



# Decoupling living standards and resources

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# The New Zealand Footprint Project

3 years, FRST

Victoria University of Wellington  
Auckland Council  
Otago Polytechnic

“Provide knowledge on how to improve the efficiency of resource use in order to guide policies and practices for robust future settlement development.”

Ecological Footprint, Urban Form, Lifestyles - time, money, values



# Total and average NZ 2007 footprint by category



Category	Description	Ecological Footprint (NZha)	Ecological Footprint (NZha)
<b>Food and beverage</b>	Food at home and eating out	5,952,627	1.4078
<b>Travel</b>	Car, bus, train, pleasure craft	798,707	0.1889
<b>Consumer goods</b>	Clothes, computers, tvs, books, furniture, appliances, pets	2,393,176	0.5660
<b>Holidays</b>	Holidays at home and abroad	508,820	0.1203
<b>Housing</b>	Energy used in the home	272,864	0.0645
<b>Household energy</b>	House building maintenance and repairs	199,343	0.0471
<b>Infrastructure</b>	Motorways, bridges, railways, stadia	232,670	0.0550
<b>Government</b>	Consumables and durables for local and central government	27,488	0.0065
<b>Services</b>	Water, hospitals, education, phone, post, finance, police etc	139,896	0.0331
<b>Total</b>		10,525,590	2.4893

# New Zealand 'fair earth share'

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## 1.21 New Zealand hectares

On average a New Zealander requires 2.1 planets to support their way of life

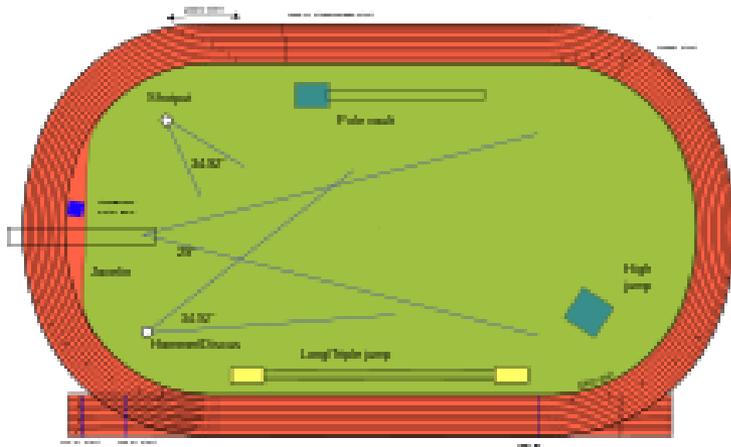
This is an underestimate!

More than one planet would be required just for food...

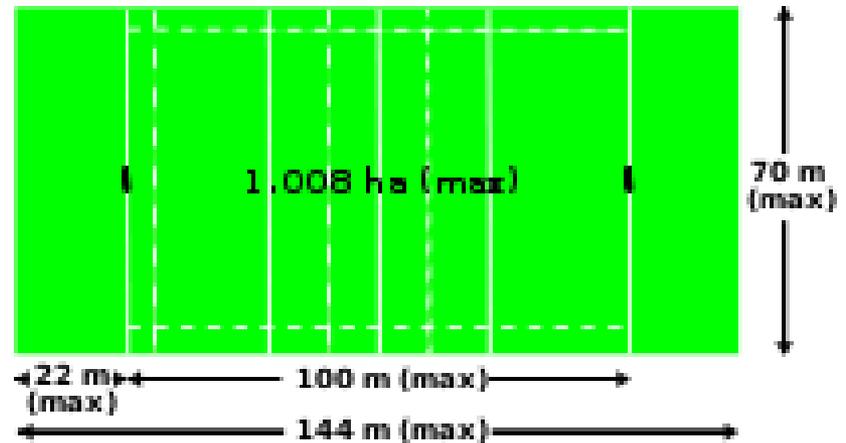
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# One Hectare

The grass in the centre of a standard athletic track is a little over one hectare in extent

