HEALTHY PARKS
HEALTHY PEOPLE
SOUTH AUSTRALIA
2016-2021

Making contact with nature, second nature
“We acknowledge and respect the traditional custodians whose ancestral lands we live upon. We acknowledge the deep feelings of attachment and relationship of Aboriginal people to Country.”
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OUR VISION

ALL SOUTH AUSTRALIANS EXPERIENCE THE HEALTH AND WELLBEING BENEFITS OF BEING CONNECTED TO NATURE
JOINT MINISTERIAL STATEMENT

As the Ministers responsible for Health and the Environment, we invite you to join the conversation in developing and promoting the Healthy Parks Healthy People SA approach in South Australia.

The scientific evidence unequivocally shows that spending time in nature is good for us - it improves our physical and mental health, it has positive effects on our ability to concentrate and learn, solve problems, think critically, and be creative.

These concepts, of course, are not new. Aboriginal people have always understood that people and their environment are intrinsically connected, and that the health of one is dependent on the health of the other.

We believe that South Australia’s parks are a vital part of the solution to a number of social and health issues we face as a State. By providing opportunities for people to interact with nature through activities such as play, exercise, relaxation and socialising with other people in the community, South Australians will be able to take advantage of the health benefits of being outdoors.

In addition, our parks are economic drivers for many communities across the State, and the backbone of our world renowned nature-based tourism industry.

Healthy Parks Healthy People SA enables park and health authorities to work more closely together, and focus resources towards implementing innovative approaches to health and wellbeing.

The framework is designed to build relationships and cooperation between a broad range of stakeholders who understand the vital role of nature and parks in our daily lives, enriching our physical, psychological, social and spiritual health and wellbeing.

It is supported by a Public Health Partner Authority agreement between the Department of Environment, Water and Natural Resources (DEWNR) and the Department for Health and Ageing (DHA), and its development has been strongly informed by the outcomes of the People, Parks and Wellbeing conference which was held in Adelaide in August 2015.

This framework will form the basis of an Action Plan, which will outline concrete initiatives and steps in the following focus areas:
• 1. Promoting physical activity in nature
• 2. Mental health benefits of contact with nature
• 3. Promoting the cultural value of Country for Aboriginal health and wellbeing
• 4. Community health and wellbeing in a changing climate
• 5. Childhood development and nature
• 6. Green infrastructure in urban settings
• 7. Biodiversity, conservation and human health

We believe in this initiative because we want all South Australians to experience the health and wellbeing benefits of nature, and we are firmly committed to protecting our State’s most fundamental and precious assets — people and nature.
WHAT IS HEALTHY PARKS HEALTHY PEOPLE SA?
Healthy Parks Healthy People SA is a nature-based approach for population health. It is guided by our vision to ensure that all South Australians are connected to nature and recognise it as an integral component to their health and wellbeing.

Contact with nature enriches our physical, psychological, social and spiritual health and wellbeing. The links between the natural environment and our own wellbeing have been understood for a long time. Connection to Country is an important determinant of health for Aboriginal people, who have long understood and benefited from a strong relationship with the land.

While the benefits of natural places have long been known, it is only relatively recently that park and health authorities have joined together to translate this knowledge into practical health initiatives, in particular preventing illness and promoting good health.

- **Contact with nature is critical to health and wellbeing**
- **Parks provide an accessible means for people, especially those living in urban areas, to have contact with nature, but all forms of the natural environment provide health and wellbeing benefits**
- **Therefore conserving, protecting and promoting the benefits of nature, and especially parks, is a central goal of the Healthy Parks Healthy People SA approach**

Encouraging the use of parks for the health and wellbeing of South Australians is dependent on a shared philosophy.

**Healthy environments are critical for our physical, mental, social and spiritual health; and parks conserve healthy environments for present and future generations.**

Healthy Parks Healthy People SA is an approach that envisages many sectors – environment, health, primary industries, Aboriginal affairs, social inclusion, education and urban planning – working together to maximise the untapped resources nature provides, including the benefits of nature-based health interventions. To realise this opportunity, the initiative has developed a socio-ecological approach that will guide interdisciplinary collaboration, facilitating learning and innovative action for Healthy Parks Healthy People SA.

Parks are an accessible means for people to enjoy the benefits of nature and take many forms – local suburban parks and playgrounds, large national parks, as well as marine parks. They are places for adventure and challenge, exercise, peace and quiet, gathering and relaxation. In them, we find a sense of enjoyment, fulfilment, strong community, spirit and wonder. Parks also enhance South Australia’s productivity and sustainability by providing us with a range of services for human health such as water purification, air filtration, climate regulation, pollination of agricultural crops, coastal protection and clean seafood.
WHY WE NEED HEALTHY PARKS HEALTHY PEOPLE SA?
FOSTERING NATURE-HEALTH BENEFITS

Research confirms that deepening our relationship with the natural world has tremendous personal benefits that permeate through every facet of society. Fostering and enabling direct and meaningful experiences with nature is transformative in many ways. For our physical and mental health, the development of our children, strengthening our personal relationships with family, building safer and better connected neighbourhoods, developing a strong economy, and nurturing environmental attitudes and values that encourage a continued conservation ethic in South Australia.

Contact with nature makes us happier, healthier, and more prosperous.

South Australians crave a renewed relationship with nature. In 2015, seven out of ten South Australians visited parks annually. Approximately half of these people visited parks less than three times per year; the other half visited parks between four and twelve times per year.

The challenge for Healthy Parks Healthy People SA is to:

1. Help the proportion of South Australians who don’t visit parks overcome whatever is holding them back from doing so
2. Encourage South Australians who already use parks to become more regular visitors to gain further health and wellbeing benefits

We can make contact with nature second nature. South Australia’s system of parks are some of the finest places in the country to experience nature’s countless benefits, and offer a uniting point for action.

SOCIO-ECOLOGICAL THINKING AND HEALTHY PARKS HEALTHY PEOPLE SA

The Healthy Parks Healthy People SA approach shows how maximising an everyday setting, like nature and hence parks, can positively contribute to health promotion and prevention strategies.

