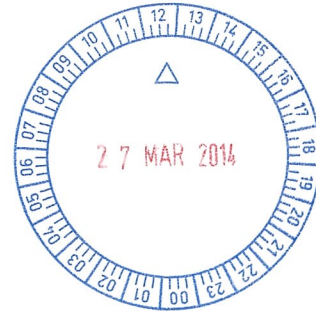


24 March 2014



**Ms Lauren Mesiti,**  
Committee Clerk  
Standing Committee on Public Administration  
Legislative Council  
Parliament House  
Perth WA 6000



Dear Ms Mesiti

**Outdoors WA Position – hunting on WA recreational lands.**

This is a submission by the Board of Outdoors WA in response to the Inquiry into recreational hunting systems in Western Australia conducted by the Standing Committee on Public Administration.

There is currently a Western Australian parliamentary inquiry underway to look at introducing hunting onto WA public lands. The inquiry has a clear terms of reference to understand the benefits or otherwise of introducing hunting to these areas.

Outdoors WA identifies the potential conflicts with existing outdoor recreation in WA and the need for adequate risk management and resourcing strategies. Below is an outline of concerns raised.

**Terms of inquiry**

The inquiry's terms of reference into recreational hunting are:

That the Council —

(a) acknowledges the use in other States of regulated, licensed recreational hunting systems and the potential environmental contribution made in controlling pest animals on public lands, together with the possible economic, cultural and recreational benefits to the community; and

(b) directs that —

(i) the Public Administration Committee inquire into the benefits or otherwise of a similar system being adopted in Western Australia and report back to the House by 4 December 2014; and

(ii) Hon Rick Mazza be co-opted as a member to the Public Administration Committee for the purposes of the foregoing inquiry.

## **Outdoors WA**

Outdoors WA is the peak body for the outdoor sector in Western Australia, including camping, outdoor recreation and outdoor education.

Outdoors WA is a non-profit organisation committed to supporting the outdoor sector in fostering the provision of safe, high quality outdoor programs in Western Australia. It represents people and organisations involved in campsites, camping, outdoor recreation, outdoor education, adventure and recreation camps in Western Australia. Members include teachers, commercial operators, community groups and individuals involved in the delivery of outdoor programs

Outdoors WA maintains the Adventure Activity Standards for the outdoor sector that covers common safe practice for the group led activities of:

Canyoning	Canoeing / Kayaking and Sea Kayaking
Abseiling	Rafting
Artificial Climbing	Mountain Biking
Rock Climbing	Trail Bike Touring
Challenge Ropes Courses	Horse Trail Riding
Bushwalking	Four Wheel Driving
Snorkelling and Wildlife Swims	Caving
Recreational SCUBA Diving	Surfing

## **Position**

Outdoors WA supports an increase in outdoor recreation that can be safely managed on public areas and where outdoor activities can be managed that are not in conflict with others.

This issue has importance to the WA outdoors community as it introduces a potentially conflicting activity, hunting, and elevates the risk of physical injury of all other outdoor recreators.

Outdoors WA realises that there is significant political pressure to open a range of public areas to hunting and wishes to present a range of community concerns that it would like to see addressed within the inquiry.

Outdoors WA does not support the expansion of recreational hunting into public lands such as State Forrest, National Parks or crown lands for the reasons outlined below.

### **Recreational benefits or heightened risks to the outdoors community?**

Introduction of hunting brings with it the inherent risk of injury or death to hunters as well as other recreational users.

There is already over 7 million visits to state forest and recreational areas each year, (Conservation Commission, 2014) these are for outdoor pursuits that do not involve hunting.

The NSW National Parks Association has summarised the risk as “The State Governments own risk assessment on volunteer hunting in NSW national parks has warned that recreational hunting puts park users at risk of being shot or injured. The National Parks Association warns that people should steer clear of national parks and reserves where amateur hunting will be allowed.” (National Parks Association of NSW, 2014)

It is asserted that the many current active outdoor pursuits that are freely enjoyed by the WA public including camping, bushwalking, mountain biking, cycling, trial bike riding, horse riding, paddling, canoeing fishing, marroning should be able to continue without threat to the participant of being shot or maimed by an stray bullet or arrow. Outdoors WA agrees that with a rising population and increasing health issues, due to obesity, that we should be promoting more physical activity outdoors. However combining conflicting activities on public land is not the answer and will likely result in an overall decrease in outdoor recreation in any designated public hunting area.

New Zealand where hunting is allowed has demonstrated the all too real risk of tragedy. In late 2010, a 25-year-old New Zealand school teacher, Rosemary Ives, was shot dead while brushing her teeth at a camp site in a conservation park on the North Island. The amateur hunter responsible mistook her for a deer. (Leask, 2010) Then in 2011, another bushwalker, 23 year old Dougal Fyfe, was shot and killed by his best friend. (Cook, 2011)

Research undertaken on the impact of duck hunting in Victoria identified that in choosing a holiday destination within Victoria, over 50% indicated that they would try to avoid areas in which duck hunting occurs. (Rod Campbell, 2012). Given the 7 million outdoor recreation visits this could lead to a significant loss of social amenity for West Australians and a significant direct loss of income for local communities.

### **Increased costs and loss of facilities for recreation clubs**

In New South Wales it cost \$1.229 million annually in 2011-12 to maintain the NSW Game Council to oversee the compliance, investigation, enforcement and development involved with hunting in the state. (Game Council NSW, 2012).

How will licensing, accreditation to the required skills and permits be handled? What will be the cost to the government in resources to adequately monitor areas?

If hunting were to be expanded onto public lands in WA there would need to be significant additional resources needed to fund appropriate management practices. There is concern that these funds are likely to be redirected from other vital outdoor recreation projects leading to an overall decrease in the quality of these experiences.

Threats to life or injury also have significant economic impacts for local outdoor clubs. Local recreational clubs in other states are concerned about having to effectively subsidise hunters by carrying additional insurance premiums (Aston, 2013). As insurance assessors identify the elevated risks they will pass these costs directly onto the clubs and onto the individual club member. At a time when the government is seeking to support recreational clubs through the Department of Sport and Recreation these increased costs would have a negative impact on that direction.

### **Economic benefits and costs**

The report *Out for a duck* (Rod Campbell, 2012) looking into the economic benefits of duck shooting in Victoria makes the following summary:

“Claims that duck hunting – or any recreational hunting – contributes significantly to the economy of Victoria are false. They assume that without hunting any related expenditure would be lost to Victoria. On the contrary, our survey shows that if duck hunters were prevented from hunting ducks they would go fishing, hunt other species, or go camping. There would be no impact on expenditure in Victoria from a duck hunting ban.” (Rod Campbell, 2012) And

“The non-monetary benefits of ending duck hunting and the improvement in welfare of the non-duck hunting public, are far greater than the non-monetary losses that hunters would incur from a ban. We estimate this benefit of banning duck hunting at around \$60 million per year.” (Rod Campbell, 2012).

There is significant economic risks to the community in introducing hunting and alienating other already existing outdoor recreational pursuits. In addition resources may be diverted

away from existing recreational projects to try and deal with the management of hunting in a credible way.

### **Environmental impacts, reducing pests and making money?**

The impact of feral pests on the environment is significant in WA and across Australia. There are many control measures in place already to control feral predators and in places professional shooters are utilised in culling pests. However it is noted that feral pest control is primarily needed in rural areas and WA already has an existing legal framework allowing hunting on private property. It is proposed that this legitimate form of hunting be preserved and that consideration be given to link up recreational hunters and clubs with sympathetic land owners.

There has been an argument positioned that recreational hunting may be the answer to expenditure on vermin control. However the opportunity for the control of vermin that affects rural properties already exists. Farmers can allow recreational hunting of feral animals on their properties already.

The argument to allow hunting has been shown to actually increase the spread of invasive animals, the Invasive Species Council of Australia has undertaken research into recreational hunting and has concluded:

“To date, it is likely that greater harm than good has resulted from recreational hunting of feral animals, with most species having expanded in range and numbers despite hunting and, in some cases, because of hunting. The evidence indicates that recreational hunting is not effective as a major or primary method of feral animal control.” (Booth, 2009)

The question must be raised if there is such a high demand for additional hunting areas, why farmers are not charging recreational hunters to access their properties and profiting from this business? Similarly if recreational hunting is the cheap and effective answer to vermin control why are farmers not inviting as many recreational shooters onto their properties as possible?

The existing framework of encouraging shooting on private property where there is a landowner to supervise the activity is supported as the most effective way to maintain access for recreational shooters.

In WA there is also environmental concerns with increased access of vehicles and hunters into sensitive dieback areas.

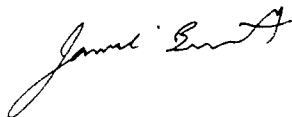
The Dieback Working Group has identified that “the impact of Phytophthora Dieback is arguably the greatest threat to the biodiversity of the south-west region in Western Australia.” (Dieback Working Group)

The environmental risk and costs should be carefully considered given the long term impacts once dieback is spread.

**Outdoors WA would like to see:**

- A clear acknowledgement of the importance of existing outdoor recreation in WA, recognising the value of the over 7 million visits to the state forests and National Parks in a year.
- That hunting is supported to continue on private property for recreational purposes and for the control of feral animals.
- That hunting is not introduced into state forests, crown land, National Parks or bush reserve areas as it poses a significant risk of death or injury to other land users.
- That an inquiry be made into all effective feral animal control measures to determine those that are most cost effective and pose the lowest risk to the WA outdoors community.
- That the cost to the environment be identified if dieback were spread by uncontrolled hunting on public lands.
- That the government commit resources towards stringent controls of illegal hunting already being conducted.

