



Missing Trees:
**The Inside Story of
an Outdoor Nation**

national 
tree day

A research report commissioned by Planet Ark and sponsored by Toyota Australia.

PLANET ARK



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About This Report

Over the past two years, Planet Ark has commissioned independent public surveys for National Tree Day focusing on childhood contact with nature and outdoor play. In 2011, we published the report *Climbing Trees: Getting Aussie Kids Back Outdoors*, which highlighted the dramatic changes in children's play and interaction with nature that have taken place in just one generation. In 2012, we published *Planting Trees: Just What The Doctor Ordered*, which, in addition to the survey results, included a comprehensive summary of the intellectual, psychological, physical and mental health benefits of contact with nature for children. Being a relatively new area of study in Australia, both reports sparked significant interest from the general public, the media, and professionals in the education, health and environment fields.

This report continues Planet Ark's exploration into Australians' attitudes and behaviour in regards to outdoor activity and contact with nature. With National Tree Day expanding this year to include backyard, balcony and street plantings, in addition to the popular community and school events and activities, Planet Ark commissioned research consultancy Pollinate to conduct an independent survey – the Planet Ark Outdoor Lifestyle Survey – in March 2013, to explore Australians' current relationship with the backyard and the great outdoors in general. 1002 Australians aged 14-64 years old were surveyed online. The sample was nationally representative in terms of age, gender, location and metropolitan/regional split.

The survey also aimed to establish:

- How people define what it means to be Australian in 2013 and whether outdoor activities are a key part of this;
- If there is a link between backyards and the amount of time adults and children spend participating in outdoor recreational activities, as well the types of outdoor activities they do;
- Whether people are concerned about the decline of the backyard.

The report also includes references to a number of relevant external studies.

Planet Ark Environmental Foundation

Planet Ark is an Australian not for profit environmental organisation, founded in 1992. In partnership with the public, businesses, governments, councils, schools, community groups and other not for profit organisations, Planet Ark works to achieve real and measurable results in reducing our impact on the environment.

Since Planet Ark's National Tree Day began in 1996, more than 18.6 million native trees, shrubs and grasses have been planted by over 3 million volunteers across the country. It is Australia's largest community tree planting and nature care event, as well as the largest single nature care activity in Australian schools. Each year, over 200,000 Australian school-aged children take part in Schools Tree Day.

In 2013, National Tree Day is Sunday 28th July and Schools Tree Day is Friday 26th July.

Toyota

Toyota Australia has been the Major Sponsor of Planet Ark's National Tree Day since 2000. Toyota has approached the partnership in a collaborative way and continues to mobilise its entire business network of dealers, staff and brand ambassadors to support, participate in and contribute to National Tree Day. Toyota's involvement in National Tree Day demonstrates its commitment to supporting the environment through community involvement, as well as ongoing innovations in technology such as the Hybrid Synergy Drive powered Prius and Camry Hybrid, the first commercially-available hybrid vehicle to be built in Australia.

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Contents

Key Findings	4
Backyards, barbecues and the laidback Aussie?	6
Australia's shrinking backyards	9
The link between backyards and outdoor activity	10
Australians are concerned about shrinking backyards	12
The benefits of backyards	13
Beyond the backyard: Reconnecting Australians with the great outdoors	15
Get more green into your life!	17
Get outside and grow with National Tree Day	19
References	20



Nearly 7 out of 10 people think that having a house with a backyard is an important part of being Australian.



Key Findings

Backyards, barbecues, beaches and the bush – Australians have traditionally seen themselves, and have been known around the world, as lovers of the great outdoors. Australia’s international tourism campaigns have focused on our natural wonders and laidback outdoor lifestyle since the 1980s when Paul Hogan told Americans he’d “slip an extra shrimp on the barbie” for them¹. But do we still see ourselves this way and are we as “outdoorsy” as we would like to think we are? And is the Great Australian Dream – the freestanding house on a quarter acre block, with space for family barbecues and backyard cricket – still current today?

On the question of how Australians see themselves today, the Planet Ark Outdoor Lifestyle Survey revealed that the three activities and characteristics that people think are most important to the Australian identity are:

- Having relaxed leisure time – 78% of people think this is important;
- Having a home with a backyard – 69% see this as important; and
- Having barbecues with friends and family – 69% consider this to be important.

Further findings from the Planet Ark survey and other studies indicate that these values do not necessarily align with our lifestyles today. Long full-time working hours, high levels of unpaid work, and long commuting times to and from work, at least for those living in major cities, mean many of us have less leisure time than we would like. Significant changes in the nature of our suburbs in the past two decades means that having a home with a backyard is also a reality for fewer of us than it used to be. Whereas for most of the 20th century, the typical family home in Australia’s cities and towns was a detached house with a large backyard, today, houses in new suburbs on the edges of our cities primarily feature only small backyards or courtyards. In our inner and middle ring suburbs, urban infill and high-rise developments mean fewer city dwellers have a backyard at all. The main reason backyards have been shrinking, at least in ‘greenfield’ areas on the outskirts of our cities, is because houses have been getting bigger and covering a greater proportion of the lot. The average house floor area in Australia is now 248.0 square metres, up from 162.4 square metres in 1984, and site coverage by houses in new outer suburb developments is usually at least 40% and often in the 50-70% range.



Australia has the largest homes in the world.

In the meantime, decreasing supply of land and rising land costs have led to a shrinking of lot sizes in the past two decades.

The Planet Ark survey found that, while nearly 3 in 4 Australians (72%) would prefer to live in either a separate house with a large backyard or on a farm or rural property, only just over half (52%) of us actually do. Similarly, 83% of Australians think that a separate house with a large backyard or a farm or rural property are the best environments for children to grow up in but only a little more than half (54%) of children under 16 years live in these types of homes.

Along with backyards, some of our most iconic pastimes may also be on the wane. While most respondents rated barbecues with family and friends as important to the Australian identity, the Planet Ark survey showed that only around 2 in 5 people (43%) participated in this activity in the month before the survey. Similarly, backyard games like cricket and footy may also soon be a thing of the past, with just 37% of respondents playing casual sports or games in a backyard or park during the same time period.



For every hour of leisure time we spend doing outdoor recreational activity, we spend around 7 hours watching television and surfing the Internet.



The survey found that about 1 in 3 respondents aged 14-64 years spend on average less than 2 hours per week doing outdoor recreational activities, such as gardening, playing sport outdoors, taking the kids to the park or walking the dog. This equates to less than 18 minutes a day, about the same amount of time it takes to eat breakfast or hang out a basket of washing. Parents reported that 1 in 4 children under 16 years spend on average less than 2 hours of their spare time per week playing in natural outdoor environments. In contrast, our love affair with technology is only getting stronger. For every hour of leisure time we spend doing outdoor recreational activity, we spend around 7 hours watching television and surfing the Internet.