A socio-ecological approach to health encompasses the health of the whole individual, their environment and the whole community. It accounts for the interplay between all elements within human health (that is, biological, mental, social, environmental, spiritual, and economic) and considers broad ranging health determinants. Long-term population trends, as well as early intervention, treatment and care for vulnerable individuals and communities are also incorporated.
HOW HEALTHY PARKS HEALTHY PEOPLE SA CAN DELIVER CO-BENEFITS

**Strategic Activities**

**Building on and activating the evidence** demonstrating the links between contact with nature and health & wellbeing

**Increasing understanding of the benefits** of improving population health and wellbeing through increased park use

**Promoting the benefits of park use and contact with nature**

**Supporting existing programs** that contribute to increased park use

**Influencing** the design and use of parks across SA

- Biodiversity (macro and micro level)
- Accessibility (getting there; navigating park e.g. signage, activities, pathways)
- Useability (park design and local infrastructure supports multiple uses by diverse range of users)

**Outputs**

New evidence is developed and/or existing evidence is contextualised for SA

Policy makers and practitioners have a better understanding of how contact with nature contributes to population health and wellbeing

The strong, context-relevant evidence base is used to inform policy and program delivery across the health and environment sectors

South Australians have a greater understanding of the benefits of contact with nature

South Australians are provided with more opportunities and ‘incentives’ to access parks, through better understanding of how they can access them, what activities they can do there, and how it can benefit them

**Impacts**

More people use more parks, more often

People from all population groups benefit from visiting parks (i.e. children, older people, Aboriginal people, new arrivals, vulnerable populations)

People use parks for a variety of activities:

- Being physically active
- Social interaction
- Volunteering
- Learning activities
- Child development
- Rest and relaxation
- Conservation/management
- Cultural connection
- Scientific and educational benefits

Diverse range of parks are accessed, including in a range of different geographical locations, and various parks types (i.e. parks include large national parks and reserves, local parks and ovals, beaches and marine parks)
Interim Outcomes

- People are able to interact socially with others either incidentally or through organised activities such as volunteering
- Aboriginal people are (re)connected with Country
- People use parks as a setting for physical activity
- People relax and take respite in parks
- People feel spiritually connected with the natural environment – feeling of belonging
- People from all ages learn and develop new skills or knowledge through using parks
- People feel safe and confident accessing parks

Long-term Outcomes

- Reduction in overweight and obesity; and chronic diseases
- Improved physical health outcomes
- Reduced feelings of stress, anxiety and depression; and improved positive mental health outcomes
- Aboriginal people, migrants and the population as a whole experience greater social connection and spiritual wellbeing
- South Australians have a greater understanding of the importance of Country for Aboriginal people
- Parks are recognised as a valuable asset, including recognition of the economic contribution of conservation

Our Vision is Achieved

- All South Australians experience the health and wellbeing benefits of being connected to nature
- Biodiversity, conservation and sustainability goals are viewed as being important for achieving other societal goals, such as a healthy, thriving population and a strong, sustainable economy
TACKLING ‘WICKED PROBLEMS’

Many policy challenges involve dealing with complex, multifaceted, or so called ‘wicked problems’. These problems go beyond the capacity of individual organisations and authorities to understand and respond to and therefore require a collaborative approach. Such policy challenges include chronic disease, climate change, social exclusion and disadvantage, childhood development and land degradation.

Healthy Parks Healthy People SA enables the environment and health sectors to collaborate and address complex problems that require integrated solutions

EXAMPLE 1: CHRONIC DISEASE AND MENTAL HEALTH

Chronic disease is the leading cause of illness, disability and death in Australia, accounting for 90% of all deaths in 2011 (Australia’s Health, 2014). Currently, 46% of South Australians have been diagnosed with at least one chronic disease or condition including coronary heart disease and stroke, cancers, mental disorders such as anxiety and depression, diabetes and musculoskeletal diseases such as arthritis (Chronic Disease Action Plan for South Australia, 2009-2018). Even more alarmingly, about 25% of South Australian children are overweight or obese. Childhood obesity is a significant risk factor for chronic disease later in life and also affects other aspects of development.

The health of individuals and populations is shaped by broad factors, including the social, economic and physical environment in which people live, as well as individual behaviours and characteristics. Addressing these factors requires a collaborative approach involving a range of sectors, including government, NGOs, industry, academic institutions and society broadly.

Tackling chronic disease and its causes is a huge challenge for the South Australian community given its impacts on individuals, society and the economy. Healthy Parks Healthy People SA provides a mechanism for a range of sectors to work in partnership to improve population health and wellbeing utilising a co-benefits approach.

EXAMPLE 2: CLIMATE CHANGE

“Climate Change is the greatest threat to global health in the 21st century,” Dr. Margaret Chan, Director-General of the World Health Organization (2014).

The sustained good health of South Australians depends on reliable access to basic and essential resources, such as food, water, shelter and energy. Climate is one of the main factors that influences these foundations.

Climate change is already having negative impacts on human health and these are expected to intensify. Direct health effects of climate change include stroke and dehydration associated with heat waves (in particular in urban areas) and negative health consequences associated with reduced air quality and the spread of allergens.

Negative health effects are also mediated via the impacts of climate change on ecosystems and biodiversity. Such effects may include decreased food production and changes in the spread of climate-sensitive, vector-borne diseases. Climate change will affect agricultural production systems, the nutritional content of foods, and the distribution and availability of fisheries.

Healthy Parks Healthy People SA is committed to raising awareness of the health effects of climate change and the potential health benefits of low carbon pathways in South Australia. Parks can play a useful role in engaging the public and promoting the health benefits of reducing carbon emissions.
People can be healthier when they have the chance to live healthier lives: most chronic diseases are preventable. Nature, specifically parks, can be an essential part of the solution.
WHAT WILL HEALTHY PARKS HEALTHY PEOPLE SA DELIVER?

PROVIDING WORLD-CLASS NATURE-BASED APPROACHES FOR POPULATION HEALTH

Our vision is clear and profound. Healthy Parks Healthy People SA is committed to ensuring that all South Australians experience the health and wellbeing benefits of being connected to nature. We want to ensure that nature becomes a vital part of the solution to broader health and social issues challenging us as a state.

