Tasmania

unenviable leader in Roadkill
The Tasmanian Conservationist is the regular newsletter of the Tasmanian Conservation Trust Inc, 102 Bathurst Street, Hobart, Tasmania 7000. ABN: 63 091 237 520 Phone (03) 6234 3552 Fax: (03) 6231 2491 email: tct@southcom.com.au website: http://www.tct.org.au

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Contributions: We encourage our readers to submit articles of interest for publication. Articles should preferably be short (up to 600 words) and well illustrated. Please forward copy on computer disk or by email if possible. Guidelines for contributors are available from the TCT office. We reserve the right to edit contributions.

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Christmas Appeal
Thank you

Thank you to all our members who have so generously responded to our Christmas fundraising appeal.
We appreciate your commitment and ongoing support to the Tasmanian environment through the work of the Trust.

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Christmas Appeal
A few days before Christmas, the TCT signed a consent agreement to end an appeal in the Resource Management and Planning Appeal Tribunal (RMPAT) against the building of a luxury resort by Federal Hotels at Coles Bay and the construction of several kilometres of pipeline through the Coles Bay Conservation Area. This was the penultimate chapter in a two-year running battle against what we consider to be unsustainable development in this very important and sensitive part of Tasmania. The TCT lodged the appeal against the resort on a number of grounds, including the legality of the permit, an absence of detailed information about the resort footprint, and the visual impacts of a twenty-plus-metre high building. We were joined in this appeal by two very committed local campaigners, who worked particularly hard on quantifying the visual issues.

However, the willingness of the proponent to mediate and spend money on technical information meant that the majority of our concerns were soon addressed. Those issues that were not adequately addressed did not, in our view, constitute sufficient grounds to continue with the appeal. When making this decision we had to take into account our previous unsuccessful appeal against the building of four dams within the Coles Bay Conservation Area and Freycinet National Park, on which we had much stronger grounds. A costs application of $270,000 against the TCT by Federal Hotels for this appeal is still outstanding, over 12 months later.

Also just before Christmas, the Supreme Court dismissed an appeal by the St Helens Landcare and Coastcare Group against another RMPAT decision to partly approve the Scamander Sanctuary ‘eco-resort’. The TCT was one of the parties that appealed the original Break O’Day approval for this development in early 2004. The 52-hectare site, which is adjacent to the Winifred Curtis Reserve, has outstanding coastal vegetation qualities, including tracts of old-growth Eucalyptus sieberi woodland, Melaleuca ericifolia forest and numerous threatened species. On the surface there appears to be a number of issues with this judgement, but an appeal to the full bench of the Supreme Court is a daunting and expensive prospect for a small community group.

These two issues demonstrate how badly we are losing the fight against coastal development. Even when we can bring to bear significant and informed opposition to such patently unacceptable proposals, a combination of acquiescent local government, high-powered legal counsel and comparatively unlimited resources is more than a match for us. For every Ralphs Bay, there are at least two Scamander Sanctuaries. And unless something changes, it is only going to get worse.

Craig Woodfield

Environmental Defenders Office
new publication now available


The guide is intended to assist people taking action in the Tribunal who are unfamiliar with the legal process. The guide provides general guidance on the legal process, explanations of common terms and practical tips on how to best present your case. Topics covered include:

- Tribunal procedures
- Grounds of Appeal
- Preparing for a directions hearing
- Negotiating with other parties
- Expert evidence
- Tips for cross-examination
- Dealing with applications for costs

The Guide is a collaborative effort by lawyers and by non-lawyers who have had considerable experience themselves in representing their organisations and others before the Tribunal. The resultant synergy has produced a work of great value.

- Stephen Estcourt
  (President of the Tasmanian Independent Bar and former Chairperson of the Resource Management and Planning Appeal Tribunal)

To order your copy of Going It Alone, please send an order form (see insert) and payment to the EDO or contact us on (03) 6223 2770.

The EDO gratefully acknowledges the assistance of the Law Foundation of Tasmania, the Department of Primary Industries, Water and Environment and the Department of Justice.
Many people agree Tasmania has a lot of roadkill; indeed it is one of the oft-heard comments from tourists departing Tasmania. Our recently completed research shows that an observant driver will likely encounter about one carcass every three kilometres along Tasmania’s major roads; rates are higher in late summer and autumn and lowest in winter. The amount of roadkill also varies regionally with more roadkill occurring on the Tasman Peninsula than in the Huon area. Brushtail possums, pademelons and wallabies were the most common roadkill.

The study was undertaken to provide baseline information on the distribution and abundance of roadkill in Tasmania with the goal of supporting subsequent mitigation attempts: results show there are roadkill hotspots where focused mitigation measures such as speed reduction can be effective.

Dr Alistair Hobday (School of Zoology, University of Tasmania)
Melinda Minstrell (Department of Rural Health, University of Tasmania)

Tasmanians are not surprised to hear that roadkill levels are high; it is only natural, some say, because we have a lot of animals. We agree. Without any animals there would be no roadkill. Logically, as animal numbers increase, faunal mortality on roads will also increase. We contend, however, this is not the only possible outcome. The increase in roadkill need not be proportional to abundance. The natural abundance of unique fauna that Tasmanians and our visitors enjoy – and is the envy of other Australians – does not come without responsibility. We should protect our rich landscape and cherish it for ourselves and those who will come later. Why is it not accepted that living in a state with plentiful animal life requires some different attitudes and behaviours?

Our attitudes and behaviours reflect the values we hold. Consider the analogy of schools and speed limits. Lots of children are found near schools at certain times of the day and year. Having a lot of children crossing roads on their way to school is not an excuse for more traffic accidents; instead we institute speed zones in these critical areas. We hope no one would argue that lots of children will unfortunately result in lots of pedestrian mortality – any level is unacceptable. A similar mindset could also help save our wildlife. We suggest a few simple solutions can decrease the incidence of faunal deaths on Tasmania’s roads. The decision we face is, do we accept these solutions and modify our behaviour, or explain away the responsibility to protect our unique biota?

