zealand, Jay (2004) found that productivist ways of ‘thinking and doing’ were still prevalent among farmers in the putative post-productive era, and, therefore, that the term post-productivism fell short of capturing, accurately, the details of contemporary rural change (Roche and Argent, 2015). Based on her analysis of farmer attitudes to agriculture and the environment, Jay argued that productivist and post-productivist attitudes and values can and do co-exist.

Other New Zealand researchers agreed. While the nation’s productivist agricultural sector *initially* suffered during the experience of agri-trade liberalisation and restructuring (Wallace, 2014) – with many farmers having to deploy short term survival strategies, such as multiple job-holding (Robertson et al., 2008) – it successfully adapted and grew strongly, albeit in a new form, as seen with the rise of intensive dairy farming (Gray and Le Heron, 2010; Burton and Wilson, 2012; Forney and Stock, 2013; Pawson and Perkins, 2017; Le Heron, 2018). During this period rural tourism and amenity migration and associated real estate development also boomed in New Zealand (Woods, 2007; Mackay et al., 2014; Perkins et al., 2015; Perkins and Rosin, 2018a and 2018b).

Given that the focus of research on post-productivism was mainly about the diversification of rural economies, some Australian and New Zealand researchers took another tack, suggesting that the term and its associated research effort should turn to focus on a multifunctional rural space (Roche and Argent, 2015). They argued that such an approach would better capture the understanding that rural space is used in multiple and often hybrid ways. Their multifunctional rural spaces included *ongoing* productivist agriculture accompanied by many other activities, including those related to rural consumption and nature and heritage protection (Holmes, 2002; Smailes, 2002; McCarthy, 2005; Holmes, 2006; Argent et al., 2007; Woods, 2009; Argent, 2011; Argent et al., 2014; Mackay et al., 2014; Perkins et al., 2015; Frank and Hibbard, 2016; Perkins and Rosin, 2018a and 2018b). Holmes (2006, pp. 142–143) summed up the situation by noting that:

... at its core, the multifunctional transition involves radical re-ordering in the three basic purposes of underlying human use of rural space, namely production, consumption and protection. The transition can be characterised as a shift from the formerly dominant production goals towards a more complex, contested, variable mix of production, consumption and protection. These three basic goals can be linked to forces driving the transition to multifunctional rural occupancy, namely agricultural overcapacity (the production goal), the emergence of market-driven amenity uses (the consumption goal) and changing societal values (the protection goal).

In light of these debates, McCarthy (2008) called for ethnographic examinations of multifunctional rural spaces – particularly from the perspective of agricultural producers – to provide more robust ‘versions’ of the phenomenon. The resulting research, conducted at a variety of scales, has thrown up a picture of regional differentiation and varying modes of production. One form of production that has continued to be prominent, and in some settings has increased in intensity, has come to be known as super-productivism (Woods, 2011; Roche and Argent, 2015).

Super-productivism creates super-charged monofunctional production zones that are shaped, if not defined totally, “in the *practices* of agribusiness” (Holmes, 2006, p. 131). In New Zealand, these zones reflect the development of an unsubsidised profit-maximising agricultural industry. They are thus, in Halfacree’s (2007, p. 131) terms, “shorn of [their] moral dimension” because the land – the rural – exists only to be exploited in the pursuit of all-out profit (Halfacree, 2007; Woods, 2011; Burton and Wilson, 2012).

Burton and Wilson (2012) unpack the idea, advancing two further categories of super-productivism: market productivism and competitive productivism. The first term – market productivism – coined by Tilzey (2000), reflects the growth of agriculture in Europe under neoliberal market conditions. There, it is argued (see also Potter and Tilzey, 2005, 2007) super-productivism is characterised by the co-existence of market productivism with post-productivism, but in a situation where “market forces are likely to dominate, leaving the countryside progressively devoid of multi-functions” (Burton and Wilson, 2012, p. 56). The second term – competitive productivism – has its origins in the analysis of Australian policy-led attempts to open up agriculture to competition on world markets. This involved support for the adoption of a suite of approaches including the promotion of precision farming practices, the scaling up of farms, and increased capacity through training and market deregulation (Dibden and Cocklin, 2005). What separates market productivism from competitive productivism, as elements of super-productivism, is that, in the former, corporate agriculture dominates, where in the latter government policy stimulates and supports change.

