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ACT Legislative Assembly
Ecotourism Inquiry -

Australian Wildlife Protection Council (AWPC)

AWPC SUBMISSION

to

LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
Standing Committee on Climate Change, Environment and Water
Meredith Hunter MLA (Chair), Mary Porter AM MLA (Deputy Chair), Zed Seselja MLA

SUBMISSION TO LEGISLATIVE ASSEMBLY INQUIRY INTO
Current and Potential Ecotourism in the ACT and Region

From

Maryland Wilson, President
This Inquiry will examine a number of issues including:

- The extent of ecotourism activities in the Region and how they contribute to, or detract from, the Region’s ecosystems.
- The extent to which these activities contribute to the Region’s economy.
- The industry self-regulation and government regulation, which is most likely to incentivise ecotourism activities that assist in the protection and enhancement of the Region’s ecosystems.
- The industry and government measures that are most likely to promote understanding of biodiversity and other benefits of ecotourism being explicitly based on principles of ecological sustainability.

The Terms of Reference


"Committee hopes that there will be a number of individuals and organisations who will take an interest in this inquiry”, Ms Hunter, Chair of the Standing Committee, said. “The Committee is looking forward to inquiring into the range of important matters covered in its terms of reference.”. For further information Please Contact Secretary, Ms Sam Salvanescchi on (02) 6205 0136 or committees@parliament.act.gov.au; or the Committee Chair, Ms Meredith Hunter MLA on (02) 6205 0106.

Inquiry into Current and Potential Ecotourism in the ACT and Region

Terms of Reference

The Standing Committee on Climate Change, Environment and Water resolves that:

1) The Committee inquire into and report on the current and potential ecotourism of the ACT and region including the following matters:

   a) extent to which organisations currently deliver ecotourism activities in the Region.

   b) extent to which these organisations’ ecotourism activities demonstrably contribute to, and detract from, conservation and restoration of ecosystems throughout the Region.

   c) extent to which these activities contribute to the Region’s economy.

   d) The industry self-regulation and government regulation, including, but not limited to, accreditation and licensing, which is most likely to incentivise ecotourism activities that assist in the protection and enhancement of the Region’s ecosystems.

   e) The industry and government measures that are most likely to promote understanding of the biodiversity and other benefits of ecotourism organisations explicitly basing their processes and outcomes on principles of ecological sustainability.)

   Any other relevant matter.

1) The Committee inquire into and report on the current and potential ecotourism of the ACT and region including the following matters:

a) extent to which organisations currently deliver ecotourism activities in the Region.

What kind of a question is that, if we are to urgently save remaining native animals in the ACT?
AWPC comment:

Aside from Jon Stanhope’s wrongful decisions to cruelly, brutally kill many thousands of innocent kangaroos and their joeys over a considerable period of time, why have you not to date provided kangaroo movement and habitat corridor connectivity to existing national parks and nature reserves and/or underpasses and overpasses that would avoid roadkills?

Bridging the wildlife gap

A truck passes under the rope bridge to allow native animals such as squirrel gliders and possums to cross the road safely. Cockatoos (left) also frolic on the bridge. Pic: Paul Rovere, Rodney Van Der Ree Darren Gray June 11, 2008

They use it to find a lover, a new home, to find their next meal. It is a means to crawl to safety in the night. A year after the specially designed bridge for native animals was suspended across the Hume Freeway at Violet Town in NE Victoria, Melbourne scientists say the bridge is helping to protect native fauna from the dangers of roads, and helping sustain biodiversity. The rope bridge acts as a narrow net stretching 70 metres across the freeway. Two steel cables run along each side of the rope, which hangs about seven metres above the bitumen. Night and day photographs taken as curious or adventurous animals cross a sensor beam show that a range of animals have tested the bridge, built for $60,000.

24-hour cameras at either end have recorded 50 ringtail possum crossings, including a piggy-backing pair. Another 50 partial crossings by ringtail possums, 7 partial crossings by brushtail possums and 4 partial crossings by squirrel gliders, a small arboreal marsupial endangered in Victoria, have also been caught on camera.

Daytime photographs have caught magpies, ravens, lizards, spiders, and a pair of cockatoos perched on the bridge, as a semitrailer flashes by. Erected last June, the bridge was a med mainly at squirrel gliders. But they have been a little shy and no confirmed glider crossings have been recorded. The driving force behind the project, Rodney van der Ree said,”. The bridge was designed to let animals move freely around the landscape. Animal bridges, and tunnels overseas showed that usage increased considerably over time. Habitat fragmentation is the dividing of once continuous habitat into small pieces, and one of the major threats to conservation of biodiversity. So having a landscape where animals are able to move around freely is critical, fundamental to saving wildlife, conserving biodiversity."

