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THE TASMANIAN CONSERVATIONIST

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Marine Protected Areas to safeguard biodiversity



Seasonal and New
Year greetings to
all TCT members

The Tasmanian Conservationist is the regular newsletter of the Tasmanian Conservation Trust Inc, 102 Bathurst Street, Hobart, Tasmania 7000. ABN: 63 091 237 520
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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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Front Cover: Diver looking into caves at Waterfall Bay, Tasman Peninsula, part of the proposed marine protected area (MPA).
Photo: Jon Bryan
Cover story: 'Bruny Bioregion /Marine Protected Areas to Safeguard Biodiversity'. See page 4.

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North-West Branch

Tasmanian Conservation Trust

Meetings of the North-West Branch of the TCT are held on the first Wednesday of each month.

The venue for the meeting is the
Penguin Railway Station at 5pm

All members of the North-West Branch are invited to attend to discuss conservation issues in the area.

Writing

Editing

Proofreading

Specialising in conservation issues.
Reports, management plans,
newsletters and books.

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CEO's Report

I have been working as the new CEO of the TCT for the last three months and I would like to thank the previous Director, Craig Woodfield, for the time and effort he put into the development of our Strategic Plan (with valuable input from the TCT Council and others).

As part of the changes that are occurring at the TCT, organisations have been invited to join the TCT Council. The first to accept is Against Animal Cruelty Tasmania (ACCT). The TCT has a very good working relationship with ACCT and we look forward to their participation on the Council.

This issue of the *Tasmanian Conservationist* includes articles on the Tamar pulp mill, marine reserves, the conservation of threatened or vulnerable birds, the conservation of the Miena cider gum, control of feral cats on Bruny Island and logging threats to the endangered Bornemisszas stag beetle in State Forest in Tasmania's north-east and information on the Voiceless organisation's funding of a wildlife education kit.

One of the TCT's most pressing priorities relates to organisational development. Recently I prepared a working paper for the TCT in relation to marketing and fundraising and we have been receiving some pro bono support from a national environment organisation to assist

us with our fundraising efforts (which has been most welcome).

With the election of the Rudd Labor government there are obvious opportunities to build partnerships with the new government. The TCT has a long track record in working with the government of the day in achieving better environmental outcomes on Commonwealth issues. We look forward to working constructively with the new government.

As the newsletter goes to press there has been a recurrence of the shooting of seals in Tasmania. The TCT has written to the Tasmanian Government calling for a ban on the carrying of guns onboard recreational and commercial vessels in Tasmania. There can be no justification for carrying guns on boats, they are not needed. The killing of seals at Ile de Phoques and Taillefer Rocks in Eastern Tasmania are but the most recent examples of the shooting deaths of seals in this state. This latest incident is also very similar to one in Victoria last year. Banning guns on boats would go a long way to preventing such events occurring in the future.

Seasonal greetings to all our members and best wishes for the New Year.

Christian Bell

Friends of the Lillico Penguins *call for volunteers*

The Friends of the Lillico Penguins is a group of volunteers for the Parks and Wildlife Service that provides interpretation for visitors at the viewing platform at the Lillico Beach Conservation Area, a few kilometres west of Devonport.

Interpretation and visitor supervision is provided during the penguin breeding season, from September to the end of March. During the busier visitor period, December to February, the Friends are joined by Parks and Wildlife Service Discovery Rangers.

More volunteers are needed. Ideally volunteers commit to one particular night of the week, 7.30 pm to 11 pm. Their assistance is appreciated right through the breeding/moulting season.

This is a great opportunity to meet visitors from all over the world, to do some practical, hands-on work protecting

our fascinating wildlife and, at the same time, to educate visitors on how to view them respectfully.

Please phone Chairperson: Peter Britton 64252785
or Secretary: John Coombes 64246795
email: jcjb@dodo.com.au

**Electronic version
of
The Tasmanian Conservationist
now available**

This newsletter is now available in PDF format for members who would prefer an electronic version.

Please send us an email at tct@southcom.com.au including your name and address and the email address you would like to use, and we will send your newsletter by email every two months.

Bruny Bioregion

Marine Protected Areas to safeguard biodiversity

The Tasmanian Conservation Trust has just completed a written submission and presentation at a hearing during the final stages of the Resource and Planning Development Commission (RPDC) inquiry on marine protected areas (MPAs) in the Bruny Bioregion. This was a response to the RPDC's proposed system of MPAs that was recently released for public comment. Given these recommendations, we can be hopeful that an excellent system will be presented to the state government for final approval.

The Bruny Bioregion includes the spectacular marine environment off Tasmania's south-east coast, Bruny Island and Tasman Peninsular. This region provides the greatest challenge to the wide-ranging process used by the Tasmanian Government to set up a system of MPAs to protect biodiversity. This area not only contains a wide range of ecological systems and natural and biodiversity values, but is also subject to a wide range of human pressures, particularly recreational and commercial fishing and a variety of developments. This presents a real challenge to the RPDC, which aims to balance the competing interests of fishers and non-extractive users while fulfilling the direction from the Tasmanian Government to create a system of comprehensive, adequate and representative (CAR) MPAs.

