

Stay in inner-city Melbourne  
from A\$127 per night\*  
PLUS FREE LIMO PICK-UP\*



## TARGET IRAQ

## MARKETWRAP

- Equities
- Money
- IPOs
- Commodities

## COMPANIES

## FINANCIAL SERVICES

## PROPERTY

## I.T.

## AUSTRALIA

## ASIA

## WORLD

## WORLD BUSINESS

## COMMENT &amp; OPINION

## SMART MONEY

## WEEKDAY SECTIONS

- Enterprise
- Legal affairs
- Marketing

## WEEKEND

## SPECIAL REPORTS

## SPORT

## MULTIMEDIA

## MARKET TOOLS

- Quotes & news
- Portfolios
- Portfolio summary
- Watchlists
- Australian indices
- Market movers
- Warrants
- Derivatives
- Brokers' tips 
- Share tables
- IPO listings

## ARCHIVE

## COMPANIES A-Z

## RESEARCH

## SITE SERVICES

## AFR SHOP

## AFR EVENTS

## ABOUT

## SITE MAP

[Quick Search](#) | [Advanced Search](#) | [Company Search](#) | [Browse Archives](#)

## Navigating an edgy eden

Author: By Peter Huck

Date: 28/02/2003

Words: 2657

Publication: Australian Financial Review

Section: Magazine

Page: 45

How much would it cost to save the planet? \$30 billion **and** a greater commitment to sharing our habitat, experts say. Wildlife corridors are just a first step

The warnings, plastered on the sign at a lonely trailhead in the Santa Monica Mountains north of Los Angeles, were familiar: hantavirus, plague (both spread by rodents), Lyme disease (spread by deer ticks), poison ivy, **and** rattlesnakes. One warning, however, did impart a certain frisson. "You are in mountain lion habitat," it cautioned. Should you encounter the world's largest purring cat (as opposed to African lions that roar) don't run, crouch, or approach. Hold your ground, **and** if it comes near, stand tall, shout, **and** wave your arms.

A confrontation seemed unlikely. Mountain lions (also called pumas, cougars **and** panthers) are shy, solitary creatures, **and** mostly nocturnal. Indians call them "ghost cats". Attacks on people are rare: a woman was killed in California in 1994, **and** a child mauled in 1986. Lions prefer deer. Other than a twilight encounter with a treed lion on a friend's remote New Mexico property - **an** incident that had us quickly hauling his dogs indoors - I have never seen *Felis concolor* in the wild.

This day would be no exception. I had come to visit Seth Riley **and** Eric York, Park Service biologists who capture lions, fitting them with collars equipped with Very High Frequency **and** Global Positioning Satellite transmitters. Anecdotal sightings of lions in the Santa Monicas were part of LA lore, the local equivalent of Big Foot. That changed last year after remote cameras took two snaps of a male lion. York **and** Riley began laying wire foot snares on trails. In July they bagged a 65 kilogram male, christened P1. After tranquillising P1 with a syringe fastened to a pole, they took a blood sample - to check DNA - **and** fitted him with a collar. Like the collar fitted to P2, a 38-kilogram lioness captured in October, it allows the predator's movements to be tracked.

Lions need a lot of space. Even the 900 square kilometre Santa Monicas - a chequerboard of wilderness gnawed by fingers of development, cut by roads, **and** visited by 35 million people each year - is too small for them. York pulls out a map covered with dots - coloured GPS fixes for P1 **and** P2. P1 has a range of 1,000 square km. He has crossed Topanga Canyon **and** skirted Pacific Palisades, checking the boundaries. P2 has a smaller range of about 207 square km. Both seek prey. But P1 or **any** other male has to find females with which to mate.

Perhaps half a dozen lions live in the Santa Monicas. Others roam the national forests, state parks **and** other wild areas that are interwoven with a sprawling megalopolis of 20 million people. It is a unique relationship; **an edgy Eden** sometimes just minutes away from the world of 100-cable channels **and** air-conditioning. A lion was shot for killing two goats whilst I was writing this story. Encounters with wild animals - the rattlesnake on your walking trail, the coyote caught mauling a deer in the Beverly Hills swimming pool, the bears that stray into backyards **and** onto prime-time TV news, the raccoons pillaging your dustbin - are part of the Southland's Zeitgeist. But for how long?

## RELATED SITES

- [AFR BOSS](#)
- [AFR Mag awards](#)
- [Executive jobs](#)
- [AFR Photos](#)

- [BOSS Asia](#)
- [BRW](#)
- [CFO](#)
- [MIS](#)
- [MoneyManager](#)
- [Personal Investor](#)
- [Shares](#)
- [Tradingroom](#)
- [Fairfax Research](#)

One of the world's richest biodiversities, Southern California is also one of 25 international "hotspots", with hundreds of species imperilled by a tidal wave of development. If lions remain confined to isolated reserves, unable to spread their genes, they risk being driven to extinction through inbreeding **and** disease.