Sincerely



Jamie Bennett

**Executive Officer**

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# ESSAY PROJECT: Is recreational hunting effective for feral animal control?

For many invasive species, more than 50 per cent of the population must be culled each year just to maintain the status quo; for foxes in Victoria the estimate is more than 65 per cent.<sup>3</sup>

In recent years best practice for feral animal control has moved beyond a simple 'kill as many as possible' approach due to its repeated failures.<sup>4</sup> A large cull may not reduce populations or have environmental benefits, and may even result in perverse outcomes of expanded distributions and increased densities of targeted and non-targeted feral animals<sup>5</sup> (see Risk 1). The focus of monitoring is now on environmental benefits achieved, not on numbers of pests killed. As the Invasive Animals CRC says, goals "should be set in terms of biodiversity benefits, not numbers of pests killed".<sup>6</sup>

Telling evidence against the effectiveness of recreational hunting is the almost universal failure of bounty schemes, in Australia and overseas. Bounties provide an economic incentive for hunters to target designated invasive animals, and to increase hunting pressure on the target species well above that motivated by recreational pleasures alone, but biological reviews find they fail.<sup>7</sup>

## 1. Bounty schemes fail

*Bounties "are an example of powerful self-interest defeating reason"*

– Tim Bloomfield, a fox expert reviewing bounties<sup>8</sup>

It is now well recognised by pest experts that virtually all bounties fail to reduce feral animal numbers or the damage they cause.<sup>9</sup> They have often proved counterproductive, by creating incentives for spreading or maintaining the population of the targeted animal, for example.<sup>10</sup> Bounties typically reduce pest numbers by 2-10 per cent,<sup>11</sup> which is considerably less than the replacement capacity of most feral animal populations. Feral pigs can produce two litters a year, each consisting of up to 10 piglets.<sup>12</sup>

Victoria had a fox bounty in 2002-03 that resulted in close to 200,000 dead foxes, but was abandoned because it didn't work. A review of the scheme found that it reduced fox abundance in less than 4 per cent of the

state, and that numbers would quickly bounce back or go even higher as a consequence of hunting.<sup>13</sup> There was anecdotal evidence that the scheme was abused (with foxes from interstate presented for payment) and that shooters deliberately left residual populations to secure future income. A pig bounty run by Queensland Sugar Research Stations also failed, probably eliminating less than 5 per cent of the local population and with over half the payments thought to have gone for pigs outside the bounty area.<sup>14</sup>

The fact that bounty schemes almost always fail is strong evidence that recreational hunting has little to contribute to feral animal control, because the hunting pressure without financial reward is likely to be considerably less than when incentives are offered. The arguments regularly advanced in favour of recreational hunting for control of feral animals are similar to those advanced for bounty schemes, relying on the fallacious equation that any killing of feral animals equals population control.

## 2. Hunting habits and preferences are contrary to effective control

Hunter preferences for particular types of prey and particular hunting conditions often limit their contribution to feral animal control. They prefer shooting the males of some species, and they typically hunt close to roads and in easy terrain.

With feral deer, for example, recreational hunters prefer to shoot bucks (males) for the trophy antlers and so as not to reduce the reproductive capacity of deer.<sup>15</sup> A similar bias is likely to exist for pigs and goats.<sup>16</sup> But females are the reproductive sex and the important one to remove in polygamous species such as deer and pigs. The removal of males has no impact on the birth rate.

Recreational hunters most target easily accessible locations, which limits their contribution to control in environmentally valuable areas away from roads. In a recreational hunting area in New Zealand deer densities were three to four times higher in areas more than 3 km from access points than in areas next to access points.<sup>17</sup> Feral animals may learn to avoid areas where hunting is regularly conducted, as was documented in Europe for

### Footnotes:

<sup>3</sup> Fairbridge & Marks (2005). They note that a 2001 ban on fox hunting in Britain (to help prevent foot and mouth disease) had no impact on fox abundance, suggesting that hunting was not normally affecting population numbers.

<sup>4</sup> Norris et al. (2005).

<sup>5</sup> Fairbridge & Marks (2005); Norris et al. (2005).

<sup>6</sup> Norris et al. (2005).

<sup>7</sup> Hassall and Associates (1998); Bloomfield (2005). Bloomfield notes that the bounty for thylacines in Tasmania was probably successful, but the species was already in decline.

<sup>8</sup> Bloomfield (2005).

<sup>9</sup> Hassall and Associates (1998); Bloomfield (2005); Wilson (2008).

<sup>10</sup> Hassall and Associates (1998).

<sup>11</sup> Bloomfield (2005).

<sup>12</sup> Invasive Animals CRC (2008).

<sup>13</sup> Fairbridge & Marks (2005).

<sup>14</sup> Hassall and Associates (1998).

<sup>15</sup> Fraser (2000) notes that New Zealand hunters "pass up opportunities to shoot fawns and / or hinds in favour of stags ... presumably in an effort to conserve the deer population." Victorian Department of Sustainability and Environment (2008a) notes the "inherent desire for hunters to harvest stags" and Tasmanian Department of Primary Industries and Water (2008) comments that "there is still resistance by some hunters to harvest does." However, Fraser says the pattern is changing in New Zealand and some hunters are now more motivated by the "opportunity to take home some venison and enjoyment of the outdoor experience".

<sup>16</sup> A letter from Graham Smith published in the June 2008 edition of 'Australian Shooter': "I am an enthusiastic pig hunter, but am always amazed by the number of people who are simply after that one trophy boar. Can you please remind readers of their ecological responsibility when it comes to pig hunting?"

<sup>17</sup> Fraser (2000), citing Nugent (1988).



deer around hunting trails,<sup>18</sup> and be pushed into more sensitive locations (see Risk 1).

Except for hunters specifically motivated for conservation reasons, hunters are likely to be motivated to maintain or spread prey for hunting ease or success (see Risk 1).

### 3. Widely varying skills limit effectiveness

*Recreational shooting "has never been seen as an adequate control tool in (Australia and New Zealand) for most vertebrate pest species."*<sup>19</sup>

Recreational hunters have widely varying abilities and a small number of skilled hunters achieve the vast majority of kills. In New Zealand just 5 per cent of hunters account for more than half the deer killed for sport.<sup>20</sup> According to the Australian Deer Association, the average deer hunter in Australia succeeds on only about one of six hunts,<sup>21</sup> consistent with the 85 per cent failure rate recorded for New Zealand hunters.<sup>22</sup> In 2007, no deer were shot under 180 deer shooting permits issued in three conservation areas in Tasmania, and in Victoria licences to shoot about 1500 hog deer were issued, but only 175 were shot.<sup>23</sup>

The relative ineffectiveness of recreational hunting has been demonstrated where commercial hunting or professional culling result in much larger rates of removal, as discussed in the next section. In South Australia, for example, one helicopter shooter shot more than four times as many deer in four hours as 65 recreational hunters did in four days.<sup>24</sup> Often, on-ground shooting is not an effective or the most effective method of control (aerial shooting, trapping or baiting may be much more effective). At best, recreational hunting may sometimes help supplement other control methods.

### FALLACY 2: The effectiveness of recreational hunting is on a par with professional control programs

The Australian Deer Association claims that hunting is "the most effective" method of controlling feral deer populations according to pre-determined requirements.<sup>25</sup> But wherever comparison has been possible (and published studies are very sparse), recreational hunting has proven much less effective than profes-

sional culling or commercial hunting. The most effective methods of feral animal control are often not on-ground shooting.

### 1. Professional programs are much more effective than recreational hunting

The comparative ineffectiveness of recreational hunting for population control is demonstrated in the contrasting results of two efforts to reduce deer numbers at the 9000 ha Gum Lagoon Conservation Park in South Australia. A 2002 trial using 65 recreational hunters in a directed hunt over four days resulted in 44 deer (18 female) shot.<sup>26</sup> The numbers shot were estimated to have been about the annual population increase for fallow deer and one-third of the annual increase for Red Deer. In contrast, a four-hour helicopter cull in the same area in 2007 using one shooter resulted in 182 deer shot, estimated to be more than 90 per cent of the population.<sup>27</sup>

In a pig control program to protect wetlands in Florida, where sites open to recreational hunting were compared over three years with sites subject to professional culling, recreational shooters in three years removed less than 13 per cent of the pigs removed by targeted culling in two years.<sup>28</sup> The difference was attributed to the contrasting objectives of managing a habitat for conservation and managing pigs as a 'game' animal.

In Tasmania, recreational hunters were judged to be relatively ineffective compared to commercial and contract hunters for killing pademelons and wallabies to protect plantation trees, crops and pastures, particularly in remote or broken country.<sup>29</sup> The reviewers pointed out that "recreational hunters are often driven by the need to achieve long-term access to hunting rights rather than a desire to reduce browsing mammals to low levels."

In New Zealand, most deer populations have been reduced to 75-95 per cent of the peak numbers seen in the mid 1900s, mostly due to commercial helicopter hunting.<sup>30</sup> Highest densities occur in tall forests, where deer are protected from aerial hunters and subject only to recreational control.

An assessment of the relative cost-effectiveness of recreational hunting, commercial hunting and state-funded culling in New Zealand for controlling deer populations found that increasing recreational hunting pressure was likely to be effective only where "the desired reduction in deer density is relatively small."<sup>31</sup> Where major

<sup>18</sup> Orueta (personal communication).

<sup>19</sup> Coleman et al. (2006).

<sup>20</sup> Orueta & Aranda (1998), citing Nugent (1988).

<sup>21</sup> Australian Deer Association (2006).

<sup>22</sup> Orueta & Aranda (1998), citing Nugent (1988).

<sup>23</sup> Tasmanian Department of Primary Industries and Water (2008); Victorian Department of Sustainability and Environment (2008b).