In New Zealand, interpretations of super-productivism closely follow the dramatic growth of dairy farming and the establishment of a giant dairy farmer cooperative, Fonterra, in 2001, which created one of the largest milk exporters in the world (Stock et al., 2014; Pawson and Perkins, 2017; Le Heron, 2018). The result has been a significant re-orientation of rural and trade activity. There are elements of both market and competitive productivism evident, marked by the presence of global corporate involvement, beyond that of Fonterra, but also active government regulatory support. The outcome has been a heavy reliance on dairying for national export income; the introduction of new people, businesses, practices and technologies to, and global investment in, those parts of the countryside amenable to dairying; a worrying decline in river water quality resulting from irrigation takes and nutrient run-off; and a spectacular homogenising transformation of farm landscapes dominated by intensively grazed cows, irrigation infrastructure and verdant fertilized pastures. These landscapes seem as though they exist solely for the production bulk agriculture commodities.

## 2.2. Making space for community in super-productivist zones

The veracity of much of this interpretation of dairying super-productivism and its landscapes in New Zealand is hard to refute. Super-productivist zones of this nature definitely do exist. And on broader regional and national scales, they are set alongside other types of less intense productivist rural spaces and those also associated with consumption and protection as in Holmes’s (2002, 2006, 2008, 2010, 2012) multifunctional rural space model. The questions that have been posed for us by our involvement in the case study that we will shortly discuss, and also stimulated by our reading of Roche and Argent’s (2015) review and analysis of these ideas, are: what do super-

productivist zones look like when analysed at a local scale, using an approach which emphasises “agents who actively shape their environment” (Bathelt, 2006, p. 224; see also Cloke, 1997; Riley, 2010; Stock et al., 2014; Stock and Forney, 2014; Perkins et al., 2015; Mackay et al., 2018)? And what patterns emerge if we concern ourselves with the other-than-economic activities of communities in super-productivist zones, activities that, in this context, have much in common with Gibson-Graham’s (2008, p. 613) “hidden and alterative ... activities” (also see Vestrum, 2014, 2016)?

In posing these questions we are taking direction from other studies of the rural in which researchers have attempted to understand economic, social and landscape differentiation by focusing on the “everyday relational processes that constitute economic [and social] action and hold *communities* or firms together within ... particular geographic contexts” (Jones, 2013, p. 9, authors’ emphasis). This approach has proven a capacity to elucidate and theorise situated practice (Riley, 2010; Jones, 2013; Vestrum, 2014; Mackay et al., 2018) and show the ways local actors exercise their agency and negotiate and influence the (re)shaping of rural place (Stock et al., 2014).

Using these questions and approach outlined above, we interpret a case study of the development of a community recreational venture on the Lower Waitaki Plains – a super-productivist dairy agricultural setting in the North Otago Region of New Zealand’s South Island. We define community in this context as referring to dynamic group activity imbued with elements of reciprocity, affective ties and emotional bonds between people and the region in which they reside (Brown and Schafft, 2011; Perkins and Thorns, 2011). Community ventures rely for their initiation and success on these ties and bonds. They “address a range of societal and social welfare problems and opportunities ... [taking] the form of a new organisation, network, initiative or project” (Vestrum, 2016, p. 123; see also Sakarya et al., 2012; Eversole et al., 2013). The development of these ventures is typically initiated and led by community entrepreneurs who identify resources and their holders and mobilise them for community benefit. Vestrum (2014, 2016) indicates that such resources include volunteers, sponsors, grants, materials, ideas, skills, objects and materials sourced locally and more distantly. The community venture we discuss is the Waitaki Water Sports Park which combines elements of super-productivist irrigation infrastructure, located on a dairy farm, and a recreation resource. Before doing so, we outline our qualitative analytical research method, and locate and describe the research setting.

## 3. Methods and case study area

Our study of super-productivism on the Lower Waitaki Plains is an extension of a rural studies programme which started in the late 1990s (Cloke and Perkins, 1998, 2002; Perkins, 2006; Mackay et al., 2009, 2014; Perkins et al., 2015). The programme began in response to our observations of the presence of a widening array of social and economic activities in the New Zealand countryside. Throughout, we infused our analyses “with a strong sense of fluidity, emphasising the need to examine place relationships at a variety of scales, and incorporating influences from multiple parts of distant or local social and economic networks” (Perkins and Thorns, 2011, p. 19). Our first field study, based on the observation of dramatic changes wrought by the introduction of adventure tourism to rural New Zealand, analysed tourism brochures and place marketing materials. The study was informed by ideas about post-tourism (Urry, 1990) and social spatialization (Shields, 1991). We explored the development of adventure tourism in New Zealand with a particular focus on the Queenstown-Lakes District. Similar work was conducted later in Kaikoura in New Zealand’s Canterbury region, a former agricultural servicing centre and fishing village which is now world famous for cetacean tourism. There again we relied on secondary data sources but supplemented them with participant observation and interviews. Theoretically, this work was informed by the literature on animal performance and the co-constitution of place (Cloke and