The system of MPAs suggested by the RPDC's draft recommendations is generally an excellent solution to the problem. However, the TCT has identified some areas where biodiversity protection should be improved.

There has been an extreme decline in giant kelp, *Macrocystis pyrifera*, along Tasmania's eastern coastline, north of Tasman Island. This represents a major habitat change with unknown consequences for biodiversity. Only two significant giant kelp forests remain. One, in Lagoon Bay, has recently been severely damaged by storm action. The other, just off the boat ramp at Fortescue Bay, should be given very high protection in a no-take MPA as it represents the most important remaining stand of giant kelp north of Tasman Island.

The suggested system of MPAs along the Tasman Peninsula protects some spectacular biological and geomorphological features. The caves at Waterfall Bay contain an unusually rich assemblage of invertebrates in an amazing geomorphological feature. Deep reef is home to colourful sponge gardens. Inclusion of the kelp forest

in Fortescue Bay would create a world-class MPA and scuba-diving destination in this part of Tasmania.

The suggested MPAs in the D'Entrecasteaux Channel protect most biodiversity values very well. However, if fishing could be excluded from the Roberts Point MPA, this would simplify enforcement and management and give proper protection to the full range of species that can be found in this area. It is a very small reserve and restricting fishing is unlikely to have a significant impact on fishers.

A no-take MPA in the D'Entrecasteaux Channel that contains a productive scallop bed should also be created. This would fulfil the CAR requirement, by protecting a representative area of this type of habitat, and would provide a reference area to assist fishery research and management.



Common gurnard perch near Ninepin Point in the D'Entrecasteaux Channel – area of an existing MPA to be extended to offer better protection to fish.
Photo: Jon Bryan.

The proposed system of MPAs would be a valuable enhancement of Tasmania's natural heritage, but there has been some vocal opposition. Many claim that 'fishing is low impact' or that 'fishing does not impact biodiversity', and that fishing should therefore be allowed in MPAs set up to protect biodiversity. In fact research in Tasmanian MPAs and elsewhere provides clear evidence that fishing can have an impact on biodiversity.

Localised overfishing remains a problem, even for the highly regulated and well-managed commercial rock lobster and abalone fisheries. Most Tasmanian fisheries are still recovering from past excesses. Questions remain as to whether current catch rates of school shark (*Galeorhinus galeus*), banded morwong (*Cheilodactylus spectabilis*) and stripey trumpeter (*Latris lineata*) are sustainable. Commercial scalefish catches have declined

by about 50% since the early 1990s and over-fishing of accessible areas by recreational fishers continues.

There have been even more marked declines in marine species such as bastard trumpeter (*Latridopsis forsteri*), spotted handfish (*Brachionichthys hirsutus*) and giant kelp (*Macrocystis pyrifera*). The suggested no-take MPAs on the Tasman Peninsula should help protect these species. They would also create useful reference sites for a variety of other target species that would greatly assist fisheries management.

The fear of an anchoring ban is often raised as an argument against MPAs. This is a real furphy. There is currently no proposal to ban anchoring in any of the MPAs and it does not appear that the foreseeable level of anchoring by recreational vessels or the current commercial fleet poses any significant threat to biodiversity in the areas where these vessels are likely to anchor. In most cases, fragile communities susceptible to anchor damage are located at depths or locations where successful anchoring would be impracticable.

Two possible exceptions might include the fragile invertebrate community at Ninepin Point and the seagrass east of Lime Bay. Usage guidelines should give adequate protection in these habitats but, even if these areas were protected by regulation, safety at sea would be a valid defence for any anchoring required by bad weather or equipment failure.

Other safety concerns are also raised by opponents of MPAs off Tasman Peninsula, who suggest that the proposed MPAs will force recreational fishers further offshore into more exposed waters. In fact, alternative fishing areas to all MPAs exist in equally sheltered waters and game fishing will still be able to take place if the MPA near Cape Pillar and the Hippolytes are given very high protection. Vessels capable of fishing safely in these areas can simply move further along the coast and fish there.

Economic impacts are also raised as a barrier to the creation of MPAs. Given the small proportion of the Bruny Bioregion that would be protected under the current proposal, such claims by elements of the recreational fishing community seem extreme and appear to be made by a minority of fishers. It is difficult to see how the introduction of these MPAs will result in a significant proportion of recreational fishers giving up their recreational pastime, with resultant costs to local businesses.

Commercial fishers operate under more rigorous economic and practical constraints than the recreational sector. The major commercial fisheries affected by the Waterfall Bay-Fortescue Bay MPA proposal are the abalone and rock lobster fisheries, which are both managed by quota, and the scalefish fishery. This MPA should have no major economic impact on the two former fisheries, where catches are determined by quota, not access. Excluding these fishers from the suggested areas still allows them to catch the same amount at another place.

If serial depletion were a concern, a simple mechanism to account for this would be to introduce restrictions to these fisheries in the MPAs as stocks recover and as the total allowable catch (TAC) and quotas increase. The

expected increase in the abalone TAC is 5% per year for the next five to six years. The increase in TAC for just one year is five times the amount that will be caught in the area protected in MPAs on Tasman Peninsula, for example, and economic expansion will continue.