<sup>24</sup> Peacock (personal communication).

<sup>25</sup> Australian Deer Association (2006).

<sup>26</sup> Anonymous (2004); Peacock (personal communication). Hunters were restricted to shooting standing or walking deer for welfare reasons, and

used stalking and spotlighting.

<sup>27</sup> Peacock (personal communication).

<sup>28</sup> Engeman et al. (2007).

<sup>29</sup> Coleman et al. (2006). This should not be taken as endorsement of that program.

<sup>30</sup> Nugent et al. (2001).

<sup>31</sup> Nugent & Choquenot (2004). Fraser (2000) had similarly concluded that recreational hunting was best suited for small areas with good access and close to population centres with few other hunting opportunities, where only modest reductions in deer density were required.

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reductions are required in extensive forest areas, paid ground-based deer cullers are likely to be most effective, and more modest reductions may be best achieved by supporting commercial helicopter operations.

## 2. On-ground shooting is often not the best control method

Professional cullers are also likely to be more effective than recreational hunters because they can employ more effective methods, such as aerial shooting, trapping, using 'Judas' animals and shooting at night. The assessment of effectiveness should also include welfare criteria.

With deer for example, most professional on-ground control in Australia is done at night, using spotlights, focused on areas where large numbers of deer congregate and where the impact is greatest.<sup>32</sup> Recreational deer hunters in Victoria are not permitted to hunt at night. Effective control of deer in Australia and New Zealand has been achieved using aerial shooters.<sup>33</sup> The use of Judas deer (deer fitted with radio collars) has been used successfully in New Zealand and may be investigated in South Australia.<sup>34</sup>

The effectiveness of methods to control feral animal populations should be assessed in terms of specific environmental or economic goals. A New Zealand study compared the effectiveness of exclusion fencing, aerial hunting and recreational hunting on the recovery of mountain beech plots in New Zealand.<sup>35</sup> By extrapolation using a simulation model, it was concluded that when plots were fenced they would obtain an adequate number of stems mostly within 20 years, and for all plots within 40 years. With aerial hunting most plots would need 20-40 years to obtain sufficient stems. But with recreational hunting only, it would take longer than 40 years for all plots, and some plots would take longer than 80 years. Recreational hunting would result in a loss of forest canopy, altered ecosystem processes and weed invasion.

The same limitations of on-ground shooting compared to other methods extend to other feral species. According to the Invasive Animals CRC, the most effective management techniques for pigs are aerial shooting and aerial baiting in remote areas and trapping in more urban areas.<sup>36</sup> Ground shooting, with or without dogs, "is generally considered to play an insignificant role in damage control except where it is intensively conducted

on small accessible populations".<sup>37</sup>

In a comparison of the effectiveness of different methods of feral goat control, ground shooting was rated as low for efficacy, control method efficiency, logistical practicalities and overall effectiveness (it was only rated high for 'target specificity').<sup>38</sup> Aerial shooting was rated as high on all criteria. The use of Judas goats, trapping, mustering and fencing all rated more highly than ground shooting. According to the Invasive Animals CRC, fox hunting results in "minimal reductions".<sup>39</sup> Aerial shooting is currently the only effective means of controlling feral animals on large conservation areas, particularly in remote areas.<sup>40</sup>

## FALLACY (partial) 3: Recreational hunting effectively supplements professional programs

The limited effectiveness of recreational hunting limits its value even as a supplement to professional programs, particularly in conservation areas where the risks (see below) are likely to outweigh the advantages.

In some specific instances, however, recreational hunters have contributed to control efforts. And there are undoubtedly some highly skilled hunters committed to conservation and animal welfare who could contribute to control programs. The difficulty is to limit hunting for environmental programs to that sub-set of hunters and to ensure that supplemental hunting is undertaken only if effective and part of a well-managed and monitored control program.

The efficacy of recreational hunting as an adjunct to more targeted control programs has not been assessed in Australia.<sup>41</sup> There are isolated examples, and they seem to have in common that a small team of skilled hunters is used to supplement other more effective methods.

There has been success with volunteer shooters in the South Australian Bounceback 2000 program.<sup>42</sup> In arid land reserves the combination of controlled sequential hunts using recreational hunters who have a commitment to conservation, with helicopter culls and opportunistic shooting by park rangers, has been successful.<sup>43</sup> There has been a strong focus on quality control by ensuring that hunters meet shooting standards and obey the rules

### Footnotes:

<sup>32</sup> Sharp & Saunders (2004); NSW Department of Environment and Conservation (2005).

<sup>33</sup> Fraser (2000); Norris et al. (2005); West & Saunders (2007); Peacock (personal communication). An assessment of South Australian aerial control of camels reportedly found a high standard of animal welfare outcomes. ISC is seeking further information about welfare standards.

<sup>34</sup> Masters (2006).

<sup>35</sup> Duncan et al. (2006).

<sup>36</sup> Norris et al. (2005).

<sup>37</sup> Invasive Animals CRC (nd).

<sup>38</sup> Norris et al. (2005).

<sup>39</sup> Norris et al. (2005).

<sup>40</sup> Norris et al. (2005).

<sup>41</sup> Coleman et al. (2006).

<sup>42</sup> Norris et al. (2005).

<sup>43</sup> Peacock (personal communication).

and directions of departmental staff.<sup>44</sup>

Although hunting has failed to control overabundant deer in most of the US,<sup>45</sup> there are a few examples of effective reduction of deer densities in particular localities.<sup>46</sup> This is consistent with the conclusions in New Zealand that recreational hunting may contribute where only modest reductions in deer density are required.<sup>47</sup>

ISC invites information about other successful control programs using recreational hunting.

The few documented positive examples of hunting suggest that recreational hunters should only be used when they meet high standards, are tightly controlled and contribute to a broader program of feral animal control with well-defined goals. Importantly, hunting should only be conducted where the likely benefits outweigh the risks identified below.

#### FALLACY 4: Recreational hunting is cost-free, so we may as well take advantage of it

There is a strong emphasis on the fact that recreational hunters offer their services for free, implying that even if they are not highly effective there is nothing to lose and likely something to gain for nothing. But this fails to take into account the costs associated with recreational hunting, particularly in conservation areas.

The potential costs include:

**Management costs:** Licensing, regulating and managing recreational hunters to ensure they contribute to control programs and do not compromise conservation, human safety and animal welfare conditions.

**Political costs:** Where governments use recreational hunting as an excuse not to fund professional control programs. Where hunting interest groups gain greater political power as a consequence and are accorded political priority that compromises environmental goals.

**Environmental costs:** When recreational hunters seek to maintain or increase hunting opportunities by shifting feral animals to new hunting locations and leaving young and females to breed up again. When hunting pressure in accessible areas pushes feral animals into more remote areas, increasing the pressure on environmentally valuable areas. When there are perverse outcomes, such as increased reproduction rates, resulting from hunting. When hunters damage environmental values, by losing hunting dogs for example.

**Safety and welfare costs:** When human safety and animal welfare are compromised by less-skilled or irresponsible recreational hunters.

These potential costs are discussed below as risks. They demonstrate that recreational hunting is not cost-free and costs are likely to outweigh benefits in many circumstances.

#### RISK 1: Recreational hunting will result in new and expanded feral animal problems

There is a risk that recreational hunting will worsen feral animal problems, either because of the response of feral animals to hunting pressure or because of the behaviour of some hunters motivated to increase or sustain populations of animals for hunting.

##### 1. Hunting may increase population densities or push feral animals into new or environmentally sensitive areas

Recreational hunting may sometimes perversely result in a higher density of feral animals due to higher rates of breeding or changes in social structure. As discussed by the scientists who reviewed the Victorian fox bounty, foxes (and other rapidly breeding species such as pigs) produce "a doomed surplus" of young, with the majority dying before they are one-year-old.<sup>48</sup> When adults are killed by hunters, and there is less competition for resources, more young will survive to replace them. In addition, foxes may respond to moderate reductions in abundance by increasing the number of females that become pregnant, thus increasing the numbers of foxes produced.<sup>49</sup> As noted in a report by the Invasive Animals CRC, another perverse outcome may occur when experienced foxes are killed: "younger foxes moving in may establish smaller territories, leading to a higher fox density."<sup>50</sup>

Because recreational hunting tends to be localised and concentrated near roads, it may cause feral animals to disperse into more remote areas away from hunting, including into more environmentally sensitive or pristine areas, and it may in this way increase their range and damage. Information on this potential impact is sparse. A European study found that deer avoided trails from where hunting was conducted.<sup>51</sup> Under hunting pressure introduced ungulates may disperse into wider areas faster than they otherwise would.<sup>52</sup> In one study of feral

<sup>44</sup> A history of the program can be found at <http://www.hunt-cons.asn.au/html/history.html>. It involves the Hunting & Conservation branch of the Sporting Shooters Association in South Australia, which formed specifically to achieve conservation control of feral animals. The website says they "have committed to providing our resources to help interested farmers, or organisations in achieving conservation related outcomes..." and activities include "organised culls, collection of research specimens, wildlife surveys, warren destruction, re-vegetation projects, or restoration of historic sites."

<sup>45</sup> Cote et al. (2004)

<sup>46</sup> de la Cretaz & Kelty (2002); River Bend Nature Centre (2008).

<sup>47</sup> Fraser (2000).

<sup>48</sup> Fairbridge & Marks (2005).

<sup>49</sup> Fairbridge & Marks (2005).

<sup>50</sup> Norris et al. (2005), citing Benshemesh (personal communication).

<sup>51</sup> Orueta (personal communication), citing Aranda et al. (1996).

<sup>52</sup> Orueta & Aranda (1998), citing Uphan (1980).

