

FOODPRINT MELBOURNE



INQUIRY 4

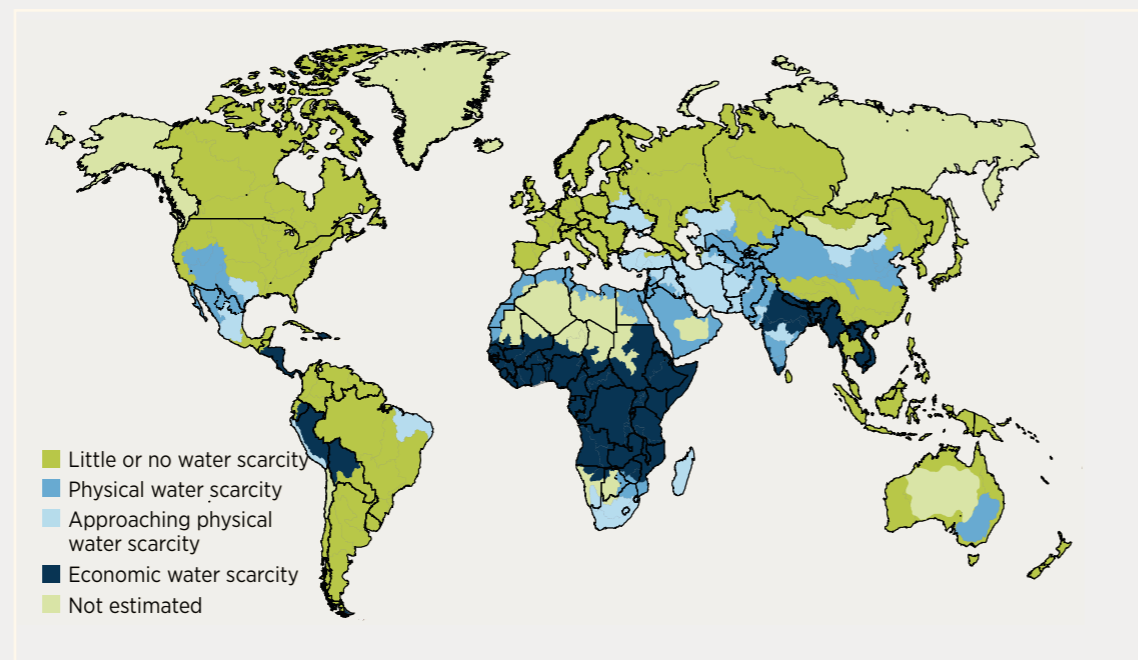
Will there be enough water to grow food in Melbourne's foodbowl in the future?

DATA SHEET 6

Use to complete Worksheet 6

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FIGURE 1: ASSESSMENT OF WATER MANAGEMENT IN AGRICULTURE (2007)



Source: *Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture*. London: Earthscan

FIGURE 2: THE WATER FACTS FOR MELBOURNE

- Melbourne's population uses 288L per household per day or 376GL per household per year.
- The water required to feed Melbourne's population is 475L per person per day or 758GL per year.
- Almost 50% of the inner foodbowl is used for agriculture; only 4% of the inner foodbowl is irrigated.
- Melbourne's entire foodbowl produces 82% of Melbourne's vegetable needs; 86% of Victoria's vegetable crops are irrigated on 44% of all irrigated land.
- Fruit makes up 18% of the diets of Melbourne's population, but uses only 0.5% of the total amount of water used to produce food for Melbourne.
- Beef and lamb production for Melbourne uses 26.3% of the water used to produce Melbourne's food.
- Irrigated dairy production for Melbourne uses 53% of the water used to produce Melbourne's food.

