

# FOOD RESCUE

## A FRESH APPROACH



### REPORT 2: THE ENVIRONMENTAL IMPACT OF FRESH RESCUED FOOD

A REPORT SERIES





Food Rescue – A Fresh Approach  
Report Series  
Report 2: The environmental impact of fresh rescued food

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Food is very precious. It's fundamental to our health and wellbeing, it nourishes us and connects us to our community and our environment.

For many of us there appears to be an abundant, limitless supply of food, but in this country alone, over a million Australians do not have enough to eat. Incredibly, at the same time Australians are wasting \$5.2 billion of food per year. And we are sending the bulk of that waste to landfill where it creates methane, a greenhouse gas 20 times more toxic than carbon dioxide.

When we waste food, we also waste the valuable resources used to produce it - like agricultural land, water and energy all of which are in increasingly scarce supply as a result of climate change, unsustainable agricultural practices and over use.

The appearance of an abundant, limitless supply of food therefore, is just that.

Globally more and more voices, from the United Nations to International NGO's to small scale local food producers are calling for urgent action to address the negative social and environmental impacts of our current food system and avert a global food crisis.

In 2011 SecondBite rescued 1 million kgs. of surplus food, providing 2 million nutritious meals for people in need. This report demonstrates the positive environmental impact of rescuing and redistributing that food, relieving the pressure on our land, water and energy resources for food production, and reducing harmful greenhouse gas emissions.

Of course, this is just a fraction of the food being wasted in Australia and there is much, much more to be done. By collaborating with academics, policy makers, community organisations and industry we are exploring long term solutions to this crucial global issue with the aim of helping create a more environmentally sustainable and equitable food system.

We hope this will inspire you to act and help to build a fairer food system.

**Elaine Montegriffo, CEO**

# EXECUTIVE SUMMARY



## FRESH FOOD RESCUE

SecondBite is committed to making a positive difference to people by identifying sources of nutritious surplus fresh food and produce that would otherwise go to waste and facilitating its safe and timely distribution to agencies and people in need.

Since 2005, SecondBite has rescued over 4.5 million kilograms of surplus fresh food, enough for nine million meals.

Our network of vans, warehouses and incredible workforce of over 600 volunteers ensure good quality nutritious food can be easily rescued and donated to communities everyday. In 2012, SecondBite has expanded and this means that fresh food is being rescued across Australia.



## ENVIRONMENTAL IMPACT

In 2011, SecondBite collected and redistributed over 1 million kilograms of fresh nutritious food that would have otherwise gone to landfill. The social and health impacts from this work are profound (see Report 1 of this research series). This report outlines the results of life-cycle assessment commissioned to examine the environmental significance of fresh rescued food.

The results revealed that by rescuing fresh food and not sending it to landfill, the following environmental savings occurred:

Over 6 million kilojoules of energy saved

Over 74 million litres of water saved

Over 6 million kilograms of greenhouse gas (Co<sup>2</sup> equivalents) saved

## THE FUTURE

A huge amount of fresh food still goes to waste each year – we are only rescuing the tip of the “food berg”

Every dollar invested in SecondBite, means we can keep our wheels on the road and expand our effective and sustainable solution across the country. Water and food are precious in every community across Australia. We need to conserve all that we have to ensure a healthy Australia for now and the generations of tomorrow. SecondBite can help to ensure this.

SecondBite’s Research and Development programs also help to brighten the future; innovative food rescue initiatives like Community Connect™, nutrition education programs and social-research into poverty and food insecurity in Australia. We want long-term and preventative solutions to the problem. If the food supply was sustainable and all Australians had access, SecondBite would no longer need to exist. It is to this end that we work every day.

**IF THE FOOD SUPPLY WAS SUSTAINABLE AND ALL AUSTRALIANS HAD ACCESS, SECONDBITE WOULD NO LONGER NEED TO EXIST.**

**IT IS TO THIS END THAT WE WORK EVERY DAY.**

# CONTEXT

## FOOD AND HEALTH

Nutritious food is fundamental to health and a basic human right. From babies in Byron Bay to great grand-parents in Geraldton, good food is important to all Australians' social, cultural and physical health. We love our barbecues and baklava and most are lucky enough to enjoy a varied and interesting food supply. However, diet-related disease is soon to be Australia's number one preventable killer and around 60% of adults are above a healthy weight<sup>1</sup>.

