

# Our Great Dividing Range

Restoring life to our heartland



**AUSTRALIAN  
CONSERVATION  
FOUNDATION**



The Keyhole, Cudmore National Park, Galilee Basin QLD



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# The Great Dividing Range

The Great Dividing Range is the heartland of eastern Australia. The Range stretches 3,600 kilometres from the tropical rainforests of Cape York, through the Alps of NSW and the ACT, to the temperate woodlands of the Grampians in western Victoria. Its mountainous corridor encompasses Australia's tallest mountains, most reliable rainfall and some of our greatest biological diversity.

Almost three quarters of Australians live along the inland western slopes, eastern escarpment and adjoining coastal plains of the Range. It is rich in cultural heritage for indigenous and non-indigenous Australians and is enjoyed by millions of visitors from all over the world. From the carbon stored in the dense forests, to the rivers that flow from its rugged slopes, to the critical habitat and essential climate refuge it offers vast numbers of our threatened species, the Range is vital to life in Australia.

This report illustrates the immense value of the Great Dividing Range. It documents case studies along the Range that reveal how Australia's environmental laws are not strong enough to protect life in our country. And through inspiring stories of hope and connection, it reminds us all that the future of our unique wildlife, the places we love, and our communities, are inextricably linked.



# Foreword

Every day I drink water that flows down from the peaks of the Great Dividing Range, but I often take the Range for granted. Though its dense forests filter the air I breathe, the Range can feel disconnected from my city life. But then I walk with my daughter among its tall trees. Hear the bush sing with life. See her face light up when she spots the wildlife that inhabits it. And I'm reminded that life in our country is intimately connected to the Range.



**Dr Paul Sinclair**  
*ACF Director of Campaigns*

Despite its vital role sustaining life in Australia, over the last two centuries, nearly 70 per cent of the Range has been degraded, fragmented and polluted from mining, logging and land clearing. In April 2015, its forests and woodlands were listed as one of eleven global biodiversity hotspots threatened with deforestation. That same month, scientists at James Cook University released maps illustrating how a number of these forests are critical in helping safeguard over 500 threatened species from the impacts of global warming.

The decline of the Range is emblematic of a greater systemic issue affecting all of Australia – the government's failure in its duty of care to safeguard the natural systems that keep us alive. Big business lobby groups, backed by multinational mining companies like Adani, Rio Tinto, BHP, Whitehaven and AGL, have campaigned hard to weaken the laws that protect life so they can mine more, frack faster and dredge deeper with little oversight. Right now these companies have more influence on our government than our communities.

Communities along the Range are doing incredible things to restore habitat and protect threatened species locally. But driving the change we need at a national level also requires the support of the millions of Australians living in our cities.

Australians do care. Tens of thousands of people are calling for a Great Forest National Park to connect and protect critical habitat in the Central Highlands of Victoria. Thousands have divested their money from the banks funding Adani's Carmichael Coal Mine in the Galilee Basin. And community backlash has seen a temporary ban instituted on coal seam gas mining in Sydney's water catchments. But without a national solution to fix the systemic issues driving the destruction, we simply cannot keep up.

The natural systems that support life in Australia are too big and too complex to manage in bite-sized pieces. It took drastic intervention by our national government to bring our nation's lifeblood, the Murray-Darling, back from the brink. For a century, five state and territory governments pumped up their irrigation industries without regard for the cumulative impact. That's changing now with the Basin. We can't afford to keep making that same mistake with critically important ecosystems like the Range.

**Value doesn't only come with dollar signs. Value is inherent in the air we breathe, the water we drink and the food we eat. We need to work with nature at the scale at which it operates, and that requires national leadership.**

The government must implement a fully-funded, national plan to take threatened species off the fast-track to extinction and safeguard areas critical to life like the Range. And together, we must exercise our democratic right to demand a safe, healthy and thriving future for us all.

# How the Range supports life in Australia

Scientists describe the many direct and indirect ways that nature supports our survival and quality of life as “ecosystem services”. They can be categorised into four main services: provisioning, regulating, supporting and cultural.

**Provisioning services** are the ‘giving’ ecosystem services that provide outputs that nourish life like food, fresh water, medicinal and genetic resources.

**Regulating services** are the ‘balancing’ services that ecosystems provide by acting as a regulator, including regulating the quality of air, and providing carbon storage and flood control.

**Cultural services** are the non-material contribution of ecosystems to human life and wellbeing such as recreation, tourism, spiritual experience and sense of place.

**Supporting services** are services performed by ecosystems such as photosynthesis, soil formation, nutrient cycling and the provision of habitat for wildlife.

Together, along the Range, these services enable eastern Australia to thrive.



# ECOSYSTEM SERVICES ALONG THE RANGE

## PROVISIONING



Fresh water

- Fresh drinking water for 11 million people, including those living in Melbourne, Canberra, Sydney and Brisbane.
- Reliable rainfall from the western slopes that flows into the Great Artesian Basin, creating the only reliable source of fresh water through much of inland Australia.



Food and agriculture

- Rich soils, biodiversity, reliable climate and water supply that support the Murray-Darling Basin – which grows around 30 per cent of Australia's national food supply.

## REGULATING



Water purification

- Wetlands that trap nutrients and sediments and purify water for drinking, agriculture and recreation, and supply clean water to coastal habitats including the Great Barrier Reef.



Climate regulation

- Dense forests and wetlands that store vast amounts of carbon and water regulating local temperature and rainfall in both urban and rural areas.
- Extensive intact forests, mangroves and wetlands that provide natural buffers against storms, cyclones, bushfires and drought.



Air quality and carbon storage

- Dense forests, wetlands, peatlands and urban forests that store vast amounts of carbon – the Mountain Ash forests of Victoria's Central Highlands are some of the most carbon dense in the world.
- Geological basins like the Galilee that, if left untouched, provide safe repositories for vast amounts of carbon in the form of coal.
- Urban forests and natural vegetation in cities that filter air pollution and particles.



Pollination and seed dispersal

- Vital pollination and seed dispersal for crops and native forest ecosystems from native species including the vulnerable Grey-headed Flying-fox and the endangered Southern Cassowary.