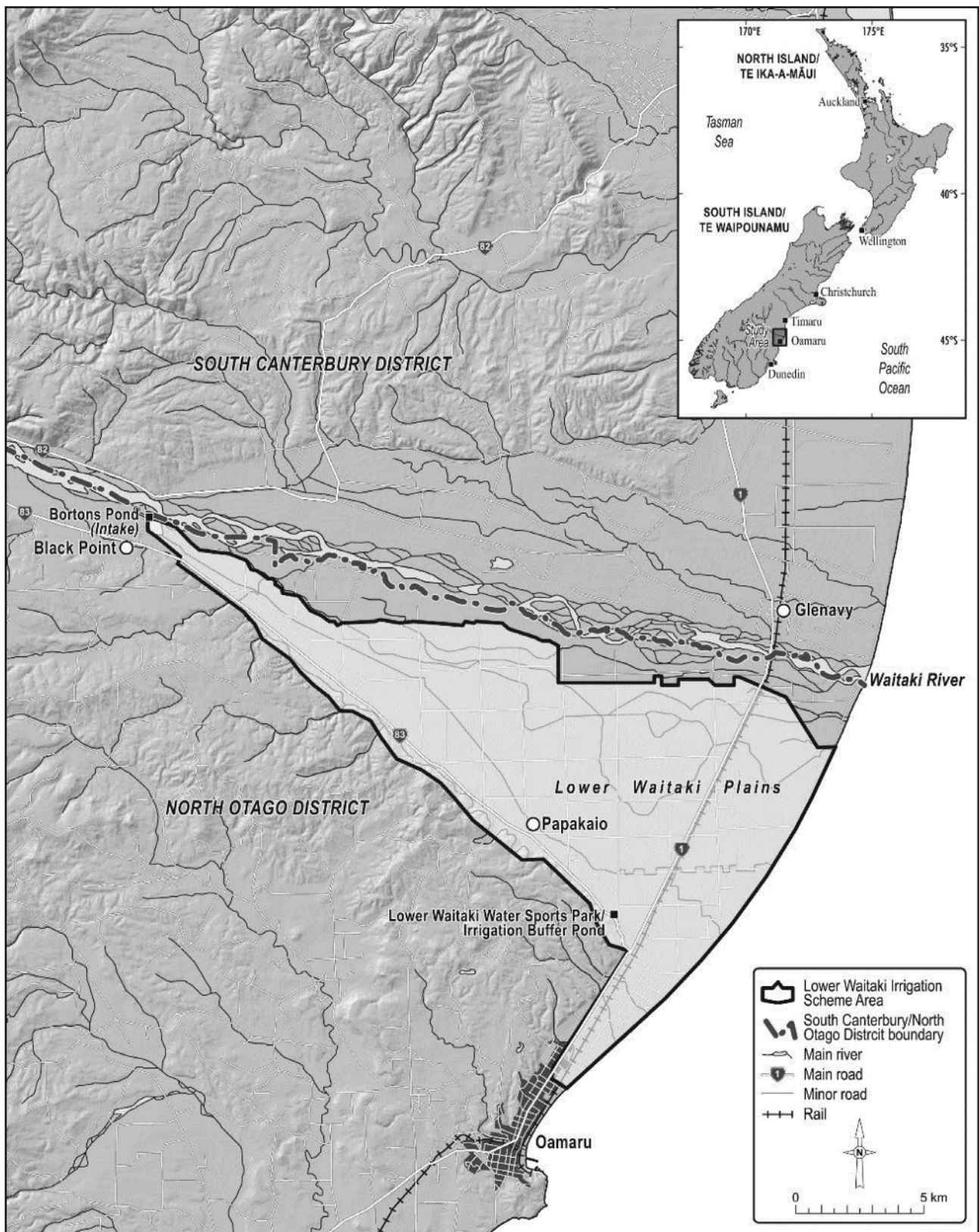


Fig. 1. Map of the Lower Waitaki Plains, North Otago, South Island, New Zealand.

Perkins, 2005).

Turning from tourism to viticulture and winemaking, we then engaged in a 5-year social geographic study of dramatic regional land use change in a high amenity rural region. There we used an in-depth

observational and interview-based qualitative study of the development of a new wine region in the Cromwell District in the southern high country of the South Island – a location which was once best known for gold mining, merino sheep farming and domestic tourism (Pawson and

Perkins, 2013; Perkins et al., 2015; Mackay et al., 2014). In Cromwell, we discovered that amenity migration was a key component of the rural change process underway, one which at the outset seemed a very good example of the transition from productivism to post-productivism, but ultimately led us into an interpretation of the rise of the globalising multifunctional countryside informed by recent theorising in this area (Roche and Argent, 2015; Woods, 2007, 2011).