FIGURE 3: CURRENT LAND USE IN THE INNER FOODBOWL

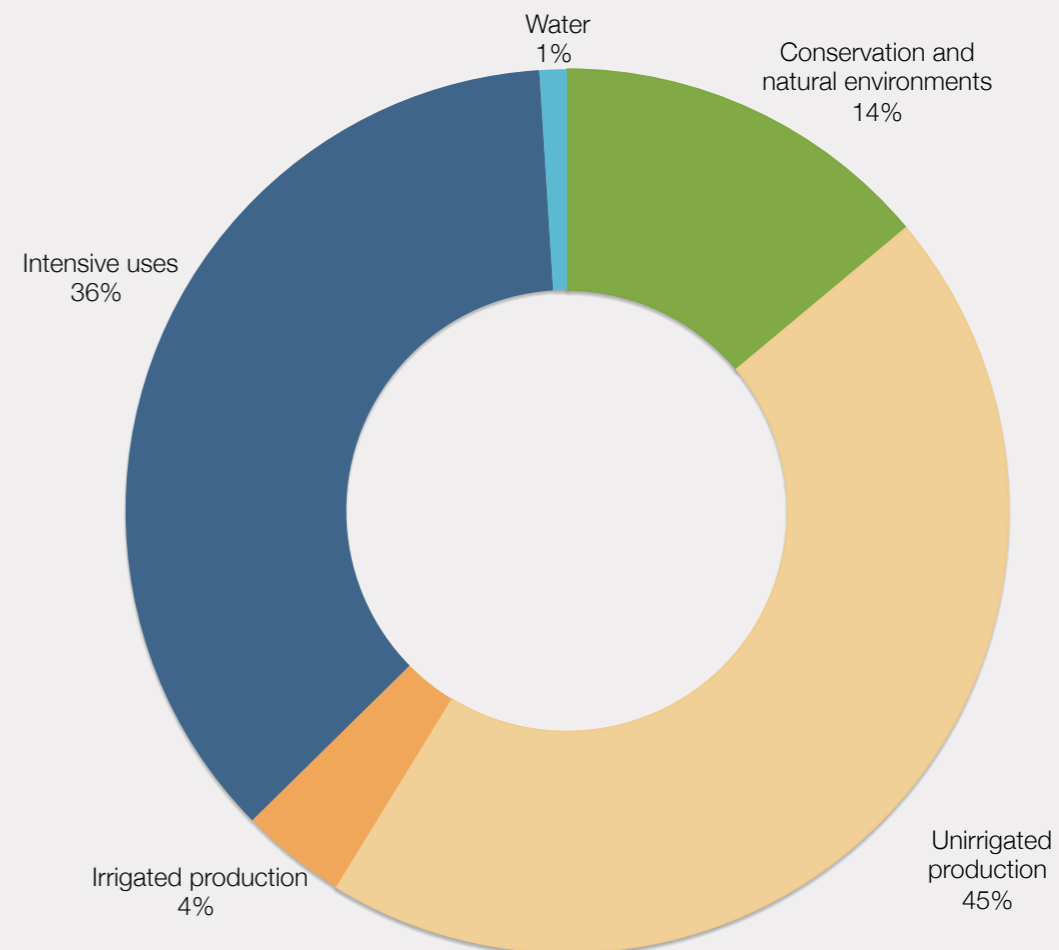


FIGURE 4: USING RAINFALL FOR FOOD PRODUCTION IN REGIONAL VICTORIA

In July 2013 the Schreurs family purchased 65 hectares of land in Middle Tarwin, southeast of Melbourne. By February 2016 a further 306 hectares was purchased next door to allow for expansion into the future. In July 2016 24 hectares were being used to grow celery, baby spinach and rocket. A further 34 hectares was added to the cropping area by February 2017. Plans are to increase the production area by 40 hectares every year after that.

The property is close to the Tarwin River at Middle Tarwin. The first action the family took – before even buying land – was to purchase water licences from the local farmers to ensure water could be taken from the river. In addition, a four-hectare dam (100 million litres) was built making water available at all times for irrigation. Although the area is known for its stable climate, drought-proofing the farm is vital to the future sustainability of the farming business.