## CULTURAL



Recreation and tourism

- The largest and most accessible mountainous recreation areas in Australia – over 13 million people each year visit parks along the Range.



Mental and physical health and cultural heritage

- Aboriginal cultural heritage, traditional medicines and bush tucker.
- Vast and accessible natural spaces that contribute to the health and wellbeing of millions of Australians by reducing obesity, decreasing stress, and offering positive emotional development for children.
- Exposure to diverse natural habitats, critical to the development of normal human immune responses to allergens.
- Iconic landscapes that shape the cultural identity of millions of Australians.

## SUPPORTING



Biodiversity – genetic diversity

- A wide breadth and variation of ecosystems and the richest diversity of native species in Australia that underpin healthy ecosystems and provide resilience against diseases, pests and a changing climate.
















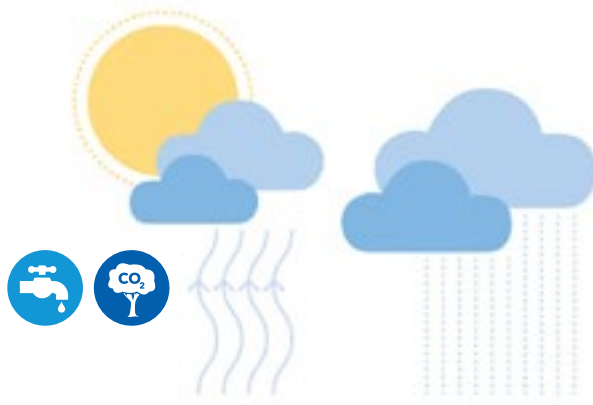
Climate refuge

- Critically important areas for species refuge under the changing climate.

# The ecosystems of the Great Dividing Range



- |   |   |  |
|---|---|--|
|  Fresh water                                   |  Climate regulation – moderation of extreme events |  Recreation and tourism           |
|  Food and agriculture                          |  Air quality                                       |  Mental and physical health       |
|  Water purification                            |  Carbon storage                                    |  Cultural heritage                |
|  Climate regulation – temperature and rainfall |  Pollination and seed dispersal                    |  Biodiversity – genetic diversity |
|   |   |  Climate refuge                   |



HIGHLANDS



RAINFORESTS



MANGROVE FORESTS



URBAN FORESTS



SWAMP AREAS



# The Range today

Despite its vital role supporting life in Australia, over the past two centuries, nearly 70 per cent of the Range has been degraded, fragmented and polluted from mining, logging and land clearing. Threats to the Range include:

## Land clearing and deforestation

- **Removal of native vegetation** including forests, woodlands and wetlands for agricultural, industrial, mining and urban development;
  - **Destruction of intact ecosystems and habitat** for native species – once land is cleared, weeds and invasive animals spread and natural fire patterns change; and
  - **Pollution** from the loss of carbon-dense vegetation through land clearing and deforestation, contributing to global warming and leading to erosion, soil degradation and salinity, which in turn reduces water quality.
- › Look at forest cleared since 1972 on the map opposite.

## Mining

- **Mining operations** along the Range, permanently altering natural environments that support life in Australia and contaminating air, soil and water with toxins and heavy metals;
  - **Fracking** for unconventional gas like coal seam, tight and shale gas posing significant threat of contamination to groundwater;
  - **Mega coal mines** in the Galilee Basin that risk draining and polluting groundwater from the Great Artesian Basin, inland Australia's only reliable water source, and significantly contribute to global warming; and
  - **Exploration licences, production permits and mining operations**, currently covering around 15 per cent of eastern Australia (over 200,000 square kilometres).
- › Look at current mining and petroleum leases on the map opposite.

## Large scale agriculture

- Widespread **land clearing** for agriculture;
- **Damming and diverting rivers** for irrigation;
- **Grazing pressure** from introduced livestock and feral species, especially devastating to sensitive native grasslands and woodlands along the Range;

- **Sedimentation, nutrient and pesticide runoff** from tropical agriculture, especially impacting the Great Barrier Reef; and
- Competition between environmental flows and **agricultural demand** for water, putting pressure on the Range's vital water resources.

› Look at the current National Reserve System (protected areas) on the map opposite.

## Global warming





- **Rising temperatures**, reduced snow in alpine areas, variable rainfall and increasing extreme weather events, caused by burning fossil fuels and increased emissions from land clearing and deforestation;
- **Shrinking alpine and montane areas** due to global warming, reducing the habitat for vulnerable mountain top-dwelling species like the Mountain Pygmy-possum;
- **Reduced rainfall** drying out tropical and subtropical rainforests, making them more prone to destructive fires;
- **Rising sea levels** and salt intrusion, affecting coastal wetlands; and
- **Drought**, impacting inland ecosystems dependent on freshwater and groundwater.

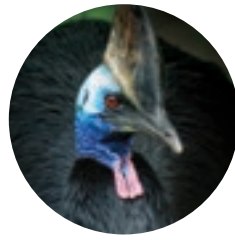
› The Great Dividing Range provides a critical climate refuge for wildlife.

## Weed and feral species invasion

- **Invasive species**, leading to competition for resources and damage to ecosystems from introduced animals like rabbits, agricultural livestock and cane toads, as well as invasive weed species like blackberry and lantana; and
- **Predation** by cats and foxes, contributing to several extinctions and continuing to severely impact birds and small mammals.

› Look at the proximity of our cities to the homes of animals.

-  The Greater Dividing Range area
-  Petroleum and Mining Leases
-  Forest cleared since 1972
-  National Reserve System



**SOUTHERN CASSOWARY**  
**ENDANGERED**



**SOUTHERN BLACK-THROATED FINCH**  
**ENDANGERED**



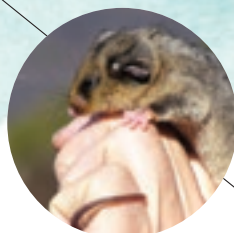
**KOALA**  
**VULNERABLE (QLD, NSW, ACT)**



**GREY-HEADED FLYING FOX**  
**VULNERABLE**



**GIANT DRAGONFLY**  
**ENDANGERED**



**MOUNTAIN PYGMY-POSSUM**  
**ENDANGERED**



**LEADBEATER'S POSSUM**  
**CRITICALLY ENDANGERED**



# Wildlife under pressure

The Range is rich in biodiversity and provides critical habitat for over 70 per cent of our threatened species. It also offers an essential climate refuge as wildlife adapts to warming temperatures. But global warming, mining, logging and land-clearing is destroying the habitat of our precious wildlife and pushing threatened species closer to extinction.