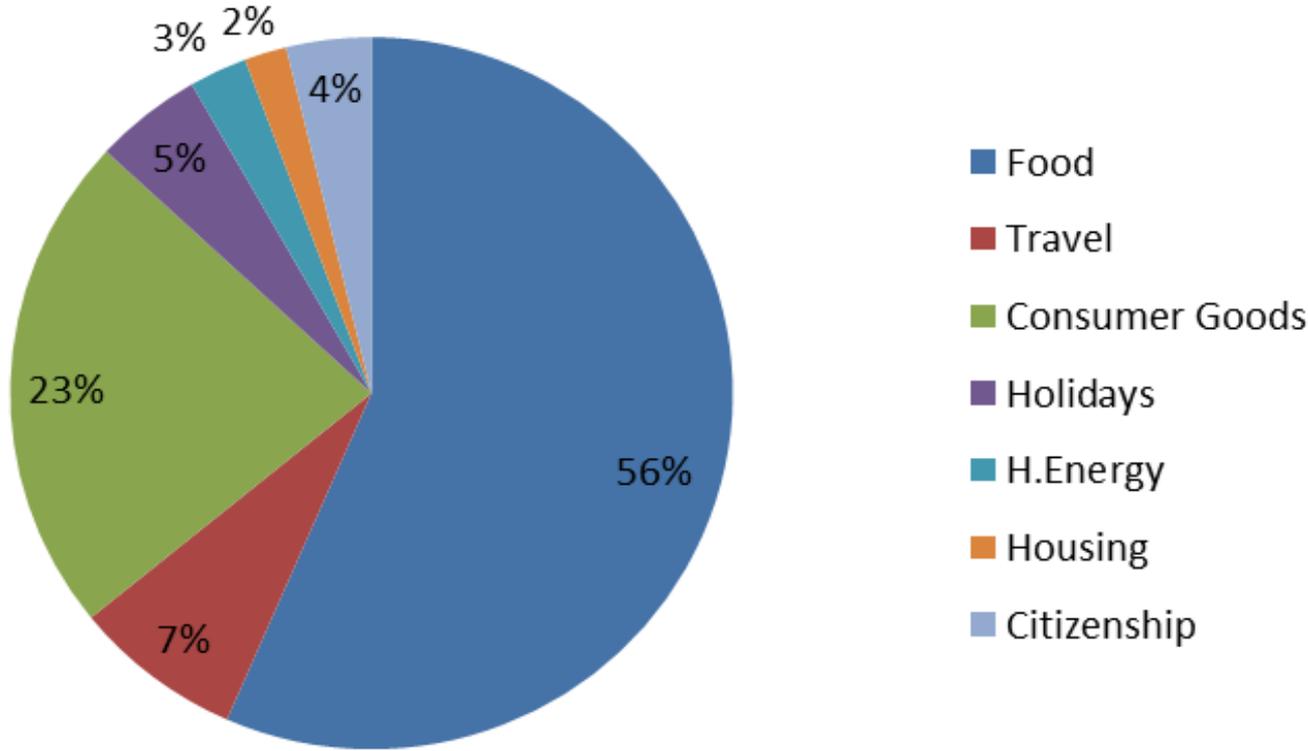


The maximum playing area of an international-sized rugby union field is about one hectare