We want to demonstrate that by increasing our connection with nature, through our unique and wonderful parks, South Australians will be provided with world-class nature-based approaches for population health solutions that will:

• build safe, healthy and connected neighbourhoods
• provide the best outdoor opportunities for developing happy and healthy children
• contribute to the state’s economic productivity agenda
• preserve and promote Aboriginal culture
• support the recovery of the one in five Australians who experience mental health problems
• address some of the preventable causes of obesity and other chronic diseases
• reduce costs to the health system through prevention and early intervention.

Valuing the services provided by parks is not about putting a price on nature, but recognising their broader value to society.

To achieve this, in the longer term Healthy Parks Healthy People SA aims to improve our understanding of:

• what is influencing South Australians’ personal relationship to nature
• park visitor needs and expectations
• the needs of economically, socially and mobility disadvantaged groups
• the cost and consequences of inaction, in terms of the impact on the health and wellbeing of individual South Australians, their families and communities, and the economy as a whole.
CONNECTING NATURE TO HEALTH:
KEY FOCUS AREAS FOR ACTION

Activating the evidence – connecting nature to health – is the cornerstone of Healthy Parks Healthy People SA. We have determined seven focus areas for action. These are:

1. Promoting physical activity in nature
2. Mental health benefits of contact with nature
3. Promoting the cultural value of Country for Aboriginal health and wellbeing
4. Community health and wellbeing in a changing climate
5. Childhood development and nature Focus area
6. Green infrastructure in urban settings

Healthy Parks Healthy People SA is keen to build on new ideas and partnerships that will underpin our vision and promote action across these focus areas. We aim to find compelling and persuasive ways to communicate and work with new and existing partners to deliver nature-based approaches for population health.

Healthy Parks Healthy People SA offers opportunities not only for augmenting existing health promotion and prevention activities, but also providing the basis for a socio-ecological approach to public health that incorporates environmental sustainability at its core.
1. PROMOTING PHYSICAL ACTIVITY IN NATURE
Exposure to natural green spaces, such as parks and reserves, has the potential to provide significant benefits for physical health, particularly places that are easy to access, have multiple uses and can be accessed for little or no cost.

The health benefits of participating in regular physical activity and, conversely, the adverse consequences of a sedentary lifestyle, are well documented. Regular physical activity and avoiding sedentary behaviour is essential for health and wellbeing, and promotes healthy weight. Regular activity can help prevent chronic diseases associated with being overweight or obese, including heart disease, type 2 diabetes and some cancers, and can also improve psychological wellbeing.

Despite this resounding evidence, the majority of Australians do not undertake the recommended amounts of physical activity each day. Only one-third of children, and one in ten young people, undertake the recommended 60 minutes of physical activity every day. At least 60% of Australian adults do less than 30 minutes of physical activity per day and only one in ten adults report completing the recommended 10,000 steps per day (Australian Bureau of Statistics 2012). Significant physical, social and economic consequences arise from insufficient physical activity. This can be addressed through designing places where we live in a way that supports and encourages incidental activity through things like active travel and access to open spaces (Keniger 2013).

Evidence shows that parks foster participation in physical activity. Therefore, from a population health perspective, they offer a significant opportunity to improve health and wellbeing outcomes for all South Australians. Richardson and Parker (2011) reviewed the evidence describing the links between physical activity, green space and health, noting that there are “sufficient robust research programmes and evidence led reviews to conclude that access to safe, high quality green space is beneficial to both health and physical activity levels”. Research also indicates clear links between the proximity and quality of parks and the physical health of adult populations (Maas et al 2009). An Australian study found that residents in neighbourhoods containing greater than 20% green space were significantly more likely to both walk and participate in moderate to vigorous physical activities on at least a weekly basis (Schaefer et al 2014).

A further benefit of parks for physical health relates to their contribution to immune system function. In a systematic review of the literature on the health benefits of exposure to natural environments, Bowler and colleagues highlighted research which demonstrated immunological benefits from walking in forest environments (Bowler et al 2010).

**FITNESS IN ACTION:**

Two programs in Finland are connecting people with nature and improving their physical health.

**OPEN** focuses on providing quality natural outdoor environments for the citizens of Oulu in Finland, aiming to encourage people to spend time in the outdoors and engage in regular physical activity in green spaces. Communicated as a form of preventive medicine, it is hoped to replicate the model across Finland.

**AIR (Activation, Interaction and Recreation)** is finding new ways to provide therapy in natural environments and protected areas for different target groups. Pilot action involves outdoor activities and nature management work in nature reserves related to occupational therapy. One action of the project is to develop training for health care professionals, in collaboration with the health sector. The purpose of the study module is to increase the capacity of practical nurse students to utilise the natural environment and outdoor activities in their future work.
2. MENTAL HEALTH BENEFITS OF CONTACT WITH NATURE
EVIDENCE

Almost half of all Australians (45%) are diagnosed with a mental health condition at some point during their life and among those aged 15-44, suicide is the leading cause of death (Australian Bureau of Statistics 2014). Depression is currently Australia’s most prevalent non-fatal disability and its associated costs to the Australian economy, in terms of morbidity alone, are over $14.9 billion annually (VicHealth 2007).

The restorative effects of exposure to parks and green open spaces include recovery among individuals experiencing clinical conditions associated with anxiety and depression; reduced chronic stress (Alvarrson et al 2010; Vella et al 2013); reduced attentional fatigue in employees; and attenuation of hyperactivity in younger populations (Blanck et al 2012). Exposure to parks also promotes mental wellbeing, including evoking positive emotions and an increased feeling of individual resilience (Marselle et al 2013). Connection to nature is therefore critical for disease prevention, and to promote positive psychological states (Beil & Hanes 2013; Abraham et al 2010; O’Brien et al 2014).

Urban living has been identified as a key factor contributing to increased stress and mental ill-health (Northridge & Freeman 2011; Abbott 2012). Research investigating the connection between mental health and green spaces recognises that living in close proximity to useable parks and green spaces significantly mediates individual resilience and life coping skills (van den Berg 2010). Stigsdotter and colleagues reported “Respondents living more than 1 km away from a green space have 1.42 times higher odds of experiencing stress than do respondents living less than 300 m from a green space” (Stigsdotter et al 2010).