**CRITICALLY ENDANGERED**

## LEADBEATER'S POSSUM

This tiny forest-dweller is nearing extinction yet logging to make office paper still takes place in its last remaining habitat – the carbon-dense forests and water catchments of Victoria's Central Highlands. We don't need more office paper made from native forests. But we do need clean air and water.



**ENDANGERED**

## SOUTHERN BLACK-THROATED FINCH

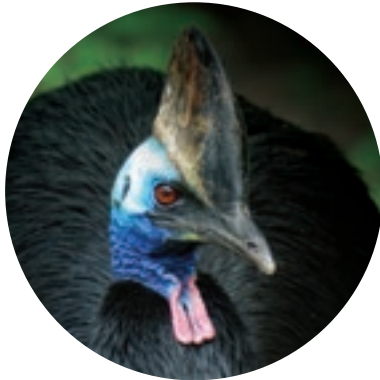
This tiny bird is threatened by a series of mega coal mines in its last remaining stronghold, the Galilee Basin. If we don't protect the Galilee from coal mining, it won't just be the finch's future at risk. It will be ours too.



**ENDANGERED**

## GIANT DRAGONFLY

This dazzling creature is part of an endangered ecological community in Sydney's water catchments. Coal mining underneath the catchments could spell disaster for the future of the Giant Dragonfly and our precious water resources.



**ENDANGERED**

## SOUTHERN CASSOWARY

A keystone species for the tropical rainforests of Far North Queensland, this magnificent prehistoric bird is nearing extinction. If we don't protect the Southern Cassowary from reckless developments, the future of the Wet Tropics is at risk.



**ENDANGERED**

## MOUNTAIN PYGMY-POSSUM

So few of these tiny creatures are left and global warming is destroying more and more of its habitat. It isn't just the Mountain Pygmy-possum that will feel the impacts of global warming. We too will suffer from increasing temperatures and more extreme weather events.



**VULNERABLE (QLD, NSW, ACT)**

## KOALA

The iconic and much loved koala is now listed as vulnerable in three states. If we don't stop bulldozing its home to build ours, our grandchildren may never get the chance to see a koala in the wild.



**VULNERABLE**

## GREY-HEADED FLYING FOX

This furry creature is Australia's only endemic fruit bat and plays a vital role in pollinating both commercial crops and native forests. If the flying-fox disappeared, it could have a huge impact on crop diversity and food supply.



## Case study 1



# The Wet Tropics



Liz Gallie

Artist and cassowary conservationist

I would like to be part of creating a future where our governments give equal consideration to the environment and the economy and stop seeing them as mutually exclusive. Then a sustainable tourism industry can support the future of the Wet Tropics, the community and our magnificent cassowaries.

*At Mission Beach, the Walter Hill mountains run down from the Great Dividing Range to the coast, creating the longest and widest rainforest corridor in Australia. For such a small area, its natural values are extraordinarily diverse – something I'm reminded of every day.*

*It's a privilege to live in a place recognised for its global importance. I am inspired by the efforts of the people responsible for the World Heritage listings of the Wet Tropics and the Great Barrier Reef.*

*There is always the thrill of seeing cassowaries on my small rainforest block adjoining a council reserve. I spend a lot of time observing and documenting these magnificent prehistoric birds.*

*I started a group called Mission Beach Cassowaries that involves the whole community in sharing information to identify, track and record cassowary sightings. And I use whatever creative means I can to strengthen the protection of Mission Beach and the cassowary.*

*Everyone can make a difference in their own local community. It doesn't take much to speak up and the more we do on a local level, the more state and federal governments are encouraged to listen.*

- › The Wet Tropics World Heritage Area is listed for its unparalleled, living record of plant and animal evolution and its unique biodiversity. The area has Australia’s greatest diversity of animals and plants within a tiny area (just 0.26 per cent of the entire continent).
- › The mountains and forests of the Wet Tropics play a critical role in regulating climate by absorbing and creating rainfall and exchanging atmospheric gases.
- › The coastal wetlands and mangroves of the Wet Tropics act as a giant filter, which helps protect the Great Barrier Reef from agricultural sediment and runoff.
- › The Southern Cassowary is critical to the biodiversity of the Wet Tropics. It disperses seeds across the Wet Tropics, regenerating this globally important ecosystem.
- › About 300,000 people live in or within 50 kilometres of the Wet Tropics World Heritage Area. The area has five million visitors per year and is of enormous significance as a living cultural landscape for local Indigenous people.

### Threats

- Habitat loss, fragmentation and degradation from land clearing, urban and commercial developments, road building and selective logging. The Southern Cassowary has already lost more than 80 per cent of its best lowland tropical rainforest habitat and what remains is highly fragmented;
- Car strikes and dog attacks are an ongoing and increasing threat to the Southern Cassowary;
- Global warming is exacerbating extreme weather events, such as cyclones and drought, which are catastrophic for the Wet Tropics and the Southern Cassowary; and
- Invasive species like feral deer compete with native species for resources and lower water quality of hydrological systems. Yellow crazy ants are also a major threat to the Wet Tropics.

### Failure of environmental laws

Despite the Southern Cassowary’s protection under national, state and local environmental law, habitat destruction from reckless developments, dog attacks and car strikes continue. The federal government has developed a recovery plan to protect the species from extinction but there is no legal requirement or enough resources to effectively implement the plan. The World Heritage values of the Wet Tropics are under significant threat.

