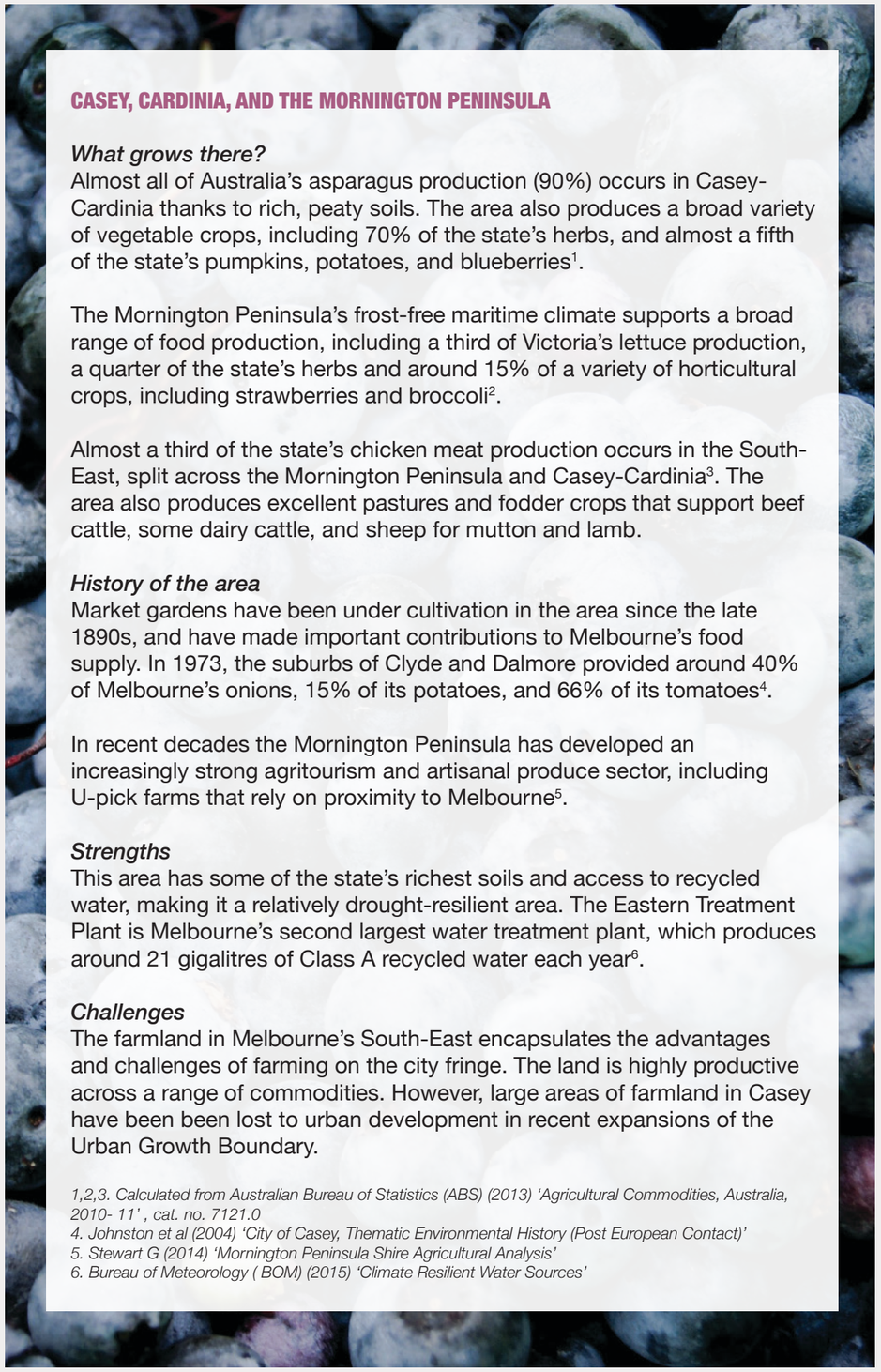
FOODPRINT MELBOURNE

TABLE 1: FACTORS CONTRIBUTING TO A RELIABLE FOOD SUPPLY

SUSTAINABLE AND RESILIENT FOOD SYSTEMS NEED…	CITIES HAVE…
Fertile land	Areas of highly fertile land – cities were often founded in places with highly fertile land to provide a secure food source for their growing populations
Water	Access to secure sources of recycled water from city water treatment plants and desalination plants, as well as storm water from urban water catchments
Fertilisers	Abundant supplies of under-utilised organic waste that can be converted to compost and utilized for food production
Labour	Access to sources of labour that may be scarcer in more remote and regional areas
Food processing infrastructure	Good access to infrastructure for secondary food processing and manufacturing
Transport infrastructure	Good road systems and transport links to move fresh foods quickly and efficiently to population centres
Proximity to markets	Close proximity to key markets for fresh foods in major population centres

FIGURE 1: THREE CASE STUDIES OF FOOD PRODUCTION AROUND MELBOURNE



CASEY, CARDINIA, AND THE MORNINGTON PENINSULA

What grows there?
Almost all of Australia's asparagus production (90%) occurs in Casey-Cardinia thanks to rich, peaty soils. The area also produces a broad variety of vegetable crops, including 70% of the state's herbs, and almost a fifth of the state's pumpkins, potatoes, and blueberries[1].

The Mornington Peninsula's frost-free maritime climate supports a broad range of food production, including a third of Victoria's lettuce production, a quarter of the state's herbs and around 15% of a variety of horticultural crops, including strawberries and broccoli[2].

Almost a third of the state's chicken meat production occurs in the South-East, split across the Mornington Peninsula and Casey-Cardinia[3]. The area also produces excellent pastures and fodder crops that support beef cattle, some dairy cattle, and sheep for mutton and lamb.

History of the area
Market gardens have been under cultivation in the area since the late 1890s, and have made important contributions to Melbourne's food supply. In 1973, the suburbs of Clyde and Dalmore provided around 40% of Melbourne's onions, 15% of its potatoes, and 66% of its tomatoes[4].

In recent decades the Mornington Peninsula has developed an increasingly strong agritourism and artisanal produce sector, including U-pick farms that rely on proximity to Melbourne[5].