Dr van der Ree, senior ecologist with Australian Research Centre for Urban Ecology at the Royal Botanic Gardens Melbourne, said it was encouraging that the glider was interested in the bridge.

"The animal moves by gliding from tree to tree, so where there are large gaps in tree cover, such as roads, it is unable to cross," he said. Dr van der Ree said the Violet Town site had been chosen because the area had a good squirrel glider population, the centre median strip contained no trees — making it difficult for gliders to cross — and because a problem had been identified. The rope bridge also linked up an old road cut in half and closed by the freeway, but still used by animals.

The bridge is part of a research project involving the Botanic Gardens, Melbourne University, Monash University, VicRoads and the NSW Roads and Traffic Authority.

With 50 confirmed possum crossings on a $60,000 bridge, each possum could have been charged a $1200 toll per crossing — surely the most expensive toll bridge in Australia per crossing. But small price to pay in order to protect endangered native fauna.
AWPC comment

Our ‘common’ wildlife may be the next ‘sleeping’ threatened species  Daniel Ramp and Erin Rogers School of Biological, Earth & Environmental Sciences, University of New South Wales, Sydney, NSW, Australia. Considerable conservation effort has been invested in protecting threatened species, including large-scale endeavours to quantify the roles threatened species play in ecosystem functioning and resiliency. Focusing on the present, declared threatened species warrant this attention because of the more immediate risk of their contribution to biodiversity loss; however, it is also important to quantify the roles that common species play in maintaining ecosystem integrity, particularly in light of threatening drivers like rapid climate change.

We argue that conservation efforts must increase their scope to include both threatened and species typically considered common; focusing on those species that contribute to functional roles in ecosystems. This includes many native herbivores, such as kangaroos and wombats, that play vital roles in ecosystem functioning but are often victimised and treated with a lack of concern because of socio-political factors and historical value judgments, rather than heeding biological and ecological information.

Species are generally perceived as ‘common’ if they have extensive ranges and/or are abundant. Often few data exist on local populations of these species, and issues of abundance at varying scales are rarely quantified with accurate information.

All too often definitions rely heavily on anecdotal evidence or information collected from other regions of a species range. Virtually every species exhibits patchiness and variability over a range of spatial and temporal scales (Levin, 1992): definitions of commonness and rarity are often scale dependent leaving them, at the very least, ambiguous. Conservation efforts that focus on already declared threatened species are appropriate if they posses value outside the context of their community (although values can be defined in many ways). We argue that conservation efforts focused on communities must consider changes in abundance of common species for conservation to be ultimately successful.

It is widely recognised that species and ecosystem function are strongly linked. Common species can play key roles in conferring short-term resistance to reductions in ecosystem function, as rare and uncommon species are lost from the system (Smith and Knapp, 2003). Thus, dominant or common species can impart short-term stability to ecosystems experiencing non-random patterns of species loss. Historic examples such as the extinction of the once common passenger pigeon (Ectopistes migratorius) (Farrow, 1995), and recent trends of reduction in abundance of common species such as the northern dusky salamander (Desmognathus fuscus fuscus) (Bank et al., 2006) and the red headed woodpecker (Melanerpes erythrocephalus) (Rodewald et al., 2005), highlight the importance of studying all species within an ecosystem.

We have now entered Earth’s sixth mass extinction event, this time human-driven, and yet the setting aside of protected areas may not be sufficient to prevent this loss of biodiversity. Significant effort has focused on quantifying how anthropogenic drivers function (e.g. scenarios for rapid climate change over the next hundred years), but little research has rigorously quantified implications for biodiversity at local scales. Many species that are now considered common will be affected, but unless we target these ‘sleeper species’ through monitoring of their distributions and functioning in ecosystems, managers will only able to be reactive to declines, rather than proactively preventing them.

References
AWPC Comment

Continuous Connecting Wildlife Corridors in Yarra Ranges

Over past few weeks, many phone calls were received by wildlife organizations, from Shire residents expressing concern over news of the attempt to kill kangaroos in the Healesville area. Most residents opposed the kill, and many expressed the view that kangaroo populations within the Shire needed to be protected now and for future generations.