### Solutions

- Close loopholes in all levels of government legislation that allow remaining cassowary habitat to be cleared and fragmented;
- Protect, connect and restore the remaining Southern Cassowary habitat across public and private land. This includes buying back privately owned key cassowary habitat and corridor blocks that are approved for, or threatened by, development and planting rainforest corridors to improve habitat connectivity;
- Implement traffic calming at areas known as cassowary crossing zones;
- Introduce and enforce effective dog laws in cassowary habitat;
- Fund and enforce the implementation of the Southern Cassowary recovery plan;
- Better protect World Heritage Areas at the national level; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.





## Case study 2

# The Galilee Basin



**Stanley Tang**

*Ornithologist and zoologist, PhD candidate*

After fruitlessly scouring the harsh country of central Queensland for days in search of the endangered Southern Black-throated Finch, the moment I finally heard its familiar descending whistle was one of relief and thrill. The 400-strong flock of birds that filled the sparse trees took my breath away.

*Since I was a child, I've been passionate about birds. In 2009 I moved to Townsville to start my postgraduate studies at James Cook University and the Black-throated Finch became the focus of my PhD. My role is to gather the bird's vital genetic information to provide useful guidelines for its conservation.*

*Doing fieldwork, I was out in the bush five days a week, searching for the finch. It was the best part of my research – being out in the wild having close encounters with this beautiful and rare creature. I spent hours sitting next to a dam, waiting for the finches to come for a drink and a bath.*

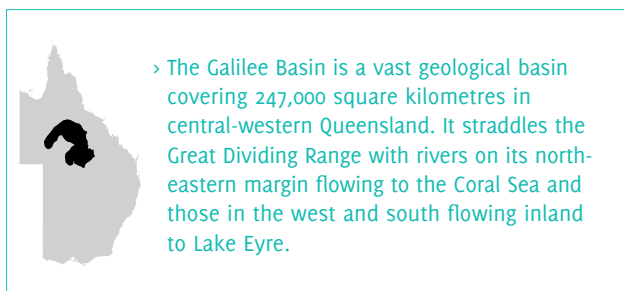
*I knew the birds lived in the Galilee Basin, but I had no idea they had such good numbers until I discovered a flock of about 400 birds in 2013. It was an amazing discovery as other flocks seen in the past few years have numbered only a few dozen, and it gives hope to the conservation outlook of the southern subspecies of the bird.*

*Sustainable decisions will not come from mining giants like Adani who operate from afar with little connection to the environment or the future of the area. I want to see a future Australia where the government empowers robust and diverse community-based economies to make significant decisions rather than selling land to foreign corporations. I hope, as these communities connect with the natural places that surround them, their decision-making will be underpinned by the love and understanding they share for their local environment.*

- › If it goes ahead, the Carmichael Coal Mine will be the largest coal mine in Australia and one of the biggest in the world. The mine is expected to produce 60 million tonnes of coal which, if burnt, will contribute 130 million tonnes of carbon each year to global warming.
- › The Galilee Basin sits on top of the Great Artesian Basin, one of the largest underground aquifers in the world and much of inland Australia's only reliable water source. The proposed mine would require a whopping 12 billion litres of water every year and could dry up ancient springs and drain sections of the basin.
- › A series of proposed mega coal mines, including the Carmichael Coal Mine, pose a huge threat to the Great Barrier Reef. The mines will contribute to global warming, pollute the ecosystems that connect to and support the Reef, and transport coal through the Reef's waters.
- › The Galilee Basin has the largest known population of the endangered Southern Black-throated Finch. The mine's proponent, Adani, acknowledges that the destruction of nearly 10,000 hectares of habitat will significantly impact the finch.

## Threats

- Habitat loss, degradation and fragmentation from land clearing and intensive grazing, and pressure on grasslands and riverside vegetation by livestock and rabbits;
- Global warming is exacerbating extreme weather events such as droughts, causing a shortage of grass and water in the region; and
- Proposed mega coal mines threaten to significantly destroy wildlife habitat, grossly contribute to global warming and potentially cause irreversible damage to the Great Artesian Basin.



## Failure of environmental law

Although the Southern Black-throated Finch is protected under national environmental law, the federal government approved Adani's giant Carmichael Coal Mine in the Galilee Basin. Attempts to offset the damage by protecting habitat in adjoining properties are woefully inadequate and the project could push the finch to extinction. Again, the federal government has developed a recovery plan but there is no legal requirement to implement it and it does not guarantee the protection of critical habitat. Laws that cut pollution and support clean energy have been stripped back, while protection of vital water resources – particularly the groundwater – is inadequate.

## Solutions

- No new coal proposals or developments, including the Carmichael Coal Mine, should proceed in the Galilee Basin.
- Fund and implement a recovery plan that will increase the size, quality and connectivity of finch habitat through protection and restoration;
- Strengthen environmental laws so that mega mines cannot threaten or harm vital water resources; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.



## Case study 3

# The Range and our cities

## Australia's big cities

The major cities of eastern Australia are home to over 11 million people. As our society is increasingly urbanised, we are becoming disconnected from the ecosystems that underpin our lives. Yet the bustling cities of Melbourne, Sydney, Canberra and Brisbane are just as dependent on the Range as our threatened birds, mammals and frogs.

As well as recreation and leisure, natural spaces in cities provide essential ecosystem services such as shade, cooling temperatures, treating wastewater, increasing air quality and mitigating the impacts of extreme weather events like heatwaves.

During heatwaves, big cities are heavily impacted. The Victorian heatwave of January 2009 is thought to have caused 374 additional fatalities alone.

In a year, a single tree is estimated to cool as much as 10 air conditioners running continuously, absorb 3400 litres of stormwater and filter 27 kilograms of pollutants from the air. As an example, Brisbane's urban forests remove about 10 per cent of the city's carbon pollution and cool the environment by up to 5 degrees by providing shade.

Urban forests also provide vital habitat for wildlife including possums, owls and reptiles. The Grey-headed Flying-fox flocks to our cities because much of its original habitat has been destroyed and the fruit trees of our urban forests are an ideal food source.

Other species like Koalas, particularly around Brisbane and south-east Queensland, have long lived in areas where we now want to live. As our cities become larger, we are bulldozing koala habitat to build our homes.