There are a range of reasons that inhibit the consumption of healthy foods; cost, distance, social exclusion, nutrition knowledge and supply. The poorest health is experienced by lower-income Australians and this is both unjust and unnecessary. Imagine opening the fridge to find it bare or sending your children to school without breakfast and a half-empty lunch box. Unfortunately, approximately 1.2 million Australians are food insecure (defined as irregular access to nutritious appropriate food). This problem disproportionately impacts low-income families, Aboriginal and/or Torres Strait Islanders, and people experiencing homelessness or disadvantage. In the "lucky country" poor diets and empty lunch boxes are by-products of poverty and a struggling food and health system.

## FOOD AND ENVIRONMENT

The Australian farming and production sector plays a significant role in taking care of the land, improving our economy, offering employment and providing good food to Australians and those overseas. Our rich history of innovation and fertile environment yields bumper crops and high quality produce. However, the sustainability of this system is under immense threat. Climate change, peak oil, peak phosphate and water scarcity will dramatically alter our food supply<sup>2</sup>. Globally, the United Nations has urged a reconsideration of current systems and encouraged more local, seasonable and sustainable farming that protects the custodians of the land – the farmers – and the wellbeing of the planet and people<sup>3</sup>. SecondBite is able to rescue just a fraction of the total amount of food going to waste. By decreasing the amount being wasted, SecondBite is helping to relieve the pressure on our land and resources for food production, but there is so much more to be done.