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pigs, a declining catch rate was thought to be due to pigs moving away from the control area to avoid the hunting pressure.<sup>53</sup>

## 2. Hunters have a vested interest in maintaining or expanding feral animal populations

In allowing recreational hunting on public lands state governments may unwittingly encourage hunters to move pests to build up prey numbers. This already goes on.

According to pig researcher Pavlov, writing in the Australian Museum's *Mammals of Australia*, a rapid increase in distribution in since the 1970s in NSW and Queensland has been due to "deliberate release of piglets and juveniles by unscrupulous hunters".<sup>54</sup>

In southwest Western Australia, where feral pig numbers are increasing and populations are appearing in new areas, a genetics study showing intermixing of pigs from different areas indicated that illegal movement by people was one of the major causes, because pigs were occurring in locations they could not have reached on their own.<sup>55</sup> The researchers concluded that feral pigs were being "deliberately and illegally translocated to supplement recreational hunting stocks".

More than half of the 218 feral deer herds in Australia identified in 2000 appear to have derived from illegally translocated deer, presumably to create more hunting opportunities (there is no other likely explanation).<sup>56</sup> There has been a dramatic increase in this practice in recent years, and many deer have been shifted into national parks and state forests. Thirty new locations for feral deer in NSW were observed between 2002 and 2004-05.<sup>57</sup> Translocated deer are assumed to have been bought cheaply from failing or struggling deer farms.<sup>58</sup> In NSW national parks and state forests, deer with ear tags from deer farms located far away have been found, suggesting that hunters have bought the deer in one location and seeded them in another.<sup>59</sup>

On Cape York Peninsula, buffalo, deer and blackbuck antelope were recently freed on two properties to create opportunities for hunting.<sup>60</sup> The NSW Game Council has a mandate to manage Californian quail, pheasant, chukar partridge, peafowl and turkey for hunting, even though none of these species yet occur in the wild on mainland Australia.<sup>61</sup> All of these birds have formed feral populations on Australian islands or overseas.

Conservationists fear this will lead to their release for hunting.

The long-term goals of hunters and national park managers are very different. Hunters want an ongoing supply of animals to hunt, which means they are likely to be loathe to remove all the feral animals from an area or to allow professional control programs to do so. The Victorian Government's review of the 2002-03 trial fox bounty reported that there was anecdotal evidence that "shooters reduced their activity during fox breeding periods to ensure 'next year's crop'".<sup>62</sup>

While it may only be the few 'rotten eggs' of the hunting fraternity who do so, such activities must be accepted as risks inherent when permitting recreational hunting in conservation areas, for it is virtually impossible to detect and eliminate such practices. It only requires a small number of translocations to cause serious damage.

## RISK 2: Hunting will undermine culling for environmental reasons

### 1. Hunters may resist eradication and reduction of feral animal populations

When governments allow hunting on public lands they create expectations that hunting opportunities will be maintained. Any future restrictions on hunting, or culling programs that undermine recreational hunting opportunities, are likely to be resisted.

In New Zealand, recreational hunters strongly objected to population declines of feral deer caused by commercial hunting.<sup>63</sup> In response, commercial hunting was banned in 10 areas set aside for recreational hunting. In the US, hunter opposition has undermined the capacity to achieve reduction of deer densities for ecological goals, despite efforts to improve their understanding of ecological impacts of overabundant deer.<sup>64</sup> For example, the Wisconsin Wildlife Bureau's program to increase the killing of female deer was not embraced "because hunters favour a tradition and management they see as contributing to, rather than diminishing, their prospects for hunting success."<sup>65</sup>

It is likely that in most natural environments, the level of deer and other feral animals compatible with conservation goals is below the threshold considered acceptable or desirable by many recreational hunters.

#### Footnotes:

<sup>53</sup> Nogueira et al. (2007).

<sup>54</sup> Pavlov (1995).

<sup>55</sup> Spencer & Hampton (2005).

<sup>56</sup> Moriarty (2004).

<sup>57</sup> West & Saunders (2007).

<sup>58</sup> According to Jesser (2005), the sale of live deer for stocking new areas has become an important source of revenue for deer farmers.

<sup>59</sup> NSW government officer (personal communication).

<sup>60</sup> Norris et al. (2005).

<sup>61</sup> Norris et al. (2005).

<sup>62</sup> Fairbridge & Marks (2005).

<sup>63</sup> Fraser (2000).

<sup>64</sup> Diefenbach et al. (1997); Cote et al. (2004)

<sup>65</sup> Waller & Alverson (1997).

## 2. A stronger hunting constituency will object to environmental programs that undermine hunting opportunities

Allowing recreational hunting on public lands also fosters a stronger constituency to protest against and stymie professional control programs. Already, hunters have proven a powerful anti-environmental lobby to stop deer culling. This has also been the case for control of deer and other species in other countries.<sup>66</sup> The Australian Deer Association bitterly opposed a proposal to declare sambar deer a threatening process in Victoria, initiating court action.

The reviewers of the Victorian fox bounty warned that the bounty had the potential to discourage the use of more suitable control options.<sup>67</sup> Such may be the result either due to hunter lobbying or due to governments using a recreational hunting program as an excuse not to spend resources on more effective control programs.

The long-term consequences of creating a stronger political, economic and social basis for recreational hunting is only occasionally acknowledged in strategies for control of feral animals. In a recent review of feral animal problems in NSW and ACT a comment that recreational hunting "if planned, implemented and regulated very carefully" could be useful for deer management was qualified by the warning that "caution is required to avoid the possibility of wild deer populations being treated as a sustainable recreational hunting resource."<sup>68</sup> This risk needs stronger consideration given the strengthening lobby for recreational hunting programs for feral animal control.

The Australian Deer Association has a vision for deer that conflicts with environmental objectives. Feral deer are causing serious harm to rainforest and other vegetation, but the association envisions the management of deer across all tenures as a "valuable public resource", and "for the benefit of the deer themselves".<sup>69</sup> They want Victoria's sambar and hog deer herds to be "valued, protected and nurtured" and the government to provide incentives for landholders "to produce hog deer on their properties and protect hog deer habitat". Recent government initiatives to subsidise recreational hunting on private properties and the draft Hog Deer Management Strategy are granting the deer hunters what they want.

The exception to the points made here is where hunters are specifically committed to conservation outcomes rather than the maintenance or improvement of hunting opportunities.

## RISK 3: Hunting will cause collateral damage to the environment, animal welfare and humans

Recreational hunters have variable levels of skill. As noted above, a New Zealand assessment found that fewer than 5 per cent of recreational hunters shot more than half the deer killed. When skill levels are low, not only are fewer feral animals shot but human safety and animal welfare are put at risk. In the US, 1474 deaths and injuries due to hunting were reported in the media between 2003 and 2008, and it is conservatively estimated that there are at least 1000 a year.<sup>70</sup>

Problems also occur when hunters use hunting dogs, which sometimes become lost or escape. Escaped pig-hunting dogs are a serious concern for sheep and cattle farmers, as was evident in comments made in response to a newspaper story about wild dog problems:<sup>71</sup>

*The biggest problem we face are the dogs which are either abandoned or lost by pig hunters. These dogs are bred for aggression...*

*This is a huge problem with many pig shooters' dogs going missing and in the next year huge wild dogs appearing.*

*People no longer bush walk in our area in fear of coming across a lost, hungry and aggressive, pitbull wolfhound cross.*

Other damage will occur if hunters fail to exercise care for their environment: if they dump rubbish, drive off-road, leave carcasses or shoot native species. Biologists report that deer hunters have been leaving several hundred tonnes of sambar remains in Victorian forests because they only want the trophy antlers.<sup>72</sup> These remains bolster populations of feral predators, such as pigs, dogs and foxes, and increase their impacts on native species.

Hunting groups have expressed opposition to many conservation initiatives, including the declaration of protected areas, the listing of deer and deer damage as threatening processes, and the eradication or control of feral deer populations. Although many hunters take good care, such anti-conservation attitudes suggest that others will not. One reason why hunting groups are seeking increased access to state lands is that private landholders are increasingly refusing access, after bad experiences such as illegal hunting and gates left open.

<sup>66</sup> Orueta & Aranda (1998); de Garine-Wichatitsky et al. (2006).

<sup>67</sup> Fairbridge & Marks (2005).

<sup>68</sup> West & Saunders (2007).

<sup>69</sup> Australian Deer Association (2006).

<sup>70</sup> US Committee to Abolish Sport Hunting (personal communication).

Their estimate accords with data for 1995 reported in Encyclopaedia of Occupational Health and Safety (107 deaths and 1094 injuries).

<sup>71</sup> Farm Online (2009)

<sup>72</sup> Peel et al. (2005).

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### What is best practice feral animal control?

Controlling feral animal populations for conservation purposes is very difficult, because feral animals are highly mobile and highly fecund, and able in most cases to quickly replace those killed. A recent Federal Government report by the Invasive Animals Control CRC on the management of feral animals (in the rangelands) provides the following guidance.<sup>73</sup>

Programs need to “be carefully planned and co-ordinated”, based on an understanding of the impacts of the target feral animals, with clear, realistic goals and assessment of all possible solutions and with monitoring. The goals “should be set in terms of biodiversity benefits, not numbers of pests killed”. A complimentary suite of the “most effective and humane” techniques should be used in an integrated approach. Codes of practice and standard operating procedures should be adhered to “for individual techniques to ensure safety, humanness and effectiveness.” Plans need to be integrated for effectiveness and to prevent harmful consequences such as the proliferation of rabbits when foxes and cats are controlled or the targeting of vulnerable native mammals by feral predators when rabbits are controlled.