A similar argument could be made for the rock lobster fishery if stock was recovering as had been hoped for. Unfortunately, poor recruitment means that increases in TAC will not occur as soon as expected.

Highly localised inshore fishing pressure due to market forces has removed rock lobster at around the time they reach legal size. There is no opportunity for large animals to become established on reef and fill their niche as the major predator of large urchins. This knife-edge fishing was the norm along the east coast until quotas were introduced last decade. The loss of large rock lobster on the east coast coincided with the population explosion of *Centrostephanus rogersii* and the rapid expansion of urchin barrens. As large rock lobster is the most important predator of *Centrostephanus*, this correlation suggests that the decline is related to the increase in urchin barrens.

MPAs can be used to provide baseline data for the rock lobster fishery and allow further research into the relationship between rock lobster, ecological processes and, in particular, *Centrostephanus rogersii*. This research is essential. Fishery productivity for abalone and rock lobster is greatly reduced by *Centrostephanus* urchin barrens, and biodiversity also must suffer.

The commercial scalefish fishery raises more difficult issues. As it is a relatively low-value fishery, resources for research have been lacking. The diverse range of target species also complicates research and management. As an input (rather than quota) managed fishery, there is less scope to manage impacts on particular species. However, the proposed MPAs represent a relatively small area of coast and alternative sites for scalefish operators remain open to fishing.

The aquarium, dive and other small fisheries are even more data – and resource – poor than the scalefish fishery. There is no practical way to identify or manage the impacts these fisheries may have on biodiversity. It appears that no-take MPAs are the only way to ensure that biodiversity values are protected for these small fisheries and future developmental fisheries that may be proposed.

The RPDC has identified net fishing as being incompatible with biodiversity protection. While management options probably do exist to keep impacts of commercial netting to an acceptable and sustainable level, the Tasmanian recreational gill net fishery is the most destructive and unsustainable fishery in state waters, and occurs on a massive scale. For example, in 1997–98 there was over 330km of licensed recreational net.

There do not appear to be any practical mechanisms to manage this fishery on an ecologically sustainable basis. Collecting adequate information from the fishery is a major practical problem, given the number of fishers and the likely accuracy of reporting. Lack of basic scientific knowledge about target species simply adds to the difficulty of ensuring that ecological impacts of this fishery are sustainable.

Continued on page 6

Many undersized or unwanted fish are discarded, and dolphins, penguins and other animals can easily become entangled and killed in nets. Concerns about bycatch alone are enough for the TCT's position to be that recreational grab-all nets should be phased out as soon as possible.

While fisheries management in Tasmania is of a very high standard, sustainability questions and problems of local over-exploitation still remain. Biodiversity and other environmental concerns are also not well served by fishing regulations alone. There is a clear need for more reference areas for research on the biology of exploited species and in understanding the ecosystem effects of fishing.

No-take MPAs provide an essential instrument for protecting biodiversity values in Tasmania waters. A CAR system of MPAs must contain substantial areas of no-take areas that are protected from fishing activities if biodiversity is to be properly protected. Impacts of fishing on local habitats and ecological systems remain poorly

understood, particularly in Tasmanian waters, and are therefore impossible to manage by fishing regulations alone.

The current proposal, together with the TCT's proposed extension in Fortescue Bay, is a minimum CAR system and should be implemented in its entirety, along with the additional areas suggested by the TCT in Fortescue Bay and in the D'Entrecasteaux Channel. Any reduction in the proposed level of protection or area would substantially compromise the ability of this system to achieve its stated aim to protect biodiversity in a CAR system of MPAs.

Tasmania's spectacular marine environment deserves no less than a comprehensive, adequate and representative system of marine protected areas to protect its biodiversity.

Jon Bryan
Tasmanian Conservation Trust

A Species on the Brink

Saving the Miena Cider Gum

Eucalyptus gunnii ssp. *divaricata* (the Miena cider gum) is endemic to Tasmania, with its distribution restricted to the edge of frost hollows in open woodland in the Great Lakes region on the Central Plateau. The species, listed as Endangered at both state and national levels, went into a severe and rapid decline in the late 1990s, resulting in the extinction of at least one of the wild populations, and death of all mature adults in some populations. The dead populations, which can be seen from the Lakes Highway, make a dramatic sight, with the spreading branching pattern typical of the species completely exposed by a lack of any foliage. Standing beneath the skeletal canopy of these spreading trees is a reminder of just how precarious a species' existence can be. The decline of *E. gunnii* ssp. *divaricata* is thought to be a result of changing climatic conditions with the taxon unable to cope with the warmer drier conditions being experienced in the Central Highlands. The decline appears to be most severe in disturbed populations, and in populations showing the most extreme characteristics of the species.

E. gunnii ssp. *divaricata*, while one of Tasmania's most frost-resistant eucalypts, is very susceptible to drought stress and browsing pressures. Its leaves are highly palatable (more so than most other eucalypts) and are favoured by possums, stock and deer as well as a range of insects. Following recovery from drought stress the regrowth is very nutrient-rich, making it even more palatable to browsers, and this is exacerbated by pressure from insect populations, which have increased due to warmer winters. Stock grazing, increased fire frequency and the application of fertilisers in many populations have also increased the nutrient content of regrowth, further increasing palatability resulting in spiralling declines from which populations do not appear to be able to recover.