Recent research

We recently completed a three-year study to determine the frequency and distribution of roadkill on major Tasmanian roads, and are now completing the analyses. Our survey vehicle was equipped with a GPS to record the location and speed of the vehicle every time a roadkill was encountered, and roadkill items were identified without stopping the vehicle or removing the roadkill. We undertook over 150 journeys of an average of 100km between 2001 and 2004 (>15,000km total) in five general areas radiating from Hobart, and repeated routes every season. The average density of roadkill was one carcass every 2.7km. This rate is higher than reports from NSW, Victoria, Queensland and Western Australia. Higher density areas may exist but, at the scale of this study, Tasmania is an unenviable leader in roadkill. The highest average density of roadkill was observed for the Tasman Peninsula (almost one animal every 2km), and the lowest was the Midlands (almost one animal every 4km). On some individual journeys we observed a density of over one carcass per kilometre for a 100km journey.

We recorded over 50 different taxa, ranging from wombats and wallabies to bandicoots and bettongs. A total of 32 bird and two reptile species were included in this total. While we believe that the dominant species have been well measured, our list should not be considered a complete
list of species killed on Tasmanian roads. Other species will be encountered at even lower rates than we observed here. One key finding is that the 10 most common taxa account for over 99% of all roadkill.

The top 10 most common roadkill items were identified in our study. For example, a total of 1558 brush-tailed possums were observed on 97.4% of the journeys we undertook. They comprised 27.4% of all items on roads, and 48% of all items that could be identified to a specific taxon. The tenth most common animal, Tasmanian devils, while seen on almost 1 in 5 trips (20%) represented only 1% of all roadkill items. Unidentified taxa dominated the records (37.76%).

Our research also revealed that animal carcasses are not distributed randomly along roads. In fact, between 50% and 70% of roadkill occurs in only 10–20% of the road. This means mitigation attempts can target localised ‘hotspots’. Finally, speed is obviously linked with roadkill. We found, using our vehicle speed as a proxy for the speed of the vehicle that killed the animal, 50% of the roadkill is observed where vehicles can travel faster than 80km hr⁻¹.

**Extrapolating roadkill to the whole of Tasmania for a whole year**

So what is the likely scale of roadkill in Tasmania over a whole year? We can suggest some numbers based on extrapolating from our data. We have included the calculation here, to allow the reader to judge the quality of the extrapolation, and to demonstrate how such numbers are reached.

Our study area covered 1872km of highway over three years, with an average roadkill density of 0.372km⁻¹. This corresponds to an average standing stock (the number of roadkill that would be encountered if all 1872km could be instantaneously surveyed) of 696 roadkill in this survey area. Using the figure of 3507km of state and federal high-way (A and B roads) in Tasmania, we covered 53% of this road type in our survey; thus, we estimate a standing stock of 1305 roadkill on state and federal highway. If the roadkill turnover time (the time for all roadkill to be removed and fresh carcasses created) is four weeks, standing stock corresponds to 17,000 roadkill per year on major highways. Now the numbers get a bit curly, and we suggest these for illustrative purposes, rather than to derive an exact number. If we estimate the roadkill abundance based on all Tasmania roads (23,380km), this leads to a ‘guesstimate’ of 113,066 roadkills statewide per year. If the turnover time is shorter, say one week, then the estimate is 450,000; if turnover time is longer, say eight weeks, the number is smaller, ~56,000. One final correction necessary is the amount of roadkill that remains on the road visible to a driver. Wildlife Biologist Nick Mooney (DPIWE) estimates that only 30% of roadkill remains visible on a road or road margin; thus multiplying the higher of the above figures leads to estimates of close to one million animals per year killed on Tasmanian roads.

**Roadkill in perspective**

Roadkill is not the only source of human-induced mortality for wildlife in Tasmania. Legal harvesting, crop and tree protection, and habitat degradation all impact native populations. For the common species, such as possums and wallabies, these legal forms of killing are equal, or exceed the estimates of roadkill we have made. Wildlife managers believe (we hope) that our wildlife can cope with these impacts, and we are not irrevocably damaging populations. Yet when additional problems arise, such as disease, drought, fires, and roadkill, further pressures are placed on animal populations. Roadkill is one source of mortality we can minimise to improve the population status of our unique fauna.

**Roadkill mitigation options**

We do not believe roadkill can be completely eliminated. That said, after completing 15,000 kilometres of survey and recording over 5000 carcasses, we can provide information to allow a management response to reduce roadkill if there is community desire for such action. Without this baseline information, responses may not be the most effective, nor can we determine effectiveness. The choice not to respond may be legitimate, but let us make that choice on the basis of some information.

To effectively mitigate the death of animals on roads requires an understanding of the distribution and abundance of roadkill, which we have provided, and an understanding of the causal mechanism. Roadkill occurs...
in a two-step process. The behaviour of an animal or bird leads it onto a road for a variety of reasons, including warmth, food, water, crossing or light. Once on the road, a roadkill occurs when a vehicle, driven by a human, collides with that animal. To adapt a popular slogan: ‘cars don’t kill animals, people do’. Thus, we can mitigate animal behaviour, such as convincing animals to avoid crossing roads, or we can mitigate human behaviour, convincing people not to hit animals. Which one of those choices sounds easier?

Despite the apparent logic of modifying the behaviour of intelligent humans, changing animal behaviour has in fact received more attention. Reflectors, whistles, horns, lights, vegetation management, bridges and ramps have all been advocated and tried as roadkill reduction devices. Tests of efficacy have been unconvincing, particularly for car-mounted whistles. A DPIWE researcher, Zoe Magnus, devised a clever test to examine whistle performance. In comprehensive tests with whistles plugged or open, and without the driver knowing the whistle state, there was no difference in the number of animals seen on the road and struck by the test vehicle. We remain unconvinced that strategies for changing animal behaviour will be applicable for the suite of animals killed, can be applied to a large region, or that they in fact work.

Changing human behaviour is, in principle, a simple alternative. One can talk to a human or leave a warning message (e.g. roadsign). That said, encouraging humans to avoid roadkill is a sensitive issue. Motoring bodies are cautious about recommending avoidance of animals on the road. Swerving to avoid an animal may be more dangerous for the driver, and lead to an increase in accidents. We value human life more highly than other animal life, and agree that swerving to avoid a collision may be a risky response. Swerving, however, is only necessary when speed is too great to slow down when an animal is encountered on the road. Our data indicates that a speed reduction to 80km hr⁻¹ in key ‘hotspot’ locations identified in our study would be an effective mitigation and reduce roadkill by up to 50%.