The survey found that the amount of time people spend outdoors increases as the size of their backyard goes up. On average, people living in units or flats spend 3.5 hours per week, or around 10% of leisure time, doing outdoor activities, while those living in separate houses with large backyards spend 5.1 hours per week, or about 15% of leisure time, doing outdoor recreational activities.

It appears that most Australians are concerned about our shrinking backyards. The Planet Ark survey found that around 3 in 4 people (77%) have some level of concern about this issue and over 40% are very or extremely concerned about it. Parents with young children are particularly concerned, with 83% indicating they have some level of concern. The main reasons for this concern are the loss of safe, outdoor play spaces for children, the loss of Australia's outdoor lifestyle and culture, the loss of privacy, and reduced opportunities for children to learn about nature and the environment.

While unchecked urban sprawl is undesirable, for environmental, social and other reasons, backyards do play an important role in our cities and towns. They help us connect with nature, improving our physical and mental health in the process. They also provide significant environmental benefits, including the sequestration of carbon dioxide, natural climate control, natural rainwater drainage, and the preservation of urban biodiversity. With the trend towards smaller backyards and high density residential development likely to continue, it will become increasingly important for all levels of government, health and environment professionals, relevant non-government organisations, and other organisations and individuals with an interest in public health and the environment, to develop strategies to ensure that Australians can continue to reap the health benefits of time spent outdoors in nature,

and that the environmental health of our urban areas is also maintained. Ensuring the provision of sufficient and accessible public green space in cities is one such strategy, and nature care events like National Tree Day play an important role in this.

While there is much that governments and other organisations can do, it is important that individuals and families also take steps to reconnect with nature and spend time outdoors. The *Missing Trees* report concludes with a range of practical suggestions for families, individuals and schools for integrating outdoor activities and nature time into their daily lives. Participating in events like National Tree Day, either at community sites or through personal plantings in their backyard or street, is also a great way for people to reconnect with nature and do something positive for both their own health and the health of the environment.



More than 80% of parents with young children are concerned about Australia's shrinking backyards.



Backyards, barbecues and the laidback Aussie?

One of the key aims of the Planet Ark Outdoor Lifestyle Survey was to find out how Australians see themselves in 2013 and whether outdoor activities still feature prominently in our national identity.



Parents with young children view having a house with a backyard as the most important characteristic in defining the Australian identity.

Survey respondents were asked to rate how important they think various activities and characteristics are to the Australian identity. The three activities that most people ranked as very or extremely important were: having relaxed leisure time; having a home with a backyard; and having barbecues with friends and family (Figure 1). For parents with young children, having a home with a backyard was the most highly ranked characteristic. As outlined in the sections below though, other findings from the survey show that people's ideas of what it means to be Australian do not necessarily align with the way many of us now live our lives.

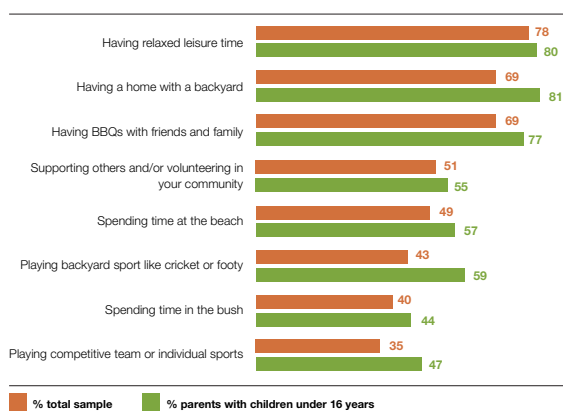


Figure 1: Percentage of total sample and percentage of parents with children under 16 years who think the listed characteristics are important to the Australian identity.

The not-so-relaxed Aussie

The Planet Ark survey shows that the majority of Australians (78%) view having relaxed leisure time as the most important aspect of being Australian. However, for many people, leisure time appears to be a rare commodity. While average weekly working hours for all employees have decreased steadily since the late 1970s, mainly due to the rising rate of part-time employment, Australia has some of the longest full-time working hours in the developed world. The following statistics highlight the struggle many Australians have to achieve work-life balance:

- In 2009, full-time employed males worked an average of 46 hours per week and full-time employed females worked an average of 43 hours per week²;
- 28% of men and nearly 10% of women work more than 48 hours per week³, while 14% of employees work more than 50 hours per week, much higher than the OECD average of 9%⁴;
- Around 1 in 4 Australians report that work often or almost always interferes with activities outside work, while over 68% of working women and 53% of working men often or almost always feel rushed or pressed for time⁵;
- Australians do just over four hours of unpaid work per day, the third highest amount in the OECD. Unpaid work consists of caring for household and non-household members, cooking, cleaning, travel for unpaid work, shopping and volunteering⁶;
- In 2006, Australia ranked fifth lowest out of 18 OECD countries in the proportion of the average day devoted to leisure time. Only 19.6% of an average day (approximately 4.7 hours) was devoted to leisure in Australia compared to 26.5% in Norway and 25% in Finland and Germany⁷;
- Among Australians who travel to and from paid work, the mean commuting time is 3 hours and 37 minutes per week. Among full-time workers, the mean commuting time is 4 hours and 10 minutes per week. Sydney workers spend the most time travelling to and from work, averaging 4 hours and 43 minutes per week⁸.



According to the OECD, 14% of Australian workers work more than 50 hours per week, much higher than the OECD average of 9%.



A home among the gum trees: More dream than reality

The Planet Ark survey reveals that a house with a backyard is still held up as the ideal home by most Australians. 72% of respondents indicated that they would prefer to live in either a separate house with a large backyard or on a farm or rural property with an extensive outdoor area (Figure 2). But while most Australians would prefer to live in these kinds of homes, only 53% of us currently do. When asked their opinion on the best type of home for children to grow up in, 83% of people selected either a separate house with a large backyard or a farm or rural property. However, just over half (54%) of Australians with children under 16 years live in these types of homes (Figure 3). So while the Great Australian Dream of a freestanding house on a quarter acre block is alive and well, for many Australians it remains just that - a dream.

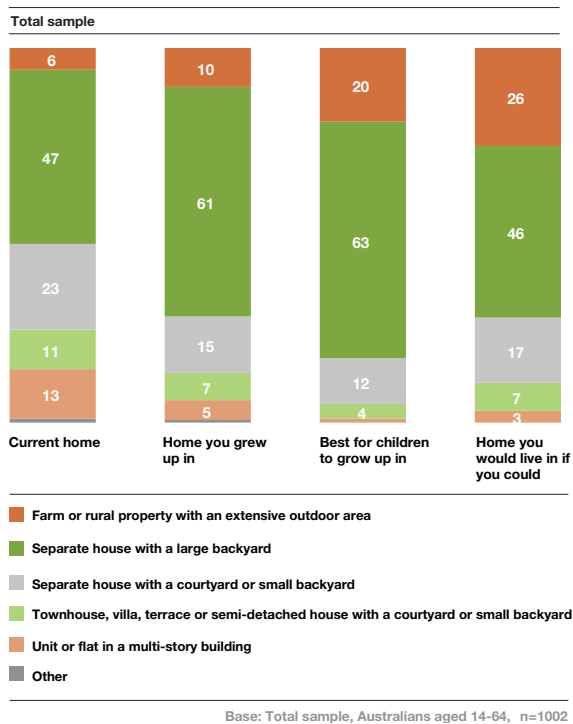


Figure 2: Current and preferred residence of all respondents.