Fortunately, seed was collected from the two populations, representing the most morphologically extreme form of *E. gunnii* ssp. *divaricata*, which have suffered, the worst decline. This seed, collected between the late '70s and the early '90s, has now been germinated, and we have 500 seedlings almost ready to plant. Some of these will be planted into the two wild populations from which the seed was collected. There are presently no mature individuals setting seed in either population and no seed is held in the canopy. The only hope for survival of these populations is to encourage growth of repressed seedlings currently present in the understorey, and to establish new seedlings. Seedlings planted into the wild will be caged to prevent browsing pressure and monitored. This has been shown to be effective in the wild, with caged seedlings showing higher survival and growth rates than uncaged seedlings.

In addition to planting seedlings into the wild populations, *ex situ* conservation plantings will be established on private land at Bothwell, Kellevie and Granton. These will provide insurance against the potential extinction of this species even if decline continues in the wild populations. Once mature, the conservation plantings will provide an invaluable source of seed, so that future attempts can be made to re-establish *E. gunnii* ssp. *divaricata* in the wild. Additionally, these trees may aid future research into the species, for example by providing foliage for genetic analysis.

If you would like to be involved in establishing the conservation plantings, or in planting and caging seedlings into the wild populations, please contact the Threatened Plant Action Group Coordinator, Catriona Scott, on 6233 6692 or email Catriona.Scott@dpiw.tas.gov.au

Catriona Scott

What former Minister for the Environment Malcolm Turnbull's decision means for the pulp mill

If you listened to Malcolm Turnbull's spin on the Chief Scientist's report you could be forgiven for thinking that we don't have to worry any more about mill impacts on the marine environment. This is a long way from the real situation.

What the report actually does is reinforce the concerns that have been raised about the lack of hydrodynamic modelling and inadequate toxicity testing and leaves some important questions unanswered.

The monitoring conditions proposed by this report are an improvement, but they are what we have been asking for all along and should have been in place in the original proposal.

Minister Turnbull says that the mill will be world's best practice. Maybe this would be true if we lived in the third world. In fact the amount of dioxins permitted to be released into the environment by this one mill are only 20% less than the total released by all 47 pulp mills in Scandinavia. Claims that this mill will be world's best practice are clearly an exaggeration. To even be in the running for that status, the mill should be chlorine free, or be closed loop, or have tertiary effluent treatment.

While the Chief Scientist's report has certainly introduced a higher standard of science into the debate, problems remain. Risks to bottlenose dolphins from Persistent Organic Pollutants do not appear to have been assessed at all. There is no consideration of the potential damage to commercial scallop beds.

Sadly, former Minister Turnbull decided to take the political decision to approve the mill before completion of hydrodynamic modelling or toxicity testing. That means we don't know how toxic the effluent will actually be and we don't know where it will end up. And if Turnbull has his way it looks like we won't know until well after the construction of the mill has begun.

It is important to remember that the Chief Scientist's report was limited to Commonwealth issues. Impacts on state waters were not within its scope. According to this report, the Environment Department sought advice on moving the outfall further offshore to increase diffusion and dispersal of pollutants and reduce the chance of them being driven ashore. However, the report goes on to say that '... the department is of the view that moving the outfall further offshore would proportionately increase the likelihood of effects in the Commonwealth marine areas...'. It also states that '... there are indications that levels of pollutants that may accumulate in Tasmanian waters may be of concern...' and that therefore there may be indirect impacts on Commonwealth waters.

In other words, the Environment Department believes that as long as they keep the pollution out of Commonwealth waters they don't have to care about

Tasmania's coastal environment. Despite the impression created by the former Minister, the Chief Scientist's report clearly acknowledges a real risk to the marine environment. This risk is supposed to be controlled by a monitoring program. Unfortunately, the allowable contamination levels are high compared to real best practice. Allowable contamination of sediments by dioxins is an order of magnitude greater than for industrial sites in Europe.

And, unbelievably, despite all the distrust and lack of process that has characterised the approval process for this pulp mill, the former Environment Minister agreed to allow effluent samples for this monitoring program to be collected by the mill operator instead of by an independent body.

Should we care about this part of Tasmania's marine environment? The beaches and foreshore are important to many people. The local marine environment has some unique characteristics that should be protected. To put this into context, the Great Barrier Reef is an iconic marine environment and I have been lucky enough to dive along much of its length. On either side of the proposed effluent outfall there are underwater environments that are as good as or better than anything I have seen along the Great Barrier Reef. There are spectacular places to see underwater at Tenth Island, with its seals and kelp-covered rock reef, and amongst the deep-water sponge gardens near Low Head. I have even dived with dolphins just about on top of where the effluent outfall is going to spew pollution into the sea.

The Commonwealth has assessed none of these things as they are in Tasmanian waters. One good suggestion that has come out of this report is that local fur seals have been recognised as the obvious sentinel species that they are, and will be checked for contamination, along with little penguins. However, there is no requirement to stop mill operations if contamination by the mill is detected in penguins, seals or other marine mammals.