The liveability of our cities depends on a well-maintained and healthy natural urban ecosystem, working in synergy with the ecosystems of the Range in order to thrive.



## The Koala

- › The United States listed koalas as a threatened foreign species under their Endangered Species Act a decade before the Australian Government declared them vulnerable under national environmental law.
- › Koala numbers have declined by more than 40 per cent across Qld and NSW since 1990. The koala is listed as vulnerable in Qld, NSW and the ACT. Over 80 per cent of the koala's original habitat is already lost, and 80 per cent of what is left is privately owned, making conservation more difficult.

### Threats

- Habitat loss and fragmentation from land clearing and logging, particularly for urban expansion, leading to vegetation loss and an increased risk of vehicle strike and predation by dogs; and
- Global warming is exacerbating droughts, forcing koalas to descend from trees in search of water and habitat, exposing them to predators and traffic. The International Union for Conservation of Nature (IUCN) has declared the koala as one of the world's most vulnerable species to global warming.

### Failure of environmental laws

- Reckless development continues to be approved in koalas habitat. The failure to address global warming poses a long-term threat to the species, and no national recovery plan has been developed.

### Solutions

- Protect and connect critical koala habitat where it is vulnerable from urban development, logging and land clearing. Create the Great Koala National Park across northern NSW and the Great Southern Koala Forest to protect vital habitat in Southern NSW; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.

## The Grey-headed Flying-fox

- › The species is Australia's only endemic fruit bat and one of the world's largest, with a wingspan up to one metre.
- › The Grey-headed Flying-fox plays a critical role in pollination and seed dispersal for the ecosystems of eastern Australia.

### Threats

- Habitat loss from urban development, land clearing and deforestation has made native food and nesting habitat scarce;
- Global warming is causing extreme heat events, mass die-offs, and native food scarcity; and
- The species is also susceptible to entanglement in barbed wire fences and fruit tree netting, electrocution from power lines and unregulated shooting.

### Failure of environmental laws

Despite the protection of national environmental laws, the previous Queensland government reversed a ban on farmers shooting flying foxes. No recovery plan has been formally adopted, while failure to secure effective climate policy increases extreme heat events that cause mass deaths of Grey-headed Flying foxes.

### Solutions

- Identify and fully protect critical habitat;
- Develop, fund and implement a national recovery plan;
- Develop non-lethal methods to manage problem interactions between people and the species; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.



## Case study 4



# Sydney's water catchments



**Peter Ritchie**

*Father, public servant and local activist*

Australia is a great country. By world standards we enjoy a lot of benefits and a great standard of living that should continue into the future. I worry that inaction on climate change will leave Australia far more prone to droughts and severe weather and that our failure to act to preserve water catchments will mean we are tied to a much heavier reliance on energy to ensure water and food security.

*I live in Corrimal, a northern suburb of Wollongong. To me, the Great Dividing Range is the mountains and foothills that surround it, the Illawarra Escarpment and the various plateaus that connect it to the rest of the Range. My kids and I love the escarpment. We go bushwalking and swim in creeks and rivers whenever we can.*

*The escarpment is a microcosm of what the Great Dividing Range provides for all of us. It captures and lifts moist air flowing from the ocean, causing it to condense and rain. It's Australia's big tin roof.*

*Our local water catchment, the upper Nepean, is threatened mainly by coal mining and coal seam gas development. Simply put, money talks too loudly in all areas of development. There is too much emphasis on growth without thought of longer term issues or impacts.*

*My family has a long involvement with mining. My great-great-grandfather was secretary of the NSW Miners Federation. I live in a coal mining community and my friends and neighbours work in the industry.*

*I became involved with local activist groups raising local issues, and grew concerned about the greater issues as a result. My connection to the land and knowledge of the threats it faces have made me take stock and stand up for what is most important: a healthy future for our children and grandchildren.*

*My great-great-grandfather went on to become a real estate agent. Just as my family moved on from mining into other fields, so too does my city, my state and my country need to start looking for new opportunities to take us into the future.*

- › Sydney’s water catchments in the Range provide 1.4 billion litres of drinking water each day for 4.5 million people in Sydney, the Illawarra, Southern Highlands, Goulburn and Shoalhaven regions as well as vital water resources for agriculture, tourism and fishing, and recreation.
- › Underground longwall coal mining involves subsurface excavation and removal of long panels of coal – a practice that can cause immense environmental impacts. As of 2012, nearly a quarter of the Sydney Catchment Special Areas had been undermined. By 2030, more than 90 per cent of the Special Areas will have been exposed to longwall mining.
- › The Giant Dragonfly is part of the endangered ecological community of the Temperate Highland Peat Swamps in Sydney’s water catchment area. This threatened community plays a key role in water filtration and flow regulation.
- › Longwall coal mining in Sydney’s water catchments has proven devastating before, when Centennial Coal’s Springvale Mine undermined the East Wolgan Swamp on the Newnes Plateau. The cracking of underlying layers led to the loss of surface water, drying the soil and permanently destroying the swamp.

## Threats

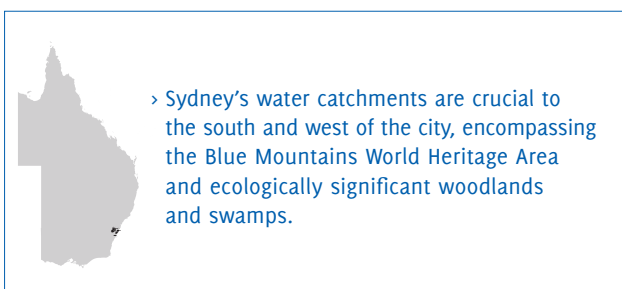
- Habitat loss from urban development and infrastructure expansion is putting huge stress on the swamps. This in turn will greatly impact the provision and regulation of vital ecosystem services – such as flow regulation and water filtration;
- Mining, especially underground longwall coal mining in and around Sydney Catchment Special Areas, is greatly impacting the region. Changes to water flows, fractured sandstone beds and cracked underlying bedrock are causing the swamps to dry out, threatening the integrity of the water supply and increasing weed invasion and fire risk, and could cause the ecological community to collapse. In addition, mineral and petroleum leases still cover much of Sydney’s water catchments. Fracking for coal seam gas presents serious water flow and contamination threats to Temperate Highland Peat Swamps communities;
- Global warming is a major threat to Sydney’s water catchments. As temperatures rise, catchment areas are subject to more variable rainfall and drought, stronger winds and storms, and a greater frequency of extreme weather events; and
- Invasive species such as cattle, horses, rabbits and pigs are damaging the swamps.