When seeking publication of the results of this latter research, one of the journal referees challenged us to pursue our ideas in more obviously productivist landscapes. We thus shifted our attention to the transitions underway in the Waitaki District, which is also located in the South Island of New Zealand (Fig. 1). In this diversifying and globalising rural setting, particularly in an area of the District known as the Lower Waitaki Plains, irrigation development and associated rural land-use and community change became a key point of interest. Over the last two decades, irrigation has experienced a rapid period of expansion on the Lower Waitaki Plains producing a super-productivist landscape as farmers have converted from economically marginal sheep and cropping agriculture to high input dairy production driven by the export of bulk milk powder to countries such as China (Pawson and Perkins, 2017). Unlike other dairying regions with a very heavy reliance on Fonterra's production and sales networks, Lower Waitaki milk is also consumed by a large Chinese owned dairy factory on the Plains, which also employs 200 local people (Rotherham, 2017).

As our study of this super-productivist setting proceeded, we noted the ways irrigation schemes and dairy farming, together, are now implicated in significantly increased levels of agricultural intensification. But somewhat to our surprise, and inconsistent with Halfacree's (2007) assertion above that under super-productivism the rural exists only to be exploited in the pursuit of all-out profit, we found that irrigation was also producing new community partnerships and ventures, suggesting that even within super-productivism there can be elements of consumption orientated multifunctionalism. These partnerships have produced new rural spaces, a few having considerable recreational and social benefits. The Lower Waitaki Sports Park, based on an irrigation pond, is one such example.

Taking Lofland and Lofland's (1995, p. 11) injunction to 'start where you are' we encountered the Park for the first time during an initial site visit to farms in the district. On our first encounter we saw what we later understood to be The Park as part of the Plain's irrigation infrastructure, simply a buffer pond and part of the technology of super-productivism. It was not until we saw the pond also being used for recreational purposes that we began asking further questions and focusing this part of our study on the pond as a hybrid production and consumption setting.

Consistent with Lofland and Lofland's (1995) guidance with respect to the conduct of qualitative social research, and influenced by Blumer's (1969) focus on the overlapping interpretative processes of exploration and inspection, our research into the origins and development of the Park involved a one-year engagement with a range of actors using a number of data gathering techniques. We first took advantage of the significant historical literature on the development of irrigation for agriculture in New Zealand. This was useful for understanding farming practices and a shift towards a more productivist form of agriculture. The Internet was a valuable source of data and commentary on recent developments, particularly offering detailed information about the form and nature of irrigation companies and the schemes they have built and manage. We also used newspapers and other popular press materials to understand recent developments and the great up-scaling in agricultural irrigation over the last decade. The planning consent documentation associated with each irrigation scheme provided details of infrastructural development and the full range of anticipated environmental and recreation impacts. These data were elaborated in a set of field observations and semi-structured interviews ( $n = 14$ ) with farmers, irrigation company representatives and operational staff, recreationists, local residents and service professionals such as a school

principal, a planner and an environmental conservation manager. Analysis of all of these data sources progressed iteratively, based on making notes and other memoranda and regular researcher meetings to discuss the progress of the study. These notes were subjected to ongoing thematic analysis out of which emerged the analysis we report in the remainder of the paper.

#### 4. Case study

##### 4.1. The Lower Waitaki Plains: irrigation and the making of a super-productivist rural setting

The Waitaki Plains is considered to be one of the best farming areas in New Zealand, if not the world. Frequent droughts aside, the climate in our district is very benign. Being near the coast, summer temperatures are mild due to daily sea breezes. We rarely suffer from punishing Norwest [Föhn or Chinook] winds due to our distance from the Alps, snow is a rare novelty, and floods can be easily managed as the irrigation canal network can be utilised to convey a majority of the flood water, if required. The high summer sunshine hours that occur around our southern location, in combination with irrigation, provide a winning combination for pasture and crop growth (Dennison, 2015, p. 5).

The area of New Zealand's South Island known as the Lower Waitaki Plains (Fig. 1) – comprising a series of flat to gently undulating alluvial terraces on the south bank of the braided Waitaki River – was first settled by European colonial farmers in the mid-19th century. Up until the 1980s, prior to the arrival of super-productivist dairy agriculture, extensive fat lamb production and small grain and herbage seed cropping, were the area's prevailing land-uses (O'Connor, 1976; Copland and Stevens, 2012). Irrigation is an important part of the area's story. The potential of the Plains for farming was recognised early and boosted over the period 1890–1910 with the construction of several small water races channelling irrigation and stock water to a handful of rural properties (Scott, 2016). In 1910, the New Zealand Government boosted the productive capacity of the Lower Waitaki Plains by fully funding the construction of an irrigation and stock water race servicing 23 farms (covering 2600 ha of land) in an area known as the Steward Settlement (Scott, 2016). The race was completed in 1912, and by the 1930s had increased production five-fold (Scott, 2016).