How can any Australian Environment Minister stand up with a straight face and complain about the Japanese killing whales if he or she does not protect Australia's own marine mammals from being poisoned by pollution from this pulp mill?

It looks like the Commonwealth marine environment has received the best treatment of any aspect of this mill so far but, if you were feeling secure that at least this much has been achieved, it actually looks like protection of the marine environment has fallen short as well. It seems that this is still the wrong mill in the wrong place.

Jon Bryan
Tasmanian Conservation Trust

CCAMLR 2007

Albatrosses safer... krill getting worried

As in recent years, Alistair attended the 2007 meeting of CCAMLR, the Commission for the Conservation of Antarctic Marine Living Resources, held here in Hobart, as the NGO rep on the Australian government delegation. A wonderful piece of good news was delivered: no seabirds were killed by licensed longline fishers who complied with CCAMLR's seabird mitigation measures. Incidental mortality is still high, but decreasing, in French waters, as the French have only just started mandating effective mitigation measures on the fishing vessels they license. This is an amazing conservation success that should shame the tuna fishers and the governments that regulate them (most of whom are also CCAMLR members!), who cynically continue to allow thousands and thousands of birds (from the very same populations found in the CCAMLR Area) to be killed in tuna longlining operations throughout the oceans of the southern hemisphere.

There is still a level of IUU fishing in the Southern Ocean, however, that is still high enough to pose a threat not only to albatross populations but also to toothfish stocks targeted by the poachers (they are currently concentrating on the Banzare Bank, an area of high seas – outside EEZs patrolled by coastal states' navies – to the south of Australia's Heard Island). Disappointingly, CCAMLR failed to agree to a new conservation measure proposed by the EU that would have obliged states to take trade measures against those involved in IUU fishing and handling fish from such fishing: that one country obstinately refused to agree has brought into question the

rule that requires all CCAMLR decisions to be made by consensus.

The big news, however, is that the krill issue is rearing its ugly head. CCAMLR is known as the 'krill convention' because of the depth of concern for the enormity of the environmental disaster that would ensue if krill stocks were overfished. This year marks the first time since precautionary catch limits were set for krill that notifications to go fishing have exceeded that limit. While not all those notifications will eventuate, the growth trend in the fishing effort is clearly established. Underlying demand for fish meal is driving trends (krill is high protein and red – very good for blending into salmon-farm feed) but emerging nutraceuticals market demand for products with high omega-3 fatty acid levels is exacerbating things. Australia did a very good job at this year's CCAMLR meeting in moving things along towards better management arrangements for an expanding krill fishery, but there is a growing sense of urgency that more needs to be done more quickly in the next few years if potential disaster is to be averted.

And that's only the fishing. The intensified effects of climate change that one finds at high latitudes are driving reductions in ice and snow cover, especially winter sea ice extent (vital krill habitat) and retreat in glaciers and ice-shelves (more/bigger icebergs for ships to bump into). All this is combining to make the Antarctic Peninsula, in particular, a global resource conflict hotspot.

Alistair Graham

Forest activity threatens Bornemisszas stag beetle habitat

The TCT has called upon Forestry Tasmania to protect all habitat of the endangered Bornemisszas stag beetle (*Hoplogonus bornemisszai*) in State Forest in Tasmania's north-east.

This beetle is an endangered species and Forestry Tasmania's current plans for logging coup GC148A at Goulds Country will push it closer to extinction.

The nomination for listing of Bornemisszas stag beetle as threatened under the Commonwealth's EPBC Act estimates the species' total area of habitat as only 700 hectares with 64% unprotected on State Forest. The Forest Practices Authority gave advice in September 2006 that the Bornemisszas stag beetle habitat in coupe GC148A should be excluded from logging. Subsequent documents show they back-tracked on this advice because of pressure from Forestry Tasmania to consider commercial impacts of restrictions on logging. Forestry Tasmania seems to think

that this endangered beetle can do without some habitat but this is not supported by the best available scientific advice. The EPBC Act nomination, quoting leading scientists including the Forest Practices Authority's Dr Sarah Munks, ranks forestry activity as the gravest threat to the species and calls for a moratorium on clearfell and burn silviculture in potential habitat until the completion of ongoing long-term studies.

The TCT calls on the state government to follow the Forest Practices Authority's advice and place a moratorium on logging of potential Bornemisszas stag-beetle habitat until current research is completed and the draft recovery plan for threatened stag beetles is completed.

Forestry Tasmania should not ignore scientific advice and destroy endangered species habitat.

Christian Bell

Hot Rocks *Underground*

One of the exploration licence applications that the TCT objected to recently involved searching for hot rocks kilometres underground across large swathes of the west coast – and got the applicant an invitation to a presentation to Mineral Resources Tasmania (MRT). Allegiance Mining, the company that discovered and developed the new nickel mine near Zeehan, is branching out and has set up a couple of subsidiary companies to pursue a new interest in geothermal energy. It is looking for rocks with temperatures of 150–200°C – which usually involves having to drill through several kilometres of insulating rock over the top – extending over tens of square kilometers. (If the rocks are much cooler, there's not enough energy to be worth extracting; if they're much hotter, a whole range of other operational problems like scale formation and cavitation in pumps get serious). The west coast is known to be prospective because of the elevated temperatures found in some conventional hard-rock mining operations. Exploration will involve assessing the thermal and hydrological conductivity of core samples from other explorers, measuring temperatures down old drill holes and then conventional drilling, albeit to exceptional depths.