The loss of the Santa Monicas' top predator could have a catastrophic domino effect. Deer would proliferate, denuding plant cover. Smaller carnivores would increase, killing more birds. Fewer birds would mean more pests, less seed dispersal, **and** fewer plants. Without these cats - totems of wildness - something mysterious **and** primal would have vanished from the landscape. The world would be a meaner place.

The solution is to create wildlife corridors, rivers of life between wild areas that allow lions - **and** **any** other species (even plant seeds can be carried on fur) - to connect to a larger gene pool. "You can see that P1 uses almost all of the mountains by himself," says Riley. He points to some wild areas north of the Ventura **and** Ronald Reagan freeways. "In the long run, to keep lions in this park, we've got to get past these roads to the Simi Hills **and** the Santa Susana Mountains. There's got to be corridors."

Environmentalists need deep pockets. The Wildlands Conservancy spent \$35 million of public **and** private funds in 2002 on 2,590 square km of desert. So far, \$20 million has secured a slender corridor from the Santa Monicas at Liberty Canyon. "Look at it like replacing a busted \$2,000 transmission in a \$15,000 car," says state park chief Rick Rayburn, who raised \$40 million for a linkage to protect a \$210 million reserve in the Chino Hills.

Californian environmentalists have identified more than 300 corridors within America's most populous state, which has the most endangered species outside of Hawaii. "Our project is to make sure species can move," explains the South Coast Wildlife Project's Kristeen Penrod. "In terms of specifics, down to the land parcel level, it's a first in many ways." The scheme involves detailed map research on barriers, landowners **and** potential corridors, even freeway culverts. Sixty-nine corridors exist in Southern California, 15 "of crucial biological value" to be saved at all costs. The aim is to acquire contiguous land parcels - through purchases or conservation easements, where development is limited - as quickly as possible.

In 1998, David Quammen wrote a very depressing essay for Harper's, in which he contemplated the likely effects of what scientists accept is our planet's sixth mass extinction - the first caused by humans in Earth's 3.5 billion-year history. He predicted humans would survive, just. "Nature wouldn't come to **an** end," he says, "but it will look very different."

Other forecasts are still more grim; man might go down the tubes too. Species are being wiped out before we identify them. Out of the almost 2 million species known to exist - from **an** estimated 8 to 100 million species that scientists suspect inhabit the planet - we are killing roughly 30,000 each year. More than forty-four per cent of plant species, **and** a third of all bird, animal, reptile **and** amphibians are jammed into just 1.4 per cent of the planet's land area, which accounts for 15 of the 25 hot spots. Edward Wilson, who examines this phenomenon in *The Future of Life* (Knopf, 2002), calls us "serial killers of the biosphere".

Of course, extinction isn't new. Species have been popping off since life began. But in the past, birth rates were marginally greater than extinctions. Biodiversity grew. Of particular interest to Homo sapiens is what happens if life becomes unsustainable. When it comes to biodiversity, no man is **an** island.

"The question of the century is: how best can we shift to a culture of permanence, both for ourselves **and** for the biosphere that sustains us?" writes Wilson. This moment needs to arrive very soon. The human population exceeded earth's sustainable capacity in 1978. Wilson, a conservation biologist at Harvard, notes that for everyone to enjoy current US consumption levels, using existing technologies, we would require four more planet earths.

Mankind is consuming the planet's resources 20 per cent faster than they can be replenished. While it takes 2.33 hectares to support one human, it takes twice this to support a European, **and** four times this to support **an** American. Add to this soaring population, pollution, **and** global warming (the wild card in the deck - no one knows the consequences of a predicted 2.5 to 10.4 degree F increase this century forecast, by the Intergovernmental Panel on Climate Change [IPCC]), **and** the future looks grim.

"It was easier to estimate how close we were to blowing up the world, than [now close] we are to destroying biodiversity," says Paul Ehrlich, professor of population studies at Stanford University's Centre for Conservation Biology. "The consequence of extinction may be apparent to everyone when it is too late."

Take agriculture. Around 250,000 plant species exist. At least 10,000 could provide food. Yet barely 100 are consumed. Most people avoid starvation by depending on just three species: wheat, maize **and** rice. Should this thin green line fail, where will we find gene stock if we've trashed the biosphere? The same is true of medicine, where drugs are hugely dependent on plant extracts.

Given the odds, creating wildlife corridors might seem the equivalent of jamming a finger into a collapsing dyke. In fact, it is part of a strategy that involves treating nature as something from which we are indivisible **and** have to sustain, not as a bounty

to be exploited. "Evolution," writes Michael Boulter in *Extinction: Evolution **and** the End of Man* (Columbia University Press, 2002), "is less to do with winning battles between species **and** individuals" - the Darwinian exploitation of natural resources - "**and** more to do with being able to live well together in the same environment." Adapt or die.