Irrigation on the Lower Waitaki Plains was expanded again in the 1970s and 80s when the New Zealand Government fully funded the development of the Lower Waitaki Irrigation Scheme. The Scheme was completed in 1982 at a cost of \$8.98 million, and irrigated 16,000 ha across 170 farms (Cossens et al., 1971; Rae, 2015). Today the Scheme irrigates 20,000 ha of farmland, while also supplying water to the township of Oamaru, the local Pukeuri Meat Processing Works, two rural settlement water schemes and two quarry operations (Farley, 2013; Dennison, 2015).

It is important to recognise that the development of the Scheme was part of broader national programme of irrigation infrastructure development which started in the post-war productivist era. By the 1960s, irrigation was seen to be in the national interest and an important farm management tool to increase production through land use intensification, rather than just as drought relief. In total, the Government developed and managed 53 community irrigation schemes irrigating 2500 properties covering 160,000 ha of New Zealand farmland (Collins et al., 2001).

In the late 1980s, the neo-liberalising fourth Labour Government (1984–1990) sold these schemes into community ownership organised mainly as local irrigation companies but also incorporated societies (Collins et al., 2001; Heiler, 2015). The costs and benefits of government support for irrigation had been questioned. Return on capital costs was small and levies paid by users did not always cover operating costs. In 1984, the New Zealand Treasury claimed that the benefits of

irrigation had been captured by a small number of landowners with negligible returns to the taxpayer. Perceived benefits of the sales of the schemes to their communities included increased efficiency of operation; greater user control of the scheme management; and investment in irrigation determined by economic benefit rather than government budget (Collins et al., 2001). In 1989, the Lower Waitaki Irrigation Scheme was sold to the then newly created Lower Waitaki Irrigation Company (LWIC) – a farmer-owned co-operative for approximately NZ \$1 million, a nominal price given its NZ\$8 million establishment cost. All water users were shareholders and issued with one NZ\$1 share per hectare of irrigable land.

This Scheme provided the impetus for a more intensive and profitable mode of land-use to take hold on and transform the Plains. This took the form of highly intensive and super-productivist dairy farming. Approximately 30,000 dairy cows were introduced to the area between 1985 and 2000 and, in more recent years, as one long-time resident has observed, the main farm types are now dairying and dairy support, with only a handful of arable and commercial sheep farms remaining in operation in the area (Dennison, 2015). On its website, LWIC provides the following information about the Scheme, underscoring the transformative impact of irrigation on the plains and the making of a super-productivist dairy farming region:

The Lower Waitaki Irrigation Company at present irrigates some 20,000 ha covering 99 per cent of the Lower Waitaki plains east of Black Point including 2500 ha on adjacent hill country. Current land use is made up of 81 per cent dairy and dairy support, 9 per cent sheep and beef and 10 per cent cropping and horticulture, a dramatic change in land use from the beginning of the Scheme in the early 80s ... The Lower Waitaki Irrigation Scheme draws water from the Waitaki River at Black Point and distributes approximately 1.4 million m<sup>3</sup> per day at peak operation to 200 shareholders via 9000 ha of border dyke and 11,000 ha of spray irrigation. Water is delivered to the farm offtakes under gravity through a distribution network made up of 200 km of open canals and 12.5 km of siphons and pipework (LWIC, 2016a).

One of our respondent farmers offered the following evaluation of the Scheme:

The good thing about the Lower Waitaki Scheme is that it provides bloody cheap water - like it's the cheapest irrigation water in the whole of the country. The [government's] Ministry of Works built the scheme to a very high standard so the infrastructure is pretty much gold-plated. They didn't cut any corners. ... All the concrete work and the engineering was superbly done which has set the scheme up really well (Farmer Shareholder 1).

Conversion to dairy farming, which was more profitable than earlier alternative land uses, was the catalyst for dramatic landscape changes in the area (Fig. 2). Farm shelterbelts established in the dry-land farming era were often removed to make way for long pivot irrigation booms suited to dairying. Fencing systems were changed, and high levels of nitrogenous urea application created swards of green lush grass. Milk tankers become a regular feature on rural roads as they travelled to and from new high technology dairy milking sheds and prominent export-orientated processing plants. Access to irrigation water in the area also catalysed demographic and social change in the District. For example, between 2001 and 2013 the Lower Waitaki Plains displayed much stronger population growth than neighbouring areas, rising from 1152 to 1497, an increase of 30 per cent (Taylor et al., 2015). Studies undertaken into the social and economic impacts of the Scheme underscore the significance of the socio-demographic transformation: “The land use has diversified, subdivision and settlement patterns changed ... and the production base of the Plains changed totally from dry land farming to dairying – the extent of change could not have been more dramatic” (McCrostie Little et al., 1998, p. 1). A similar picture of change was painted in the following way by one of our farmer

respondents:

There are fewer farmers and bigger farms. It's now a complete dairy culture with the exception, say, of two arable and two sheep farms. It's become a dairy district. It's a blueprint you would have seen across the country where irrigation has gone in. ... Things have become more stable but intensive and you've had the standard transformation ... [involving the arrival of] lots of immigrant dairy workers.