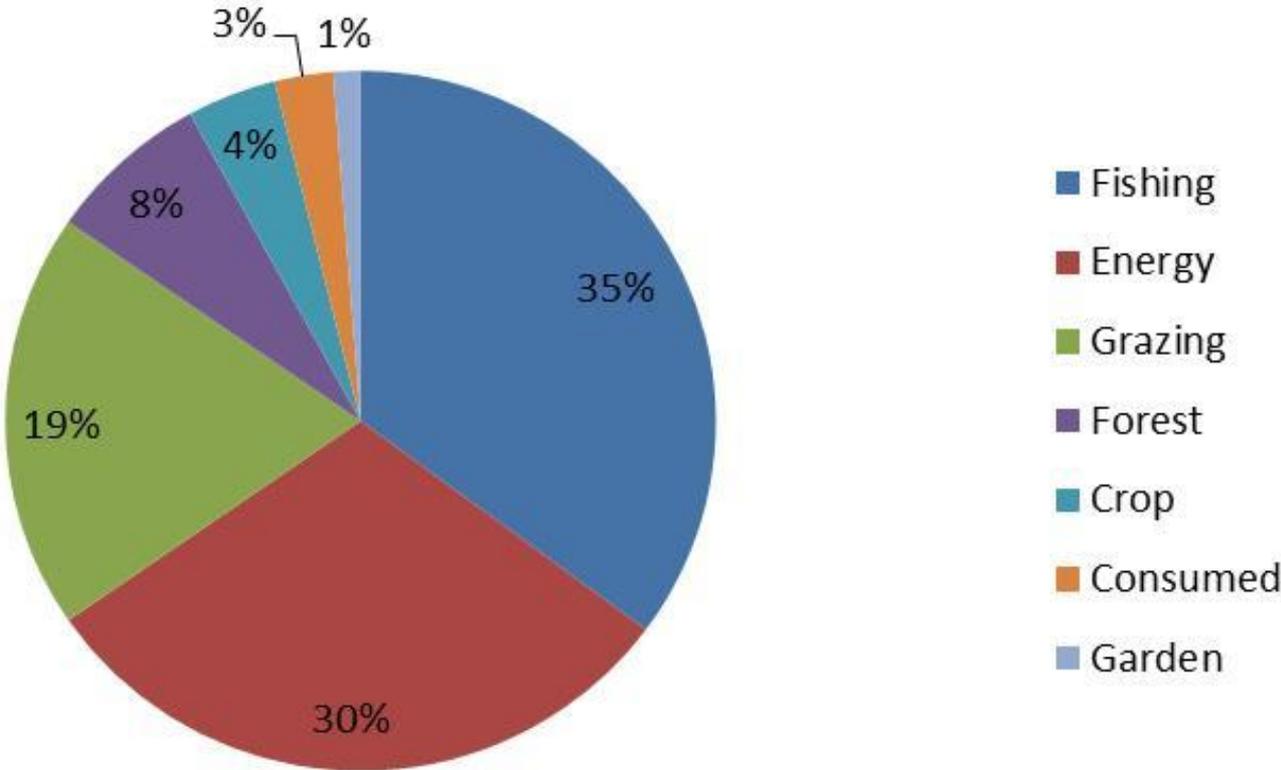


Kiwi quarter acre section = x10

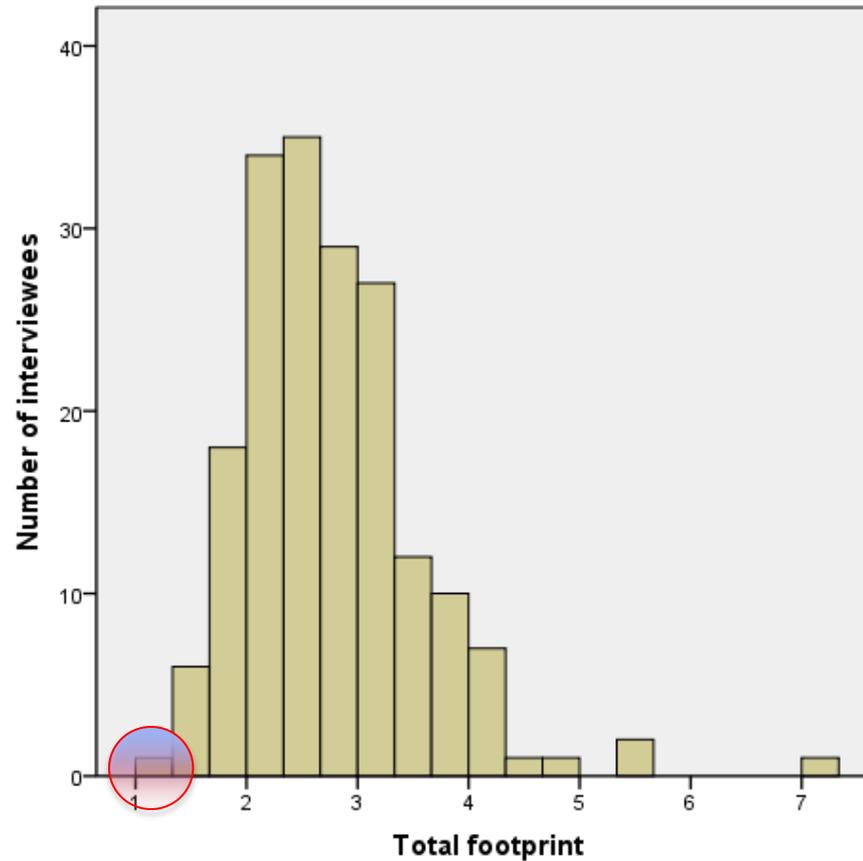
# New Zealand Average Ecological Footprint 2007