So what would a slowing of speed mean in terms of delays to journeys?

To conclude, consider the following hypothetical calculation about a journey from Hobart to Launceston, a distance of approximately 200km. At a legal speed of 100km hr⁻¹ assuming it could be driven the whole distance), this journey requires two hours of drive time. If nighttime speed were reduced by 20% (to 80km hr⁻¹) in only 10% of the road (our identified ‘hotspots’), there would be a distance of 20km where speed was reduced to 80km hr⁻¹. This would add an extra three minutes to the journey. An extra three minutes at night, to reduce roadkill by 50%. Is this too much to ask Tasmania?

Acknowledgement

We appreciate the assistance and information provided by a large number of people who have assisted this study, particularly Scott Ling, Doug Ling, and Matt Sherlock.

King and Flinders Island Pademelon Kill

In early December, at the request of several groups, I filed an appeal in the Administrative Appeals Tribunal (AAT) over the King and Flinders Island Wallaby and Pademelon Management Plans which were approved by the Federal Government on 1 December. I also applied for a stay of the plans until the appeal is heard.

On Wednesday 21 December a hearing was to be held to determine whether a stay would be allowed. I was advised by the AAT that Department of Environment and Heritage (DEH) solicitors would appear at the hearing, and would oppose a stay, claiming that two or three butchers are getting set up to handle the meat under the expectation they would get a permit, and they would lose money if the stay were granted. The permit applicant has also stated that he would lose a year’s contract of skins. The DEH barrister and solicitor handed me a 288-page affidavit just prior to the hearing. When the hearing started I immediately asked for an adjournment to peruse the documents, which was granted until 13 January. No activities under the plans were allowed until then.

However, in spite of a seven-page submission and supporting arguments, we lost the appeal for a stay. The full hearing will be held in early April, and is likely to last five days. The deputy president of the Tribunal made it very clear that, if we won the appeal, if anyone proceeded with an export program in the meantime, they would do so at their own risk.

Pat O’Brien, President

Wildlife Protection Association of Australia Inc.

TCT Position

Readers will recall that in #301 of The Tasmanian Conservationist we discussed how the Draft Wildlife Management Plans for the commercial harvest of wallabies and pademelons on King and Flinders Island fell far short of the very reasonable criteria established in the Whitemark Agreement. The Australian Government subsequently approved the plans, changing only a handful of words. As frustrating as this behaviour is, the TCT is not ready to go to appeal without viewing the Statement of Reasons for the decision to approve the plans, and getting legal advice on this. We are still awaiting this information, whilst the Wildlife Protection Association of Australia is proceeding at breakneck speed. It is therefore unlikely that we will be in a position to join this particular appeal. Although our two organisations have quite different methods and objectives, we wish them all the best in this matter and await with interest the decision of the AAT.

Craig Woodfield
What’s happening at Wielangta?

Most people would be aware that Senator Bob Brown is involved in a legal action against forestry activities in the Wielangta forest on Tasmania’s east coast. But what is the case really about?

The area known as Wielangta forest is found between Orford and Copping on the east coast, roughly adjacent to the southern part of Maria Island. The Wielangta Forest Drive is promoted by both Forestry Tasmania and Tourism Tasmania, and focuses on the small Wielangta Forest reserve, which is surrounded by a much larger area of State Forest.

The first thing to note about this case is that it is not against Forestry Tasmania, nor is it being heard under Tasmanian law. It is in fact targeting exemptions given to forestry activities under Commonwealth law. In general, activities that could have a significant impact on a nationally listed threatened species need to be approved by the Commonwealth Environment Minister. However, s.37 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides that forestry operations undertaken in accordance with a Regional Forest Agreement do not require this approval. For this reason and other reasons, forestry activities are frequently not subject to the same level of assessment and public scrutiny as other land uses that adversely affect threatened species.

Senator Brown has made an application to the Federal Court challenging the application of this exemption on a number of grounds. In particular, he argues that forestry operations in Tasmania are not in accordance with the Tasmanian Regional Forest Agreement because there are not adequate systems in place to assess the impact on, or to protect, endangered species.

The action focuses on the impact of proposed logging in the Wielangta forest on the following threatened species:

- **broad-toothed/Wielangta stag beetle (*Lissotes latidens*)**
  The Wielangta stag beetle is a small, flightless, ground-dwelling beetle. It has been found in around 38 sites in south-eastern Tasmania (between Orford and Copping) and on Maria Island. Habitat loss through forestry practices is recognised as a major threat to the beetle.

- **swift parrot (*Lathamus discolor*)**
  The swift parrot is a migratory species which breeds in Tasmania before migrating to mainland Australia in autumn. Their main breeding area is coastal south-eastern Tasmania, where grassy bluegum forests are prevalent. Swift parrots nest in hollows in old-growth trees across a range of eucalypt species, generally near the coast.

- **Tasmanian wedge-tailed eagle (*Aquila audax fleayi*)**
  The Tasmanian wedge-tailed eagle is the largest and heaviest wedge-tailed eagle. It nests in a range of old-growth native forests throughout Tasmania. The species is suffering a decline in breeding success due to disturbance of breeding pairs and habitat loss. The birds are also highly susceptible to unnatural mortality.

Because of this focus on threatened species, a large number of scientists have been or will be called to give evidence. This gives the somewhat misleading impression that the case will be won or lost on the merits of the management prescriptions used to protect threatened species. This is unfortunately not the case. As dodgy as the scientific justification for logging activities may or may not be, the case will ultimately be decided on the legal arguments that are presented.

Nevertheless, the revelations so far have been breathtaking, even by Tasmanian standards. It was widely reported that biologist Dr Jeff Meggs changed the content of his affidavit after comments by Forestry Tasmania. A paragraph on the Wielangta stag beetle that read ‘the longer the status quo of conservation management for this species is maintained, the higher the risk of extinction to the species based on current knowledge’ was removed. The change was defended as this statement was seen to be a ‘gratuitous’ call for research funding.