83% of respondents think that a house with a large backyard or a rural property are the best places for children to grow up but only 54% of kids under 16 years live in such a home.

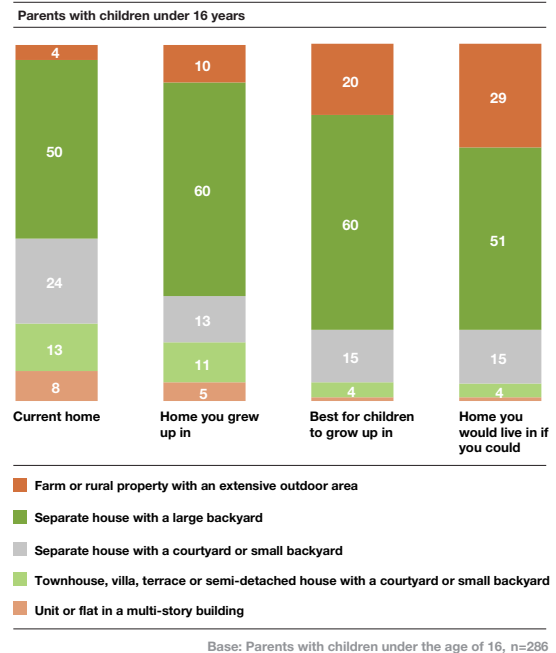


Figure 3: Current and preferred residence of parents with children under 16 years.

Fewer prawns on the barbie

Having a barbecue with family and friends is seen as one of the most quintessential Australian pastimes. Indeed, 69% of respondents in the Planet Ark survey view this activity as an important part of the Australian identity. However, the survey shows that barbecues are not as common as we might think. Only 43% of respondents, or around 2 in 5 people, had a barbecue with family and friends in the month prior the survey (Figure 4). The fact that this time period was late summer makes this figure even more surprising. OECD data confirms that visiting or entertaining friends and family is indeed a low priority for many Australians, with only 3% of leisure time devoted to this activity in 2006⁹.

It's just not cricket!

While the Planet Ark Survey shows that backyards and urban parks are the most common places for both adults and children to engage in outdoor recreational activities, it also found that games of cricket and footy in the backyard or local park may soon be a thing of the past. In the month leading up to the survey, only 37% of respondents played casual sports or games in a backyard or park and only 39% of respondents visited a park or reserve (Figure 4). OECD data supports these findings, with only 6% of our leisure time spent on participating in sport in 2006¹⁰.





Only 37% of people played casual sports or games in a backyard or park in the month prior to the survey.

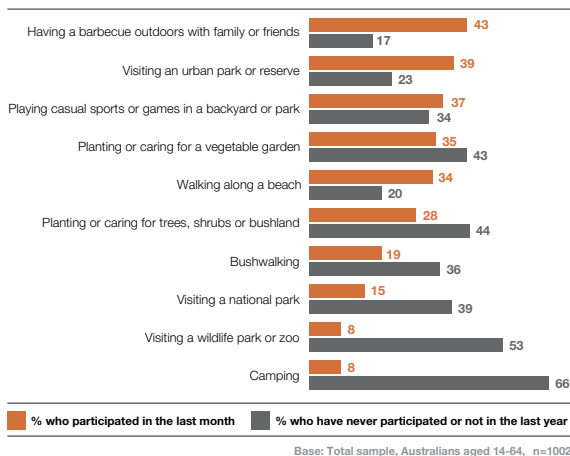


Figure 4: Percentage of total sample who said they participated in the listed activities in the month prior to the survey, and percentage who said they had not participated in the previous 12 months or have never participated.

While children appear to make better use of our backyards and parks than adults, a significant number of parents with children under 16 years – around 1 in 3 – said their children did not play in a backyard in the

month before the survey, and around 1 in 2 parents (48%) said their children did not play in the gardens or bushland in an urban park (Figure 5).

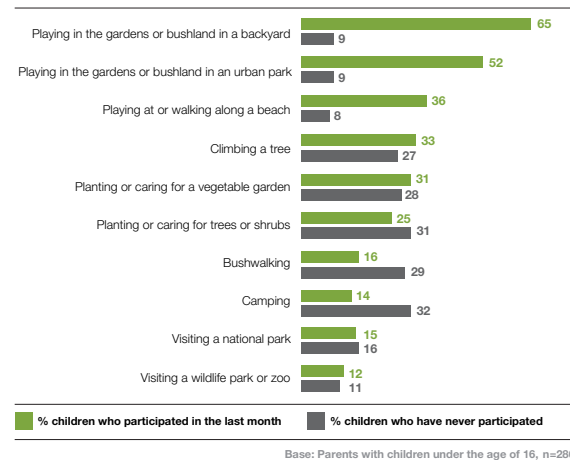


Figure 5: Percentage of parents with children under 16 years who said their children participated in the listed activities in the month prior to the survey, and percentage who said their children have never participated in the listed activities.

We can't see the forest for the screens

Despite the significant place the bush has traditionally held in the Australian psyche, Australians today do not spend much time in it. Figure 4 shows that in the 12 months prior to the survey:

- Nearly 2 in 5 respondents (39%) had not visited a national park;
- Nearly 1 in 2 (46%) had not been bushwalking; and
- 2 in 3 (66%) had not been camping.

Many Australian children have never had these experiences. A staggering 1 in 3 parents (32%) with children under 16 years said their children have never been camping and nearly 1 in 3 parents (29%) said their children have never been bushwalking (Figure 5). Consistent with the findings from Planet Ark's 2012 survey, more than 1 in 4 children (27%) have never climbed a tree, more than 1 in 4 (28%) have never cared for a vegetable garden, and nearly 1 in 3 (31%) have never planted or cared for trees or shrubs.

Nearly 1 in 4 parents said their children have never climbed a tree and around 1 in 3 said their kids have never planted or cared for a garden.