It is therefore difficult to understate the drama of super-productivist land use intensification and social change that have played out on the Lower Waitaki Plains. Stories in the media abound about the profits being made, their impacts on regional agricultural transformation and the opportunities this has provided for the honing of farming skills as recognised in industry awards and honours for local producers. The *Otago Daily Times* in an article entitled “Water Brings Back Marvellous Times” (Rae, 2016) celebrates the positive outcomes of irrigation on the Lower Plains. *Farmers Weekly* (Scott, 2016, n.p.) reports on the impact of irrigation, pointing out how it has “saved” the agricultural community and has now become “vastly improved by technology advances.” Media articles of this sort signally fail to question the natural environmental impacts of dairy intensification. This is a matter of public, scientific and political concern nationally, so-much-so, that there is now talk of “peak” cow and “peak milk factory”, and debates about the limits to further dairy intensification (Pidcock, 2018); but unsurprisingly this is not something that was raised with us by our farmer respondents. Our respondents were, however, more than keen to discuss the development of the Ferry Road Buffer Pond and Lower Waitaki Water Sports Park – a small fleck of consumption and community engagement in a largely super-productivist landscape.

#### 4.2. The Ferry Road Buffer Pond and Lower Waitaki Water Sports Park development

In 2012, LWIC constructed a 5-ha irrigation buffer pond at Ferry Road (Fig. 3) approximately 5 km from the township of Oamaru. It was constructed primarily “to improve [irrigation system] efficiencies and to give security of supply to existing shareholders within the lower reaches of the [Lower Waitaki Irrigation] Scheme” (LWIC, 2016b, n.p.). In super-productivist terms, the pond allows the Scheme's managers to even out the fluctuations between the highs and lows of changing water demand and to improve the quality of water for non-irrigation water users (WIC, 2012; Water engineer interview). The development of the pond was the Company's largest expense since the purchase of the Scheme in 1989, costing \$750,000 to construct (Bruce, 2013a). It “has a foot print of 5 ha and a holding capacity of 124,000 cubic metres” (LWIC, 2016b, n.p.).

The pond as initially conceived was to be single-use. Yet, soon after its completion, a group of local farmers with a community entrepreneurial orientation (Vestrum, 2016) – all shareholders of the Scheme – recognised the recreational value of the new pond and began to entertain a variety of community recreation possibilities. They pointed to its potential value as a facility that could help develop fitness, water safety awareness and confidence in its users (Birchfield, 2013; Bruce, 2013b). One of our interviewees – an ardent supporter of the Water Park and farmer-shareholder of the Scheme – recalled some of the early thinking behind the Pond/Water Park's development. He noted LWIC's desire to use the site as a resource to enhance local opportunities for community sport and recreation while *also* building a stronger relationship between Plain's farmers and urban residents of neighbouring regional service town Oamaru:

This is predominantly a dairy [farming] district and what we wanted to do was try to add some value to the wider community. We thought, well, if we open this pond up to be a recreational area that will be a great thing for our community and everyone else. It is quite



Fig. 2. The Waitaki Valley dairy farm landscape.

close to Oamaru and we were aware of a lack of flat-water spaces around that you can use safely for recreation. The sea is angry here and the Waitaki Lakes are an hour away ... so we decided to set the Pond up to provide the community with a local recreation (Farmer Shareholder 1).

Another of our interviewees, who was also involved in these conversations during the early stages of the Park's inception, provided another account, this time emphasising LWIC's desire to contribute to local community development and introduce an element of recreational development to the work of the Company via the gift of the pond:

It's a community achievement ... There is a fun and feel good aspect to it for the Company – otherwise it's all about balance sheets and return on investments. We're not that ... we're a community-minded cooperative company and we wanted to provide people in the community with a resource which we could all be proud of and utilise (Farmer Shareholder 2).

At the outset, the Company simply gave local people access to the pond and publicised the fact through a variety of local media channels. As one farmer shareholder recalled:



Fig. 3. The Ferry Road Buffer Pond.

We initially thought that we would just open up the pond to the public and we really didn't do anything. We just stuck a couple of signs up and said what you can and can't do in there [swimming was not to be permitted]. We thought locals could simply chuck a boat or kayak into the pond (Farmer Shareholder 3).

Some basic resources were provided. One farmer, using his own funds provided several boats for use on the pond:

When I first ... thought of boats and the pond, I remembered that someone had a couple of old wooden optimist boats for sale so I just bought them. I think they were a couple of hundred bucks each and I bought them and thought well if we end up with nothing else we'll have a couple of yachts and we've got a few kayaks at home we can chuck down there too (Farmer Shareholder 4).