The case is being heard in the Federal Court in Hobart, before Justice Marshall. The first two weeks of the trial were heard from 5 to 16 December 2005. The hearing will recommence in February 2006. Forestry Tasmania has undertaken not to conduct any forestry operations in Wielangta before April 2006 (unless the court gives permission). If the application is successful, forestry operations in Tasmania, and possibly under RFAs in other states, will not be automatically exempt from assessment under the EPBC Act. It is also worth noting that Senator Brown is personally funding this case – a very courageous move.
Sharks and shark nets

Excerpt from ‘Nomination to have “Death or injury to marine species following capture in the lethal shark control programs on ocean beaches” listed as a Key Threatening Process under the Environment Protection and Biodiversity Conservation Act, 1999’

New South Wales (NSW) and Queensland (Qld) are the only two states in Australia that have shark control programs. Worldwide, and apart from Australia, shark control programs exist in only one other country, at KwaZulu-Natal in South Africa. These programs are designed to reduce the populations of potentially dangerous sharks and thereby lower the likelihood of a shark attack. Nets and/or baited drumlines are set off beaches along the coastline with the purpose of intercepting (and culling) sharks on their feeding and territorial runs up and down the coast. In NSW the shark control program relies solely on beach meshing to achieve this goal while Qld employs both mesh nets and baited drumlines. Contrary to popular belief neither act, as a protective barrier for swimmers by enclosing the beach, and indeed many of the sharks killed in nets in NSW have been caught on the beach side of the net (Australian Marine Conservation Society (AMCS), 2001).

Mesh netting was introduced to Sydney beaches in 1937, Wollongong and Newcastle in 1949 and the NSW Central Coast in 1987. Today 49 beaches covering approximately 200 kilometres of coastline between Newcastle and Wollongong are netted. NSW uses what is called a ‘pulse fishing operation’, whereby the nets are set for approximately 50% of the time between September and April. During the winter months of May to August, these nets are removed from the water completely (Qld DPI, 2001). The nets are set parallel to the shore, have a length of 150 metres, depth of 6 metres and a mesh size of 50–60 cm. The nets are set in approximately 10–15 metres of water with the bottom of the net resting on the ocean floor (Draft Recovery Plan for Great White Sharks (DRPGWS), 2000). Beach meshing is carried out by private contractors who are required to mesh each beach a minimum of 13 times per month. Each net must be left to fish for a minimum of 12 hours on weekdays and 48 hours on weekends. It is general practice to join two nets together thereby meshing a beach twice on the one day (Krogh and Reid, 1996).

Queensland has used both mesh nets and baited drumlines since the beginning of its Shark Control Program in 1962. Shark gear is now in place on 84 beaches along the Qld coastline, and consists of a mixture of nets and drumlines (Qld DPI, 2001). Baited drumlines consist of a float or series of floats moored by an anchor. Attached to each float is a stainless steel cable supporting one or more hooks with a three-inch gape (Paterson, 1986). Baited drumlines are designed to target dangerous shark species and reduce by-catch. The nets used in the Qld shark control program have a mesh size of 25 cm and are 186 m long (Paterson, 1986). Initially the nets were set to rest on the ocean floor. However this practice was ceased as many rays were caught in the low lying nets which in turn attracted sharks, causing costly damage to the nets. Today the nets average a depth of 6.4 m (Paterson, 1979). The Qld shark control program can be divided into ten areas, where each area consists of several beaches. At each of these beaches there are usually 1–3 nets used and up to 6 drumlines (Gribble, N A et al, 1998). A mixture of nets and drumlines is not always used, for example at Point Lookout drumlines have been used solely since 1979 (Gribble, N A, et al, 1998). In comparison to the NSW shark control program, shark gear in Qld remains in the water the entire year round, and is not removed during the winter periods as it is in NSW waters (Qld DPI, 2001).

In a review of the Qld Shark Control Program sent out for public consultation in December 2001, the Queensland Department of Primary Industries states ‘The risk of shark attack is extremely low. For example, it is much more likely that swimmers will die in an accident getting to the beach than by a shark attack at the beach.’ The review goes on to say that, despite such a reality, it is the issue of a potential shark attack that creates the most fear in beach visitors. One of the main concerns with the NSW and Qld shark meshing programs is the significant toll the programs have.

Recent high-profile and horrific shark attacks on swimmers have reignited the debate on shark control measures around Australia. In Tasmania in January, a 5.5-metre shark was noticed feeding on a whale carcass near Adventure Bay on Bruny Island, prompting authorities to remove the carcass from the water. Where the shark went seeking its next meal has not been explained.

In 2003 the Humane Society International nominated shark control measures as a key threatening process for a number of marine species to the Australian and NSW Governments under their respective threatened species legislation. NSW adopted the recommendation in November 2003. The Australian Government rejected the nomination in March 2005.

The following is an excerpt from the latter nomination, which provides an excellent overview of the issue.

Craig Woodfield
on non-target species or by-catch. There are three sharks considered responsible for nearly all shark attacks, the white shark (*Carcharias taurus*), the bull shark (*Carcharhinus leucas*) and the tiger shark (*Galeocerdo cuvier*) (Last and Stevens, 1994). Yet for every one of these potentially dangerous sharks caught in the beach meshing programs unacceptably high numbers of non-target marine animals are killed. A number of the non-target species caught, injured and drowned in these programs are protected as threatened species under legislation including: the Commonwealth Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act, 1999); the NSW Threatened Species Conservation Act, 1995; the NSW Fisheries Management Act, 1994; and the Qld Nature Conservation Act, 1992. In NSW between 1995 and 2000, 13 white sharks, 8 tiger sharks and no bull sharks were caught. Over this same five-year period 717 other marine animals have been killed in the nets. Therefore for every potentially dangerous shark caught 35 marine animals have been killed (AMCS, 2001). The by-catch in the Qld shark control program is equally concerning. During the first 15 years of the program (1962/63–1977/78) 468 dugongs, 2654 turtles, 317 dolphins and 10,889 rays were caught (Paterson, 1979). In 1992 initiatives began to reduce the by-catch in the Qld program.

Indeed the data on by-catch since 1992 does illustrate both a drop in the numbers of each species caught and an increase in the percentages of animals released alive (Gribble et al, 1998). However, while the changes since 1992 are encouraging, the fact remains that the number of non-target species caught and killed in the Qld shark control program every year remains unacceptably high.