Residents spoke about the region in terms of the natural beauty of the Shire as an important safe haven for kangaroos; and the Shire's much loved forests, parks and reserves. Other residents spoke of their work with programs such as Land for Wildlife and couldn't understand why the kangaroos were to be shot. Discussions invariably centered on the growing acceptability within many communities of continuous connecting wildlife corridors.

It is the belief of many Australians, that our future lay in a strategic approach to the welfare of kangaroos, and to turn around what presently amounts to the world's largest wildlife slaughter (AWPC, 1999), and embrace the necessity of establishing habitat corridors, that would allow the freedom of movement essential to healthy kangaroo populations. Many wildlife activists believe that without embarking on this step, native kangaroos are doomed for extinction. Wildlife corridors 'open up' land, so that kangaroos are not trapped and cornered. Long ago the Land for Wildlife program proposed 'Habitat corridors, or strips of natural vegetation connecting 'island' habitats… as a means of re-connecting isolated populations of wildlife. A system of corridor links is more likely to sustain wildlife populations throughout the fluctuations and catastrophes that they inevitably undergo. Thus, habitat corridors can increase the value of existing isolated habitats.' (Platt, S. 1999) Wildlife corridors also improve habitat, and increase the growth rates of native grasses, thereby an additional safety factor in reducing bush fires. (AWPC, 1999)

Kangaroos become trapped within isolated pockets of land often because of barriers such as fencing, and so 'kangaroo fencing' is a priority in combination with wildlife corridors. By linking corridors of connecting land, the kangaroos can move freely throughout the corridors. This system has excellent potential for ecotourism. Our data indicates that tourists want to experience kangaroos in the wild. Many consider a system of continuous connecting wildlife corridors is inextricably linked to the establishment of thriving tourism. Establishing continuous, connecting wildlife corridors, will link councils and shires throughout the State of Victoria, and ultimately connect to other states throughout Australia; this is already happening in areas throughout Australia, and will ultimately provide safe habitat essential to kangaroo survival.

Wildlife corridors could link private and public land holdings in a co-operative and responsible way, and create a balance between kangaroo welfare issues and tourism. Public land is already set aside for wildlife, and there is a growing interest in assigning tracts of private land for kangaroos, in programs such as Trust for Nature. By participating in a scheme of continuous connecting wildlife corridors, the private sector would be part of the geography of Australia, seeing their land on a corridor map of Australia, and forming part of the great network of 'continuous connecting wildlife corridors'. Maryland Wilson President AWPC
AWPC Comment

Variation is genetic key to survival  Elise Furlan 25. 2. 2008

Australia's endangered marsupials share a common problem  The black-footed rock wallaby, northern hairy-nosed wombat, Gilbert's potoroo. What is the common link between these animals? All are endangered Australian marsupials and all suffer from a lack of genetic variation. It is this lack of variation that is contributing to their potential extinction. A genetically "healthy" population is defined as having a large amount of genetic variability. The information for each of an organism's characteristics is carried on a gene, but a gene can have different forms. These are known as alleles, and a large range of alleles leads to a wide variety of genetic "options" or genetic "possibilities".

With a large amount of genetic variation, natural selection is able to operate by altering the frequency of particular alleles in response to environmental conditions. Alleles providing a survival benefit to a population increase in frequency while those producing a selective disadvantage decrease or are lost altogether from the population. The impact of natural selection acting on populations can be observed through phenotypic (physical) traits. A well-known example exists in peppered moths. Originally most peppered moths exhibited light colouration and camouflaged well on the lightly coloured trees and lichens upon which they rested.

The advent of the industrial revolution, however, caused soot to blacken the trees, increasing predation on the light-coloured moths. Dark-coloured moths were provided with a survival benefit through camouflage and this phenotype increased in frequency. More recently, improved environmental standards have resulted in a resurgence of the light-coloured moth. This adaptation provided for the species' continued survival and was only possible due to the diversity of the genes contributing to colouration.

By contrast, a lack of genetic diversity can prove detrimental to a population, limiting its ability to adapt to changing environmental conditions. Merely having a large population does not negate the need for genetic diversity to ensure the survival of a population.

Take the Tasmanian devil, for example. Despite a relatively large population, this species lacks significant variation in a key immune gene region, known as the major histocompatibility complex. This lack of genetic variability has contributed to the spread of devil facial tumour disease (DFTD), with up to 90% of some devil populations suffering from this lethal affliction. They are simply limited in their ability to develop an immune response to this virus - they do not have the genetic tools to combat the virus.