A plethora of literature focusing on adolescents in the context of outdoor education recognises that exposure to natural outdoor settings (initiated via alternative classroom learning) promotes key skills not always associated with classroom-based learning (Cooley et al 2014). Adolescents who report spending time in green outdoor spaces report a greater sense of calm, focus during study, wellness and appreciation for the environment, as well as empathy towards environmental issues (Burriss & Burriss 2011; Quynh et al 2013). Parks can therefore provide cost efficient settings for reducing the impact of conditions associated with negative mental health status in adolescence.
Literature reporting on ‘outdoor interventions’ as an emerging topic (Lynch 2012) recognises outdoor behavioural healthcare or outdoor therapy as a complimentary therapeutic approach for the treatment of mental health conditions among adolescents.

Ecotherapy interventions that adopt a nature-based approach have shown increases in self-esteem and feelings of hope for adolescent participants (Kogstad et al 2014). It should be noted, however, that adolescents and adults may still have different preferences for the spaces that will elicit these benefits (Flett et al 2010).

Aside from psychological wellbeing, the effects of nature on cognitive function in adults are among the most researched psychological outcomes related to undertaking passive or active recreation outdoors. Although the psychological effects of exercise in green spaces are less clearly understood than the physical benefits, the evidence has been progressively accumulating and numerous synergies exist between the two areas (Degenhardt & Buchecker 2012). Use of parks by adults is known to produce greater psychological benefits than equivalent time spent indoors (Webb 2014).

Specifically, green open space benefits are more favourable than interventions involving indoor rest or meditation, particularly for adults who spend a large proportion of their week indoors (Grinde & Patil 2009).

For older people, the mental health benefits of access to parks are increased compared to either adolescents or adult sub groups (Hawkins et al 2013). Older adults report being prone to feelings of loneliness and isolation and, in this respect, accessible green spaces and parks are critical for maintaining or improving quality of life (Sugiyama 2012).

MENTAL HEALTH IN ACTION: Green Rehabilitation Program
Connecting people with nature can assist in mental health treatment and recovery. Green Rehabilitation programs support mental health service providers to embed parks and other outdoor spaces as resources for program delivery. Health service providers are encouraged to incorporate the use of parks in their service planning and delivery through building relationships with local outdoor activity providers and park agencies.

A Green Rehabilitation Program was piloted in the Barwon Region of Victoria where it has been running since 2010. Relationships were established with local mental health services to support them to incorporate the program into their services. Services were encouraged to seek out local park agencies and establish relationships to support local sustainable connections. Parks and outdoor spaces were chosen for their proximity to the service and its client groups, and for the suitability to planned programs and activities. Mental health service providers were also encouraged to source outdoor activity providers to run park-based activities for their clients.

For example, the YMCA was engaged to run activities in Parks Victoria spaces, which included bike riding, beach combing, guided garden tours, tree planting and exercise sessions.
3. PROMOTING THE CULTURAL VALUE OF COUNTRY FOR ABORIGINAL HEALTH AND WELLBEING
**EVIDENCE**

Aboriginal perceptions of health and wellbeing are holistic and are determined by a range of life factors including physical health and wellbeing, cultural connection, social inclusion, identity and autonomy. Many of these factors have been negatively impacted by the processes and policies of colonisation, which has in turn contributed to the higher burden of disease and significant gap in life expectancy experienced by Aboriginal people.

The National Aboriginal and Torres Strait Islander Health Plan 2013-2023 places culture at the centre of priorities for improving Aboriginal health status and life expectancy. Connection to Country is a critical component of culture and is recognised as an important determinant of Aboriginal health and wellbeing.

Engaging with this holistic understanding, Burgess et al (2005) undertook research in Arnhem Land to establish whether there were health links between Country and people, as popularised in the slogan ‘healthy country, healthy people’.

The research was undertaken by a multidisciplinary team of traditional owners, ecologists, social scientists, medical practitioners and policy analysts, and looked at the broader implications of this research (Garnett & Sithole 2007). It found positive associations between caring for Country activities (which Indigenous people perceived as beneficial to their health) and health outcomes.

Among those who took part in Indigenous Cultural and Natural Resource Management, especially when living in their traditional Country, the researchers found more frequent exercise, lower rates of obesity, lower rates of diabetes, lower rates of renal disease, lower rates of cardiovascular disease, and less psychological stress (Garnett and Sithole 2007; Burgess, Mileran and Bailie 2008).

“**Our land cannot survive without its people; and the people cannot survive without our land**”.

Glenise Coulthard, Adnyamathanha Woman, Northern Flinders Ranges

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**Co-management in Action:**

Co-management is a successful South Australian approach, allowing the State Government and traditional owners to cooperatively manage national parks and reserves. At its core, co-management recognises Aboriginal people as the original custodians of our land, and acknowledges the importance of the customs and knowledge that have been passed down through generations. It offers tangible steps towards reconciliation, strengthening mutual respect and understanding, while improving the economic, social, and health and wellbeing capacity of individuals and communities.
4. COMMUNITY HEALTH AND WELLBEING IN A CHANGING CLIMATE
EVIDENCE

Climate change is predicted to bring greater variability to weather and seasonal conditions. Winters are likely to have more extreme cold days; summers are likely to have a greater number of extreme hot days, and the periods of dry are likely to be more regular and severe.

These new extremes will have direct and indirect impacts on the health and wellbeing of individuals, families and communities. Those more likely to be affected are the elderly, people with a disability, young children, those living in remote or coastal communities, and those on low incomes who are least economically equipped to move or adapt to changing living conditions.

In terms of industry impacts, the farming sector is particularly at risk given their dependence on the weather for their livelihood. Weather-related impacts on production directly affect financial viability and have indirect impacts on the health and wellbeing of farmers, their families, and local and regional communities.

A recent review identified that the relationship between drought and mental health is an emerging area with most research being conducted in Australia (Stanke et al., 2013).