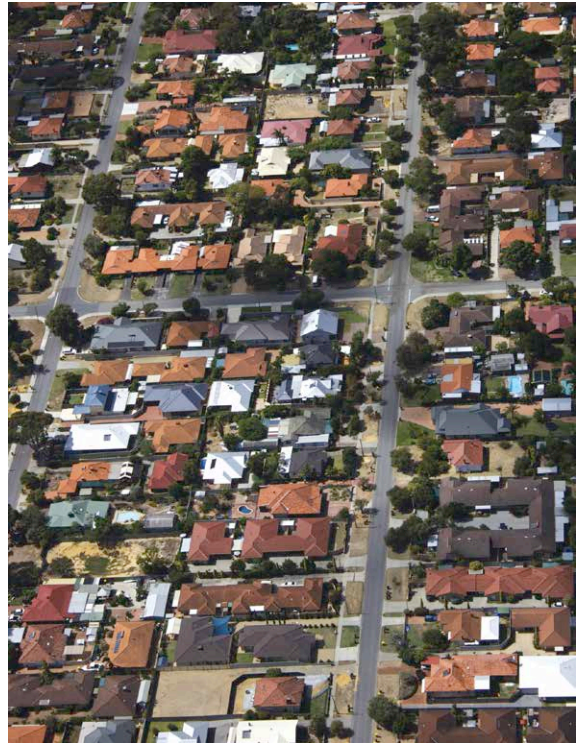
In contrast, our love affair with television and the Internet shows no sign of abating. On average, Australians spend more than 20 hours per week watching television and more than 12.9 hours per week on the Internet¹¹. Given we spend only 4.7 hours per week doing outdoor recreational activity (Figure 8), this means that for every hour of leisure time we spend outdoors, we spend about 7 hours in front of screens. The virtual world appears to be far more appealing to many of us than the real world.

Australia's shrinking backyards

For most of the 20th century, the typical family home in Australia's cities and towns was a detached house with a large backyard¹². Many Australians who grew up in the second half of the century would have fond memories of climbing trees, swinging on the Hills Hoist, running under the sprinkler, picking lemons straight from the tree, family meals cooked on brick and steel plate barbecues, and backyard games of cricket, footy and soccer.

In the early 1990s, Australian suburbs started undergoing dramatic changes. New residential developments in 'greenfield' areas on the outskirts of major cities and towns were dominated by houses built close to the side and rear boundaries of the lot, significantly reducing the size of the average backyard¹³. More recently, as governments have sought to limit urban sprawl and developers look to maximize return on higher value land, infill development in established suburbs has been on the rise. This has seen an increase in the sub-division of blocks, the construction of small apartment blocks, townhouses and villas on individual house sites, and the acquisition of a number of adjacent properties to redevelop a larger site at higher density¹⁴.

The main reason backyards have been shrinking is because houses have been getting bigger and covering a greater proportion of the lot. Australia now boasts the largest homes in the world¹⁵. Between 1984 and 2009, the average floor area of new houses increased from 162.4 square metres to 248.0 square metres, a rise of nearly 53%¹⁶. This compares to the US, which has an average house floor area of 201.5 square metres, and the UK, which has an average floor area of just 76.0 square metres¹⁷. Site coverage by houses in new outer suburb developments is usually at least 40% and often in the 50-70% range¹⁸. This has been happening despite a decline in the average household size in Australia from 4.5 people in 1911 to 2.6 people in 2011¹⁹.



Growing house sizes and greater site coverage have dramatically changed the nature of many Australian suburbs since the early 1990s.



Australia now boasts the largest homes in the world, with an average house floor area of 248 square metres.

In the meantime, average lot sizes in metropolitan areas around Australia have been shrinking in the past two decades, mainly due to decreasing supply and rising land costs. In Adelaide and Perth, for example, lot sizes have decreased by 25-30% since the early 1990s²⁰. Research from the National Land Survey Program found that the average first home buyer in Australia's capital cities is now paying 30% more for a block of land and getting 36% less land than during the height of the property boom in the late 1990s / early 2000s²¹.

So while many, if not most, Australians over 30 would have fond memories playing in their backyard as a child, for the first time in a number of generations, many children today are likely to have a very different set of memories.



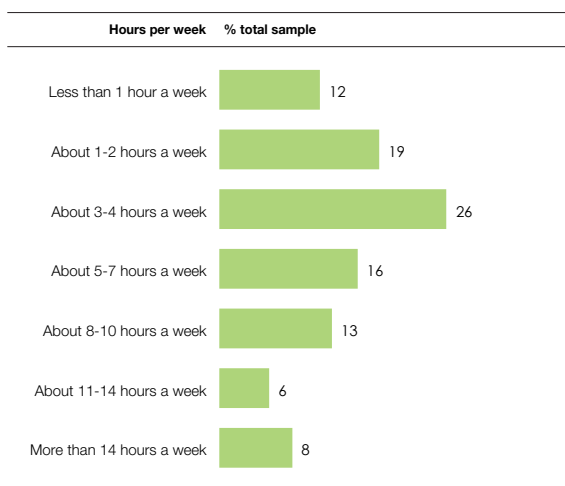
The link between backyards and outdoor activity

A key aim of the Planet Ark survey was to find out how much time Australians spend doing outdoor recreational activity in a typical week and if the time they spend outdoors and the range of activities they do varies depending on whether they have access to their own backyard.



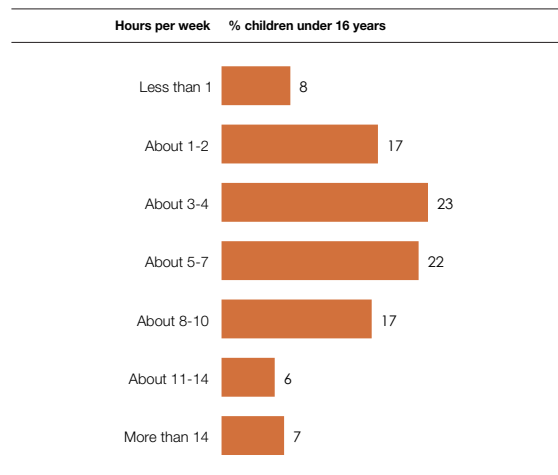
About 1 in 3 people spend less than 18 minutes per day doing outdoor recreational activities.

The results show that about 1 in 3 respondents aged 14-64 years spend on average less than 2 hours per week doing outdoor recreational activities like playing sport, exercising, playing with children, exercising a pet, gardening or just relaxing (Figure 6). This equates to less than 18 minutes a day, about the same amount of time it would take many of us to prepare and eat breakfast or hang out a load of washing. Focusing on children's outdoor time, parents reported that 1 in 4 children under 16 years spend on average less than 2 hours of their spare time per week playing in a natural outdoor environment (Figure 7).