Adapted from <http://thestar.com.au/blog/sprouting-new-business/>

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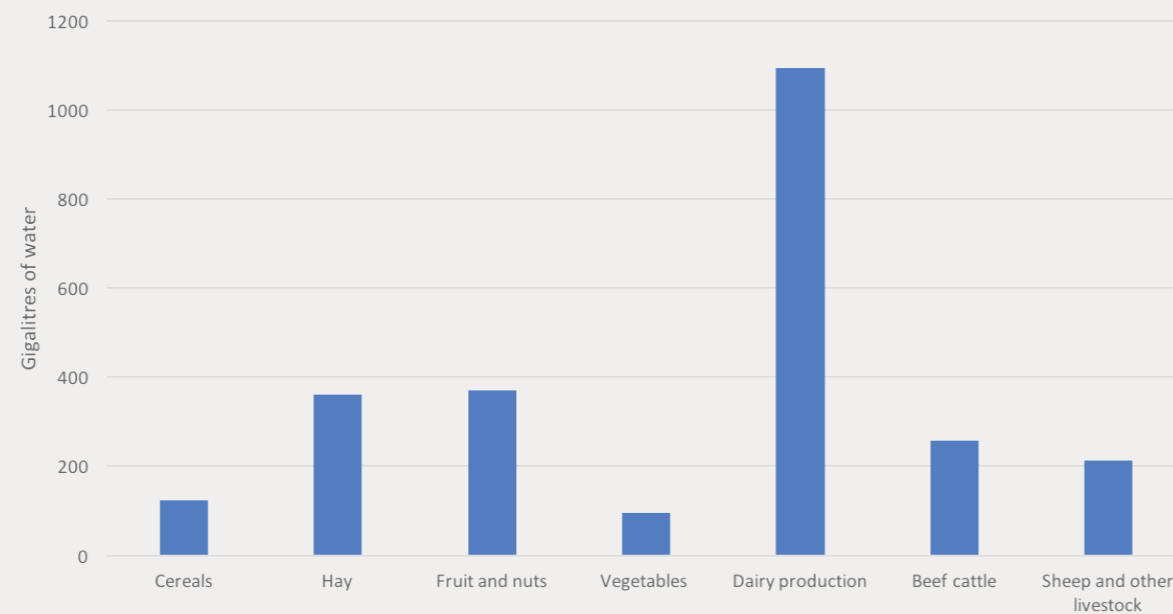
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FIGURE 5: AGRICULTURAL WATER USE IN VICTORIA



Source of data: ABS Water Account Victoria 2015-16

FIGURE 6: STORING WATER TO ENSURE A RELIABLE FOOD SUPPLY

a. Market gardens at Five Ways, Devon Meadows, Victoria show farmers' reliance on water stored on their properties in dams (indicated by the darker areas on the image)



b. Overhead irrigation at Werribee South



c. Lake Eppalock stores water from the Campaspe River in central Victoria for domestic use in Bendigo and irrigation in northern Victoria



Credit: Bendigo Weekly

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FIGURE 7: USING RECYCLED WATER TO GROW FOOD

Recycled water is likely to play an important role in future crop production. It can provide irrigation during times of drought. Recycled water comes from the water used by people and industries, so it makes sense that more recycled water is available from water treatment plants that treat larger populations' water, such as the population of Melbourne. The map below shows the location of water treatment plants in Victoria.