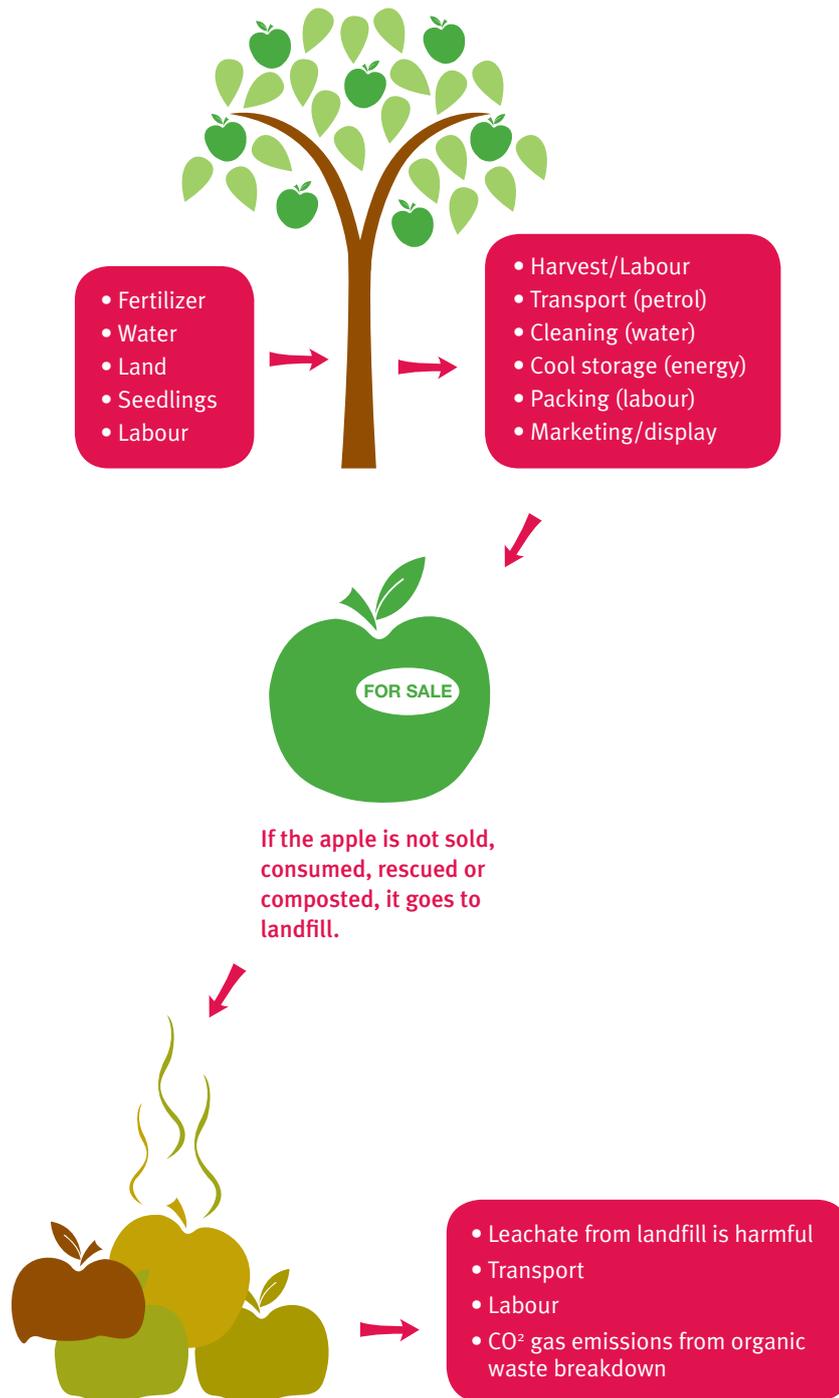
## FOOD WASTE

Between 25% and 50% of food produced worldwide is wasted between the paddock to the plate<sup>4</sup>. Globally, that's around 1.3 billion tonnes, with high-income countries like Australia the most wasteful<sup>2</sup>. The reasons for food waste include gluts in supply, cosmetic product-specifications, concentrated and centralised distribution and retailing systems, and wasteful consumers.

Australian households are estimated to waste \$5.2 billion worth of food each year and the cumulative impact of all this wasted organic matter is devastating to our environment<sup>5</sup>. A recent report on Australian-grown bananas suggests that cosmetic specifications set by Australian retailers and processors is contributing to between 10 and 30% of the crop being discarded on the farm<sup>6</sup>. How have we created a food system where this can occur? Throwing food out wastes all the resources required in the growing, processing and storage of that food (see right) and the landfill impact can be devastating to the environment.



# RESEARCH METHODOLOGY



In 2011, SecondBite collected and redistributed 1,081,347 kilograms of fresh nutritious food that would have otherwise gone to landfill. This report outlines the results of life-cycle assessment commissioned to examine the environmental significance of fresh rescued food based on the 2011 results. The data used for this research was collected from the data collection system SecondBite staff and volunteers use every day (since 2005). Every kilogram of food rescued was recorded and categorised into 7 food groups; fruit, vegetables, dairy, bread and cereals, meat and eggs, drinks and extras. Each month the results are tallied and for the purpose of this current paper, the summary of this data was provided to the University of Melbourne research team.

The data was entered into the calculator from which the savings from water, energy and greenhouse gas (CO<sub>2</sub>) emissions were calculated. Calculations were based on international and local figures obtained by Hyder Consulting, using purpose-specific life-cycle analysis databases<sup>7</sup>. This tool was amended in the following ways to be applicable; the calculator was simplified to make it relevant to the SecondBite distribution model, unnecessary food categories were removed, food groups were simplified (for example mean values for food groups such as fruit and vegetables were used), other categories in the existing calculator (such as land impact value) were also removed.

The limitations of this report are i) not including SecondBite's own energy cost (fuel, storage, transport, and distance food travelled) in the calculations of the total environmental benefit and ii) the calculator does not take into account the enormous energy wasted in packaging of food and disposal of packaging. Future research into food rescue life-cycle assessments will improve the tools and evidence base used to analyse this work.

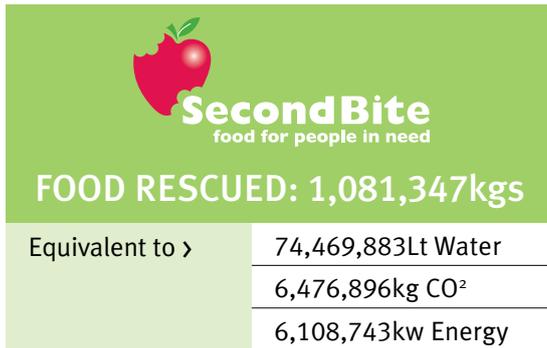
**“The food system in Australia is broken... Sixty-two percent of Australian adults and one quarter of Australian children are overweight or obese, over 1 million Australians are food insecure, the economic burden of diet-related diseases is estimated to be \$8.3 billion and the food system is a major contributor to greenhouse gas emissions and a non-sustainable consumer of finite environmental resources...”**

**Associate Professor Mark Lawrence,  
Director of the Food Alliance**



# SECONDBITE RESULTS

A summary of the positive environmental impact of the rescuing and redistribution of more than one million kilograms of fresh food by SecondBite in 2011. CO<sup>2</sup>, water and energy equivalents are displayed below. This figure represents the amount of water and energy required to produce the food in the first place, and the CO<sup>2</sup> that would have been emitted from its breakdown in landfill.