Strengths
This area has some of the state's richest soils and access to recycled water, making it a relatively drought-resilient area. The Eastern Treatment Plant is Melbourne's second largest water treatment plant, which produces around 21 gigalitres of Class A recycled water each year[6].

Challenges
The farmland in Melbourne's South-East encapsulates the advantages and challenges of farming on the city fringe. The land is highly productive across a range of commodities. However, large areas of farmland in Casey have been been lost to urban development in recent expansions of the Urban Growth Boundary.

1,2,3. Calculated from Australian Bureau of Statistics (ABS) (2013) 'Agricultural Commodities, Australia, 2010- 11' , cat. no. 7121.0
4. Johnston et al (2004) 'City of Casey, Thematic Environmental History (Post European Contact)'
5. Stewart G (2014) 'Mornington Peninsula Shire Agricultural Analysis'
6. Bureau of Meteorology (BOM) (2015) 'Climate Resilient Water Sources'

These teaching resources have been developed by the University of Melbourne and the Geography Teachers' Association of Victoria, with funding from the Lord Mayor's Charitable Foundation.

FOODPRINT MELBOURNE

FIGURE 1: THREE CASE STUDIES OF FOOD PRODUCTION AROUND MELBOURNE (CONT.)

WERRIBEE SOUTH

What grows there?
Werribee South, 30 kilometres to Melbourne's west, is Victoria's brassica and leafy greens powerhouse. This small suburb with only 0.02% of the state's agricultural land produces 10% of Victoria's vegetables, including[1]:

- 85% of the state's cauliflower
- 53% of the state's broccoli
- 34% of Victoria's lettuce

History of the area
Werribee South has over 3100 hectares of market gardens on rich basalt soils that were turned over to irrigated farming in the 1920s[2]. It's an area of Italian heritage, with strong community and family relationships across farms as the original 12 farms of the 1920s have been divided and passed down to each generation since.

Strengths
One of Werribee South's greatest strengths is its potential to become a drought-proof foodbowl area. The Werribee South market gardens are located next to Melbourne's Western Treatment Plant. During the Millennium Drought, water allocations from Werribee River fell to just 5% of the usual allocation and a ban was placed on pumping groundwater due to risks to the water table. However, market gardeners were able to continue producing vegetables using recycled water from the water treatment plant[3].