# New Zealand Average Ecological Footprint 2007



# Distribution of Footprint - 180 interviews



## Satisfaction with life increased with household income level.

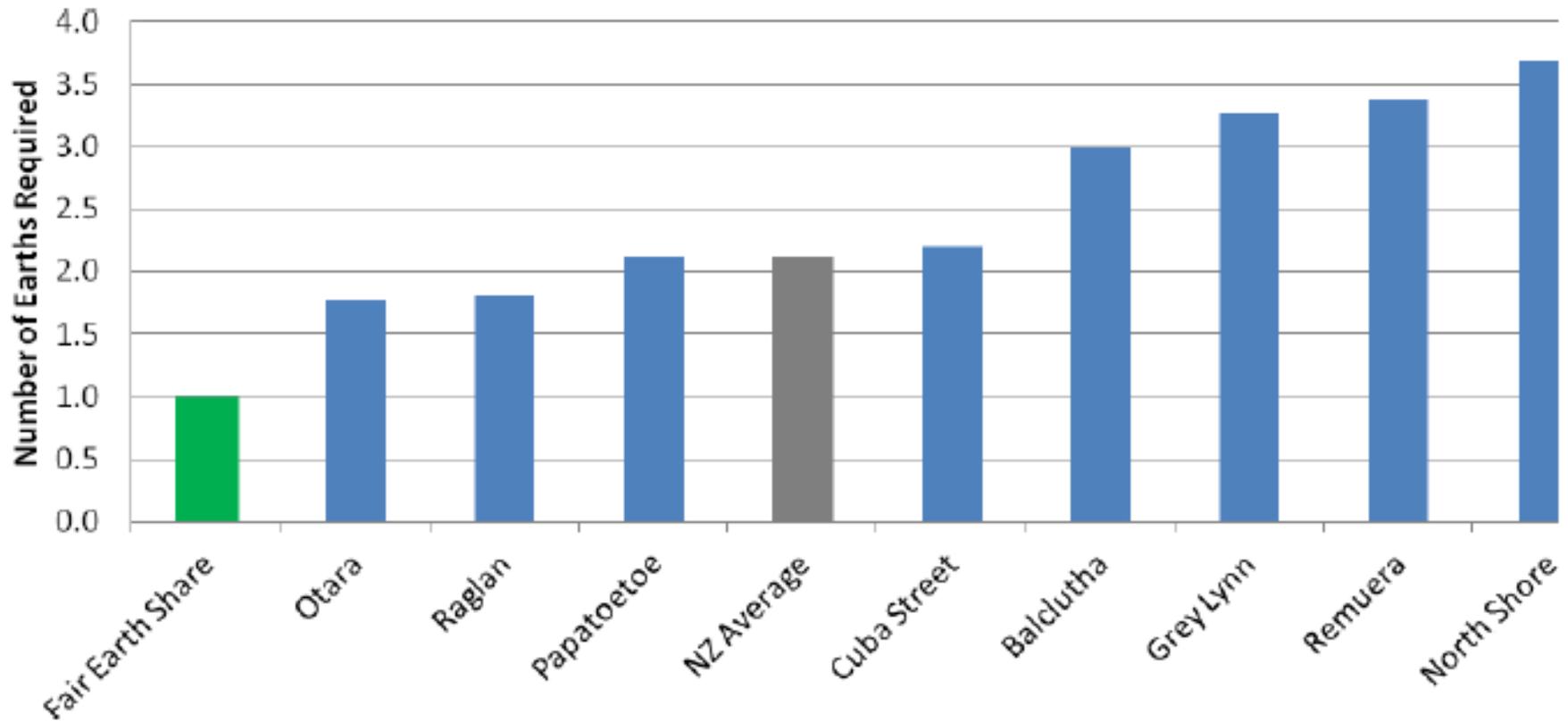
However, the largest increase in life satisfaction occurred between the **two lowest household income groups** ('\$30,000 or less' and '\$30,001– \$70,000'), **with progressively smaller increases in life satisfaction at higher income groups.**