## Failure of environmental laws

Despite the protected status of Sydney’s water catchments and the threatened ecological community of the Temperate Highland Peat Swamps, governments continue to approve activities like longwall coal mining. Although they include conditions that theoretically minimise damage to ecosystems like delicate swamps and the threatened species that live in them, these conditions are often grossly inadequate.

## Solutions

- Ban coal and gas mining where highland swamps occur and throughout Sydney’s water catchments;
- Include the Newnes Plateau in the Greater Blue Mountains World Heritage Area;
- Develop, fund and implement a national recovery plan for the endangered ecological community of the Temperate Highland Peat Swamps;
- Control feral predators; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.





## Case study 5

# The Alps



**Kathryn McCallum**

*Bushwalker and environmental advocate*

Returning from the mountains, I questioned my work as a neutral journalist. I decided to start a community group to campaign on the pollution threatening the places I love. For a decade since, I've worked to bring people who care together to speak out for the wonderful natural world we all depend on.

*For forty-five days, I walked alone along the Australian Alps Walking Track, traversing the highest peaks of three states. Our Alps are not high altitude, but the 700 kilometre track climbs up and down the equivalent of four Mount Everests.*

*For city-dwellers like me, knowing the Range is there is a source of peace, especially the high country. I often return to the trail in my dreams.*

*As a silent lone walker, I met many beautiful creatures. Lizards who seemed unafraid of me. A coiled black snake that catapulted adrenalin through me. Four Wedge-tailed Eagles circling the sun together, so high they disappeared like a dream into the great, blue sky.*

*I didn't manage to spot a Mountain Pygmy-possum although I hiked by their last remaining habitats. Alone in my tent, I thought of them searching for rocky terrain at higher altitudes as global warming heats the lower mountains.*

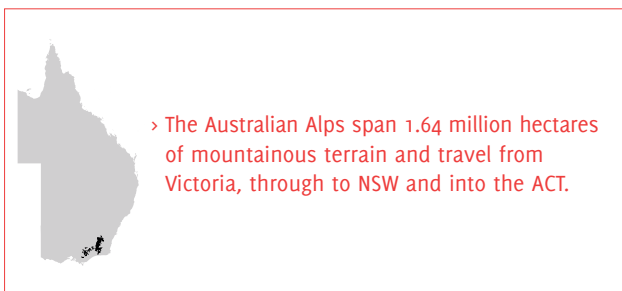
*As I hiked through a howling lightning storm, the hair on my arms stood on end. I camped my last night in a clearing, anxiously checking the flames on a nearby peak, emergency beacon ready by my side. In the morning I walked safely out of the mountains into Canberra, my senses refreshed by the beauty of the world.*

*I later learned the lightning ignited 185 bushfires that day. Several of the fires combined into a drought-fuelled inferno that raged for weeks and burned up much of the country I had crossed. I felt its loss deeply.*

- > The Alps supply almost 30 per cent of flows into Australia’s food bowl, the Murray-Darling Basin, and freshwater to 94 per cent of Australians living on the east coast.
- > Alpine wetlands and peatlands protect vital inland water stores by maintaining the local water tables, controlling the mountain water flows and contributing to water quality.
- > Mountain Ash forests in the lower altitudes are some of the most carbon dense in the world. Sub-alpine and alpine grasslands are also globally important carbon stores.
- > The only three colonies of the Mountain Pygmy-possum known to exist are all found within the Australian Alps.
- > Tourism and recreation in the Alps are estimated to bring an estimated \$40 billion per year to the Australian economy.

### Threats

- Global warming is the biggest threat to the Alps and the wildlife that inhabit it, particularly the species that rely on it as a climate refuge. Increasing temperatures are reducing snow depth and hibernation periods for the Mountain Pygmy-possum. Bushfires, made more frequent by global warming are devastating these alpine ecosystems;
- Habitat destruction and fragmentation from commercial developments; and
- Invasive species like feral cats and red foxes prey on the Mountain Pygmy-possum. Cattle, horses, pigs, goats, deer, foxes and rabbits are decimating the fragile alpine ecosystems.



### Failure of environmental law

Recovery plans have proven inadequate to stop habitat loss and the decline of the Mountain Pygmy-possum. For example, planning laws for alpine resorts in Victoria require decision-makers to consider species conservation but do not necessarily prohibit the destruction of its habitat. Failure to implement laws that reduce pollution and address global warming will see the progressive elimination of habitat for the Mountain Pygmy-possum and an increased frequency and severity of dangerous wildfire.

### Solutions

- Protect and connect critical habitat for the Mountain Pygmy-possum including building more under-road tunnels to connect male and female populations;
- Amend planning laws to prioritise protecting possum habitat;
- Control feral predators; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.



## Case study 6

# Victoria's central highlands



**Deanne Eccles**

*Local resident and member of Knitting Nannas of Toolangi*

Our country – our lands, our water, our rocks, our beaches, our animals, our plants, our coloured skies – shapes our cultural identity. I am not the Sydney harbour bridge or the Telstra tower. But I am the Mountain Ash tree. I am the water I drink. I am the air I breathe. Destroy it, and you destroy us. I hope we can recognise that before it's too late.