If subsequent production drilling takes place, however, big holes get drilled (the gear to drill a hole weighs 700 tonnes and costs millions of dollars). These are moderate-scale industrial operations in their own right, even with their own concrete batching plants to line the holes. Water is pumped down one hole and pumped up other holes nearby, passing through hot rocks along the way. The hot water returning to the surface then goes through a heat exchanger where a low-boiling-point liquid (isopentane or ammonia/water mixtures being favoured) is used to raise steam and run a turbine. Otherwise suitable hot rocks with low water-conductivity can be 'stimulated' to increase conductivity – high-pressure water treatment capable of causing localised earth tremors (as the good burghers of Basel discovered).

Current technology in NZ involves modular units of 20MW each. Once installed and operational, hot-rock geothermal power stations are delightfully low impact (hot air if air-cooled, and hot water if water-cooled, being the extent of emissions – in Europe, this hot water can be used for nearby home heating) thus making the technology very attractive as a potential source of climate-friendly alternative energy to coal. The impacts of drilling the hole, however, would be locally severe – hence our concern at an exploration licence application over large swathes of the West Coast. The size of the rock masses the company is targeting, however, gives it far more flexibility for locating drilling sites than conventional hard-rock mining. Also, the need for good roads and nearby power lines limits commercial interest in remote areas.

Commercial viability on current costings, however, will need 'top-down' support and encouragement from

governments – Green Power eligibility, a bigger Mandatory Renewable Energy Targets etc. If not well managed, therefore, geothermal energy is at some risk of becoming as controversial as coastal windfarms – although, as was pointed out at MRT, at least they won't kill lots of eagles! Let's hope that Allegiance can put sustainable rhetoric and reality together more competently than some other players in the alternative energy game.

Alistair Graham

Help the TCT

Members of the TCT can help us in a variety of ways. Here are just a few:

- **Help us expand our membership**
Recommend the TCT to a friend, family member or colleague, give a gift subscription to somebody you know or distribute some membership forms for us.
- **Provide us with some recycled paper**
We are always looking for good-quality paper used on one side, to use in our printers. Help save us money and reduce our paper consumption.
- **Write a letter**
Contact us for suggestions or simply use any of the information in this newsletter as the basis of an inquiry to a politician, business or government agency. We'd love to see any replies that you receive.
- **Pass on a rumour**
We're always interested in hearing interesting rumours and stories about environmental issues, or just observations of what might be going on in your local area.

If you think you can help in any of these ways, please write to us (email is best) at tct@southcom.com.au or snail mail at 102 Bathurst Street, Hobart 7000, or phone 6234 3552.

Bruny Island Cat Control *project*

The Bruny Island Community Association, in partnership with the Kingborough Council, the Tasmanian Parks & Wildlife Service and the Threatened Species Network, launched the Bruny Island Cat Control Project in August this year. The project is supported by an Australian Government Envirofund grant, and by a community benefactor. The project is overseen by a committee consisting of representatives of the above stakeholder organisations, and the committee has engaged Harko Werkman as a part-time Project Officer to coordinate project activities for a period of approximately six months. The project was established to address Bruny Island's feral cat problem, and is a first step towards the possible future eradication of feral cats on the island. An important component of the project will be the trapping and removal

to feral cat predation include the little penguin, the forty-spotted pardalote, the swift parrot, the hooded plover and the muttonbird.

In the coming months a website will be established to provide background to the Bruny Island Feral Cat Control Project. This will be accessible through the Bruny Island Online Centre's home page, and it will contain relevant information on cats, hints for cat ownership, links to a variety of domestic and feral cat web pages, and contact details for the Cat Control committee.

The project will target only feral cats, and will seek to actively assure the safety of domestic cats. In recognition that pet animals may roam some distance from settlement, a stringent protocol will be followed to confirm that any trapped cats are in fact feral.

Bruny island cat owners are being encouraged to keep their cats inside at night, particularly if they tend to wander any distance from home, and also to ensure that their pets are clearly identified. Identification may be a microchip implanted by a veterinarian, or a collar with an identification tag or, ideally, both. If a tagged cat is caught and its owners can be traced, the animal will be returned to them, or otherwise held in facilities on the Island for collection by the owners after notification that the cat has been caught. Any trapped cats that appear to be domestic rather than feral, and whose owners *cannot* be identified, will be taken to the Cat Rescue Centre in Hobart for adoption.

All feral cats that are caught will be humanely euthanased by approved personnel, and then sent to a government laboratory for dietary analysis.

A range of other scientific information will also be collected and it is hoped that the results of all of these studies will be available to the Bruny Island community toward the end of the coming summer season.

If you have any questions about the activities of the Bruny Island Cat Control Project, or you would like to be involved with the Project as an office volunteer or a trapping volunteer, please contact:

Harko Werkman
Project Officer

Ph: 0437 768 652

Email: cat.bruny@parks.tas.gov.au



of feral cats from areas where they present a marked risk to wildlife. The initial phase of the program has involved the recruitment and training of volunteers to trap feral cats in a number of targeted areas, in addition to a trapping regime run by the project officer.