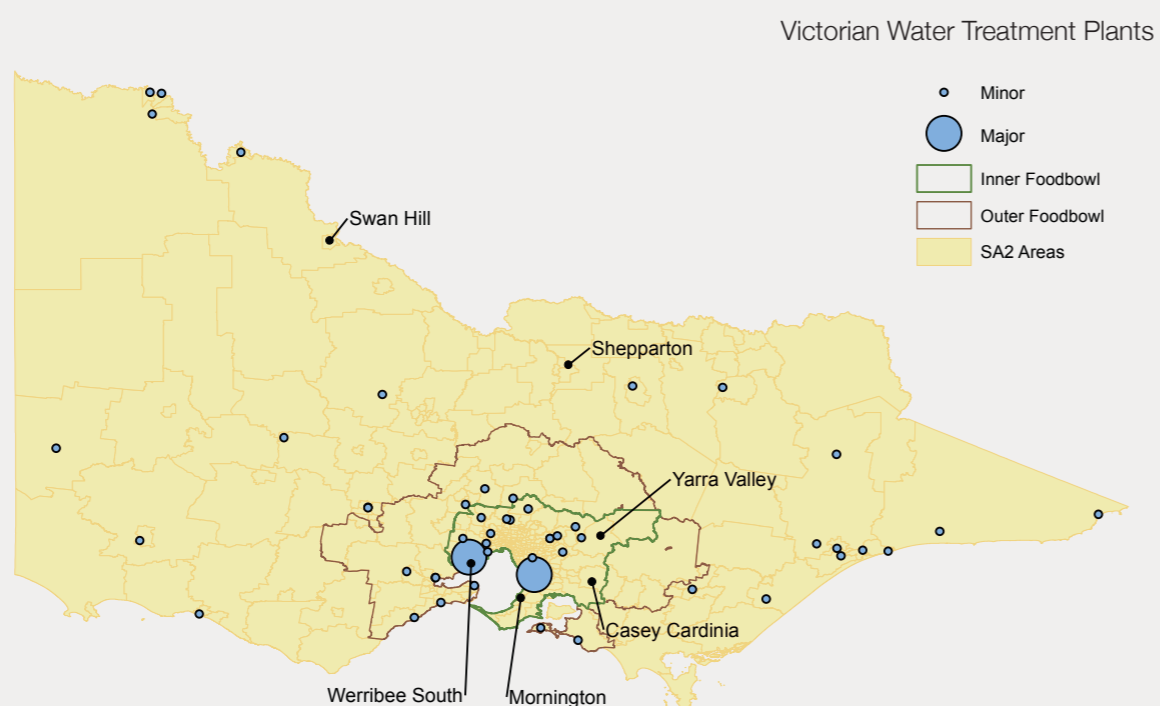


FIGURE 8a: A CASE STUDY: FUTURE WATER FOR FOOD PRODUCTION IN MELBOURNE'S INNER FOODBOWL

MELBOURNE EATS WATER

OVER 475L PER DAY TO GROW EACH PERSON'S FOOD

IT'S GETTING DRIER FARMERS ARE RUNNING OUT OF WATER

MELBOURNE'S TWO WATER TREATMENT PLANTS PRODUCE RECYCLED WATER

84% GOES OUT INTO THE SEA

JUST 10% WOULD BE ENOUGH TO GROW

HALF OF THE VEGETABLES THAT MELBOURNE EATS

RECYCLED WATER COULD HELP DROUGHTPROOF OUR LOCAL FRUIT & VEGETABLES

FIGURE 8b: CASE STUDY: WERRIBEE SOUTH

Werribee South is an area of intensive horticultural production 30 km to the west of Melbourne that grows around 10% of Victoria's vegetables, including 85% of the cauliflower grown in Victoria, 53% of the broccoli and 34% of the lettuce.

In 2015-16, Werribee South generated \$80 million of agricultural output and provided 295 jobs from just 3,275 hectares of agricultural land. A number of other industries in the Wyndham area are also heavily dependent on agriculture in Werribee South - particularly, wholesale trade, transport and warehousing - which account for a further \$47 million in annual output and an additional 150 jobs.

The majority of agriculture at Werribee South takes place in the Werribee Irrigation District, which is adjacent to the Western Treatment Plant and has access to recycled water, allowing the region to continue growing vegetables during drought. This enabled production to continue in the region during the height of the Millennium Drought. If Werribee South were to be lost as an area of agricultural production, it would have a significant impact on the regional economy, jobs and Melbourne's food security.