HSI has obtained the data on the species caught in the Qld and NSW Shark Control Programs, which can be provided to the Threatened Species Scientific Committee for review upon request. In 1998, HSI submitted a nomination to have beach meshing recognised as a “Key Threatening Process” in Schedule 3 of the *Endangered Species Protection Act* 1992. The Endangered Species Scientific Committee (ESSC) disputed the claim by HSI that beach meshing is unselective, stating ‘demersal gillnets are highly selective, such that a difference of 1.25cm (in mesh size) can have a profound effect on the species and size of shark captured.’ However, the fact that such a high number of non-target animals die in the nets is testimony to the contrary. The environmental cost of the by-catch in these programs is significant and must be weighed against any gains in safety. Shark meshing was introduced to Sydney beaches to protect bathers following a series of fatal attacks off Sydney beaches and in Sydney Harbour (Krogh and Reid, 1992). The perceived success of the NSW program and fatal shark attacks at Noosa Heads and Mackay in December 1961 prompted the introduction of the Qld Shark Control Program in 1962 (Paterson, 1979). As stated above, the argument that the NSW and Qld shark control programs increase swimmer safety is based on the idea that when the populations of potentially dangerous sharks are reduced so too will the probability of being attacked. Indeed those who support the programs use the fall in shark attacks since the introduction of each program as proof of their success. The statistics on shark attacks do demonstrate a dramatic fall in attacks. In NSW there were 27 attacks in the years immediately prior to the commencement of the program, which fell to 3 in the subsequent 50 years (Krogh and Reid, 1992). In Qld the annual average frequency of 1.5 attacks over the years 1919–1962 has fallen to only one since the program’s beginning (Paterson, 1986). While impressive, these figures on shark attacks in fact exaggerate each program’s effectiveness. Over the study period shark populations have come under many threats which have reduced population numbers significantly. Therefore, any objective analysis of the efficacy of the programs must take into consideration the distorting effects these additional threats – especially commercial and game fishing – have had on overall shark populations. Additionally, it was recognised in the recent Commonwealth publication ‘Draft Recovery Plan for Great White Sharks’ (December 2001) that changes in some industry practices have also contributed to the fall in shark attacks. ‘When shark control activities were introduced, other activities now banned, such as abattoirs discharging offal into the ocean, could have led to a higher incidence of shark attacks’ (DRPGWS, 2001).

There were also shore whaling stations in southern Qld and at Byron Bay in NSW that processed 7,423 humpback whales between 1952 and 1962. It is very likely the closure of these whaling stations would have contributed to the observed fall in shark attacks in both Qld and NSW (Paterson, R.A, 1986). The Qld program has been criticised for its use of baited drumlines as they are suspected to actually attract sharks. Paterson has defended the use of drumlines on this count but only by noting that beach nets are just as likely to attract sharks. Tiger sharks, whaler sharks and great white sharks have been found feeding on meshed animals including dolphins and dugongs (Paterson, 1989). Therefore the goal and justification for the Qld shark control program – to increase swimmer safety by lowering the frequency of interactions between sharks and swimmers – is thrown into serious question by these two points. The safety measures offered by the NSW shark control program must also be questioned when one considers the fact that 35% of the sharks caught in the shark nets have been found on the beach side of the net (AMCS, 2001). Additionally, there is no follow up research undertaken on the individual species (e.g. sharks, turtles etc) which are caught in the nets and released as to whether or for how long they survive after being entangled in the nets or hooked on the drumlines.

Shark meshing is an outdated practice. It addressed public fears at the time it was introduced. In the last five decades the public’s ecological awareness and understanding has grown to replace the fear and hysteria that once came from ignorance. In addition human impact on the environment has increased substantially since the introduction of the program. A program in response to a relatively small threat – shark attack is less likely to occur than being struck by lightning – with such a high ecological cost is no longer acceptable. The fact that one of the target species, the great white shark, is listed under national law as Vulnerable to Extinction yet continues to...
be targeted, and the shark control programs have contributed to the unfavourable conservation status of species such as the harmless yet critically endangered grey nurse shark and highly threatened species of marine turtle is testimony to the practice of shark meshing being both archaic and inappropriate.

**Listed species, population or ecological community considered to be adversely affected**

- Great white shark (*Carcharodon carcharias*)
- Grey nurse shark (*Carcharias taurus*)
- Leatherback turtle (*Dermochelys coriacea*)
- Green turtle (*Chelonia mydas*)
- Loggerhead turtle (*Caretta caretta*)
- Olive Ridley turtle (*Lepidochelys olivacea*)
- Hawksbill turtle (*Eretmochelys imbricata*)
- Dugong (*Dugong dugon*)
- Humpback whale (*Megaptera novaeangliae*)
- Irrawaddy River dolphin (*Orcaella brevirostris*)
- Indo-Pacific humpbacked dolphin (*Sousa chinensis*)
- Bottlenose dolphin (*Tursiops truncatus*)

**References**


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**Lutregala Marsh**

In 1990 the TCT commenced negotiations with a private landholder to purchase Lutregala Marsh on South Bruny Island. In 1994, after an inordinately long process, this 42-hectare site became the property of the TCT. These were the days before Australian Bush Heritage Fund, and the TCT was dabbling in the area of land management. What was somewhat confusingly called the Tasmanian Wildlife Appeal was used to raise funds for this purpose, though only one other property was ever purchased (the Apsley River South Esk Pine Reserve on the east coast).

Lutregala Marsh is a low-lying coastal wetland that boasts impressive biodiversity values. As a result of variations in altitude and salinity, no less than 12 distinct vegetation communities are present on the site, as well as 35 bird species, including wedge-tailed eagles and sea eagles.

The TCT has recently sold Lutregala Marsh to the Tasmanian Land Conservancy. This is not a decision that was taken lightly. However, as the only property remaining on the TCT’s books, and with no resources available for ongoing management, it made sense to pass ownership of Lutregala Marsh to another non-profit organisation that could look after it properly. The TCT will still be represented on a management committee for the site.

As a footnote, the project officer who recorded many of the natural values for Lutregala Marsh was renowned wildlife photographer Dave Watts, whilst the incoming Threatened Species Network Coordinator at the time was a certain Margaret Ann Putt. The Apsley River South Esk Pine Reserve was sold to the Australian Bush Heritage Fund in 1998.