This advice highlights the limitations and problems with using recreational hunting as a major form of feral animal control. The only way recreational hunting can satisfy these conditions is if it is part of a plan with defined environmental management goals, if on-ground shooting is effective, if only highly skilled and responsible hunters are permitted to participate, and if its effectiveness is monitored. Control programs should not start from the premise that recreational hunting will be used, but should only include it if it meets the goals and conditions of effective control programs.

### Conclusion

The Game Council of NSW claims that recreational hunting of feral animals in state forests “can only benefit our native species”.<sup>74</sup> But they base this claim on the numbers fallacy (that control is about increasing the

number of dead pests) that is now rejected in professional control strategies, and they neglect the problems associated with recreational hunting.

To date, it is likely that greater harm than good has resulted from recreational hunting of feral animals, with most species having expanded in range and numbers despite hunting and, in some cases, because of hunting.

The evidence indicates that recreational hunting is not effective as a major or primary method of feral animal control. Where there has been a comparison, professional cullers (using the same or different methods) are far more effective. When the risks of permitting recreational hunting are factored in, there will only be a few circumstances where recreational hunting can be justified as a method of control.

In limited circumstances recreational hunting may contribute to programs, where it is part of an integrated program using other methods as the major form of control method and where there is stringent quality control to ensure that only skilled and ethical hunters are used.

The Invasive Species Council is committed to the control of feral animals. Native species and ecosystems need protection from the devastating impacts of feral animals. But control programs should be well-designed, using the most effective and humane methods, and employing professionals, not amateurs.

#### Footnotes:

<sup>73</sup> Norris et al. (2005).

<sup>74</sup> Game Council New South Wales (2006).

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# The New Zealand Herald

## Hunter's return to family cut short by fatal shot

By Marjorie Cook



Dougal Fyfe pictured with sister Harriet, died on Monday after a hunting incident. Photo / Supplied

A 23-year-old man accidentally shot dead by his best friend while hunting had only recently returned to his family in New Zealand after two years working in Australia.

Dougal Fyfe, 23, was a keen outdoorsman with an infectious enthusiasm for adventure and had recently returned to his family farm in the Maungawera Valley.

But his life was cut short on Monday morning after he was shot in the head by his best friend from school days who had mistaken him for a deer during a late-night hunt.

The victim's father, lawyer Grant Fyfe, issued a brief statement yesterday saying his son would be greatly missed by his family and friends. Mr Fyfe confirmed his son "died instantly when he was accidentally shot".

"He will be remembered for his infectious enthusiasm which led to many adventures - and misadventures - which he usually bounced back from with a cheeky grin," Mr Fyfe said.

His son had been enjoying working on local farms and vineyards after a couple of years working in the Australian outback as a jackaroo and in Perth as a yard supervisor.

He also enjoyed hunting, fishing, scuba diving and skiing, and had excelled as a competitive free-skier, Mr Fyfe said.

Dougal was keen on motorbiking and socialising with friends and family.

He was educated at Hawea Flat Primary School, Waihi Prep School and Mt Aspiring College.

"He loved to travel but his heart was in Wanaka with his family and he was loving his life back here in the months before his death," Mr Fyfe said.

Dougal was the second son of Grant Fyfe and the late Ngaire Lloyd.

He is survived by his father, stepmother Caroline Harker, brother Tom, 25, sister Harriet, 22, and stepsister Maddy, 20.

A funeral celebrating his life will be held at 4pm tomorrow at his family home in Maungawera Rd, about 5km northwest of Wanaka.

Wanaka police are conducting a dual coronial and criminal investigation and have not determined whether any charges will be laid against the dead man's 24-year-old friend, who is also from Wanaka.

Sergeant Aaron Nicholson said he was continuing to work on the case and interview people. A post-mortem examination had been completed and there was nothing untoward in the results, he said.

The police have not named the two hunting companions, a 24-year-old man and a 19-year-old man.

- Otago Daily Times

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# The New Zealand Herald

## Partner's desperate attempt to keep shot woman alive

By Anna Leask



Rosemary Margaret Ives, victim of the fatal shooting. Photo / NZPA.

A young woman on a camping holiday has been shot in the head and killed while brushing her teeth by a hunter who thought she was an animal.

Her partner and others spent a desperate 90 minutes trying to keep her alive in a remote area of bush near Turangi.

The woman was Rosemary Margaret Ives, a 25-year-old secondary school teacher from Lower Hutt.

"People were around the girl's body and her partner was doing CPR on her," said Youthtown Trust Rescue Helicopter pilot Hendry De Waal. "He did well, he just carried on until we got there, he didn't give up on her."

De Waal arrived with two paramedics close to midnight on Friday to take over efforts to save the woman's life. He was told she was brushing her teeth and had been mistaken for a deer.

"Her boyfriend was in quite a bit of shock. I've been to incidents where people have shot themselves, or been shot in the shoulder or something - but this one was quite bad.

"Everyone is going up there and doing spotlighting. It's quite dangerous, especially when you don't know your way around. It's crazy stuff."

A 25-year-old Hamilton man has been charged with careless use of a firearm and will appear in the Taupo District Court on November 3.

It is understood he shot her from the road that runs alongside the camp site, after seeing her in his spotlight and thinking she was a deer or possum.

The woman, believed to be from Wellington, died metres from her tent in the Department of Conservation campsite on Kaimanawa Rd, near Turangi.

The couple were camping alongside a group of four trampers from Wellington and four backpackers from the Czech Republic.

After the shooting the hunters ran to the nearby campsite for help. A man there rushed to help the woman and said the scene was "ghastly".

The alleged shooter, who was with a group of hunters, was taken away from the scene.

The eight other campers were taken to a backpackers about 3.30am yesterday.

The manager, who did not want to be named, said the woman's partner was severely shaken up and was taken elsewhere.

"He was a mess. The others had a cup of tea and sat in the lounge until they felt so tired that they had to go to sleep. They weren't allowed to talk about it," he said.

"But they said that the young lady's hands were purple until they were doing compressions on her heart to keep her blood pumping around. Then her hands turned a normal colour."

He said the Wellington group left yesterday to carry on tramping. "They went to the Tongariro though. They didn't want to be anywhere near hunters. The other four are just taking time out. My heart goes out to her boyfriend."

Detective Senior Sergeant Todd Pearce refused to comment on the specifics.

The shooting has prompted warnings from hunting experts.

New Zealand Deer Stalkers Association spokesman Alec McIver said there were seven basic rules of safety.

"The main one is identify your target. That's a big part of it. It's always on your mind that it could be a person, not a deer."

He said it was not difficult to positively identify a target.

"You just have to be willing to let the animal run away. If you can't identify it totally, then don't shoot, just move on to the next one."

Local Department of Conservation public awareness officer David Conley said the site was popular with campers.

### The basic rules for safe firearms handling:

- \* Treat each firearm as loaded.

- \* Always point it in a safe direction.
- \* Load only when ready to fire.
- \* Identify targets beyond all doubt.
- \* Store all firearms and ammunition safely.
- \* Never operate a firearm while under the influence of alcohol.
- *Additional reporting John Lazo-Ron, Leigh van der Stoep and NZPA*
- Herald on Sunday

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# **Out for a duck**

An analysis of the economics of duck  
hunting in Victoria

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Rod Campbell, Richard Denniss and David Baker

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## Summary

- Less than half of one per cent of Victorians are active duck hunters, while 87 per cent support a ban on duck hunting. Three per cent of respondents to our survey had participated in duck hunting and intend to do so again.
- Claims that duck hunting – or any recreational hunting – contributes significantly to the economy of Victoria are false. They assume that without hunting any related expenditure would be lost to Victoria. On the contrary, our survey shows that if duck hunters were prevented from hunting ducks they would go fishing, hunt other species, or go camping. There would be no impact on expenditure in Victoria from a duck hunting ban.
- Revenue from non-hunting tourism is far more important to Victoria's economy. In fact, more than half of survey respondents would be less likely to holiday in an area with duck hunting.
- Most Victorians are willing to pay for improvements in animal welfare.
- Thirty per cent of respondents are willing to pay to end duck hunting.

The non-monetary benefits of ending duck hunting and the improvement in welfare of the non-duck hunting public, are far greater than the non-monetary losses that hunters would incur from a ban. We estimate this benefit of banning duck hunting at around \$60 million per year.

## Introduction

Every year images of bloodied, flapping ducks appear on televisions in Victoria and across Australia, as protesters and bird rescuers clash with duck hunters in Victoria's wetlands. From mid-March to mid-June, hunters may shoot ten ducks per day in state forests, on crown land, in state game reserves and in some coastal parks.<sup>1</sup> Duck hunting is controversial – many people view the practice as inhumane, with as many as 6.6 ducks being wounded for every 10 birds shot<sup>2</sup>.

While ducks are the obvious losers in the practice of duck hunting, hunting advocates claim an unlikely winner emerges from the season – the Victorian economy. Estimates of hunting's importance to the Victorian economy have typically involved large numbers. It has been claimed:

- The annual direct expenditure of duck hunters is estimated by the minister to be \$40 million. The indirect expenditure will be tens of millions more.<sup>3</sup>
- The activity generates more than \$70 million each year and supports jobs in hospitality, and creates market activity through the supply of vehicles, boats, firearms and ammunition, plus camping and hunting equipment.<sup>4</sup>
- It has been estimated that deer, duck and quail hunters in Victoria spend in excess of \$96 million (2006-07 figures) on hunting annually.<sup>5</sup>

Regardless of which expenditure estimate is correct, the net economic benefit that Victoria receives from duck hunting, or any other sort of hunting, is actually close to zero. This paper argues that banning duck hunting, as proposed by the Royal Society for Protection of Animals (RSPCA) Victoria, would make absolutely no difference to expenditure levels in the state. Evidence presented below shows that this is because every dollar that is currently spent on duck hunting would be spent on another activity, such as the hunting of other species, fishing, boating or camping.