Genetic diversity is calculated according to the numbers of alleles and the frequency of these within a population. Several factors can contribute to variations in the number and frequency of these alleles.

Decreases in genetic variation can occur through random fluctuations in allele frequency, called genetic drift, which can result in the loss of alleles. Alternatively, genetic variation can be increased by mutation (the spontaneous creation of novel alleles) or by gene flow that introduces alleles from migrating members of a foreign population. In conjunction with natural selection, these phenomena form part of the natural selection process leading towards evolution and speciation. Humans have undoubtedly imposed an additional strain on the natural evolutionary process and have increased the risk of extinction in many animal populations.

As humans continue to spread across the landscape, the land available for wildlife continues to shrink. As habitat is lost, animal populations suffer. As these habitat pockets become isolated,
migration between genetically diverse populations is reduced. This means gene flow is limited, the negative impact of genetic drift is increased and natural selection is less able to take effect.

These limitations to genetic variation can endanger and even cause extinction in some populations. Knowing how to increase allelic variation, or at least maintain it at current levels, is crucial to their continued survival.

Enhancing migration between isolated habitats, will allow the natural gene flow between populations to continue. Increasing available habitat to support a greater population size will prove beneficial in limiting genetic drift. Where it is possible, the controlled management of breeding programs will help maintain the presence of alleles in future generations.

Endangered marsupials populations such as the black-footed rock wallaby, northern hairy-nosed wombat and Gilbert’s potoroo can benefit from strategies aimed at increasing their genetic diversity. With climate change, the ability to adapt to changing environmental conditions becomes increasingly important. Genetic variation in our native wildlife is crucial if they are to survive the changing environmental conditions. **Elise Furlan is an education officer at CSIRO**

### AWPC Comment

**Dr Dan Ramp - Road Kill expert UNSW**

Growth and development threaten habitat and wildlife resources all over the world. Fragmentation is evident at a variety of landscape scales, affecting fauna and flora in complex ways. Aside from land clearance for human occupation and agricultural practises, one of the most significant human effects stems from transportation needs. In Australia, roads bisect the landscape, resulting in significant barriers to wildlife and leading to the dissemination of pest species. Roads prevent animals from moving freely through the landscape, affecting normal behaviour and preventing access to feeding and breeding areas. Roads also directly result in the mortality of individuals involved in collisions with vehicles. Roadside habitat has often been lauded as the only remaining habitat for some species of fauna and flora, but the presence of fast-moving vehicles through the centre of this habitat is commonly ignored. Impacts on soil chemistry, water run-off and noise and air pollution are also considerable.

*For Australia’s large mammals, such as kangaroos, wallabies, wombats and emus, roads present an extensive problem.* Populations of these animals utilise resources at both small and large scales, obtaining a diversity of shelter, food and water requirements from their natural environment. Fragmentation resulting from roads severely impacts their ability to subsist at pre-existing levels. At high road densities, sustainable population levels become untenable. Our current level of understanding of how these species are impacted by roads, as barriers and as causes of mortality, is extremely poor.

Researchers in Europe and the USA have been pioneering the development of knowledge bases and mitigation technologies. They set a fine example of how Australia should be approaching this issue, integrating road managers, wildlife managers, local land-holders and academic researchers to properly address concerns. The adoption of social considerations into landscape management is one area where **Europe is a world leader, particularly in Switzerland and Germany, where landscape planning includes corridors for human movement along with those for animal movement.** These corridors often connect large conservation areas established for ecological and aesthetic design purposes. For example, in some rural areas, paths for pedestrian and bicycle movement through well-planned landscapes occupy space in corridors that are also designed for animal movement.
The interaction between roads and wildlife, where roads traverse fragmented pockets of remnant habitat, also has substantial safety and economic implications. Costs to motorists through loss of life, vehicle damage, trauma and high insurance premiums are considerable. Recent estimates by Australia’s leading insurer, the NRMA, estimated that costs nationwide for the organisation as a result of wildlife-vehicle collisions were in excess of $20 million per annum. Litigation resulting from collisions is commonplace. While modification of road development procedures will require substantial resources, the total costs both economically and socially will be considerably less than if this issue is ignored.

Saving Wildlife: Saving People on our Roads

The University of New South Wales has formed a coalition with the Australian Research Council, the International Fund for Animal Welfare, the NSW National Parks and Wildlife Service, the NSW Wildlife Information and Rescue Service and Roe Koh & Associates Pty Ltd in order to address the impact of roads on Australian wildlife. After being initiated in 2001, the project attracted funding from the above bodies to run for three years, beginning in 2003. Headed by Dr David Croft, the project employs Dr Daniel Ramp as an ARC Postdoctoral Research Fellow, and has a number of PhD and Honours students participating in the program.