Craig Woodfield
This report has been compiled as a result of an act of vandalism that was reported on ABC Radio news on 11 January 2006 and a small article that was published in the Mercury newspaper on the same day.

The 315ha Greenes Creek Aboriginal petroglyph site on the Tarkine Coast was listed on the National Estate in 19811 and is within the 100,135ha Arthur Pieman Conservation Area (APCA), part of the greater Tarkine, much of which was also listed on the National Estate. The Tarkine is an area stretching from the Southern Ocean coastline inland and between the Arthur and Pieman River systems.

Despite my call as far back as 30 years ago to the then Director, National Parks and Wildlife Service, for the Greenes Creek site to be declared a State Reserve 2, this never took place. It is now, however, included in the APCA with the Managing Authority being the Parks and Wildlife Service (Mr Peter Mooney, Manager), a division of the Department of Tourism, Parks, Heritage and the Arts (DTPHA) (Mr Scott Gadd, Secretary) with the responsible Minister Hon. Judy Jackson MHA.

The APCA, including the Greenes Creek site, is covered by the Management Plan 2002 under the National Parks and Wildlife Act 1970, the National Parks and Reserved Land Regulations 1990 and the Aboriginal Relics Act 1975. The preparation of the Management Plan 2002 was undertaken for the Parks and Wildlife Service after extensive public consultation by the Tasmanian Resource Planning and Development Commission. The Plan identifies the values and clearly states the intention for the reserve that ‘…provides protection to an extraordinary richness of Aboriginal cultural heritage, to highly significant and diverse ecosystems, and to spectacular coastal landscapes and wilderness values.’3

The media reports on the damage at ‘Arthur River’ prompted me to visit the area again on Thursday 12 January 2006. From the Arthur River coastal settlement I travelled south of Temma, a small coastal fishing settlement, then by 4WD (courtesy of a local identity) to Brooks Creek where I completed the trip on foot to Greenes Creek, via Ordnance Point Aboriginal site. The area south of Temma lies in the Natural Zone for which the Management Plan 2002 states as the General Aim ‘…to conserve cultural heritage vales and to maintain the wilderness character of naturalness, tranquility and isolation.’4

**Damage to Greenes Creek Aboriginal Petroglyph Site**

My inspection revealed seven separate examples of recent damage that seemed to be caused by a metal object (like a chisel) driven into the hard rock surface by a hammer or rock. Some of the rock surfaces of the ancient circular motifs have been chiselled and/or scratched in a very determined way. Contrary to some media reports, the cross (X) was not new but was an existing motif that had recently been deeply scratched.

A little further along the main track a fence has been erected by Parks and Wildlife Service at Greenes Creek which prevents vehicular access to a nearby large midden and also to the creek near the petroglyph site. However, the location of the fence fails to prevent vehicular access directly to the damaged site. There are no signs or fencing to warn against vehicular access to the rocky foreshore where there are now two tracks that lead directly to the petroglyphs, and these tracks would give easy access for any vandal. Another track from the north cuts directly through a midden and leads onto the foreshore and then on to the petroglyph site.

Close by the Greenes Creek site, deep ruts in boggy soil indicate serious problems with recent hooning by bikes and other off-road vehicles/all-terrain vehicles (ORVs/ATVs) that seem to have a free rein in this Conservation Area. (See photo below, taken in January this year.) I consider that the latest Greenes Creek vandalism (there have been other incidents in the past) can be attributed directly to the Parks and Wildlife Service as ‘managers’ responsible for this Conservation Area and to the Tasmanian State Government for not allocating sufficient funds for appropriate management.

On this recent visit I also discovered a new site consisting of three circles on a slightly sloping, smooth, low rock, covered at high tide, located about 200m to the north of the main Greens Creek site. This now makes six separate areas at Greens Creek where motifs exist.

In my view, all of these access points to the foreshore should be closed off at and around Greenes Creek, fenced, rehabilitated and clear signage erected. If the fences and/or the signs are vandalised, they should be replaced as
soon as possible. Note that some fencing around a nearby lagoon has been effective in other parts of the APCA which has prevented vehicles hooning in boggy ground.

It was interesting to note that, whilst I was at the site, a child innocently threw a shell which landed near a petroglyph, chipping the rock. This illustrates how fragile these artifacts are.

Many people who visit this site and also Swandown Point know of the whereabouts of the petroglyphs but have no idea of their heritage significance or of basic care. An informative illustrative sign should be erected at these locations as soon as possible. There is no basis for the argument that any such signage would draw attention to the sites and would be subject to vandalism. Signs are a useful part of the public education process, and it would be far better for signs to be vandalised than to vandalise the site.

**Ordinance Point**

At Ordnance Point, another important Aboriginal site, I also noted that wheel ruts are apparent on the slopes of a huge exposed midden. These may be fairly recent as the fence surrounding the site is now ineffective to such intrusions by bikes or cattle.

**Other examples of damage to the natural values**

There is incremental damage to the natural vales of this area including:

(i) **Weed invasion**

The spread of sea spurge (*Euphorbia paralias*) along this coast, first noticed by me in May 2000, is now choking native vegetation and taking a hold in previously open areas. It appears that sea birds feed on the sea spurge seeds which are then spread in their excrement. This weed is now rapidly covering the foreshore, exposed dunes and sedgeland. The latter is an important food source for the endangered orange-bellied parrot which migrates along this narrow coastal corridor.

(ii) **New tracks and track erosion**

With this particularly wet season and late rains there is a lot of water about. The deep water sections on the track south of Temma have led to two problems:

- bikes and some 4WDs are avoiding the big puddles and creating new tracks through the vegetation to bypass the deep water sections; and
- where vehicles have chosen to go through the deep water sections some have travelled too fast resulting in their wash causing the soil and vegetation on the sides to be eroded and slumped back into the water.

This further degrading of the Conservation Area needs to be addressed with numbers of vehicles allowed to use the track south of Temma immediately reduced until the track dries out. There is no case for ‘hardening’ these sections with gravel infill, as it would then allow even more vehicles to travel on this de-facto road, creating more problems further south. The proliferation of new tracks that have now been created this season needs to be documented by both on-ground and aerial monitoring as a matter of priority.