Base: Total sample, Australians aged 14-64, n=1002

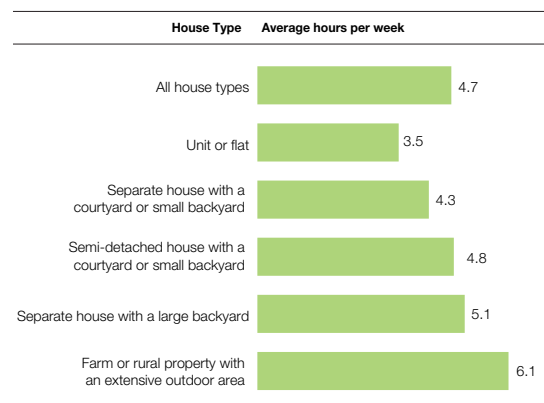
Figure 6: Average hours per week all respondents spend doing outdoor recreational activity.



Base: Parents with children under the age of 16, n=286

Figure 7: Average hours per week children under 16 years spend playing in a natural outdoor environment, as reported by parents.

Looking at the link between time spent outdoors and access to a backyard, the survey results clearly show that for both adults and children, the larger their backyard, the more time they spend doing outdoor activities. People spend an average of 4.7 hours per week outdoors, regardless of house type. Based on OECD figures, this equates to about 14% of our total leisure time²². Those living in units or flats spend the least amount of time per week doing outdoor activities – 3.5 hours on average, or just over 10% of total leisure time – while those living on farms or rural properties spend the most time outdoors – an average of 6.1 hours per week, or about 18% of leisure time. People living in separate houses with large backyards spend on average 5.1 hrs, or just over 15% of total leisure time, doing outdoor recreational activities per week (Figure 8).



Base: Total sample, Australians aged 14-64, n=1002

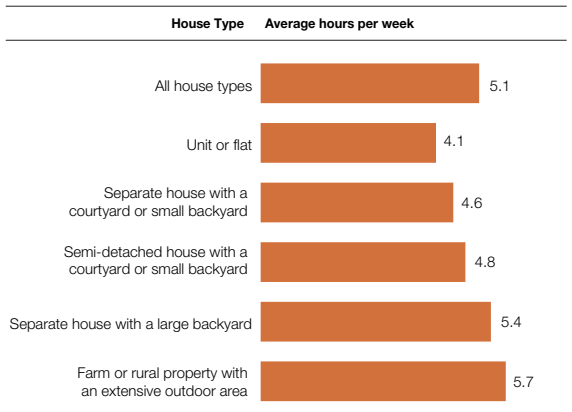
Figure 8: Correlation between house type and average hours per week all respondents spend doing outdoor recreational activity.



Perhaps not surprisingly, the Planet Ark survey found that respondents living in separate homes with large backyards or on farms or rural properties did a wider range of outdoor activities more recently than those living in homes with no backyards or only a small yard or courtyard. These activities include playing sports or games in the backyard, planting and caring for a vegetable garden, and planting and caring for trees, shrubs or bushland. People living in units or flats visit wildlife parks or zoos and go for walks along the beach more often than those living in houses with large backyards or rural properties.

Regional Australians trump city dwellers when it comes to the amount of time spent outdoors. The survey found that regional Australians spend an average of 5.5 hours per week doing outdoor recreational activities, while Australians living in metropolitan areas spend on average 4.4 hours per week outdoors. The survey found that Australians also tend to spend more time doing outdoor activities as they get older and as their children grow up and leave home.

Focusing on children’s outdoor time, the results show that children under 16 years spend on average 5.1 hours per week playing outdoors in natural environments in their spare time (as reported by parents), regardless of the type of home they live in. At the bottom end of the range, children in units and flats spend an average of 4.1 hours of their spare time per week playing outdoors in nature, while at the other end of the range, children living on farms or rural properties spend on average 5.7 hours per week playing outdoors. Children in separate homes with large backyards spend an average of 5.4 hours per week outdoors in nature (Figure 9).



Base: Parents with children under the age of 16, n=286

Figure 9: Correlation between house type and average hours per week children under 16 years spend playing in natural outdoor environments, as reported by parents.

While the survey results do not provide evidence of any causal link between having a backyard and spending time outdoors, there is clearly a correlation between the two. The fact that backyard size, as opposed to simply having access to a backyard, seems to play a role in the amount of time people spend outdoors, is noteworthy. The findings raise some interesting questions. For example, do people who choose to live in units or apartments prefer the great indoors to the great outdoors? Or does not having a backyard *cause* people to spend less time on outdoor activities? Further studies on this topic could help determine the reason for the underlying link between backyards and time spent outdoors.

A similar correlation, although small, between backyard size and time spent outdoors by pre-school children was found by researchers from Flinders University and the University of Adelaide in 2007, as part of a study looking at the relationships between the home environment and physical activity and dietary patterns of pre-schoolers²³. The researchers found that children’s physical activity is positively correlated with more outdoor play equipment and a larger backyard size.



Children under 16 years living in units or flats spend on average 4.1 hours per week doing outdoor activities while children living in separate houses with large backyards spend on average 5.4 hours per week outdoors.



Australians are concerned about our shrinking backyards

The shift to smaller backyards in suburban Australia has been swift, and in many areas, quite dramatic²⁴. But are Australians concerned about the decline of the backyard?

Around 3 in 4 people are concerned about Australia's shrinking backyards.

The Planet Ark survey found that around 3 in 4 respondents (77%) have some level of concern about Australia's shrinking backyards and over 40% are very or extremely concerned about the issue. Parents with young children are particularly concerned about the decline of the backyard, with 83% indicating they have some level of concern, and around half of parents saying they are very or extremely concerned about the issue. (Figure 10). Given that most Australians view having a home with a backyard as an important part of the Australian identity (Figure 1), it is perhaps not surprising that so many people are concerned about our shrinking backyards.

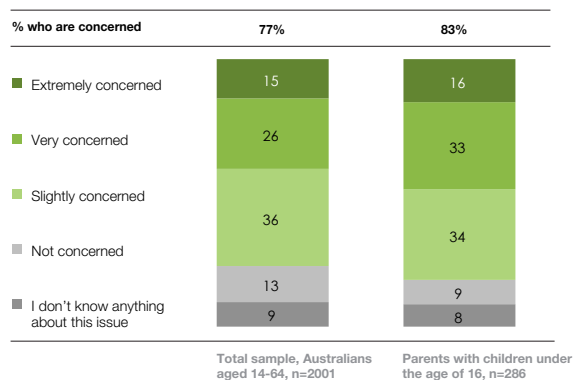


Figure 10: Percentage of total sample and percentage of parents with children under 16 years who are concerned about the decreasing size of backyards.

The top two concerns people have about shrinking backyards are the loss of safe, outdoor play spaces for children and the loss of Australia's outdoor lifestyle and culture.

When respondents were asked to choose the three things that concern them the most about the decline of the backyard, the two issues that came out on top were the loss of safe, outdoor play spaces for children (53% of respondents chose this as one of their top three issues) and the loss of Australia's outdoor lifestyle and culture (41% of respondents selected this in their top three). Loss of privacy and reduced opportunities for children to learn about nature and the environment ranked equal third. Not surprisingly, the loss of safe, outdoor play spaces for children was particularly concerning for parents of young children, with 62% selecting this in their top three issues of concern. (Figure 11).