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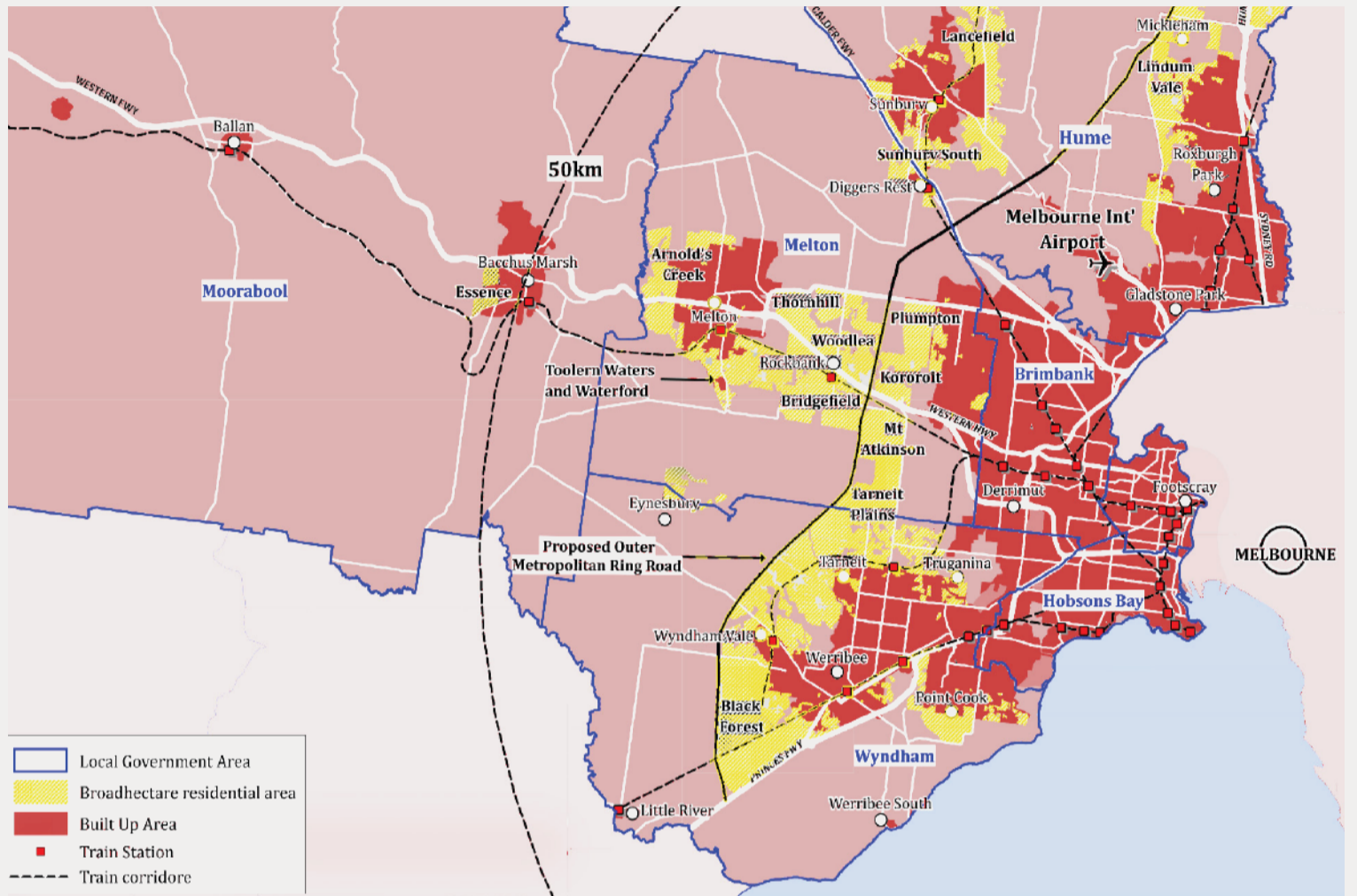
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FIGURE 8c