**Arthur River Ranger Station and Information Centre**

At the time of my short visit on Thursday 12 January, the Ranger Station office at Arthur River settlement was closed upon my arrival at 8.15 am and was again closed upon my return at 2.30pm. With the office closed, there is just no way that any off-road user or visitor to the area could gain appropriate information or obtain a permit to travel on the track south of Temma.

An incident at the time of my visit involved five motorbikes found to be in the wrong spot. All these riders thought the permit that they had filled in allowed them to go everywhere and were planning an early start the next day to go to Pieman Heads! They had spoken to the office staff (front office lady is only part-time from 9am to 2pm) and were surrounded by maps, but somehow the important information on regulations had not got through to these individuals.

It is imperative that this office should be staffed at all times (8am – 6pm), particularly at weekends and holiday periods, by knowledgeable park rangers who will be able to provide advice and issue permits to users and be clear on where not to go.

Please note that there is no criticism of the existing office and ranger staff, who all do a tremendous job and the best that is possible with the limited resources available. However, the present situation is an indictment of the Hobart administration of the Parks and Wildlife Service and the Tasmanian State Government.

The resourcing for this reserve appears to be almost ‘forgotten’ by the Parks and Wildlife administration in Hobart; for example there was no summer ranger program at Arthur River and there was no ranger based at Sandy Cape during the peak holiday season.

**Plan Implementation**

From Arthur River, right through to Greenses Creek, there was evidence of an increasingly degraded landscape and degraded natural and cultural values, with examples of breaches of the APCA Management Plan 2002 and also serious breaches of the Burra Charter.

The Parks and Wildlife Service as the managing authority should act on the recommendation of the Resource Planning and Development Commission when it was charged with the preparation of the APCA Management Plan: ‘...the Commission does advocate banning recreational vehicles from more sensitive areas of the APCA if the management system is proven ineffective.’

This was reflected in the Commission’s Recommendation 68 for Section 8.3. Plan Implementation ‘...to require the managing authority to consider options such as closing access to sensitive areas where inadequate resources are available to ensure the values are protected and maintained.’

In s.64, Vehicles Used Off-Road, in the Management Plan 2002 under the heading General Prescriptions, dot point 10, it is stated: ‘Update the information and interpretation at the off-road driving information booth just south of Temmza’. The present condition of this information booth has the previous information removed and the condition of the building appears to be ready for dismantling, which is contrary to the Plan.

Section 64 of the Management Plan 2002 also specifically designates beach areas where off-road activities are allowed and this does not include the coast at the Greenses Creek site.
The APCA Management Authority therefore has failed to implement the following admirable aims to:
• provide for responsible, low-impact experiences within the reserve;
• recognise the contribution to responsible use that can be made by clubs;
• develop a system that is enforceable;
• minimise conflicts with other recreational activities;
• minimise conflicts with conservation of the natural and cultural values of the conservation area.

Benchmarks in the Plan are designed to measure an effective management system and, if not met, the Minister can bring into effect the default prescriptions. It would appear that most of the General Prescriptions are being flouted by off-road users.

The areas that should be immediately closed off to all vehicles should include all access points to the coast off the main Temma – Sandy Cape track (excepting to access existing shacks), especially at sensitive Aboriginal sites at Greenes Creek, Swadown Point State Reserve, Ordnance Point, and to close off the track south of Sandy Cape to the Pieman Heads.

Since the Management Plan 2002 was released it is subject to a minor review by the Director, National Parks and Wildlife Service, three years after it came into effect. This audit, due now, is to determine what progress has been made towards implementing the Plan. If it has already been done, it should be made public, and if not, PWS should advise when it is to be undertaken.

As part of the implementation, it should be noted that the managing authority (Parks and Wildlife Service) may, where inadequate resources are available to ensure that values are protected and maintained, consider options such as closing access to sensitive areas.

There is ample proof that the cultural and natural values are being trashed in the APCA on the Tarkine Coast by anarchist behaviour. In response, the Parks and Wildlife staff have indicated that there are insufficient and inadequate resources to manage the APCA. Not only have there been breaches of the Management Plan 2000 but there are also serious breaches of the Burra Charter, to which the Australian Government is a signatory. The principles of the latter are applicable to the conservation, protection and management of Aboriginal cultural heritage. If the Tasmanian State Government is unable to provide adequate resources for proper management, then the coastal areas within both the Natural Zone and the sensitive sites in the Recreation Zone should be immediately closed off by the Parks and Wildlife Service as the Managing Authority.

Recommendations
• Allocate resources immediately to increase PWS ranger staff to a level that will prevent further damage to the sensitive cultural and natural values, at strategic points such as Brooks Creek, Sandy Cape and also Pieman Heads (if unable to provide these resources the Minister responsible should immediately close off access to the sensitive sites, and to the coastline).
• Increase PWS staffing so that the office is open all day during the holiday period and at weekends from 8 am to 6 pm.
• Include Arthur River in the PWS summer activities/education program.
• Acquire the shack (Mr House) on the south side of Brooks Creek for Ranger accommodation to manage and control access south.
• Consider closing off the track from Brooks Creek south with a boom gate.
• Erect interpreative signage at sensitive sites and sensitive areas.
• Disallow further hardening of tracks south of Temma.
• Ensure all vehicle owners and all users of the APCA, including shack owners, are adequately informed of the restricted areas.
• Assess the potential loss of feeding habitat for the orange-bellied parrot, caused by the encroachment of sea spurge.
• At the end of the 2006 summer season undertake both ground and aerial monitoring of all of the coastal tracks from West Point south to Granville Harbour.
• The Director of National Parks and Wildlife Service to undertake a minor review of the Management Plan 2002 which is now due and make this audit public.