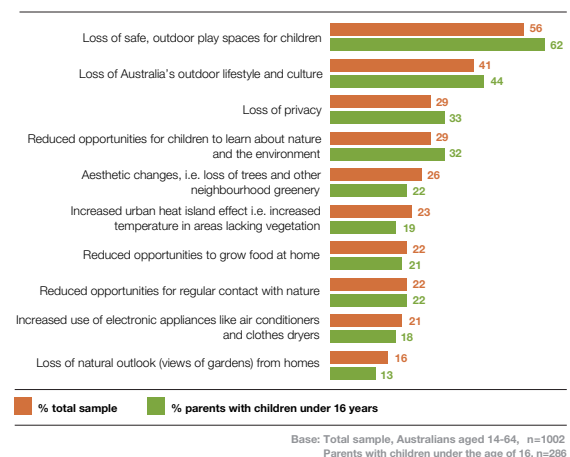


Figure 11: Percentage of total sample and percentage of parents with children under 16 years who chose the listed issues associated with the loss of backyards in their top three areas of concern.



The issue that concerns parents the most about Australia's shrinking backyards is the loss of safe, outdoor play spaces for children.



The benefits of backyards

Backyards play an important role in Australian cities and towns, for both the health and wellbeing of individuals and wider communities, and for the environment.

The health benefits

Backyards provide a secure, private and easily accessible area for children and adults to spend time outdoors. Planet Ark's 2011 survey found that the backyard is still the most common setting for children's outdoor play today, as it was a generation ago²⁵. With more than 1 in 4 parents indicating that not having time to play with their children is one of the main barriers to their children playing outdoors, the backyard as a setting for free, unsupervised play becomes even more important²⁶.



Researchers have found that having a garden of one's own, or next to one's home, has a significantly positive effect on stress.

Many backyards, particularly larger yards in older established suburbs, feature trees, shrubs and plants, and some include vegetable gardens and fruit trees. As such, backyards also often provide an opportunity to interact with nature, an activity that has significant benefits, particularly for the health and development of children²⁷.

Planet Ark's 2012 report, *Planting Trees: Just What The Doctor Ordered*, highlighted the wide-ranging benefits for children of spending time playing in natural environments. On a physical level, spending time outdoors is important for the body's synthesis of vitamin D and for the development of healthy eyesight in children. Playing in natural environments encourages resilience and flexibility, challenges balance and coordination, and provides mental and sensory stimulation, which are vital for childhood development. Increased levels of outdoor play have been shown to be associated with lower Body Mass Index (BMI) in children and may therefore reduce the risk of obesity.

On a mental and psychological level, spending time in nature has been shown to lower stress levels in children and have a restorative effect after mental effort and stress. Research has shown that unsupervised time spent in outdoor, nature-based activities helps young people develop a sense of self-sufficiency and self-confidence, while another study has shown that exposure to nature helps children develop self-esteem and resilience.

Contact with nature is beneficial for children's creativity and imagination. Research has also demonstrated that time spent in nature is important for children's intellectual development, helping them learn to discriminate, categorise and name different objects. Nature has been found to help young people develop critical thinking skills. A study has shown that moving to an area with more nearby nature helps improve cognitive function and a number of studies have found that children with ADHD function better than usual after activities in green settings.

Nature provides a valuable opportunity for children to learn about biodiversity, ecology, weather, wildlife and the natural world, and gives children a sense of place and connection to their local environment. Time spent in natural environments encourages children to recognise themselves as part of nature and to develop a sense of ecological self. The stronger this self-perception as being part of nature, the more likely a child is to protect it.

Adults, too, benefit in many ways from contact with nature. A review of 29 studies conducted from the 1970s through to 2001 on the health and wellbeing



benefits for adults of contact with nature, found that the research clearly demonstrates the following²⁸:

- People prefer natural environments over urban environments;
- Natural environments foster recovery from mental fatigue and are restorative;
- There are established methods of nature-based therapy (including wilderness, horticultural and animal-assisted therapy among others) that have shown success in healing patients who have not previously responded to treatment;
- There are known physiological effects that occur when humans encounter, observe or otherwise positively interact with nature;
- The majority of places that people consider favourite or restorative are natural places, and they find being in these places recuperative;
- People have a more positive outlook on life and higher life satisfaction when close to nature (particularly in urban areas);
- Exposure to natural environments enhances the ability to cope with and recover from stress, cope with subsequent stress, and recover from illness and injury;
- Observing nature can restore concentration and improve productivity;
- Having nature close by, or just knowing it exists, is important to people regardless of whether they use it regularly.

Exposure to natural environments enhances people's ability to cope with and recover from stress.

A number of studies have demonstrated the health benefits of gardening, including gardening in one's own yard. One study found that moderate to energetic gardening activity can provide the level of exercise necessary to reduce the risk of mortality in a high risk group of patients²⁹. Another study found that gardeners have higher life satisfaction and rate their health and physical activity levels higher than non-gardeners³⁰. Researchers in Sweden reported that having a garden of one's own, or immediately adjacent to one's dwelling has a significantly positive impact on stress, as does visiting the garden frequently³¹.

The environmental benefits

In recent years, most state governments have sought to limit urban sprawl and have adopted planning policies that encourage increased urban consolidation and higher density residential development. While there has been considerable debate over the pros and cons of increasing the densification of cities, governments and other proponents of high density living argue that compact cities are better for the environment than low density cities because they have lower ecological footprints and reduce the use of vehicles, and hence, the greenhouse gas emissions associated with driving³².

Backyards help to mitigate the 'heat island' effect, reduce stormwater run off, sequester carbon and nurture biodiversity.

On the other side of the fence, opponents of urban consolidation often cite the loss of both private and public green space, and the subsequent impacts on the environment, as one of the major problems associated with the move to high density living^{33 34}. Trees and gardens in backyards often improve the aesthetic value of an area. They also assist in creating a favourable microclimate and mitigate the 'heat island' effect, which



Backyards play an important role in preserving biodiversity in urban environments.





With fewer people likely to have access to a backyard as our cities grow, the provision of accessible public green space will become increasingly important for community health.

occurs when the thermal mass of buildings and paving absorbs the sun's heat during the day and releases it at night, increasing the temperature of the area. By helping to keep homes cool, the shade provided by trees in backyards also helps reduce the use of electricity to run air conditioners.

Backyards often have a high degree of biodiversity due to the variety of plants and trees they contain. They can therefore play a role in the conservation of native flora and fauna. The interconnecting area of backyards is also important for reducing stormwater runoff. Soft landscaping absorbs rainfall, preventing it from running off into drains and sewers. Planted areas in cities sequester carbon and other pollutants from the atmosphere, a particularly important benefit as climate change becomes a more pressing issue. Backyards can also help promote sustainable lifestyles by:

- Providing space for drying laundry, reducing the need to run a clothes dryer; and
- Providing space for a rainwater tank, home compost system, vegetable garden and fruit trees.