*I live in Toolangi in the Mountain Ash forests at the southernmost region of the Great Dividing Range. The air, water, sounds, movement and seasonal shifts are so incredibly beautiful. My husband Toby and I moved here so our children could experience its beauty growing up.*

*Our kids are connected to the forest in so many ways. They breathe it, they climb it, they smell it, and are excited by all it creates. They are highly affected when they see the forest pulled down and ripped apart.*

*These forests are the water catchments for Melbourne and all of the communities surrounding it. The water they harvest feeds the Goulburn and Yarra Rivers. These trees are also the last remaining habitat of the critically endangered Leadbeater's Possum.*

*Logging is decimating the Leadbeater's habitat even though just this year it was reclassified as critically endangered. And for what? To make copy paper. The previous state government created new guidelines that claimed to protect the Leadbeaters but instead benefited VicForests. These laws should be based on science, not politics.*

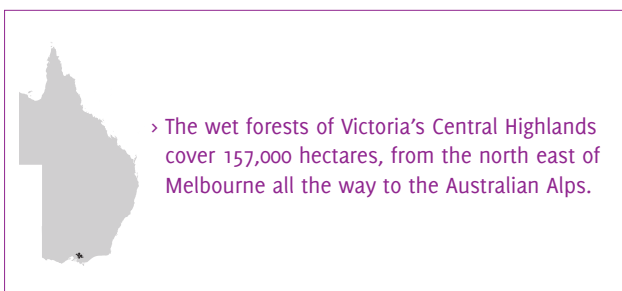
*Logging is making the forests more vulnerable to bushfires and I'm fearful of another Black Saturday in the Central Highlands. I experienced those bushfires and I don't want to go through it again.*

*Right now we need to protect our native forests. We need to negotiate ways to move this industry into plantation or expand opportunities for employment through education and retraining. What makes me sad is the assumption that people in the timber industry can't do anything else but work in that industry. These people are highly practical and industrious.*

- › The forests of the Central Highlands supply over 4 million people in Melbourne and surrounding areas with clean drinking water – 86.4 per cent of the city’s water supply.
- › Old growth Mountain Ash forests are some of the most carbon dense forests on Earth, storing more carbon in the forest soil, leaf matter, tree trunks, limbs and leaves than almost any other global ecosystem.
- › In Victoria’s Central Highlands, clear-fell logging continues. The logs are primarily turned into pulp to make copy paper – a product easily replaced with recycled paper or paper made from plantation timber.
- › In the Central Highlands of Victoria, a total of 48,334 hectares of forest was clear-fell logged between 1931 and 2011. This equates to an area half of Greater Metropolitan Melbourne.
- › In 2015, the Leadbeater’s Possum was classified as critically endangered. Despite this, logging still continues in the very habitat the species needs to recover and thrive.

### Threats

- Habitat loss, fragmentation and degradation from clear-fell logging and wildfire. Continued logging of re-growth forests before they can mature eliminates ability of new breeding hollows to develop in older trees that the Leadbeater’s Possum requires to survive. Logging also interferes with pollination, seed dispersal, wildlife migration and breeding and contributes to fire intensity and severity, further degrading habitat and water catchments; and
- Global warming is exacerbating extreme weather events causing more frequent and intense bushfires. The 2009 Victorian bushfires wiped out an estimated 45 per cent of the Leadbeater’s habitat. Another large bushfire could decimate the remaining population. Logging contributes to global warming by reducing forests that are vital carbon stores.



### Failure of environmental laws

Although protected under national and state environmental laws, the Leadbeater’s Possum’s limited habitat continues to be logged and possum populations continue to decline. Logging in key habitat areas continues under the Regional Forest Agreement, due to a loophole that effectively exempts native forest logging from federal environmental protection. Lack of legislative action to address global warming poses a long term threat to the species, as it raises the risk of increased frequency and severity of wildfires. And vital water catchments are not adequately protected.

### Solutions

- Protect and connect the Leadbeater’s Mountain Ash forest habitat, safeguard water catchments and carbon stores and develop sustainable tourism and recreation opportunities by creating the Great Forest National Park;
- Close the loophole in national environmental law that exempts native forest logging from federal environmental protection under Regional Forest Agreements; and
- Introduce laws to address global warming, cut pollution and transition Australia to a clean energy future.

# The big issue

Every mine dug for coal that pollutes our air, every tract of land cleared for reckless development, and every tree logged to make office paper we can live without – does not just affect the local environment.

A mega coal mine built in the Galilee Basin will lead to tonnes of pollution, heat the planet and affect life all over Australia. Seemingly small changes, such as the loss of a key pollinating species like the Grey-headed Flying-fox, can have huge impacts on biodiversity and food supply. A mining accident in our water catchments can pollute groundwater and river systems for generations to come. This cumulative impact is putting life in Australia at risk.

The continuing decline of the Range, illustrated by the case studies in this report, indicates we need to develop a smarter way of living and working with nature.

Imagine a future where healthy rivers keep our lifeblood flowing, thriving forests keep our air fresh, and clean energy powers our lives. Communities have a say. Ordinary heroes lead. Strong and fair laws keep the places we love safe from harm. And nature is valued by all Australians for its vital role in our wellbeing. A future where all political parties agree that protecting our air, water, forests and oceans is a national priority.

Together, we can turn this future into a reality.

## The solutions

### 1. A national plan to protect the places and species we love and depend on

The natural systems that support life in Australia are too big and too complex to manage in small and isolated pieces. We must work with nature at the scale at which it operates, and that requires national leadership. The Australian Government must:

- Recognise the Range as a landscape that is critical to life in Australia;
- Take threatened species off the fast-track to extinction by putting in place and resourcing recovery plans that set clear targets and habitat protections using the best available science; and
- Apply a 'connectivity conservation' approach. Coordinate and align the efforts of communities, landholders and government agencies to manage the Range as a whole, so protected areas are buffered and connected by appropriate land management.

### 2. Permanent protection for the areas vital to life

Given the heavy toll of development and land clearing to date, the remaining areas of intact natural habitat are vital to the survival of life along the Range. Many of the most important areas remain unprotected from potentially devastating threats. The Australian Government must:

- Expand Australia's National Reserve System by 50 million hectares across the whole continent by 2020; and
- Work with state governments, Traditional Owners and landholders to protect important climate refuge, critical habitat and water catchments in the Range. Analysis conducted for ACF shows we must protect approximately 10 million hectares by 2020, beginning with:
  - The Great Forest National Park in Victoria;
  - The Regent Honeyeater National Park in NSW's Hunter Valley;
  - Proposed Koala National Parks in Southern and Northern NSW;
  - Extensions to the Blue Mountains World Heritage Area outside Sydney; and
  - Adding missing links to the Gondwana Rainforests World Heritage Area on the border of NSW and QLD.