If hunters did not go hunting, they would not stay at home and dispose of the money they would previously have spent on hunting. Rather, economic theory and interstate experience shows that hunters who are prevented from shooting ducks will instead use the money they once spent on hunting in the pursuit of other economic activities. Duck hunting bans have had no discernible economic effect in other states.

Claims made in this report about the likely behaviour of duck hunters, and non-duck hunters, are based on a survey of 503 Victorians conducted in September 2012 and a review of the relevant economic literature.

## The (un)popularity of duck hunting in Victoria

While the Victorian minister for Agriculture, Peter Walsh, claims that hunting is a “popular recreational activity [and] an important traditional pastime” our survey found that only seven per cent of respondents had ever participated in duck hunting and only half of these people planned to do so again.

<sup>1</sup> Department of Primary Industries (2012). *2012 Duck Hunting Season*.

<sup>2</sup> RSPCA. (2009). 'What Is the RSPCA's View on Duck Hunting?'.

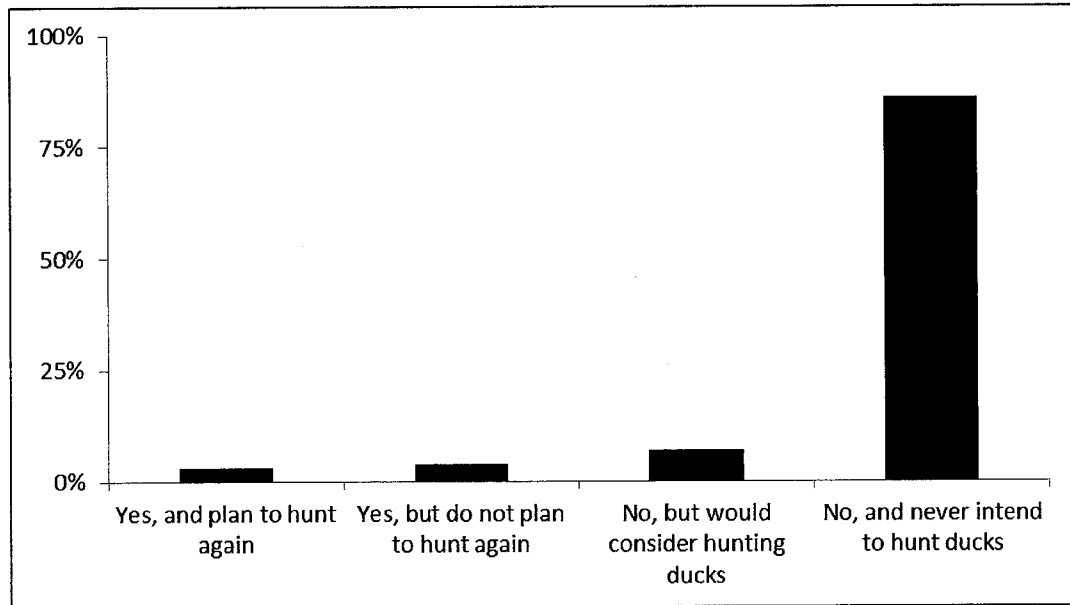
<sup>3</sup> Patterson, B. & Levy, L (2012) *The duck hunting debate*.

<sup>4</sup> Walsh, P. (Minister for Agriculture and Food Security) (2011). *Creation of Game Victoria Signals a New Era*.

<sup>5</sup> Regulatory Impact Solutions (2012). *Wildlife (Game) Regulations 2012 Regulatory Impact Statement*



Figure 1: Participation in duck hunting in Victoria



Source: The Australia Institute survey – September 2012

According to state government data these results are likely to overstate the popularity of duck hunting in Victoria. The Department of Primary Industries (DPI) claims that there are 24,500 current duck-hunting licences, while Victoria's population is more than 5.5 million, representing less than half of one per cent of Victorians.<sup>6</sup> A 2007 poll by Roy Morgan Research found that 87 per cent of Victorians support a ban on duck while analysis by hunting opponents suggests:

*The numbers of licensed duck shooters in Victoria has fallen from 95,000 in 1986 to about 20,000.<sup>7</sup>*

### What's a shooter to do? Go fishing!

While duck hunters are a small and declining proportion of Victoria's population, the economic significance of duck hunting expenditure, regardless of which estimate is most accurate, accounts for a trivially small proportion of Victoria's \$323 billion Gross State Product (GSP)<sup>8</sup>. Significantly, however, if duck hunting were banned in Victoria, the current level of expenditure by duck hunters would not be 'lost' to the Victorian economy. Rather, as is shown below, it would simply be spent on substitute activities such as fishing and camping. Consider the following example:

*A Victorian consumer sets out to purchase bananas but discovers that no bananas are available and buys apples instead. While he may be disappointed to have missed out on his first preference, if he spends the same amount on apples as he planned to spend on bananas then neither the fruit retailer nor the Victorian economy is in any way harmed. To the extent that the consumer substitutes other consumption*

<sup>6</sup> Regulatory Impact Solutions (2012).

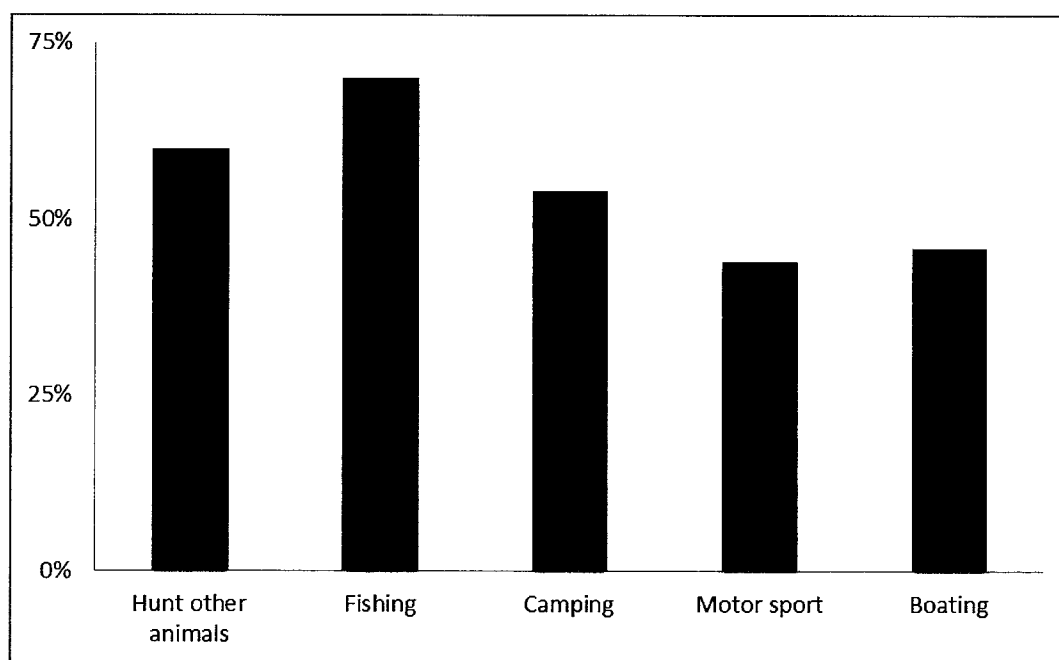
<sup>7</sup> Patterson, B. & Levy, L (2012).

<sup>8</sup> ABS (2012)

*expenditure for his planned banana expenditure, other retailers benefit at the expense of the fruit retailer, but the impact on the Victorian GSP remains zero.*

Figure 2 shows the activities that, according to the survey described above, existing and potential duck hunters are likely to undertake if a ban on hunting were to be introduced. It shows that the most likely substitutes for duck hunting are fishing (70 per cent) other forms of hunting (60 per cent) and camping (54 per cent).

**Figure 2: Substitute activities for duck hunting**



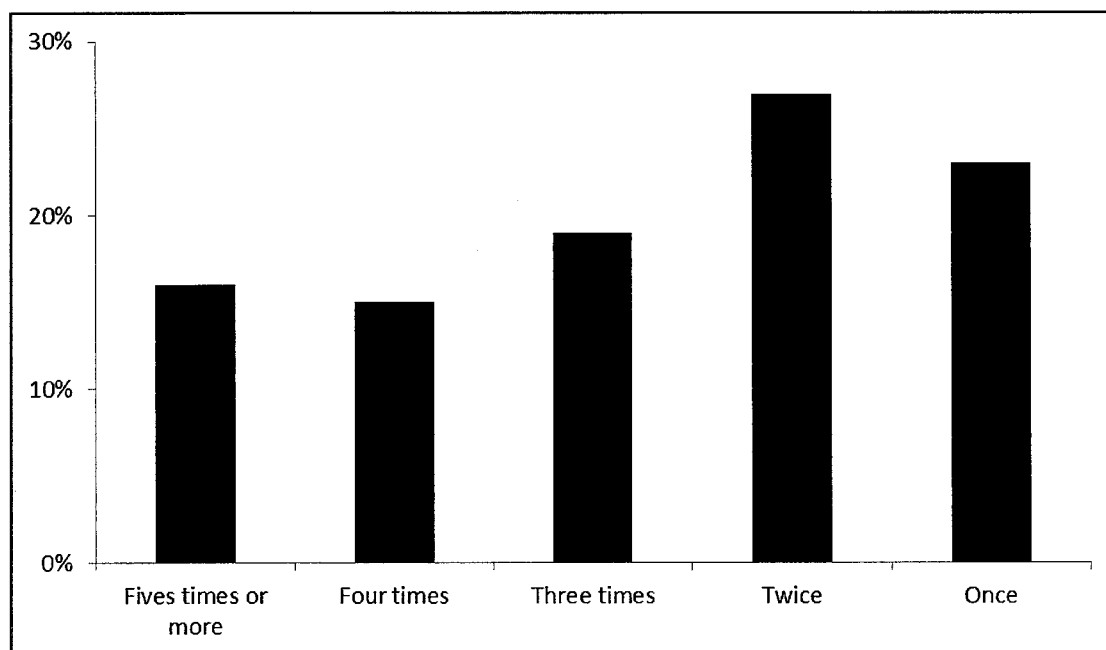
Source: The Australia Institute survey – September 2012

Only two per cent of duck hunters claimed that they would not substitute another activity for duck hunting if it were banned. That said, unless these hunters literally destroyed the money they spent on duck hunting, the increase in their expenditure on other forms of consumption would have the same impact on the Victorian economy as their previous expenditure on duck hunting had. That is, the inability or unwillingness of respondents to describe their most likely substitute for duck hunting does not imply that they are likely to tear up their \$50 notes if duck hunting were banned.