While many of the arguments both for and against urban consolidation have merit, the trend towards urban consolidation is likely to continue, and governments and others will need to consider the possible impacts of this on public health and the environment.

Beyond the backyard: Reconnecting Australians with the great outdoors

Growing urban populations mean increased demand for housing. In Sydney, for example, there will be 1.4 million more people by 2031 and 570,000 more homes required³⁵. The picture is similar in most other Australian cities. To meet this demand, and to increase the supply of affordable housing, state governments are likely to continue to encourage urban consolidation and high density residential development in established suburbs. This will mean that more and more people living in these suburbs will not have a backyard at all, or will only have a small backyard or courtyard. Many state governments' metropolitan plans also include the provision of strategically located 'greenfield' areas on the outskirts of capital cities to help meet demand, albeit in a way that does not dramatically increase the cities' footprints.



With fewer backyards, the provision of public green space will become increasingly important for community health.



Given that Australians' love affair with large houses is unlikely to abate anytime soon, large backyards will also probably be few and far between in these new areas, as they are in existing 'greenfield' areas.

As Planet Ark's research shows, people who have no backyard or only a small outdoor area such as a courtyard spend less time doing outdoor recreational activity than people who have a large backyard (Figure 8). If fewer people in metropolitan areas have access to a backyard in the future, this could impact on Australia's already significant health problems, such as rising rates of obesity, type 2 diabetes and mental health issues. Fewer backyards could also impact on our environment and potentially lead to a worsening of issues like the 'heat island' effect, stormwater runoff and loss of urban biodiversity.

How can we make sure that Australians continue to reap the health and wellbeing benefits of outdoor recreational activity and contact with nature, and that the environmental health of our cities is maintained? There is no simple answer and the responsibility lies with a range of organisations and individuals that have an interest in public health and the environment, including all levels of government, health and environment professionals, research institutions, architects, builders and developers, the non-government sector, employers, and individuals and families.

One of the most important initiatives for community health is the provision of public green space in housing estates and urban renewal projects. A recent study of 200,000 Australians aged 45 and over conducted by the University of Western Sydney found that the more green space people have within one kilometre of their home, the more likely they are to walk, jog or take part in team sports³⁶. The study found that people who lived near a very large amount of green space, such as a national park or large parklands, were 10% more likely to exercise more than once a week than those with access to very little green space.

Beyond the provision of sufficient and accessible green space, a range of other initiatives could prove beneficial in helping Australians get their daily dose of nature, including:

- Public awareness and behaviour change campaigns aimed at educating Australians about the importance of interacting with nature and encouraging Australians to reconnect with the great outdoors;
- The revision of planning codes and regulations to ensure new homes have good-sized backyards;

- Campaigns aimed at encouraging and helping working parents find ways to better balance work and family and increase their leisure time; and
- Individuals and families making a commitment to integrate outdoor recreation into their daily lives and to participate in nature care activities and events like National Tree Day.

As Planet Ark's research shows, Australians still see themselves as an outdoor nation, but the reality for many of us is that the outdoors is no longer part of our daily lives. Shrinking backyards, long full-time working hours, and the allure of technology are just some of the factors contributing to this. We need to reconnect Australians with the great outdoors and soon – our health and the health of our environment depends on it.



We need to reconnect Australians, particularly Aussie kids, with the great outdoors for the benefit of our health and wellbeing, and the environment.



Get more green into your life!

Backyards may be disappearing but there are plenty of ways you can connect with nature, even if you don't have a backyard. Here are some tips for families, individuals and schools:

Families

In its 2012 report, *Planting Trees: Just What The Doctor Ordered*, Planet Ark recommended that children get a daily dose of 30 minutes of green time³⁷. As highlighted in Figure 7, a significant proportion of Australian children – 1 in 4 – are getting less than this, in some cases, much less. Not surprisingly, Planet Ark's research this year shows that the more time parents spend outdoors, the more time their children spend outdoors and the more outdoor activities their children do. In other words, the best way to get your kids to spend more time outdoors is to spend more time outdoors yourself!



The more time parents spend outdoors, the more time their children spend outdoors and the more outdoor activities they do.

One of the best ways for time-poor parents to get more green into their children's lives is to incorporate outdoor nature time into their everyday activities. Here are some ideas:

- Park your car near one of the parks close to your child's school or childcare centre and walk through the park with your children on the way to and from school. Keep a ball, Frisbee, cricket bat or other play equipment in the car, or if you have a dog, take it with you, so you have some fun activities ready to go. Even traditional childhood games, like chase and hide and seek, can be exciting in a new environment.
- During the warmer months, make one meal per week an outdoor picnic or barbecue at the local park or at the beach. Not only will your kids get some nature time, you'll also get to enjoy a meal together as a family.
- Do your children have favourite indoor games or activities they could do outside? Activities like drawing, craft, jigsaws, board games, model

making, and even homework, could all be done on a portable table in the backyard or at a local park. Encourage your children to find leaves, seeds, sticks or other natural objects to draw or use in their craft projects.

- Get growing! A flower or vegetable garden is one of the best ways to connect children with nature. It's also a great way to get them interested in cooking and healthy eating. Establish a garden in your backyard, or grow some veggies or flowers in pots on your balcony, and involve your children in a daily or weekly garden maintenance session. If you don't have space for gardening at home, find a local community garden that would be happy for you and your children to get involved.



Gardening is one of the best ways to connect children with nature and inspire them to eat healthy food.




Individuals

Incorporating outdoor time into every day activities is also the easiest way for busy adults to get their daily dose of green. Here are some tips:

- Build some nature time into your daily commute – get off the train or bus or park your car near a park and walk through it on your way to work. On your way home at the end of the day, spend 10 to 15 minutes walking or running around the park or even just relaxing under a tree.
- Replace one gym session per week, or supplement your gym time, with some outdoor exercise – many parks have outdoor gym equipment and most areas have walking tracks and bike paths.
- Australia is blessed with stunning national parks and reserves, incorporating kilometres of walking and bike trails. Check out the national parks website in your state or territory to find your closest national park and schedule a weekly or fortnightly bushwalk, trail run, bike ride or even just a picnic or barbecue. Investigate local bushwalking and other outdoor adventure groups in your area if you'd prefer to have company, or invite a friend along.
- Schedule one alfresco meal per week in your backyard or local park – most parks have barbecues or you could simply have a picnic. Keep a picnic set and rug in the car – if you're out and about and the mood strikes, pick up a newspaper and some treats from the supermarket or deli and have an impromptu picnic.
- Create a small vegetable garden in your backyard or a balcony garden in pots, or join your local community garden. You'll not only get a regular dose of nature, you'll also be rewarded with tasty produce and save on food costs!
- Include attractive outdoor features in your backyard that encourage you to spend more time outside – a seating area, fountain, garden statue, patio, gazebo or bird bath are just some ideas.