Another important aspect of the project will be to prevent the dumping or escape of unwanted litters of kittens, so that no new cats become feral. To this end an education program will be conducted to promote the responsible ownership of pet cats, and the project hopes to be able to organise several de-sexing clinics on Bruny Island, with a possible offer of a reduced price for the procedures. The project also plans to offer microchipping at these clinics for those whose pets might not currently be chipped.

Feral cats may be a source of disease transmission to humans, pets, livestock and wildlife. Feral cats also threaten the survival of native mammals and vulnerable native birds. On Bruny Island the bird species susceptible

Independent planning process still necessary for Tasmanian marine protected areas

Recently the Resource Planning & Development Commission (RPDC) came under criticism (chiefly from recreational fishers) for the options it presented at the Inquiry into the Establishment of Marine Protected Areas within the Bruny Bioregion Draft Recommendations Report. Most of these critics have no idea what the Tasmanian Government policies on marine protected areas are and have waited until the last moment to make comments on an inquiry that has been running for more than two years. The RPDC provided two previous periods for public comment (prior to the release of the Draft Recommendations Report) when there was ample opportunity for those with an economic or recreational interest to provide input.

Any reasonable analyses of most of the scientific comment made in the Draft Recommendations Report supports the approach the RPDC has taken with regard to site selection and this is entirely consistent with the terms of reference it was given.

To have a comprehensive, adequate and representative system of reserves (as per the Tasmanian Marine Protected Areas Strategy) in the Bruny Bioregion means that a significantly large component of the proposed marine protected areas must be no-take.

The TCT notes the Department of Premier and Cabinet's recent submission to the Draft Recommendations Report

implied criticism that the RPDC failed to adequately address the socio-economic considerations in preparing its report. The TCT believes this is more likely to be the fault of government agencies and institutions (and stakeholder groups) to supply the information than a serious act of omission by the RPDC. The RPDC was selected by the Marine and Marine Industries Council (MMIC). This MMIC was formed by David Llewellyn to advise him on key areas of marine policy and provided advice on how the formal creation of marine protected areas should be dealt with.

An assessment by the RPDC is one of the key components of the existing Tasmanian Marine Protected Areas Strategy. It should be noted that MMIC consisted of all the relevant stakeholder groups, commercial and recreational fishers as well as conservation interests. The strategy was adopted by consensus.

The RPDC has dealt in a formal and rational way with previous inquiries into marine protected areas at the Kent Group of Islands and at Port Davey. It should continue to be the case with regard to the Bruny Bioregion inquiry. It is the TCT's position that the Tasmanian Government should acknowledge the RPDC is doing a good job assessing Tasmanian marine protected area proposals.

Christian Bell

Voiceless to fund Wildlife Education

The Tasmanian Conservation Trust and Against Animal Cruelty Tasmania (AACT) have received funding of \$15,000 from the organisation Voiceless to produce a teacher's wildlife resource kit. The project aims to raise awareness about wildlife issues particular to Tasmania. These include the commercial slaughter of possums, wallabies and pademelons, the duck and quail shooting season, the shearwater season, the lack of protection for forest ravens, the use of 1080, forestry and farming practices and their impact on wildlife, and roadkill.

A quality educational kit will be developed that will provide information about individual species that are commonly persecuted. Each of these species will have an information sheet which will include useful information about breeding patterns, migration, diet and habitat requirements. This information will be useful for school projects and will allow people to 'get to know' each individual species in some detail.

A key aim is to build respect for maligned species. Information on what people can do to stop the persecution will be a key part of the kit, as will information on how to live with wildlife harmoniously.

The kit, which will be in the form of an information folder and CD-ROM, will be distributed to schools and

used as a tool by AACT and the TCT when engaged in speaking activities at both school and non-school events. Changing the attitudes of adults is difficult so, although the kits will be generally available, we intend to target young people from Grade 5 onwards. If we can engender respect for these species, and show young people that there is another way of looking at the world, then the hope is that the persecution will decline.

The kit will be distributed to schools throughout Tasmania for placement in libraries, and some copies will be kept in TCT stock for other relevant promotional activities.

This project is a partnership between AACT and the TCT and builds on an existing-jointly produced brochure, 'Tasmania: Waging War on Wildlife'. The project will be managed by Karen Bevis, who was appointed by AACT and will work closely with the TCT. It will run for a little over 12 months, as the best time to distribute the information to schools will be in February 2009, at the start of the school year. For further information contact the project officer, Karen Bevis, email karen@wild.net.au

Christian Bell

Volunteers needed *for*

On 7 September 2007 the former Federal Minister for the Environment and Water Resources announced a grant of \$26,114 to the TCT to support a new project: Swift Parrot Nest Site Identification. The project will concentrate on collecting information on the endangered Swift Parrot (*Lathamus discolor*) while it is active within its breeding range (September to January) in eastern Tasmania. The duration of the project will cover the 2007–2008 breeding season. The TCT has employed Janneke Webb to train volunteers and complete the database.