All South Australians will experience some level of impact on their health and wellbeing from climate change. The diversity of health risks presents a significant challenge to South Australia’s health and community services. Understanding the risks, identifying vulnerable members of the community and developing appropriate adaptation strategies must take into account current and future demographic trends, including population growth and socio-economic factors.

While adaptation aims to capture new opportunities and reduce adverse impacts, climate change continues to threaten our current way of life and the viability of some communities. A focus on community and public health is important.

Direct and indirect impacts of climate change include:

- a decline in physical and mental health as a result of stresses and hardships associated with new extremes of weather and seasons
- heat stress during heat waves
- increased risk to life and property as a consequence of greater and more frequent extreme events such as bushfires and flood
- increase in the frequency and distribution of vector-borne infectious diseases such as Ross River Virus
- increase in air pollution (e.g. from dust and bushfire smoke) that may increase respiratory diseases and allergies
- increase in the frequency of water and food-borne infectious diseases
- reduction in food production and nutritional quality
- disruption of social networks, and forced movements of people.

DROUGHT PROGRAM ACHIEVEMENTS IN ACTION: State Drought Response Program 2006-2011

The State Drought Response Program was formally recognised for its successful contribution to rural communities. The program was awarded the Premier’s Award for Building Communities (2011) in recognition of its contribution to building resilience and capacity of regional farming communities to respond to severe seasonal conditions.

Individual projects were also recognised, notably the “Men in Communities” program implemented by Country Health SA that was awarded the Margaret Tobin award.

The “Men in Communities” program was recognised in 2009 for excellence in promoting and understanding mental health in the community. The program promoted an understanding of mental health through mental wellness and by removing the stigma of mental health. More than 400 men were involved with this project which was aimed at men who live in rural settings.

In many cases, far reaching and devastating consequences were avoided. These included improving mental health outcomes, reducing the incidence of suicide and assisting with dire financial situations (PIRSA 2011).
5. CHILDHOOD DEVELOPMENT AND NATURE
EVIDENCE

While all population groups can benefit from contact with nature, specific groups benefit in different ways, particularly children. Importantly, evidence demonstrates that giving children opportunities to learn, live and play in natural spaces is positively associated with good physical, mental, social and spiritual health in adult years (Sugiyama 2012).

Positive effects of natural experiences for children include:

- **Supports creativity and problem solving**: Studies of children in schoolyards found that children engage in more creative forms of play in green areas and also play more cooperatively. Play in nature is especially important for developing capacities for creativity, problem-solving and intellectual development (Kellert 2005).

- **Enhances cognitive abilities**: Evidence shows that exposing children to parks provides them with opportunities for engagement, fun and education (Blanchett-Cohen & Elliot 2011). Additionally, it is well established that opportunities to play in parks allow children to explore the diversity of protective factors offered by experiencing nature, including capitalising on the chance to practice reasoning, reaction, observation, logic, attentiveness, and responding to the environment and people.

- **Improves academic performance**: Studies in the United States show that schools that use outdoor classrooms and other forms of nature-based experiential education support significant student gains in social studies, science, language arts, and math. Students in outdoor science programs improved their science testing scores by 27% (American Institutes for Research 2005).

- **Reduces Attention Deficit Disorder (ADD) symptoms**: Contact with the natural world can significantly reduce symptoms of ADD in children as young as five years old (Kuo & Taylor 2004).

- **Increases physical development and activity**: Research has shown that having access to parks encourages simple and complex movements (climbing and jumping) that engage different muscle groups to those developed during other types of play. Research also shows that children with access to natural green spaces receive greater physiological benefits than those that play indoors (Duncan et al 2014), and are less likely to be overweight or obese than children without access to parks (Blanck et al 2012; Schaefer et al 2014).

CHILDHOOD DEVELOPMENT IN ACTION: Nature Play SA

In SA, our children are spending less time in nature than at any other time in our history, leading to increasing rates of childhood obesity, depression and behavioural disorders. Nature Play SA is an independent, not for profit, incorporated association whose charter is to address the worldwide trend that is seeing an entire generation of children growing up indoors.

Nature Play SA programs target children from 0-12 years, parents, educators in early and primary years, councils and community organisations to:

- raise awareness about the importance of nature play
- equip people with the knowledge, tools, skills and opportunities to re-engage children back into nature
- build a movement that empowers people to act and gives nature play a life of its own
- partner with other like-minded organisations and individuals.
Enhances learning and spiritual growth in children with disabilities:
Reflecting on spirituality and disability among children, Zhang notes the potential benefits of nature contact in education for children with disabilities: “Encounters in nature with plants and animals foster spiritual sensitivities and help children to learn qualities such as empathy and compassion and to develop a sense of wonder” (Zhang 2010). Spiritual development arising from these experiences can foster “hope, healing and growth”.

Improves self-discipline:
Access to green spaces, and even a view of green settings, enhances peace, self-control and self-discipline within inner city youth, and particularly in girls (Taylor, Kuo & Sullivan 2001).

Reduces stress:
Green plants and vistas reduce stress among highly stressed children. Locations with a greater number of plants, greener views, and access to natural play areas show more significant results (Wells & Evans, 2003).

Creates social benefits:
Access to parks is particularly relevant for children who may be in families experiencing social or economic disadvantage. The assertion that absence of safe parks and outdoor spaces directly impacts children’s mental health is supported by evidence that highlights the particular vulnerability of children in low socioeconomic areas (Sturm & Cohen 2014).
6. GREEN INFRASTRUCTURE IN URBAN SETTINGS
EVIDENCE

In this document, green infrastructure is used to describe the networks of natural environment that exist or can be established in urban settings.

There is strong evidence to suggest that green infrastructure, particularly parks, green open spaces, and recreational facilities, contribute positively to physical health by providing opportunities for physical activity. They have also been shown to relieve stress, improve concentration, enhance worker productivity, improve self-esteem, boost immunity, and promote healing and recovery (Luria and Lyons, 2010). People with better access to parks and other green spaces have been shown to live longer, be less stressed, become ill less often and be less prone to overweight/obesity (Evans, 2003).