While this approach was initiated with the best intentions in mind, the irrigation company's health and safety consultant was quick to point out some serious liability concerns. He said "no you've got to shut it down, you've got to shut it down today. It's too dangerous".

Several local champions of the idea were doggedly determined to see the pond re-open in a new format and took the lead in developing the concept further and thinking through its feasibility. They concluded that it required a more systematic approach and significant financial resourcing so that the Park had adequate facilities – a boat shed and jetty for example – and was safety-proofed. One particularly entrepreneurial farmer-shareholder took a leading role in the process and canvassed the community and businesses for funding. By relying on his many community connections, he built both momentum and local interest in the project. As one of our interviewees recalled:

He vanished for a couple of weeks and then came back excited and said "oh yeah, you can get some funding from Meridian Energy [the local hydro electricity generator] and we can do this so within eight months, job done". So, he got the community together. He organised community fund-raising events ... and talked to businesses and through all that raised about \$90,000 all up (Farmer Shareholder 2).

A good example of ways the community worked to raise funds was helping out at a local dairy processing company:

All sorts showed up to help – grandparents, little kids – they all turned up for this event and some people who I'd never seen go to any community things they were there. So, the idea of a recreation pond captured their imagination (Local Resident 1).

In addition to funds raised in the community, other funding for the park came from a variety of public and private sector organisations, all of them listed on a sign attached to the side of the Park's new boat shed. This illustrates the ways local philanthropic agencies in this super-productivist setting are supportive of farmer-led community-orientated initiatives. Businesses donated raw materials, and staff time and recreation resources, including a motorised and inflatable rescue boat. Farmer shareholder 3 described the situation thus:

We initially applied to Meridian Energy, they've got a community grant so we got a grant from those guys first. I think we got about \$17,000 from Meridian so that sort of got us started. And then we got about \$15,000 from the Otago Community Trust and then we got quite a bit from families within the district – they all gave us a donation. And all of the yachts and all the kayaks were bought by businesses so the guys that bought the yachts gave us a donation, the businesses gave us a donation of \$3,000 and all the guys that bought the kayaks were \$850 or something like that. The safety boat was donated by Oamaru Honda (Farmer Shareholder 3).

Members of the community also provided free labour and helped develop the recreational infrastructure at the Park. This drew on a wide range of useful skills extant in the local community.

The community built the shed and a local builder volunteered to

oversee the building of it and he constructed the floor. The floor was a massive job. It needed a massive big retaining wall around the back because it's so close to that water race and we had limited room (Farmer Shareholder 4).

We've planted the site too. We've still got to do some more planting, so the company is doing that with the community (Farmer Shareholder 1).

This community-minded orientation among local dairy farmers, their families, other local residents and businesses illustrates that within super-productivist localities strong senses of place and commitment to building better and more liveable living environments are in evidence.

Once the Park was established, a trust was set up, the Lower Waitaki Sports Trust, to manage and administer the Pond and its facilities. The Trust's board comprises representatives from a range of stakeholder groups from the community including local residents and users. The Water Park officially opened in March 2014. In a Facebook post about the Water Sports Park's official opening day on 1st of March 2014, Waitaki District Mayor stated:

It was a real pleasure to be able to officially open the new water sports-park situated just inland from Pukeuri. It's an excellent example of a commercial enterprise working with local people, sponsors and charitable trusts to provide a new facility for the community. I was really impressed with the way it has come together and the many kids who came to the opening day were all having a ball.

The good news is that anyone can take advantage of the facility and in addition to schools and other groups using it, keys are available for casual use ...

Congratulations to all who have worked so hard to make this a reality!

By December 2014, 80 family members had access to the pond, taking advantage of its floating jetty, small rescue boat, boat shed and flotilla of watercraft, including 10 yachts, 15 kayaks, two paddleboards and BBQ equipment for picnicking (Fig. 4). The space is mainly used in the summer months by local sailing clubs, school groups and individuals and families who purchase a key to use the facility for a nominal annual fee. While the principal function of the pond remains the storage and supply of water for the irrigation of local farmland, which comprises mainly super-productivist dairy farms, the Lower Waitaki Water Sports Park project has also directly contributed to the well-being of the community through the provision of a novel outdoor recreation resource.

The pond continues to be actively used and local residents and company members remain proud of their achievement as the following examples from our interviews show:

They've got quite a few school groups that go there regularly in summer like they have a school group go there every Friday and I think one of the local [Māori] Iwi groups, I think they go there once a week, they've got quite a good membership going (LWIC employee).