The corridors concept evolved from Wilson **and** Jared Diamond's "island biogeography" study in the 1960s. For islands, size matters. Larger ones close to mainlands had more biodiversity than small, remote islands. "The smaller the park, the bigger the drop," writes Wilson.

Suriname opened the first corridor in 1998. More recently the Wildlands Project has launched a vast conservation archipelago, joined by corridors, to preserve the biodiversity of pre-Columbian America. It will link tundra, deserts, plains, mountains, **and** rainforests in 25 reserves from Alaska to Colombia; "re-wild" areas by reintroducing grizzlies, lions **and** wolves to assist the ecological balance; **and** has designated a Mesoamerican Biological Corridor - home to 521 animal species **and** 24,000 plant species alone (about 8 per cent of the world's biodiversity) in Central America. Corridors are a growing phenomenon; Holland even has a "land bridge" in which trees grow on a freeway overpass.

But some scientists believe that preserving **and** sustaining wilderness, while critical to biodiversity survival, won't work on its own. In a century when pressure on habitats is acute, they think biodiversity stands a better chance when there is **an** economic incentive.

A larger vision incorporating wildlife corridors would also consider human needs. Take the Malpai Borderlands Group, **an** alliance of cowboy conservationists who hope to preserve their hard-scrabble way of life on 405,000 ha of high lonesome mountains among the US Southwest's remote "sky islands" - mountains that rise abruptly from the desert floor to host one of America's richest biodiversities - by eco-ranching, ending overgrazing, restoring native grasslands, **and** preserving wildlife. In 1996, a rancher took the first-ever photograph of a jaguar - considered extinct north of Mexico - in the US.

Jaguars feel at home in Costa Rica, where landowners are paid to save rainforest. The benefits of this policy are fourfold: carbon sequestration for climate stability, watershed protection for drinking supplies **and** hydro-electricity, biodiversity conservation, **and** scenic beauty.

"People get roughly \$50 per hectare each year," says Gretchen Daily, a Stanford biologist **and** co-author of *The New Economy of Nature* (Island Press, 2002), which examines eco-economic projects. "Using the land to feed cattle can bring \$25 to \$125 a year. But beef prices fluctuate **and** most people are in the \$25-\$50 range. Plus, the land becomes exhausted by continuous grazing."

The government scheme is funded by eco-tourism; by pharmaceutical companies which use biodiversity to find drug ingredients; by foreign nations that use "carbon sinks" to absorb greenhouse gases as part of the Kyoto Agreement on climate control; by a 15 per cent petrol tax; **and** by money from power companies which export hydro-electricity. "We're talking about life-support systems," says Daily, "looking at ecosystems as a type of capital."

The idea is to make conservation profitable. Thus, New York City spent \$1 billion on preserving **and** restoring forests in the Catskill Mountains, the city's natural watershed, after it was told in 1989 that its drinking water had failed to meet federal standards. They did this rather than spend \$6-\$8 billion on a filtration plant that would cost \$300 million a year in maintenance.

Corporations, which have the ear of policy-makers, must also be wooed. "We can't have a vision that says big companies need to go out of business," says Daily. By rebranding itself as **an** energy company embracing solar power, British Petroleum has gone "well beyond what the US would have to do if we ratified Kyoto - **and** made a profit".

This new game is key to the Millennium Ecosystem Assessment, **an** international project to gauge extinction rates **and** ecosystem health - the IPCC has done a similar job on climate change - that reports in 2004. "Our big message is that humans are part of ecosystems **and** that we can't be separated," explains Hal Mooney, the MEA's co-director. By looking at "trade-offs" - what we get from ecosystems **and** what we lose - the MEA will quantify the benefits of different ways of management. What would be the trade-off in the Murray-Darling Basin if 20 per cent of the land was replanted with native forests? How would that affect water quality? Productivity? Biodiversity?

How much would it cost to save the planet? Astoundingly little. In 1997, it was estimated that ecosystems provide \$33 trillion's worth of free services annually [The World Bank pegs global GNP at \$31.2 trillion]. Yet, only \$6 billion was spent to maintain ecosystems in 2000. Wilson suggests \$30 billion could preserve 70 per cent of the world's species.

Back at Liberty Canyon, raccoon tracks just yards north of the Ventura Freeway confirm the corridor is already a regular animal route. A lion would have to pad across a road, pass a small office block **and** several homes, hug **an** embankment, **and** slip under the freeway towards a grassy area frequented by mule deer - a strong enticement. Daunting, but not impossible. M6, a collared lion in Orange County, has negotiated the Riverside Freeway, plus two golf courses **and** a railway line, at least 22 times.

On December 14, P2 spent three hours on a knoll overlooking Liberty Canyon. Hopefully, she or P1 will soon take the plunge.