Schools and teachers

Planet Ark's 2012 *Planting Trees* report, outlined the many benefits that contact with nature has for children, including better cognitive function, restoration from mental fatigue caused by concentration, reduced stress levels, and enhanced imagination and creativity³⁸. It highlighted a number of Australian studies that have demonstrated the benefits for students of green school grounds and kitchen gardens.

 **Contact with nature improves cognitive function, has mental restorative effects, reduces stress, and enhances imagination and creativity in children.**

With children spending a considerable proportion of their time at school, teachers and schools can play a valuable role in helping children get their daily dose of green. Here are some ideas:

- Schedule one or more lessons per week outside, either in the school grounds, if they feature gardens, bushland or a grassy oval, or in the closest park.
- Incorporate nature investigation or hands-on nature care activities into the learning areas of science, society and environment, citizenship education, languages and the arts.
- Develop an outdoor classroom – visit TreeDay.PlanetArk.org/teachers/links.cfm for links to useful resources on developing outdoor learning environments.
- Create a vegetable garden if your school doesn't already have one and get children involved in planting and maintaining it - visit TreeDay.PlanetArk.org/teachers/links.cfm for links to resources and organisations that can provide assistance.
- Get your class or school involved in outdoor community events like Planet Ark's Schools Tree Day and Clean Up Australia Day. Use other days, like World Environment Day, to schedule outdoor, nature-based excursions such as a guided bush walk in the closest national park or reserve.

To support the achievement of online learning outcomes from National Tree Day, Planet Ark offers a range of resources for schools, including lesson plans, games and activity sheets at: TreeDay.PlanetArk.org/schools



Over 200,000 school students participate in National Tree Day every year.



Get outside and grow with National Tree Day

Nature-based events like National Tree Day are a great way for kids and their parents to get outside and connect with nature and their local community. National Tree Day is Australia's largest tree planting and nature care event. It's a safe and fun day out for families, giving them the opportunity to do something positive for the environment. Regular visits back to the planting site to track the progress of the trees, shrubs or grasses planted can provide a great incentive to connect with nature on a regular basis.

With thousands of sites at schools, parks, gardens and other locations across the country, National Tree Day and Schools Tree Day are the perfect first steps to providing Aussie kids and their families with their daily dose of green. This year, as well as attending a planting or other nature care activity at a park, beach, school or nature reserve, people can organise a personal activity at home with their family and friends, in their backyard, on their balcony, or along their nature strip or street (with council permission).

For more information about National Tree Day, visit TreeDay.PlanetArk.org



National Tree Day is a great way for kids and parents to get outside, connect with nature, and do something positive for the environment and their community.



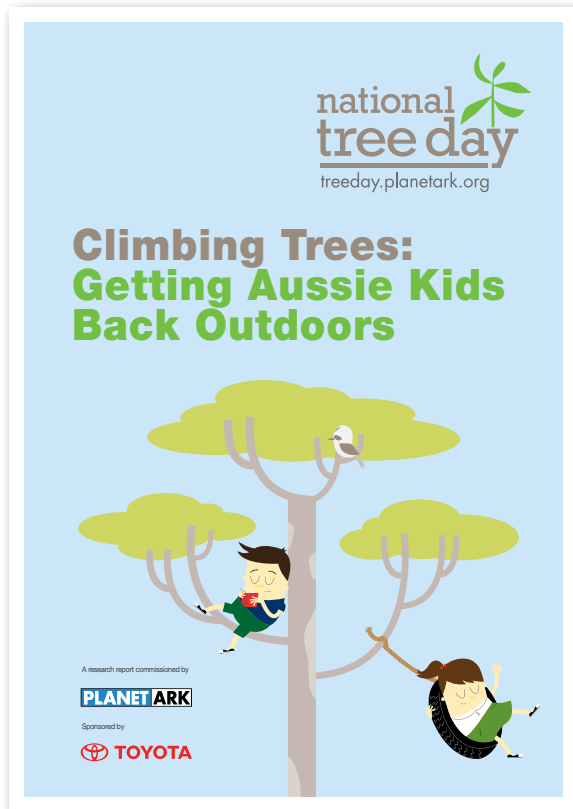
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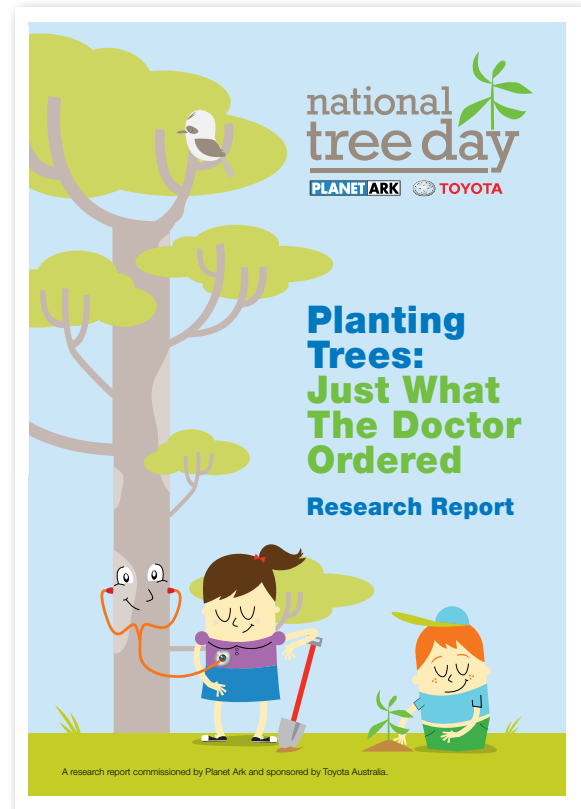


Previous Planet Ark research

In 2011 and 2012, Planet Ark commissioned independent surveys and published reports in the lead up to National Tree Day exploring childhood outdoor play and contact with nature in Australia. The full reports and summaries of the key findings can be found at treeday.planetark.org/about/health-benefits.cfm



Planet Ark's 2011 report, ***Climbing Trees: Getting Aussie Kids Back Outdoors***, explored the dramatic shift in Australian childhood experience from outdoor to indoor play over just one generation. The report was based on an independent study of Australian attitudes, opinions and recollections. It outlined the nature of children's outdoor play in Australia, the decline of outdoor activity in recent decades, and the perceived benefits of – and barriers to – outdoor play.



Planet Ark's 2012 report, ***Planting Trees: Just What The Doctor Ordered***, delved deeper into the intellectual, psychological, physical and mental health benefits of contact with nature for children. It combined a review of current local and international academic research in this field, as well as independent attitudinal research that provides an insight into how Australians perceive the link between nature and children's health, wellbeing and development.