The project seeks to gather statistics on collisions between wildlife and vehicles throughout the state of NSW in order to quantify both spatial and temporal variation in animals killed on our roads. To date, estimates of the numbers of animals killed remains extremely poor. Predictive models of roadkill ‘hotspots’ will be developed using GIS and sophisticated modelling techniques, drawing on the expertise of world leaders in this field. These models will enable road managers to identify those sections of roads that most require modification to mitigate collisions.

Once collision hotspots are identified, these regions will provide the focus for mitigation technologies specifically developed for Australian conditions. Mitigation can take a number of forms, from physical modification of the road to enable wildlife passage (underpasses, overpasses) or to prevent it (fences), to the deployment of warning signs for drivers (simple signs and more sophisticated ones that detect the presence of animals and then warn drivers) and the deployment of technologies that ward animals away from roads (devices using smell, sound and sight stimuli).

Little research on the effectiveness of these mitigation methods has been conducted in Australia. This project will specifically develop devices targeted towards animals, but will also investigate the feasibility of combining these devices with physical modifications to achieve both permeability of roads and a reduction in the mortality of wildlife and people.

The impact of roads on the fragmentation of habitat for both large and small species of mammals will be examined, to quantify just how significant roads are as barriers to wildlife movement. Two PhD projects, one focussing on small mammals in Royal National Park and one focussing on large mammals in Kosciusko National Park, will be conducted to address the barrier effects of roads on these species. These projects will examine the importance of resource distribution at various spatial scales to assess how fragmentation by roads impacts on wildlife populations.

Strategy for protecting Australian wildlife: reducing fragmentation and habitat loss

The impact of roads on wildlife populations in Australia is only just being quantified, but from what we have found so far and from knowledge gained in Europe and in North America, roads act as significant barriers to wildlife, causing fragmentation that deleteriously impacts on biodiversity and conservation values.
This project will have major economic and social benefits for all Australians, especially those in regional and rural Australia where most roadkill occurs. A reduction in wildlife roadkill will be of economic benefit to both the community and industry via a reduction in accidents and vehicle damage, a reduction in insurance claims leading to lower premiums, a reduction in road maintenance costs in carcass removal and secondary collisions, and a reduction in accident investigation time.

*Regional and rural communities will also benefit economically from improved public relations through demonstrable commitments to animal welfare and biodiversity conservation and improved tourism as roads are safer and the strong negative impressions of roadkill are removed.* Roadkill in major nature-based tourist destinations like Tasmania, Kangaroo Island, and the Snowy Mountains draw strong negative comment from domestic and international tourists inhibiting expansion of these tourism industries. Further tourism is inhibited by high accident rates amongst international visitors on regional and rural roads, of which roadkill is a significant contributor.

A range of industries will benefit from gaining an understanding of how roads impact on wildlife populations, including road transport, vehicle hire, vehicle insurance and tourism industries. All road users will benefit through a reduction in human fatalities and injuries, and a reduction in distress to vehicle occupants. All Australians and the world’s biodiversity will benefit from a reduction in the loss of a wildlife resource.

*The result will be safer roads for us and our wildlife.*

Dr Daniel Ramp
ARC Postdoctoral Research Fellow

**Holistic Approach Needed to Save Wildlife Habitat or our WILDLIFE FACES ANNIHILATION**

October 15th, 2006 Animals Australia AGM Trinity College, Melbourne University
Maryland Wilson President of the Australian Wildlife Protection Council Inc.

As part of Melbourne 2030, there has been unprecedented, spiraling out of control, industrial, residential development, not subject to an environmental impact assessment for impact on native animals’ habitat loss or their welfare. Consequently there has been an accompanying spate of wildlife disasters, in this frenzied push for population and economic growth. Injured, frightened, maimed, terrified kangaroos and joeys, displaced native animals trapped, disorientated and distressed are the result. Development is cutting a swathe through habitat leaving kangaroos and joeys stranded. No one is accepting responsibility for this unfolding tragedy and wildlife is paying the price.

To demonstrate how perilous the situation is for wildlife throughout Australia, proposed laws to reduce red tape and give developers more certainty in environmentally sensitive areas were introduced in Federal Parliament October 12, 2006.

Respectfully Submitted,

Maryland Wilson