

## Food planning for multi-day trips

Many bushwalkers put a lot of effort into reducing the weight of the gear they carry but fail to bring the same discipline to their food planning and packing. This article suggests ways in which the weight of the food you carry can be sensibly minimised.

### Daily energy usage

As the first step in your food planning, you should calculate the average daily amount of energy you will use on your trip. Your average daily energy use will be a factor of your gender (men use more than women); weight (the heavier you are the more you use); height (the taller you are the more you use); and age (the older you are the less you use). You can calculate your average daily energy use by using one of the following formulae<sup>1</sup>:

**Men:**  $E = [66.47 + 13.75W + 5H - 6.76A] \times 4.2 \times F$

**Women:**  $E = [655.1 + 9.56W + 1.85H - 4.68A] \times 4.2 \times F$

Where **E** is your average daily energy use (in kilojoules); **W** is your weight (in kilograms); **H** is your height (in centimetres); **A** is your age (in years); and **F** is an appropriate activity factor for the trip (1.375 for a very easy trip; 1.55 for a moderately active trip; 1.725 for a very active trip; 1.9 for an extremely active trip).

**Example 1:** Dick is 40 years old, 180cm tall and weighs 85 kgs. A typical day on his trip would be a medium paced 15km walk on a well graded, undulating foot track (moderately active). His average daily energy use would be:

$E = [66.47 + (13.75 \times 85) + (5 \times 180) - (6.76 \times 40)] \times 4.2 \times 1.55 = 12140kJ$

**Example 2:** Harriet is 60 years old, 160cm tall and weighs 55kgs. A typical day on her trip would be a fast 20km walk in rough country with steep climbs (extremely active). Her average daily energy use would be:

$E = [655.1 + (9.56 \times 55) + (1.85 \times 160) - (4.68 \times 60)] \times 4.2 \times 1.9 = 9540kJ$

### Daily energy intake target

Once you have made an estimate of your average daily energy usage, you need to set the daily energy intake target that will form the basis of your food plan. If you set a target that matches your energy usage, your weight will remain stable. If your target is less than you use, you will lose weight. If your target is more than you use, you will gain weight.

A daily shortfall/excess of ~4000kJ/day will lead to a weight loss/gain of ~1kg/week. A daily shortfall/excess of ~2000kJ/day will lead to a weight loss/gain of ~0.5kg/week.

The experience of some members has been that a food plan based on an energy intake that is ~2000kJ/day less than their average daily energy usage provides enough energy for walking and does not leave them feeling hungry.

### Daily Food Plan

Once you have set a daily energy intake target, you need to prepare a daily food plan based on this target. This can be as simple or as complicated as you wish.

Below is a food plan used by some members with target energy intake options ranging from 8500 to 12000 kJ/day and daily food weights ranging from 500 to 700 grams/day) that you may wish to consider as a 'starting point', Alternatively, you could start from scratch by choosing your own food types and working out a mix of serving sizes that will give you your energy intake target. If you opt for the latter option, you will need to know the energy value of each of the food types that forms part of your plan. You can get this information from the nutrition labels including on processed food packages and/or from a good diet guide<sup>2</sup>.

It will probably take a bit of experimentation before you can settle on a food plan that works for you but it's worth persisting until you get it right. The result should be a satisfying and varied diet that does much to increase the enjoyment of your time on the track whilst at the same time reducing the weight of the food that you carry.

<sup>1</sup> From Noakes, Manny and Clifton, Peter. 2005. *The CSIRO Total Wellbeing Diet*. Penguin. Australia.

<sup>2</sup> For example: Borushek, Allan. 2013. *Pocket Calorie Fat and Carbohydrate Counter*. Family Health Publications. Australia.

## Suggested food plan<sup>1</sup> for target energy intake 8500-12000kJ/day

	Food energy value (kJ/100g) <sup>2</sup>	Target energy intake/day							
		8500kJ	9000kJ	9500kJ	10000kJ	10500kJ	11000kJ	11500kJ	12000kJ
		Serving (g)	Serving (g)	Serving (g)	Serving (g)	Serving (g)	Serving (g)	Serving (g)	Serving (g)
<b>Breakfast</b>									
Muesli <sup>3</sup>	1500	70	70	70	80	90	90	90	100
Powdered milk <sup>4</sup>	1950	30	30	30	35	40	40	40	50
Dehydrated fruit <sup>5</sup>	1000	10	10	15	15	15	20	20	20
<b>Mid-morning</b>									
Mixed nuts-fruit <sup>6</sup>	2350	50	50	60	60	60	60	70	70
<b>Lunch</b>									
Crispbread <sup>7</sup>	2350	30	40	40	40	40	50	50	50
Peanut Butter <sup>8</sup>	2600	30	40	40	40	40	50	50	50
Muesli bar	1830	30	30	30	30	30	30	30	30
Dried fruit <sup>9</sup>	1000	50	50	60	70	70	70	80	80
<b>Mid-afternoon</b>									
Black tea/coffee	-	5	5	5	5	5	5	5	5
<b>Dinner</b>									
Packet soup	2000	25	25	25	25	25	25	25	25
Dried Protein <sup>10</sup>	1840	25	25	25	25	25	25	30	30
Dried Vegetables <sup>11</sup>	1320	40	40	40	40	40	40	50	50
Carbohydrate <sup>12</sup>	1500	70	70	80	90	90	90	90	100
Chocolate	2100	30	30	30	30	40	40	40	40
<b>Total grams/day</b>		<b>500</b>	<b>520</b>	<b>550</b>	<b>585</b>	<b>615</b>	<b>635</b>	<b>670</b>	<b>700</b>

1. The suggested food plan is ~70% carbohydrates, 20% protein and 10% fat.
2. Food energy values are based on an average for a range of brands/varieties for each food type.
3. Choose muesli with high nut/seed/coconut content for maximum kilojoules.
4. Use full cream milk in preference to skim milk for maximum kilojoules.
5. Home dried fruit (eg strawberries, rockmelon, bananas, pawpaw, rhubarb, plums), dehydrated to brittle chips.
6. Choose a mix with a high proportion of nuts for maximum kilojoules.
7. Vita Weet is the most energy dense readily available brand of crispbread.
8. If your preferred topping has a lower energy value than peanut butter, the serving size will need to be increased if the daily energy intake target is to be maintained. Other toppings used by bushwalkers include salami (1770kJ/100g); cheese (1670); honey (1250); jam (1040); tuna in oil (870); vegemite (500); and tuna in brine (480). The most energy dense readily available topping is macadamia nut paste (2800kJ/100g)
9. Use strongly flavoured fruit (eg crystallised ginger) as part of mix to maximise satisfaction with small serving.
10. Either home pre-cooked and dried (eg chicken, lamb, beef mince) or from Asian Grocery (eg shrimp, mussels) or beef jerky.
11. Either home pre-cooked and dried (eg broccoli, capsicum, corn) or from Supermarket (eg peas, beans, carrots) or Asian Grocery (eg mushrooms, red dates) or Lebanese Grocery (eg okra).
12. Either home pre-cooked and dried (eg brown rice, basmati rice, barley, millet) or from Supermarket (eg 3-min pasta, 2-min noodles, instant couscous, instant polenta).

The author, Terence Uren, is neither a dietician or a nutritionist but simply a bushwalker who has done a bit of research.