Challenges
Recycled water from the water treatment plant is more saline than the river water, and some farmers have experienced negative impacts on crops as a result. Reducing the salinity of the water is an ongoing challenge.

1. Calculated from Australian Bureau of Statistics (ABS) (2013) 'Agricultural Commodities, Australia, 2010- 11' , cat. no. 7121.0
2. Wyndham City Council (2014) 'Agricultural Competitiveness'
3. Rodda C (2008) 'Background to the establishment of the scheme'

FIGURE 1: THREE CASE STUDIES OF FOOD PRODUCTION AROUND MELBOURNE (CONT.)

BACCHUS MARSH

What grows there?
Like many other outer foodbowl regions, Bacchus Marsh has a broad range of farming activities that include broadacre cropping and livestock grazing, as well as fruit and vegetable production.
Of the foodbowl's total production, Bacchus Marsh contributes:

- 11% of both cereal grains and oil crops
- 8% of legumes
- 4% of fruit
- 2% of vegetables

It also has 13% of the foodbowl's pigs, 4% of its sheep, and 2% of its meat cattle.

History of the area
Bacchus Marsh was developed for agriculture in the 1860s, with a focus on large grazing properties. Immigrants from diverse backgrounds brought a wide range of farming traditions from their home countries, which influenced practices in the area. Until the 1930s there was significant dairy farming in the area, with a number of processing plants in Bacchus Marsh. The development of irrigation in Bacchus Marsh allowed orchards to be planted, which have been retained as a key crop[1].

Strengths
While much of the lands to Melbourne's west are dry grassland and plains which have been used for sheep and cattle grazing, the river flats along Lerderderg River and Werribee River have long been cultivated thanks to their water access and alluvial soils.

Challenges
Agricultural production in the region has felt the impact of droughts. There is also ongoing pressure to rezone farmland for housing.

1. Vines, G. (1993) 'Farm and Dairy'

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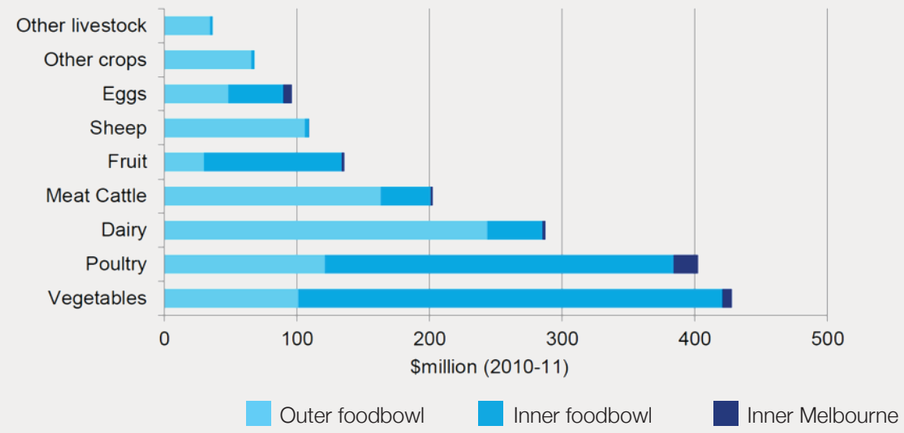
FOODPRINT MELBOURNE

FIGURE 2: THE VALUE OF PRODUCTION IN MELBOURNE'S FOODBOWL TO THE VICTORIAN ECONOMY ($MILLION)



Source: Deloitte Access Economics, calculated from ABS Agricultural Commodities 2010-11

TABLE 2: EMPLOYMENT IN AGRICULTURE IN MELBOURNE'S FOODBOWL

		Agriculture production in Melbourne's foodbowl ($ million per year)	*Persons employed Full-time equivalent*
Direct contribution	Farmers growing food	956	7687
Indirect contribution	Fertilisers, seeds, animal feeds, water, machinery	742	5719
Food manufacturing	Using the produce in processing to make other foods	756	7595

Source: Deloitte Access Economics

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