In addition to lower life satisfaction, people in **lower income households** were more likely to report feeling unsafe walking alone in their neighbourhood at night and to say they had 'fair or poor' health than people in higher income households.

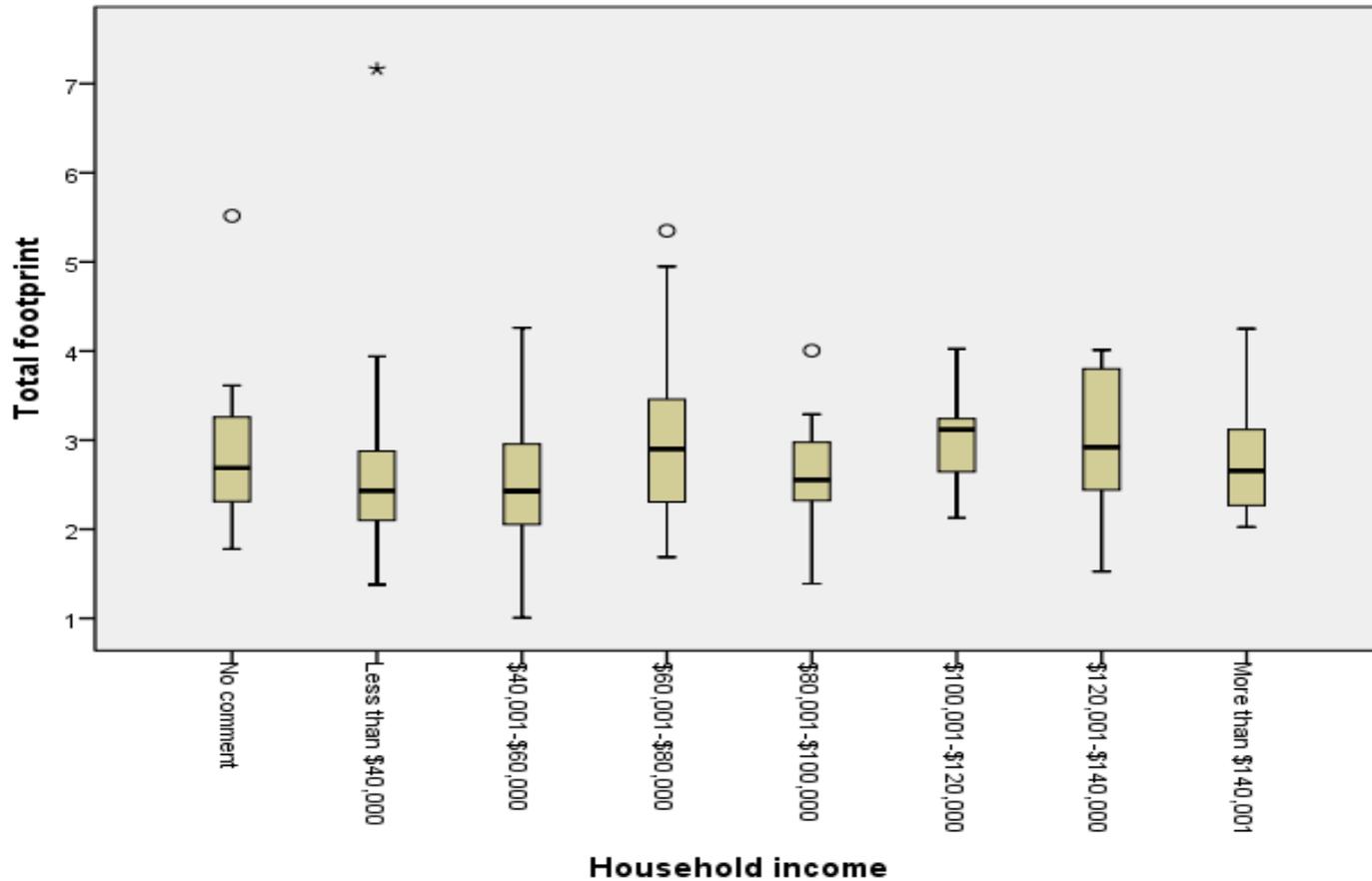
- New Zealand General Social Survey: 2010