### 3. A new generation of environmental laws that properly safeguard life in Australia

If coal mining is allowed in our water catchments, if logging can wipe out the habitat of our critically endangered wildlife, if the values of our World Heritage Areas aren't safe from reckless developments, it's clear the laws and systems we have in place to sustain life are not working. The Australian Government must implement a new nature protection framework that:

- Guarantees the right of present and future generations to clean water, clean air and flourishing biodiversity;
- Plans for the long-term, accounting for cumulative impacts of development before they occur, not after;
- Is administered by an independent national environment authority we can trust to make decisions in our long term interest, free from political interference and partisan decision-making; and
- Guarantees communities have a say in environmental decisions, a right to say no to mining on their land, and access to the courts and publicly funded legal representation to review government decisions and enforce the law when governments fail to do so.

### 4. Invest in the protection of nature rather than funding its destruction

Our government spends billions of dollars subsidising industries that harm life and a comparatively small amount of less than \$1 billion supporting the natural systems that sustain life. It's no wonder we were recently ranked among the bottom 40 countries for funding nature conservation, alongside developing countries like Sri Lanka and Sudan. The Australian Government must:

- Create a threatened species recovery fund that invests directly in recovery actions for Australia's 1800 threatened species and ecological communities;
- Fund the growth of the National Reserve System through investing in new national parks and reserves and supporting Indigenous Protected Areas and private land conservation initiatives with public funding;
- Create a national fund to support the better management of national parks. The federal government funds our schools and hospitals, yet leaves our national parks to suffer with paltry state government funding; and
- Support voluntary community conservation initiatives with secure funding.

### 5. Cut pollution and transition to clean energy

Pollution from burning fossil fuels is warming the planet, causing great damage to life on Earth. Companies that own coal-fired power stations and international coal mining giants are responsible for the majority of Australia's pollution, yet the government is currently doing very little to curb the pollution they create. The Australian Government currently spends just \$850 million per year on nature conservation yet spends more than \$7 billion per year on fossil fuel subsidies. Instead of backing the big polluters, our government must:

- Cut pollution to zero and facilitate a transition to 100 percent clean renewable energy by 2050. For Australia to fully enjoy the benefits of cutting pollution, clean energy and new investment and job opportunities, the government must end fossil fuel subsidies and develop a comprehensive plan for the decarbonisation of the energy sector; and
- Accelerate an energy transformation in Australia, shifting from fossil fuels for domestic energy and exports to renewable energy and energy efficiency. This should include a clear plan for the Australian resources sector that includes a phase-out of fossil fuel exports, consistent with a global goal of decarbonisation of the energy sector by 2050.

# Protect, restore, connect your Range

Together, we can make sure our Range thrives for generations to come. Here's what the ACF community is doing and how you can get involved to protect life along the Great Dividing Range.

## Restore life to your Range

You can restore life to natural places whether you own a farm or rent a city home. Tree planting and other conservation projects in your backyard, or in your local community, can improve habitat connectivity and ecological resilience. Make your garden or local area your own home-grown national park.

## Start a nature conversation

The ACF community along the Range is sharing conversations about the world we want to live in. You can access toolkits or training to help you host a conversation. It's an opportunity to share your motivations, concerns and ideas for action with like-minded people!

## Co-create a vision for nature to thrive

ACF is part of the Places You Love alliance – Australia's largest alliance of environmental organisations, uniting 1.5 million Australians and 42 conservation groups. We've engaged a panel of environmental law experts, who will be listening hard to experts and everyday Australians alike to create a new generation of laws to protect life.

## Join a local group

Hundreds of community groups along the Range care for their local place, and all the living things that are part of it. Local action groups, Landcare groups, and community action networks like the Great Eastern Ranges Initiative collaborate and reweave the web of life together. You might be part of one already.

## Get outside and play in the mountains

Gather your friends, family or community and play outside on your Range. Take a hike or have a picnic. Go cloudspotting, snorkelling or stargazing. Spread your toes in the forest, the mountains or your local park. Look out for ACF's Play Outside Day events.

## Raise your voice

Like Liz, Stanley, Kathryn, Peter, and Deanne, who shared their stories, you can speak out for life along the Range. Talk to decision makers, meet with members of parliament, engage local media and spread the word in your community. Our democracy needs you.

**Find out more about how you can connect with other communities, get involved with life along the Range, and stay updated as the campaign unfolds:**

**[www.action.org.au/the-range](http://www.action.org.au/the-range)**







Local activist, Toolangi State Forest Photo: Ali Sanderson

## ACKNOWLEDGMENTS

We acknowledge the Traditional Owners of this country and recognise their continuing connection to land, waters and community. We pay respect to their elders both past and present and acknowledge the pivotal role that Aboriginal and Torres Strait Islander people continue to play in caring for country and wildlife across Australia.

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### Australian Conservation Foundation

The Australian Conservation Foundation (ACF) stands for ecological sustainability. We get to the heart of environmental problems by tackling the underlying social and economic causes. We work across society to influence urgent, transformative action to deliver lasting change on the scale required to secure a sustainable environment. We bring people together to champion the true value of our environment and its critical role in sustaining all other systems and in achieving human wellbeing.

### About this report

References and research reports that this report was based on can be found online: [www.acfonline.org.au/range-report-references](http://www.acfonline.org.au/range-report-references)

ACF reports are available online at [www.acfonline.org.au/policy/publications](http://www.acfonline.org.au/policy/publications).

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**AUSTRALIAN  
CONSERVATION  
FOUNDATION**

Australian Conservation Foundation  
Level One, 60 Leicester Street  
Carlton VIC 3053

T (03) 9345 1111  
E [acf@acfonline.org.au](mailto:acf@acfonline.org.au)  
[www.acfonline.org.au](http://www.acfonline.org.au)

 Australian Conservation Foundation  
 @AusConservation