### **I don't shoot but I do spend**

While only seven per cent of Victorians have ever gone duck hunting, and less than half of those plan to do so again, seven in ten (72 per cent) Victorians holiday in regional Victoria, with more than half doing so three or more times each year.

**Figure 3: Number of trips to regional Victoria each year**



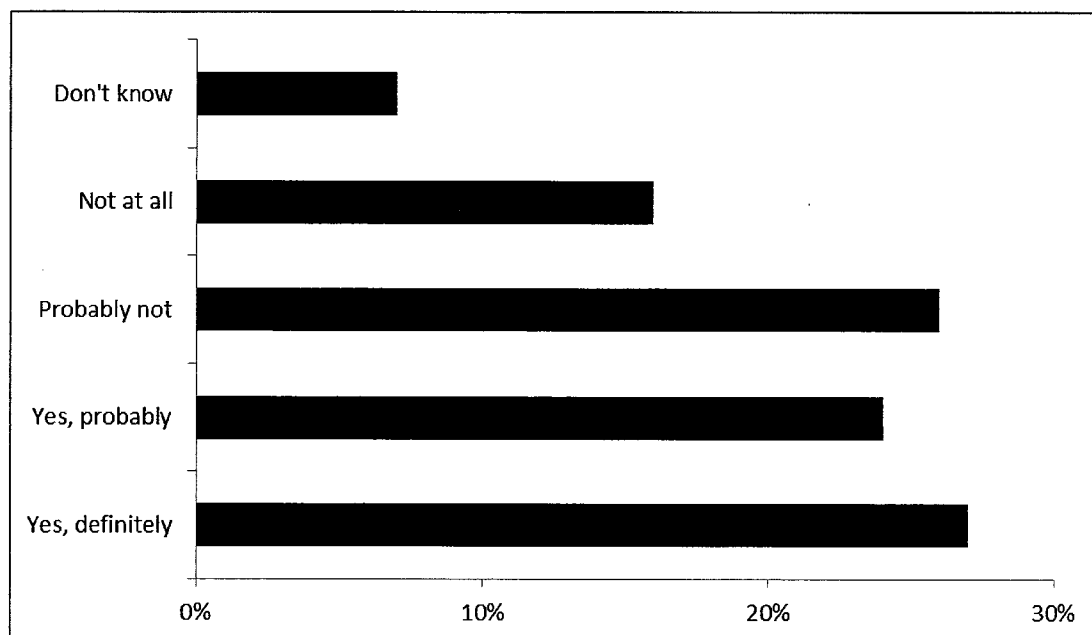
Source: The Australia Institute survey – September 2012

The importance of Victorian intrastate tourism has been highlighted by Tourism Victoria, which found that Victorians going on overnight trips within the state contributed \$1.8 billion in industry value added in 2010-2011.<sup>9</sup>

Survey respondents were asked whether, in choosing a holiday destination within Victoria, they would try to avoid areas in which duck hunting occurs. The survey found that 51 per cent of respondents said that they would 'definitely' or 'probably' avoid duck hunting regions, while only 16 per cent said that it would not influence their decision at all.

<sup>9</sup> Tourism Victoria, (2012), Economic Contribution of Tourism to Victoria 2012-11.

**Figure 4: Proportion of Victorians who would avoid holidaying in duck hunting areas**



Source: The Australia Institute survey – September 2012

The results make clear that while duck hunters may inject some funds into some regional economies they also deter other tourists from visiting those regions and, in turn, offset any benefit that their expenditure may have brought.

## Economics and animal welfare

Our analysis so far has focused on the financial aspects of duck hunting and tourism in Victoria, finding that a ban on duck hunting is likely to have only trivial impacts on the Victorian regional tourism market and the Victorian economy more generally. However, economic analysis is concerned with more than just financial impacts. As the Victorian Treasury points out:

*Analysis should not be restricted to tangible or monetary items and, where applicable, should include an assessment of less tangible impacts (such as changes in environmental amenity, health and safety outcomes, and other non-monetary outcomes).<sup>10</sup>*

Important non-monetary impacts of duck hunting (or banning duck hunting) are the wellbeing of the general (non-hunting) Victorian community as well as the wellbeing of duck hunters.

## Wellbeing of the non-hunting community

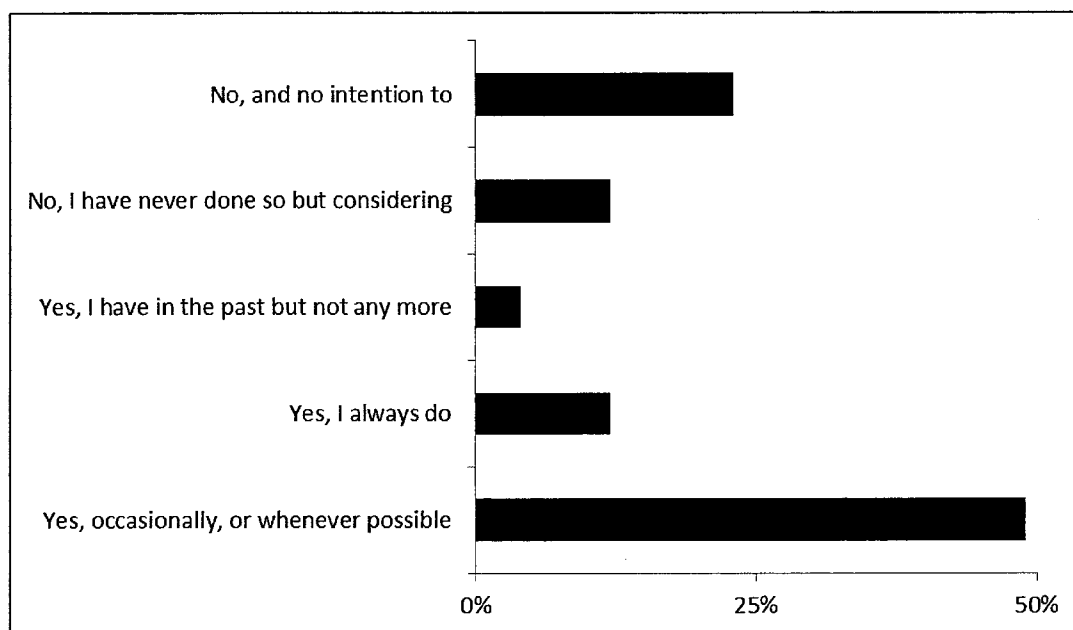
Economics is anthropocentric by nature – it does not (yet) have tools for incorporating how ducks feel about their own welfare into its decision making. Most humans, however, are concerned with animal welfare. This is demonstrated by our care for our pets, laws against animal cruelty and support for organisations such as the RSPCA. The public response to images of animal cruelty in the live cattle trade last year showed just how widespread such

<sup>10</sup> Government of Victoria. (2011). *Victorian Guide to Regulation*, p.22.

concerns have become. The national outcry resulted in federal government intervention and a petition against the trade attracting over 230,000 signatures.<sup>11</sup>

Furthermore, while concern about animal welfare is generally a non-monetary outcome, in some instances markets do provide an opportunity for people to express their preferences for improved animal welfare in monetary terms. Demand for free range eggs, hormone-free pork and grass-fed beef, not to mention vegetarian options in restaurants, for example, all show that many people are willing to pay for animal welfare when they can. Our survey asked respondents if they ever chose to pay a premium for products that are ethically produced – nearly two thirds of respondents are willing to pay a premium for animal welfare, while only 23 per cent said that they would never consider doing so.

Figure 5: Paying for ethically produced animal products



Source: The Australia Institute survey – September 2012

Measuring Victorian's willingness to pay for the welfare of wild ducks is more difficult as no market exists for the 'benefits' of reduced cruelty. Instead of directly measuring these benefits, economists generally, and the Victorian Treasury in particular, recommend using non-market valuation methods to provide indirect evidence of the benefits to the community of introducing a policy such as a ban on duck hunting. One such non-market valuation technique is 'contingent valuation', in which survey respondents are asked how much they would be willing to pay to secure a particular outcome, such as a ban on duck hunting. This information serves as the basis for estimating these non-market values.

To that end, the survey respondents contacted for this study were asked: "If others had to pay as well, would you be willing to pay a small amount to prevent duck hunting?" The following responses were received.

<sup>11</sup>Grattan, M. (2011). *People-power victory on live exports*.