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# 8 Tribes Analysis



# Footprint and Income



# Footprint and income

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Total footprint – weak correlation

Including pets

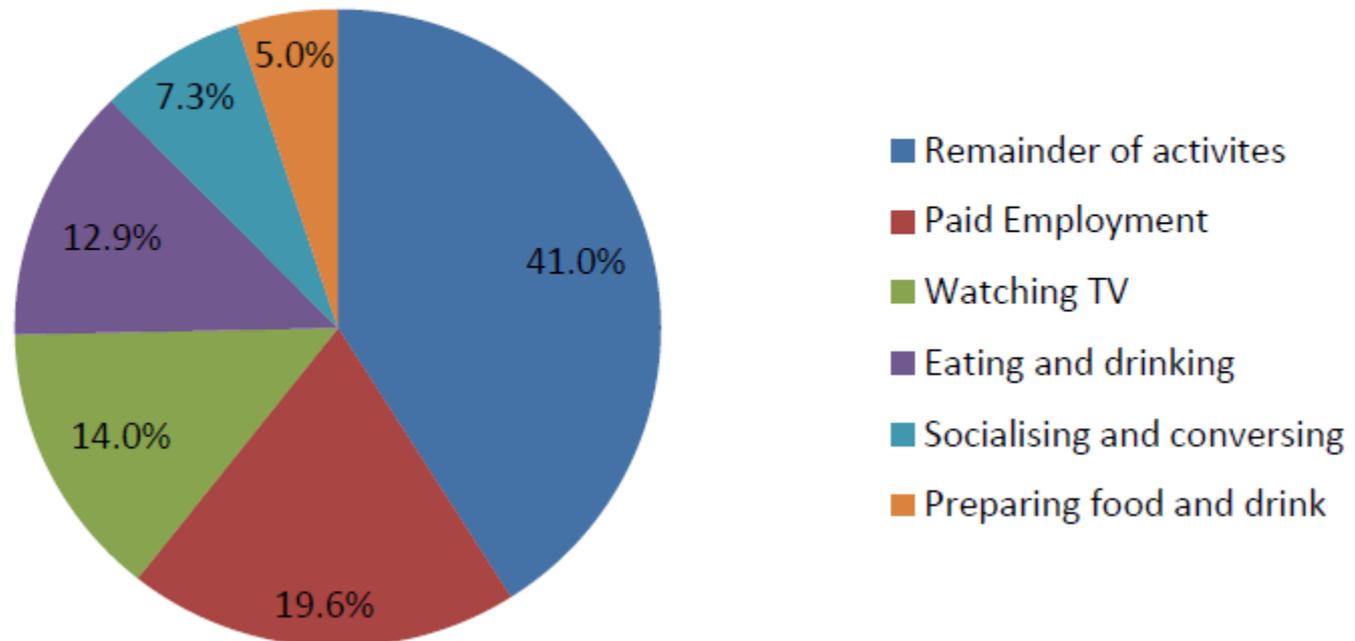
Holiday footprint – strong correlation

Flying

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# Time

Portion of time (excluding average time sleeping) New Zealanders devote to the five most time consuming activities.