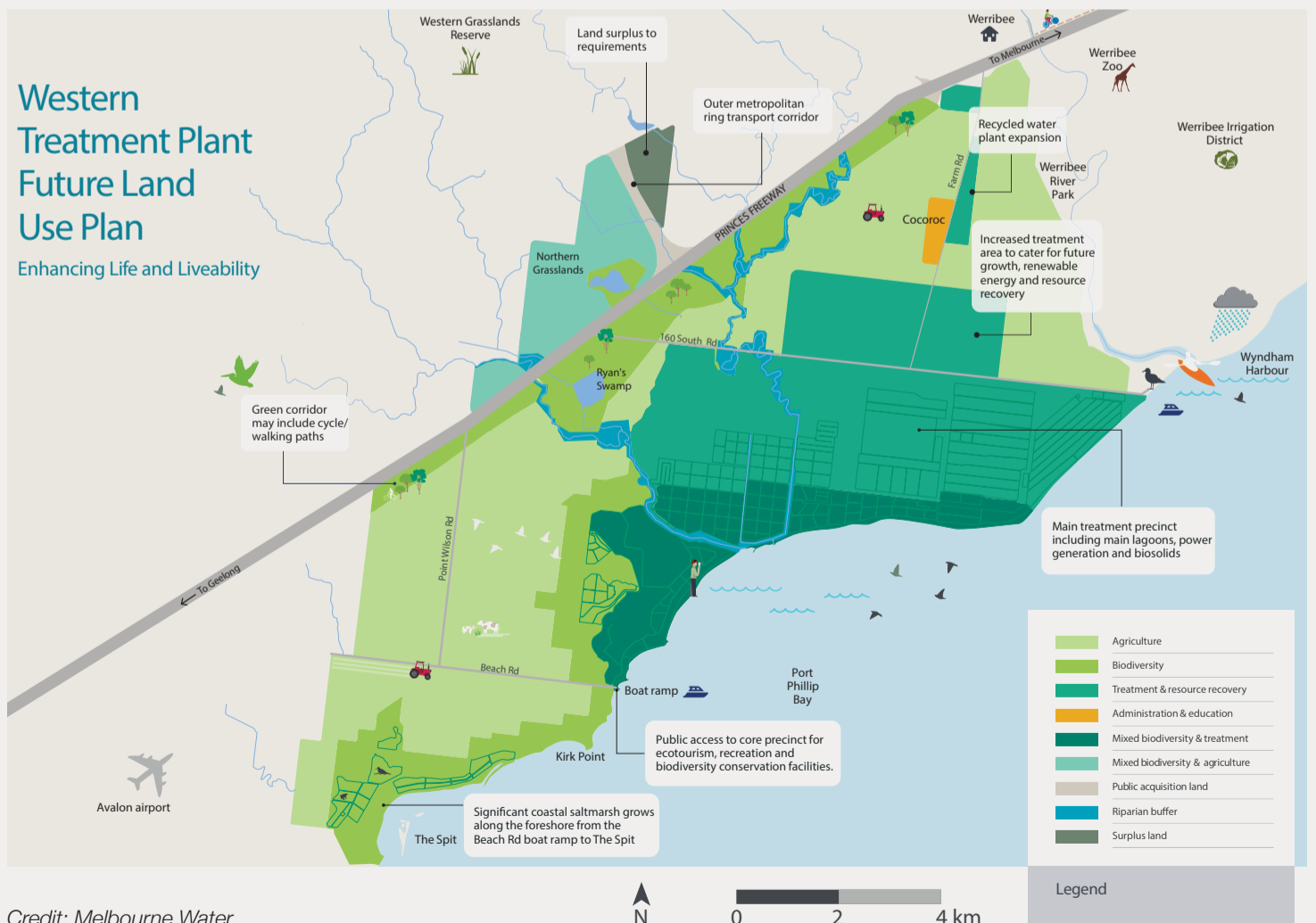
The current westward growth of Melbourne encroaches on livestock farming areas but hasn't yet impinged on the vegetable growing areas of Werribee South



Credit: Cody Phelan based on data from the ABS

FIGURE 8d:

By 2025, land use at the Western Treatment Plant will include more areas for food production using its recycled water



Credit: Melbourne Water