More than three-quarters of South Australia’s population resides in the Greater Adelaide area (ABS, 2011). The 30 Year Plan for Greater Adelaide estimates that the population of Adelaide and its surrounds will expand by an additional 560,000 people during the next three decades (DPLG, 2011). As the population in urban areas becomes more dense, it is increasingly important that high quality green infrastructure and open space is provided to protect and promote population health and wellbeing and the natural environment.

Types of green infrastructure can include public parks and gardens, greenways, street verges and open space pockets in residential and other streets, sports and recreational facilities, private and semi-private gardens, green roofs and walls, squares and plazas, natural green space, utility areas, and agricultural and other productive land (Ely and Pitman, 2014). This network provides the foundation for the financial, socio-cultural and environmental functionality of cities and towns, contributing to the conservation of biodiversity, and benefitting human populations by maintaining and enhancing ecosystem services (Naumann et al. 2011).

Evidence indicates that viewing or experiencing green space or natural environments is associated with reduced levels of perceived stress, improved measures of physiological stress, enhanced cognitive functioning, positive mood, reduced symptoms of depression and anxiety, improved emotional and behavioural problems, and improved recovery from illness. The quality, quantity and accessibility of green spaces has been shown to have a significant relationship to the mental health outcomes attributed to green infrastructure (Roe et al 2013; van den Berg et al 2010).

In terms of social health, strong evidence suggests that green infrastructure, especially in the form of community gardens, can improve a community’s social cohesion and capital (Porter & Mclvaine-Newssad 2013), and some emerging evidence suggests that it may reduce criminal, violent and aggressive behaviour, leading to safer communities. Much work has also been done to define the importance of urban nature in enhancing liveability and safety. The inclusion of appropriate types, quality and quantity of green infrastructure can strengthen the resilience of towns and cities to respond to the major current and future challenges presented by complex issues such as population growth and climate change. Green infrastructure also ‘value adds’ by linking and connecting existing green assets, which provides benefits both for people, by enhancing public use opportunities, and for the environment by improving urban ecosystem health and countering habitat fragmentation.

URBAN PLANNING (AUSTRALIA) IN ACTION:
Healthy Spaces and Places is an Australian national guide for planning, designing and creating sustainable communities that encourage healthy living. It is a unique collaboration between the Australian Local Government Association, National Heart Foundation of Australia and the Planning Institute of Australia. Healthy Spaces and Places aims to: encourage the development of built environments that provide opportunities for physical activity and other health-related activities; continue to improve health outcomes for all Australians through better designed built environments; raise awareness of the relationship between physical activity and the built environment; and contribute to a national policy setting.
7. BIODIVERSITY, CONSERVATION AND HUMAN HEALTH
Biodiversity and human health are linked in many ways. Human life ultimately depends upon ecosystem products and services (for example, the availability of fresh water, food and fuel sources), which are required for good health and productive livelihoods. People depend directly on ecosystems in their daily lives, including for the production of food, medicines, timber, fuel and fibre, but also for less tangible benefits, such as spiritual enrichment, and areas for recreation and leisure. The section below is a summary of key points taken from a comprehensive report by the World Health Organization and Convention on Biological Diversity (2015), highlighting specific ways that richly biodiverse environments can improve human health and wellbeing:

AIR AND WATER QUALITY
Healthy, functioning ecosystems provide clean water and can contribute to improved air quality through natural filtration processes. All terrestrial and freshwater ecosystems play a role in underpinning the water cycle, including regulating nutrient cycling and soil erosion. Many ecosystems also play a role in managing pollution, as their water purification services underpin water quality.

AGRICULTURE AND FOOD SECURITY
Biodiversity in and around agricultural production systems makes essential contributions to food security and health. In particular, pollination is essential to food security generally and to the production of many of the most nutritious foods. Access to wildlife in terrestrial, marine, and freshwater systems is critical to human nutrition, and global declines will present major public health challenges.

IMMUNE SYSTEM FUNCTIONING
Reduced contact between people and the natural environment and biodiversity loss leads to reduced diversity in human microbiota, which can lead to immune dysfunction and disease. The immune system needs an input of microbial diversity from the natural environment to establish the mechanisms that regulate it. When this regulation fails, there may be immune responses to undesirable targets such as our own tissues (autoimmune diseases; type 1 diabetes, multiple sclerosis), harmless allergens and foods (allergic disorders, eczema, asthma, hay fever) or gut contents (inflammatory bowel diseases, ulcerative colitis, Crohn’s disease). Urbanisation and loss of access to green spaces are increasingly discussed in relation to these non-communicable diseases.

MARINE BIO-RESOURCES IN ACTION:
Marine sponges have important functions in the marine environment including substrate stabilisation and consolidation; coupling between benthic and pelagic areas; and habitat formation. In addition, sponges have properties that can be exploited for humankind. The production of chemicals by sponges (to prevent settlement/encroachment of other species, and to act as feeding deterrents against potential predators) is of increasing significance to humans as these bioactive chemicals have potential in the development of pharmaceuticals (Capon 2001) i.e. anticancer functions.

For example, the Eribulin mesylate (Halaven®) is a new marine-derived drug (2010) for breast cancer, a cancer which affects 1 in 8 women in Australia, with more than 14,600 cases in 2012 and a predicted increase to more than 17,200 per annum by 2020 (National Breast Cancer Foundation, 2012). This new drug is based upon a compound derived from marine sponges and used for late-stage chemotherapy, and is just one example of hundreds of drugs being developed from the marine environment (Zhang et al 2013).
INFECTIOUS DISEASES
Human-caused changes in ecosystems, such as modified landscapes, intensive agriculture, and antimicrobial use, are increasing infectious disease transmission risks and impact. Approximately two-thirds of known human infectious diseases are shared with animals, and the majority of recently emerging diseases are associated with wildlife. Vector-borne diseases also account for a large share of endemic diseases.

Increasing human activity is facilitating disease spread through increased opportunities for contact at the human/animal/environment interface, and changing vector abundance, composition, and/or distribution.

Changes in land use and food production practices are among leading drivers of disease emergence in humans. At the same time, pathogen dynamics are changing. While pathogen evolution is a natural phenomenon, factors such as global travel, climate change, and use of antimicrobial agents are rapidly affecting pathogen movement, host ranges, and persistence and virulence. Beyond direct infection risks for human and animals, such changes also have implications for food security and medicine.