Background to this report
My interest stems from my membership of the Australian Rock Art organisation (AURA) and the Australian Institute of Aboriginal & Torres Strait Islander Studies, Canberra (AIATSIS). Over the past 30 years I have been undertaking a recording project of the Tasmanian Aboriginal Petroglyph sites for AIATSIS. The Greenes Creek Aboriginal petroglyph site was part of this project, where the many motifs were recorded in detail. Following the initial site recording in 1975 a follow-up visit to the area in 2000 was undertaken to monitor the condition of the site, to identify severe deficiencies in the APCA management, and to document the damage encountered to the cultural and natural values. This information was used as evidence to the Resource Planning and Development Commission when preparing their recommendations to be included in the Management Plan 2002. A permanent archive of all of my records relating to this site and the APCA are housed in the Queen Victoria Museum & Art Gallery, Launceston and are available for inspection and discussion.

Peter C Sims OAM

References
1. Register of the National Estate 1981.
2. Letter from P Sims to Parks & Wildlife Service Director 21 July 1975.
4. ibid.
6. ibid. p 88.
7. Sims Collection. Queen Victoria Museum & Art Gallery, Launceston. CHS37 -Series 'B'.

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The release of a revised Code of Practice for the Use of 1080 for Native Browsing Animal Management just prior to Christmas was heralded as demonstrating ‘the Government’s commitment to phasing out the chemical for managing the impacts of browsing animals’. The TCT was disappointed to discover that these fine words are not matched by commitments in the Code itself.

While it is welcome that landholders will have to do more to justify the use of 1080 to poison native wildlife and that the Department must keep better records of such justifications, there remain some outstanding concerns, including:

- no policy commitment to 100% cost-recovery of this commercial service for landholders, as required by National Competition Policy;
- allowing individual landholders and their ‘agents’ to actually handle and distribute this deadly poison for all vertebrates; and, worst of all,
- self-assessment by landholders of the impact on non-target wildlife, including threatened species.

Frustratingly, it is stunningly obvious that this revised Code of Conduct for the ongoing mass-slaughter of Tasmania’s wildlife has been developed with stakeholder input from farmers and foresters but not from conservationists. The result is a ‘Claytons Code’ that does little to change the status quo.

This announcement comes less than two months since the Minister, Judy Jackson, announced that 1080 poison use for 2004–05 was up 22% on the year before – almost entirely attributable to a three-fold increase in its use by graziers. So much for the government’s commitment to the Tasmania Together target of reduced use of 1080. While the government must be commended for sticking to past-Premier Bacon’s commitment to phase out the use of 1080 on its own land by the end of this year, it is regrettable that the government cannot find the political will to require all landholders to stop using it with equal promptness.

It is important to continue to remind the State Government that the community abhors the ongoing use of such a nasty and indiscriminate poison against our native wildlife and that wildlife, along with wilderness, is one of Tasmania’s great drawcards for tourists and new residents alike. It is past time that government policy reflected the interests of these great modern drivers of today’s Tasmanian economy rather than continuing to subsidise struggling pastoralists failing to properly manage their properties.

Alistair Graham

Clean Up Australia Day 2006

Don’t let rubbish become part of the scenery.

Lizzie Ziegler of Saltwater River makes it look easy, and it probably is, walking some sections of Tasmania’s more pristine bushlands. However there are areas, urban, rural and bushland, that are littered regularly in our state.

YOU CAN STILL HELP: Ring 1800 024 890 to find out the location and starting times of your nearest Clean-up site on Clean Up Australia Day or go online to www.cleanup.com.au and search by postcode for the nearest site. One or two hours’ assistance is welcome and YOU CAN MAKE A DIFFERENCE.

Remember! You must register with the Site Supervisor at any site and wear sturdy footwear, hat and glasses and bring along gloves in case there are none left at the site. Make March 5 the day you start to make a difference.

www.cleanup.com.au
Soaking rains and sultry weather provided perfect conditions for fungal growth in late October. Around home at Black Sugarloaf (central north Tasmania), several species appeared including velvet parachute (Marasmius elegans), ruby bonnet (Mycena viscidaeucruenta), black morel (Morchella esculenta), slimy green waxcap (Hygrocybe graminicolour) and vermilion grisette (Amanita xanthocephala).

Unlike some fungi, such as the purple turnover (Leucopaxillus lilacinus) or the bright yellow Dermocybe canaria, which reliably appear in exactly the same place in consecutive years, fruit bodies of A. xanthocephala turn up just about anywhere in the eucalypt forest around home. Interestingly, of the six fruit bodies that have appeared in the past week, three are within 20cm of the pile of small stones, twigs and other material that constitute a jack jumper’s (Myrmecia sp.) nest and one is adjacent to a rock which covers the nest of the ground-dwelling bull ant (or bulldog ant) Myrmecia forficata.

Jack jumpers and bull ants belong to the genus Myrmecia in the family Myrmeciinae and, apart from one species that lives in New Caledonia, are only found in Australia, predominantly in the southern regions. They are among our most distinctive ants; they have long, straight mandibles with teeth along their inner margins, most species are over 8mm long and, although some are placid and camera shy, many have a ferocious disposition and a very painful sting. Fortunately, unlike some people who are extremely allergic to their sting, my reactions have lessened over the years and, although cautious rather than complacent, I do venture close to their nests to observe their behaviour and photograph any nearby fungi.

This is not the first time I have observed A. xanthocephala close to the nests of Myrmecia sp. My first record was in April 2003, when I saw five fruits emerging at the edge of the mound of tiny stones of a jack jumper’s nest. In April the following year, A. xanthocephala grew within the heaped stones of another jack jumper’s nest, this one about one kilometre from the first. In May this year, a fruit pushed through the soil adjacent to the home of the ground-nesting bulldog ant M. forficata. And, as noted above, the current crop of fruits are near either a jack jumper’s or bull ant’s nest.

It may be that the fungus seeks out the nutrient-rich zones of the ants’ nests. If so, why don’t other species of fungi seek out this resource? If anyone has observed this or similar associations please let me know.

Amanita xanthocephala is a native mycorrhizal fungus. It has a 50mm diameter cap which is orange/yellow or light reddish coloured in the centre and paler towards the radially grooved margins. Similar-coloured veil remnants adhere to the cap, which is sticky when moist. The cylindrical stem, which can be up to 60mm long x 10mm, is light yellow and lacks a ring. The volva (usually just below ground level) is white with a bright orange to pale orange ring at the top.

Sarah Lloyd

This article first appeared in the Fungimap newsletter 26 (Nov 2005).

For more information about fungi and Fungimap:

References
Personal communication: Dr Peter McQuillan


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