The CO<sup>2</sup> gas helps to trap other greenhouse gases in our atmosphere, which together leads to global warming. The CO<sup>2</sup> emissions saved by not sending this food to landfill is equivalent to 919 flights from Perth to Melbourne.

The energy saved is equivalent to 1,245 years of the television being turned on.



**FLIGHTS FROM  
PERTH TO  
MELBOURNE<sup>3</sup>**

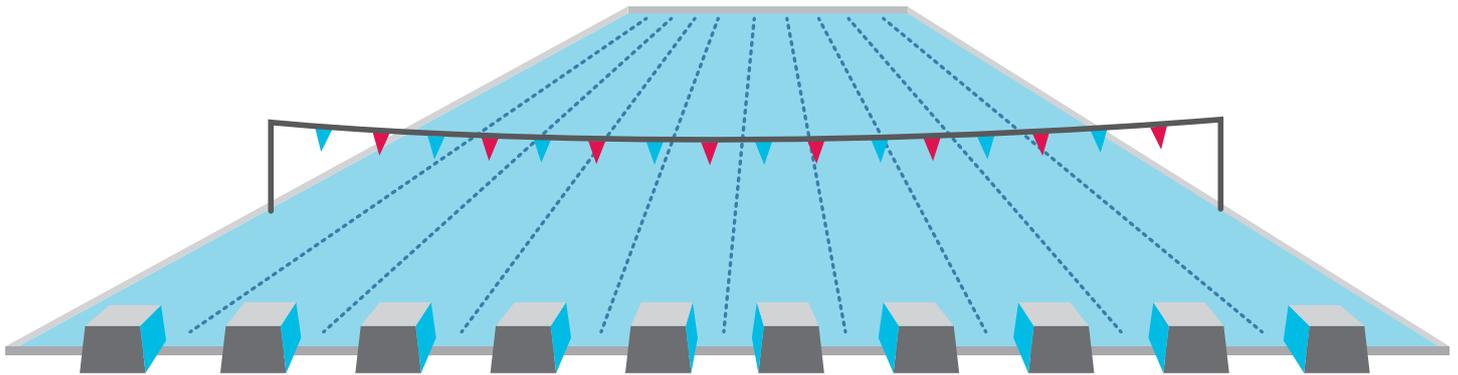


The amount of water saved by not sending one million kilograms of food to landfill is equivalent to 39 fifty-meter Olympic swimming pools. Imagine turning the shower on constantly for 62,058 hours (that's 2,585 days) – that's the amount of water that would have been wasted if this fresh food was not rescued.

WATER SAVED  
76,469,883 litres



# 39



50M OLYMPIC SWIMMING POOLS<sup>1</sup>

OR A  
**2,585 DAY**  
SHOWER<sup>2</sup>



**\*Key**

1. Assuming an Olympic swimming pool contains 1,875,000L of water
2. Assuming a 5 minute shower, using a conventional hose, uses 100L of water, one hour uses 1200L
3. Assuming 70% of plane occupied, travelling a distance of 2,730 kms.
4. Assuming a large plasma TV using power consumption of 0.56kw/hr.