Category	Income after tax <sup>1</sup>	Time <sup>2</sup>	Ecological Footprint
	%	%	%
Food and Drink	18%	15%	56%
Travel	14%	7%	7%
Consumer Goods	36%	40%	23%
Holidays	2%	N/A	5%
Energy	4%	N/A	3%
Housing	17%	4%	2%
Infrastructure	2.2%	N/A	2%
Government	Previously subtracted	N/A	0.5%
Services	7%	5%	2%
Total %	100%	71%	100%
Additional non-EF/money		9%	
Sub Total		80%	
Paid employment		20%	
Total		100.0%	

1. Statistics New Zealand. (2007). Household Economic Survey: Year ended 30 June 2007.

2. Statistics New Zealand. (2011). Time Use Survey: 2009/10.

# Kapiti Coast Greenest Streets Competition

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The community depends on the natural environment for its wellbeing, so an increasingly degraded environment threatens the very **foundations of wellbeing**....

These **natural limits to community wellbeing** can, at least partly, be forestalled if the community adopts more environmentally sustainable practices that place less burden on the natural environment.”

(LTP 2012-32, p.157)



# Te Roto Road, Otaki, 2010/11

## Carless Days

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Each resident committed to one carless day a week

Saved 13,022kg or 13 metric tonnes of carbon over the course of the competition

At an average fuel price of \$2/L, this equated to a combined saving of \$11,333

Saved a footprint of 1.25 hectares

\$9,000 per hectare

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# Increasing wellbeing whilst reducing footprint

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Closer together is about enriching our lives and doing better by the environment at the same time. We share more, talk more, grow more and as a consequence have to travel and spend less. This leads to a diminishing carbon footprint. So we treasure the stronger friendships we have, the food we grow and share and that we receive in return.

*Kakariki Street, 2010/11*

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<b>2010/2011</b>	<b>Footprint in 'Earths'</b>		
<b>Street</b>	<b>October 2010</b>	<b>June 2011</b>	<b>% improvement</b>
Avion Terrace	3.6	3.1	15%
Rainbow Court	3.5	2.8	20%
Te Roto Road	3.6	2.6	29%
Kakariki Street	2.9	2.3	21%
<b>2011/2012</b>	<b>Footprint in 'Earths'</b>		
<b>Street</b>	<b>October 2011</b>	<b>June 2012</b>	<b>% improvement</b>
Alexander Rd	3.3	2.7	18%
Wellington Rd	3.3	3.0	9%
Grange Park Ave	3.6	3.4	6%
The New Zealand average footprint was 3.7 Earths for 2010/11 & 2011/12			

# Most effective way to reduce your footprint...



<i>EF scenarios</i>	Category	Reduction of total Ecological Footprint
		%
Meat free Mondays	Food and drink	2%
Zero fish consumption	Food and drink	13%
Zero consumption of meat, fish and seafood	Food and drink	25%
Growing 50% of food in own garden, some meat	Food and drink	28%
Small cars with 3 or more people	Travel	5%
Zero high-resource pets, i.e. medium and large dogs and large pets	Consumer goods	5%
Zero flights for holidays	Holidays	9%
100% renewable household electricity generation	Household energy	1%
Increase dwelling occupancy to 4 people/dwelling	Housing	1%



# Summary

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Food is pivotal to the overall footprint so we need to put more emphasis here

It is possible to offset household income with access to land... and/or strong collective community

However this takes reprioritising how people spend their time... and money

Income does not seem to be a good indicator of footprint so we need to dig deeper

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