**Table 1: Willingness to pay to prevent duck hunting**

Amount	Per centage
20 cents	13
\$1	8
\$2	3
\$3	1
\$4	1
\$5	3
Other amount	1
I would not be willing to pay	70
	100

Source: The Australia Institute survey – September 2012

Table 1 shows that 30 per cent of Victorians report that they would be willing to pay a small amount each week to prevent duck hunting in Victoria. Victoria has an adult population of approximately 4.3 million people.<sup>12</sup> If the amounts reported were collected only from the proportions of the population that reported a willingness to pay, the total collected would be \$76 million per year. Economic theory holds that the continuation of duck hunting represents a welfare loss to these people, who would be willing to pay to improve their own welfare by improving the welfare of Victoria's ducks.

#### *Wellbeing of duck hunters*

As we have seen, a ban on duck hunting would have zero effect on the level of economic activity (GSP) and employment in Victoria – hunters would spend their money on fishing, hunting other species, camping or other alternatives. That said, the welfare of hunters may be affected through the removal of their first recreational preference; going duck hunting. Again, non-market valuation methods need to be used to measure this change in welfare.

A 2011 study estimated South Australian duck hunters' 'consumer surplus' – the amount they are willing to pay over and above what the experience cost them.<sup>13</sup> Those authors found that hunters would be willing to pay \$34-\$59 per hunting day (adjusted to 2011 dollars). The DPI estimates licensed Victorian hunters spend 300,000 days hunting all 'game' (ducks, deer and stubble quail)<sup>14</sup>. Even assuming that all these days were spent hunting ducks (equating to 12 hunting days per hunter), this would result in an improvement in the wellbeing of hunters of only \$10.2-\$17.7 million.

<sup>12</sup> ABS (2011)

<sup>13</sup> Whitten, S. & Bennett, J. (2001). 'A Travel Cost Study of Duck Hunting in the Upper South East of South Australia',

<sup>14</sup> Regulatory Impact Solutions (2012).

Table 2: Calculating the annual financial benefit of hunting in Victoria

Annual hunting days in Victoria	300,000
Consumer surplus for 1 day hunting	\$34-\$59
Annual benefit of hunting in Victoria	\$10.2m - \$17.7m

Source: Department of Primary Industries; Whitten and Bennett.

Comparing this to the value that the Victorian public attaches to the welfare of ducks, we see that duck hunting produces an annual welfare loss to Victoria to the order of around \$60 million. That is, the Victorian economy would be the same size regardless of whether duck hunting continued or not, and, remembering that the adverse impact of duck hunting on non-duck hunters is significantly greater than the benefits of hunting that accrue to the hunters, the continuation of duck hunting will result in a reduction in the net welfare of Victorians.

## Conclusion

Very few Victorians hunt ducks and the great majority oppose having their ducks hunted. Only three per cent of respondents to our survey had hunted ducks and intended to do so again. Numbers of licensed hunters represent less than half of one per cent of Victorians.

Claims that the expenditure of duck hunters is economically significant are unfounded – if duck hunters didn't hunt ducks, they would still spend their money in Victoria, most likely on fishing, hunting other animals or camping.

Non-hunting tourism is vastly more important to the Victorian economy and to regional areas. Around half of tourists are less likely to spend their holidays – and their money – in areas where duck hunting occurs.

While the financial aspects of duck hunting are trivial, the impact on the welfare of Victorians is not. Most Victorians report a willingness to pay for animal welfare improvements in consumption goods, and 30 per cent would be willing to pay to prevent duck hunting. Basic calculations suggest that the continuation of duck hunting represents an annual welfare loss to Victorians of around \$76 million.

A ban on duck hunting would also have a non-monetary impacts on the welfare of hunters. Using a study from South Australia, we estimate that this impact could be worth up to \$17.7million, vastly less than the value to Victorians in improving animal welfare.

Our discussion of monetary and non-monetary economic aspects of duck hunting serve only to underline the obvious – that most Victorians oppose the hunting of their ducks and that the continuation of duck hunting represents the interests of a small minority being prioritised over the welfare of the majority.

## Appendix

The Australia Institute carried out an online survey of 503 Victorians about participation in duck hunting and travel in Victoria. The survey also included questions about how much Victorians might be willing to pay to end duck hunting. The survey was conducted in September 2012.

The following questions were asked:

Q. Have you ever participated in duck hunting?

1. Yes
2. No

Q. If yes, do you plan to do so again?

1. Yes
2. No

Q. Would you ever consider participating in duck hunting?

1. Yes
2. No

Q. If you were prohibited from duck hunting would you be likely to opt for any of these activities instead?

1. Hunt another kind of animal (e.g. deer or pig hunting)
2. Go fishing
3. Go camping
4. Go away for the weekend to attend other events (e.g. motor sport)
6. Boating
7. Other, please specify
8. No, would not take up any other activity

Q. Do you ever go away on holidays or weekends getaway in regional Victoria?

1. Yes
2. No

Q. How many times per year would you go away for the weekend or for a short break?

(1,2,3,4,5 or more)

Q. On an average weekend away how much would you and the group you are holidaying with likely spend on accommodation, food, fuel and other expenses?

- Less than \$100
- \$100-\$300
- \$300-\$500
- \$500-\$1000
- More than \$1000



Q. In choosing a holiday destination within Victoria would you try to avoid areas in which duck hunting occurs?

1. Yes definitely
2. Yes probably
3. Probably not
4. Not at all

Q. Do you ever choose to pay a premium price to purchase animal products that are produced ethically (e.g. free range eggs, organic meat?)

1. Yes, I always do
2. Yes, occasionally or whenever possible
3. Yes, I have in the past but not any more
4. No, I have never done so but considering
5. No, I have never consider and have no intention to

Q. If others had to pay as well, would you be willing to pay a small amount to prevent duck hunting? If yes:

1. 20 cents
2. \$1 per week
3. \$2 per week
4. \$3 per week
5. \$4 per week
6. \$5 per week
7. Other, please specify

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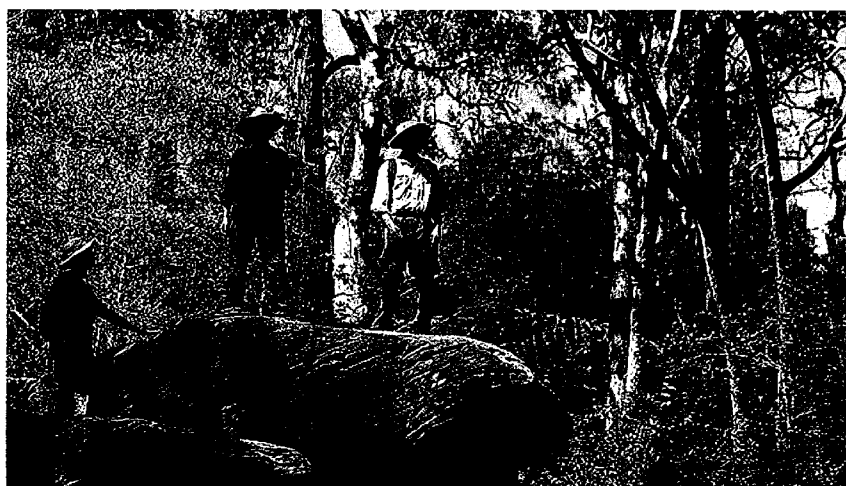
# Walkers pay price for hunters

January 6, 2013

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At risk ... Pam Campbell, Gillian Mountwinter and Nigel Weaver at Lane Cove National Park. *Photo: Helen Nezdopa*

**BUSHWALKERS** will pay the price of the state government's decision to allow amateur hunters into national parks through increased insurance costs to reflect the risk of being shot.

The insurance broker to the state's 55 biggest bushwalking clubs confirmed to Fairfax Media that public and private liability costs would inevitably rise as a result of the added risk - confirmed by the government's own risk assessment - that someone could be killed once shooting of feral animals begins in March.

The broker, Marsh, said insurance companies would think twice about offering cover or "load the premium" for walkers.

The risk of bushwalkers and national parks staff being killed or seriously injured was rated as "major" by an internal risk assessment produced by Premier Barry O'Farrell's own department and leaked to Fairfax Media last month.

Representatives of the 30,000 bushwalkers who belong to clubs say they will explore possible legal recourse, including a class action against the government.

The state's biggest bushwalking club, the National Parks Association, said it fears its insurance bill - estimated at \$30,000 a year - could double or more as insurers price the risk of paying out for the worst case scenario of a shot walker.

In New Zealand, where hunting is allowed in national parks, a school teacher, Rosemary Ives, was shot dead at a camp site in 2010 after a hunter "mistook her for a deer".

Kevin Evans, the chief executive of the National Parks Association, said the deal to allow hunting in an initial 79 parks with the Shooters and Fishers Party - whose two MPs hold the balance of power in the NSW Parliament - was "absurd" and the bushwalking community's objective would be to see the law repealed.

But the association would also fight against having its members pay the price of the law through higher insurance costs.

"We will certainly be seeking advice on what our options are for legal recourse," Mr Evans said.

NSW Environment Minister Robyn Parker said insurers should fully consider the final risk mitigation strategies.

"Insurers should look closely at the detail of how the program will be controlled and managed in 10 per cent of parks in regional and rural NSW, as well as the safe operation of similar programs in Victoria and South Australia," Ms Parker said.

"The final details of the program have not been finalised and it would be very disappointing to see insurance for community-based bush walking groups rise unnecessarily because of Labor and the Greens' scaremongering."

Dodie Green, the president of Bushwalking Australia, which negotiates the cover for state bodies such as the Confederation of Bushwalking Clubs NSW, which in turn covers individual clubs, said rising cost of insurance would decrease membership and potentially discourage people from joining.

"The cost of insurance is always an issue," she said. "The cheaper we can keep it the more inclusive clubs can be. Higher membership fees could be one less reason to sign up."

Bushwalker Gillian Mountwinter, who joined a group in Lane Cove National Park on Saturday, said: "NSW voted for the Liberals, but we got the Shooters Party instead."



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