Richly biodiverse environments can improve human health and wellbeing.

POTENTIAL NEW MEDICINES
For many of the most challenging health problems facing humanity today, we look to biodiversity for new treatments or insights into their cures.

Medicinal and aromatic plants, the great majority of which are sourced from the wild, are used in traditional medicine and in the pharmaceutical, cosmetic and food industries. The global use and trade in medicinal plants and other biological resources, including wildlife, is significant and growing.

ECOSYSTEM AND SOCIAL RESILIENCE
Biodiversity helps to improve the resilience of ecosystems, boosting their ability to adapt to climate change and moderating the impacts of disasters. It also helps create societies that are more resilient to disasters and change.

Ecosystem-based adaptation and mitigation strategies are needed to build the resilience of managed landscapes and jointly reduce the vulnerabilities of ecosystems and societies that rely on functioning ecosystems for their health, livelihoods and wellbeing. The conservation and use of genetic resources in agriculture, aquaculture and forestry is important to allow crops, trees, fish and livestock to adapt to climate change.

ONE HEALTH IN ACTION:
The growing ‘One Health’ philosophy provides a new and overarching perspective for understanding the intersections between human, animal and environmental health outcomes. While plant health and pathogen interactions are clearly central to sustainable life on earth, the World Health Organization recommends that their critical roles in the health of people, animals, and other elements of the environment should be more systematically addressed through multi-sectoral, policy level approaches that promote a One Health perspective.

In South Australia, one way this is being achieved is through a collaborative Public Health Partner Authority agreement between the Department for Health and Ageing and Biosecurity SA, which supports the work of the Zoonoses Working Group. The Group, which also includes representation from the Department of Environment, Water and Natural Resources, is responsible for providing high level expertise, policy advice, and coordination of surveillance and communication in relation to potential threats to human, domestic animal and wildlife health.
PROPOSED OPPORTUNITIES FOR COLLABORATIVE ACTION
PROPOSED OPPORTUNITIES FOR COLLABORATIVE ACTION

A suite of proposed opportunities for collaborative action has been developed. These proposed opportunities will form the basis of a Healthy Parks Healthy People SA action plan. The opportunities outlined below have been developed based on the following criteria:

- they build on an existing policy or strategic opportunity
- they are connected to the outcomes of the People Parks and Wellbeing conference (held in Adelaide in August 2015)
- they require collaboration between multiple partners
- they address multiple focus areas
- they are evidence-based and/or contribute to new or existing evidence.

OPPORTUNITY 1: REALISING THE MENTAL HEALTH BENEFITS OF CONTACT WITH NATURE THROUGH TARGETED PROGRAMS

Healthy Parks Healthy People SA supports development of a new ‘Green agenda for mental health’, reinforcing the role of nature and parks as clinically valid components within mental health promotion strategies.

SA Health is currently in the process of developing a new Suicide Prevention Strategy for South Australia. This provides an opportunity for the mental health and wellbeing benefits of contact with nature to be incorporated into the development of policies and programs associated with the strategy.

2. Mental health benefits of contact with nature
3. Promoting the value of Country for Aboriginal health and wellbeing
OPPORTUNITY 2: THE CRITICAL ROLE OF OPEN SPACE AND GREEN INFRASTRUCTURE IN PROVIDING ACCESS TO NATURE

The South Australian Government’s Planning Reform provides an opportunity for Healthy Parks Healthy People SA to influence how the quality and quantity of public open space can support economic, environmental, and population health and wellbeing outcomes.

A number of organisations including the Department of Planning, Transport and Infrastructure, the Department for Health and Ageing, the Department for Environment, Water and Natural Resources, and the Active Living Coalition have begun discussions around the need for Quality Public Open Space Guidelines which provide evidence and practical guidance to planners and developers around the quality of open space required to support good population health and wellbeing outcomes. The provision of high quality open space will be critical as the density of the Greater Adelaide area increases over the coming decades.

OPPORTUNITY 3: PROMOTING THE CULTURAL VALUE OF COUNTRY FOR ABORIGINAL HEALTH AND WELLBEING

Healthy Parks Healthy People SA will support on-Country initiatives through the state’s co-management agreements with a focus on helping Aboriginal people link with their traditional lands; encouraging on-Country training and education in managing natural resources and cultural heritage and sites; and facilitating nature-based employment opportunities for local Aboriginal people such as on-Country rangers. In addition, specific nature-based programs could be targeted to at-risk groups such as Aboriginal youth involved in the justice system.

In addition to environmental health gains, caring for Country initiatives (such as South Australia’s co-management arrangements between National Parks and Aboriginal communities) can improve the health and wellbeing of traditional owners.

Healthy Parks Healthy People SA also provides the opportunity to give all South Australians the chance to learn about the ‘Aboriginal story of Country’; this is an important lens that will be considered across all focus areas.
OPPORTUNITY 4: PROMOTING PHYSICAL ACTIVITY IN PARKS

Healthy Parks Healthy People SA aims to find new opportunities to activate parks in ways that will encourage more South Australians to participate in physical activity in nature.

Parks, trails and recreational facilities provide a wide range of opportunities for physical activity and can help South Australians lead more active lifestyles.

Integrating opportunities for physical activity into the places we work, live, learn, travel and play is the most effective way to ensure that we move enough to thrive. Designing neighbourhoods that make physical activity a priority, create active spaces, and encourage people to be active, will create a legacy of physical activity. A co-benefit of designing neighbourhoods to encourage more active modes of transport is the reduction in carbon emissions from decreased vehicle use and associated health benefits of improved air quality.

OPPORTUNITY 5: INFLUENCING TRANSPORT BEHAVIOURS TO REDUCE CARBON EMISSIONS AND PROMOTE PHYSICAL ACTIVITY

Private vehicle use is a significant contributor to climate change, local air pollution and declines in physical activity and obesity. A significant proportion of car use is for short trips which can relatively easily be taken with active transport options – walking or cycling – or with public transport.

Research demonstrates that transforming the way we travel requires incentives and strong motivational drivers, as well as settings that make active transport the easy, healthy and most attractive option.