# FOOD IS A SIMPLE MEDIUM THROUGH WHICH POWERFUL POSITIVE CHANGE CAN TAKE PLACE WITHIN OUR COMMUNITY



## WHY WASTE FOOD WHEN...

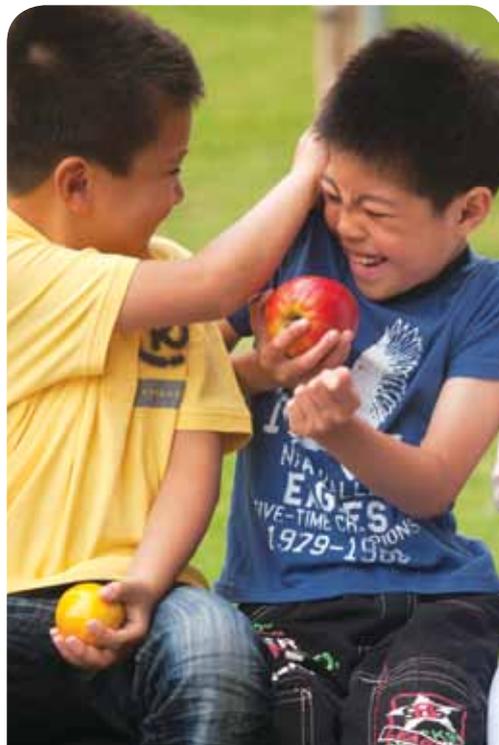
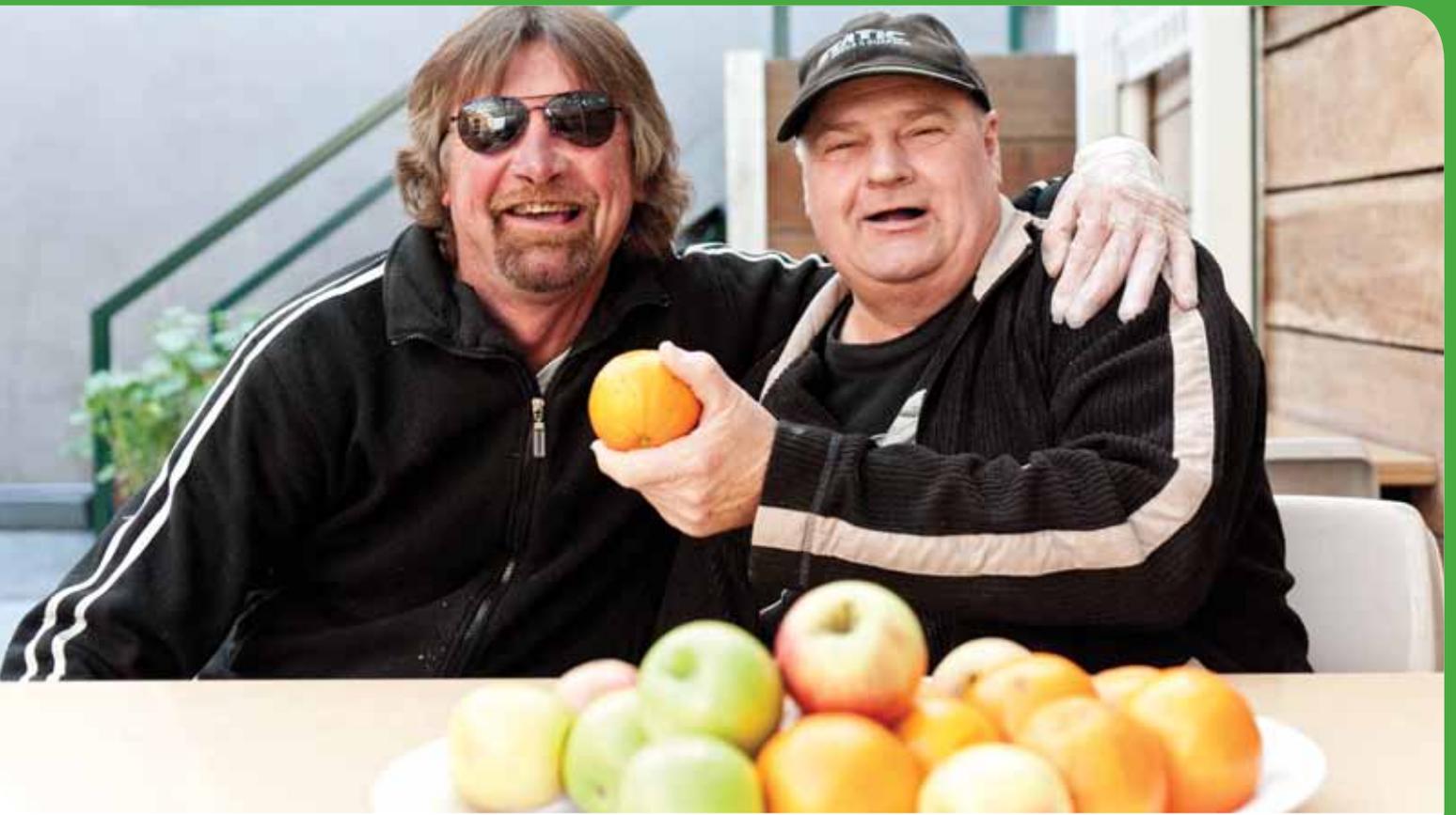
Food is a simple medium through which powerful positive change can take place within our community. Here are some insights from those who work with fresh rescued food:

*We really wanted to start helping the community in a way that was direct. We wanted to donate food to people who need it and we wanted to do it in a way that was cost effective (we wanted it picked up at our door). It's had a great impact on our business.*

Ray Montague,  
Montague Apples (food donor)

*SecondBite has had a huge impact at Abbeyfield House. We are able to get things we wouldn't have had. We've bought a cryovac machine - it helps us process the surplus carrots and tomatoes. Now we are preserving fruits and veggies as well. We bought two big freezers. All of this is because of the money we've been able to save due to the SecondBite service. The thing I really love about this preserving and processing is that it brings the people together, we actually process and cook all the surplus fresh food as a collective and we get a sense of community - it's invaluable.*

Merlyn Swan,  
Abbeyfield House (community agency)



# CONCLUSION

## THE ENVIRONMENTAL, SOCIAL AND HEALTH IMPACT

The results indicate that important and finite resources – energy, water – can be saved by ensuring good quality food does not go to waste. Climate change is altering the environment and urgent action is needed for the benefits of future generations. SecondBite can reduce the impact of food waste, whilst also ensuring healthy food for people in crisis. Meal programs, cooking classes, school breakfasts and parcel services are now packed full of fresh produce every day across Australia.

## THE BIGGER PICTURE

There are thousands of community food programs across the nation, relieving hunger, building strength and support for people in crisis. SecondBite ensures that in the short-term, hunger is relieved with sustainable nutritious food. In the long-term, we know it takes more than food to address the underlying problem. Our Research and Development team has designed education programs ([secondbite.org/educationprograms](http://secondbite.org/educationprograms)) and invested in food security research as we work towards long-term solutions that will ensure good food for all Australians. We encourage government, community and industry to join us and think about the power of food to achieve simultaneous social, environmental and health outcomes.



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## THINK FRESH!

**There is a fundamental failure in the most basic social policies and support systems in Australia because at least 5% of our population cannot be sure of where their next meal is coming from. At the same time, we waste vast amounts of food from the paddock to the plate**

**In the context of our growing diet-related disease epidemic and economic inequality, why waste good quality produce? Government, community and industry have an important role to play in ensuring that all Australians have the right to nutritious food for today and tomorrow.**

**A whole-of-government approach is needed to ensure we can sustainably cater for consumers, empower communities with local and seasonable foods, protect the economic and environmental viability of agriculture/food processing and address the underlying poverty for those who experience food insecurity.**

**We need leadership and SecondBite looks forward to collaborating more with those who share our vision and like to think fresh! Contact our head office 03 9376 3800 or visit [www.secondbite.org](http://www.secondbite.org)**

1. Australian Institute of Health and Welfare, 'Australia's Health 2010', Canberra, 2011, p.114.
2. PMSEIC (2010). Australia and Food Security in a Changing World. Prime Minister's Science, Engineering and Innovation Council. Canberra.
3. De Schutter, O. 'Report submitted by the Special Rapporteur on the right to Food', United Nations Human Rights Council, 2010.
4. Food and Agriculture Organisation of the United Nations. 'Global Food Losses and Food Waste', Rome, 2011.
5. Baker, D. Fear, J. & Deniss, R. 'What a waste; an analysis of household expenditure on food', Australia Institute, 2009.
6. White, A., Gallegos, D., & Hundloe, T. 'The impact of fresh produce specifications on the Australian food and nutrition system: a case study of the north Queensland banana industry'. Public Health Nutrition 14(8), p.1489-95. 2011.
7. This LCA was amended from a project originally conducted for FareShare by O'Farell, K. 'Sustainability Gains Through the Recovery of Unsold or Off-Specification Food', Hyder Consulting, 2008.



The time is ripe for a fresh approach to food, ensuring positive environmental, health & community impact from the paddock to the plate.

**SecondBite. Food for people in need.**

[www.secondbite.org](http://www.secondbite.org)