It's surprising how many families just come out on a Saturday or Sunday and you drive past and you might see six or seven yachts out here, it looks really good from the road driving along ... Quite a few kids from Papakaio School have come and done the yachting and kayaking programme they do here and they've now joined the yacht club in town so and the Oamaru Yacht Club have been really good as well. They've come out on the open days and different days and done a bit of instructing and we've had Yachting NZ here, they come for two days with the Papakaio School and participated in their Learn to Sail programme. It's been really good to see the pond used like that and to be getting kids interesting in sailing ... The Oamaru





Fig. 4. Collage of the Lower Waitaki Water Sports Park.

intermediate school are using it for the next five Fridays. They've used it quite a bit actually. They just come out yachting and kayaking and its part of their outdoor sport programme (Local School Teacher).

Overall, the Park has been constructed in processes of grounded community action and collaborative private- and public-sector interaction. While the pond on which the Park is based contributes is part of a super-productivist zone, the process that produced the new recreation space has unfolded in complete contradiction to the dominant perspectives on super-productivism with which we opened our paper.

## 5. Discussion and conclusion

Our starting point has been to show that the Lower Waitaki Plains are super-productivist when measured by usually accepted economic and environmental measures. They are at first glance a super-charged, homogenous and monofunctional production zone shaped by the practices of high input and yielding, highly technical, narrowly profit-orientated agri-businesses. This is clearly evident in the ways the landscapes of the Plains have changed with the introduction of large herd dairy farming with links to export orientated local and regional milk processing plants. The key element in the development of super-productivism on the Plains has been the introduction and technical elaboration of a particular kind of hardware or infrastructure associated

with agricultural irrigation. This has in turn increased the level of other inputs and the potential for production and profit many-fold. Under these super-productivist conditions working life for most of the residents of the Plains is completely directed by the demands of production and its agri-industrial rhythms (Halfacree, 2007).

But, by using a naturalistic research method (Lofland and Lofland, 1995) and immersing ourselves in the daily life of Plains' residents (Riley, 2010; Mackay et al., 2018), we have elaborated an up until now hidden dimension of super-productivism in the region. This has involved us gathering economic, social and cultural data, and interpreting them using a relational understanding of place (Bathelt, 2006) and focusing on expressions of community action (Vestrum, 2014, 2016). Super-productivism, in these terms, displays examples of entangled production *and* consumption. In the Waitaki Valley, the Water Sports Park is an excellent example of this.

A view of the pond from the window of a passing car could easily leave the observer with the idea that it is simply part of the local agricultural irrigation scheme, owned and run commercially. A closer examination, however, supplemented by engagement with local people playing out private and public roles, presents a quite different picture. The irrigation pond becomes both an aid to super-productivism *and* a community recreational water park, produced and supported by many in the district and a marker of multifunctional land use. We sense that despite this observation, some of our readers might interpret the

venture we have studied as simply an attempt by an irrigation company to achieve a social licence to operate what are seen by many non-locals as environmentally destructive enterprises (Dare et al., 2014). During our fieldwork we got no sense of this. We think that this is because in super-productivist zones it is not possible to separate local interests in production from the entrepreneurial provision of community services by residents for residents. As Jay (2004) argued, the productivist mindset does not exclude entirely the co-existence of alternative practices and spaces, including some of which are hybrid in nature. Williams and Martin (2011, p. 13) make a similar point in their report of a study of the defence of the social licence for farming by emphasising the entangled nature of production and community provision in these settings:

In general, farmers and their families live in the same places as their business. Their lifestyle is integrated with their work and surrounding environment. They are also part of a neighbourhood and community, often quite small in population, where individuals play an important role in supporting community well-being. This juxtaposes a usually competitive business or corporate life with a more cooperative community life.

We conclude, therefore that it is important in theoretical terms to account for community ventures such as this pond and characterise super-productivism more subtly than is currently the case. This can be done by emphasising the complete array of social, cultural and economic activities and spaces at play in the lives of the people who work and play in super-productivist landscapes (Cloke, 1997; Riley, 2010). While many elements of the physical form of regional landscapes become increasingly homogeneous in processes of super-productivism, in other respects they diversify because of the community activities of the people who own and work in them.

We have focused on an irrigated rural setting managed for dairy farming. Other super-productivist rural settings are very different, producing other crops using techniques at variance with the ones we have discussed. If research interest in those settings is focused on macro-scale agricultural or horticultural production and its economic and environmental effects then current conceptualisations and research methods will seem adequate. But if one's focus is on understanding the working out and making of such landscapes, then different methodological considerations will be necessary (refer Riley, 2010). Close exploration and inspection of such places will certainly highlight industrial scale production of particular agri-commodities, but also get one closer to the rhythms of everyday rural life and the diverse other activities also present, but not so immediately obvious.

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## Appendix A. Supplementary data

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