Healthy Parks Healthy People SA has the opportunity to support the state’s Carbon Neutral Adelaide initiative, which aims to change the way we travel to and within the city. We will jointly work to explore policies and programs that reduce vehicle use and increase active transport, enhancing the liveability and health of Adelaide.
OPPORTUNITY 6: COMMUNITY HEALTH AND WELLBEING IN A CHANGING CLIMATE

To support community health and wellbeing in a changing climate, Healthy Parks Healthy People SA proposals will adopt a nature-based approaches for population health and may include:

- programs that offer drought-affected farmers and farm workers employment on environmental projects in parks
- suicide prevention and mental health programs that focus on using nature-based interventions

The Government’s State Drought Response Program was initiated in 2006 in response to the lowest seasonal conditions on record during that year. The program was conducted through to 2011, and provides a model for responding to the impacts of the predicted extreme conditions associated with climate change. The approach ensured that each stage of drought response was inclusive of social, economic and environmental factors, with a strong commitment to acknowledging and supporting the health and wellbeing of individuals and communities. Reducing impacts through early intervention in community health and wellbeing, particularly in mental health, was recognised as vital. Given the program’s findings, Healthy Parks Healthy People SA supports future drought assistance measures that address the health and wellbeing of individuals, families and communities in drought crisis.
OPPORTUNITY 7: CONNECTING NEW ARRIVALS WITH NATURE TO SUPPORT CONNECTION WITH COMMUNITY

Healthy Parks Healthy People SA values connecting people new to Australia with nature. This approach is interested in supporting local services that work with new arrival migrants and refugee families to undertake activities that will provide opportunities to engage in unstructured outdoor activities whilst building social connectedness and networks.

Between January 2013 and June 2014, a total of 10,251 migrants arrived in South Australia. They came from Afghanistan, Bhutan, Iran, Myanmar/Burma, Nepal, Pakistan, Philippines, Vietnam, United Kingdom, United States of America, Thailand, Democratic Republic of Congo and several other African, Middle Eastern and Asian countries (Government of South Australia, Multicultural SA, 2013-2014).

By introducing new migrant and refugee families to South Australia’s parks and outdoor space, we can support their connection with community and emotional wellbeing.
OPPORTUNITY 8: THE ROLE OF BIODIVERSITY IN CHILD AND ADULT HEALTH

Current research being conducted cooperatively between all three South Australian universities is quantifying the health benefits of exposure to biodiverse environmental microbiomes in city parks in Australia, China, India and the United Kingdom. Healthy Parks Healthy People SA provides an opportunity to translate this research into on-ground improvements that build on the nature-health connect, such as tree planting that improves community health and lowers health costs.

Exposing urban children to biodiversity – particularly in deprived areas – can have life-long health benefits.

Making space for parks in stressful urban environments has long been recognised for its health benefits. Parks contain a broad range of macro-biodiversity (plants and animals) that correlates directly with microbial biodiversity (microorganisms such as bacteria and fungi). Recent advances in DNA sequencing now allow rapid assessment of this microbial diversity (‘microbiome’), and epidemiological studies suggest that exposure to a biodiverse environmental microbiome directly affects human health.

Environmental microbiomes appear to regulate the development and quality of our immune responses, resting levels of inflammation, and responses to vaccines. Interactions between environmental and human microbiomes may therefore influence the development of immune-related pathologies such as asthma, allergies and autoimmune disease. Cost-effective health gains could be achieved for urban populations, particularly for children in deprived areas, by increasing people’s exposure to biodiverse environmental microbiomes.
IMPLEMENTATION
GOVERNANCE AND ACCOUNTABILITY

Healthy Parks Healthy People SA is overseen by a high level leadership group which provides expert knowledge and advice to guide implementation of the approach. The group is co-chaired by the Chief Executive of the Department of Environment, Water and Natural Resources and the Deputy Chief Executive of the Department for Health and Ageing.

Table 1: Healthy Parks Healthy People SA leadership group members

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Ms Sandy Pitcher</td>
<td>Chief Executive, Department of Environment, Water and Natural Resources (co-chair)</td>
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<tr>
<td>Ms Jenny Richter</td>
<td>Deputy Chief Executive, Department for Health and Ageing (co-chair)</td>
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<td>Ms April Lawrie-Smith</td>
<td>Director Aboriginal Health Branch, Department for Health and Ageing</td>
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<tr>
<td>Ms Michele Herriot</td>
<td>Australian Health Promotion Association</td>
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NEXT STEPS

The Healthy Parks Healthy People SA framework sets out the evidence and proposes opportunities for collaborative action between the health and environment sectors, the community and other key stakeholders to realise co-benefits – improved population health and wellbeing, and improved environmental outcomes – through increasing access to parks.

Over the five year timeframe of this framework, action plans will be developed and implemented across all of the focus areas outlined throughout the document. This process will be undertaken in partnership with the relevant stakeholders who will be invited to participate in a co-design process to develop and deliver the plans.

Get involved

The Healthy Parks Healthy People SA framework has been developed based on a review of the best available evidence connecting contact with nature with population health and wellbeing, a stock-take of the policy opportunities which currently exist in the space, as well as a targeted consultation process through the People, Parks and Wellbeing conference, which was held in Adelaide in August 2015. The framework has been endorsed by the Healthy Parks Healthy People SA leadership group.

In 2016, we will be holding a series of focused workshops to identify what is needed to put Healthy Parks Healthy People SA into action, inviting fresh ideas and supporting new partnerships.

In the interim, if your organisation has an interest in any of the seven Healthy Parks Healthy People SA focus areas presented in this document, or any other areas you feel could be supported by the approach, please contact one of the project leaders below.

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Government is ready to support evidence-based solutions that work with nature to improve the health and wellbeing of all South Australians


Maller C, Townsend M, Pryor A, Brown P and St Leger L (2005), Healthy nature healthy people: ‘contact with nature’ as an upstream health promotion intervention for populations http://heapro.oxfordjournals.org/content/21/1/45.short?rss=1&ssource=mfr


Primary Industries and Resources SA (2011) State Drought Response 2006-2011


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