As a biologist, and from the work on her final thesis 'Characteristics of Swift Parrot (*Lathamus discolor*) Nesting Habitat', Janneke has a good understanding of the birds' ecology and is familiar with the identification of swift parrots and their nest sites. Born and raised on the east coast of northern Germany, Janneke grew up with migratory European waders and other bird species – but, of course, there are no parrots in Germany. Her dream was always to see parrots flying at full speed in their natural environment. This dream came true when she started her work on swift parrots in Tasmania in 2005.

The Species

The swift parrot is a migratory species that breeds in Tasmania only. It is listed as Endangered under the *Tasmanian Threatened Species Protection Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999*. A population estimate listed in the Swift Parrot Recovery Plan (2001) indicates that there are just 1000 breeding pairs left. Swift parrots nest in tree hollows, provided mainly by old-growth eucalypts, and are highly dependent on heavy flowering Tasmanian blue gum

(*Eucalyptus globulus*) while nesting. Foraging and nesting habitat usually occur not more than 5km apart. Locations of nesting habitat may vary from year to year, due to flowering conditions; the species moves with the food source.

The data recorded during this project will be used by several organisations – such as Department of Primary Industry and Water (DPIW), Forest Practices Authority and local governments – to assist with strategic planning and management decisions. The identification of important nesting habitat allows the consideration/conservation of nesting as well as foraging habitat, which occur in close proximity to one another, are linked together and are essential for successful reproduction of the species. The information gained will be used to ensure nesting sites are considered in planning of forestry operations and other development assessments at a local government level. The project is managed by the Threatened Species Network and funded out of the Threatened Species Network Community Grants, which are, in turn, funded by the Australian Government.

Volunteers

A main aim of the project is to build up the capacity of the Tasmanian community to assist in implementation of key actions of the Swift Parrot Recovery Plan 2001–2005, and to train interested volunteers and improve their knowledge and skills in identifying swift parrots and their nest sites. It is hoped that, at the end of the project, there will be a sufficient pool of skilled volunteers and identification tools to continue nest surveys and monitoring for years to come. Janneke Webb will be supervised by a Steering Committee

Conserving Tasmania's Shorebirds

Rio Tinto, the Tasmania Conservation Trust, Birds Australia and Conservation Volunteers Australia are working together to conserve Tasmania's shorebirds. The Tasmanian Shorebird Conservation Program aims to protect shorebirds through managing threats to important habitat. To do this, the program is supporting two pilot projects – a habitat management project in George Town and a regional education and awareness program in the Tamar.

Shorebirds are threatened by loss of habitat, invasive weeds, introduced predators and human-related disturbance. As a result, 20% of migratory shorebirds are classified as globally threatened with substantial population decline. In Tasmania the hooded plover, a local beach-nesting shorebird, has experienced a 20% decline in its population, with local extinctions on some beaches. The nests and young chicks of these beach-nesting birds are

vulnerable to trampling by people and vehicles during the spring and summer months.

In 2006 Birds Australia was commissioned to undertake a review of 'Shorebirds, their threats and management needs in Tasmania'. The review identified the Tamar region – George Town, Kelso/Greens Beach, Bellbuoy Beach and Bellingham – as one of several important areas for shorebirds. Over 20 potential threats were identified; overwhelmingly these were related to human activities such as vehicles on beaches and dogs off-leash. Invasive weeds, such as sea spurge, were also considered a key management issue.

The George Town Shorebird Habitat Project aims to minimise disturbance to sensitive shorebird habitat within the George Town Wildlife Sanctuary. Revegetation of the foreshore with native plants will act as a buffer to deter people and pets from accessing offshore islands used by

Swift Parrot Study

composed of representatives of the TCT, DPIW, Birds Tasmania and the Threatened Species Network. She has trained volunteers to conduct surveys in eastern Tasmania within the range of swift parrot habitat, mainly to detect absence or presence of swift parrots and then to concentrate on identifying nesting habitat and nest trees in this



Swift Parrot. Photo: Aleks Terauds

(2007–2008) breeding season. Training activities commenced along Tasmania's east coast during October and November and will conclude in December. The TCT Swift Parrot Nest Site Identification Project is now at more than the half-way stage and is already providing valuable findings.

This season, a large proportion of the population has been recorded in and around the southern forests. Swift parrots were sighted from Huonville down to Southport/Dover and up to 10km inland, including locations in the

Huon-Dover area where they have not been recorded in previous seasons. In the Dover area, the first fledglings have been heard and seen and a few females have been spotted out of their nest holes while being fed by their male partners. Smaller numbers of swift parrots have been recorded on south Bruny Island, around the Channel, on Maria Island and on the Tasman Peninsula. In the north of the state some birds have been sighted around Launceston and at Kelcy Tier near Devonport.

While some females are still incubating and a number of breeding pairs are busy feeding fledglings, other swift parrots are still courting, chasing each other in groups, inspecting hollows and finding mates. Nesting can continue until mid-January.

New volunteers are welcome to join and further their knowledge of the ecology of a native threatened species. More surveys will be conducted to look for swift parrot nesting habitat and nests and these will take place around Southport/Dover, south Bruny Island and St Helens, concentrating on areas of aggregated nesting.

To get involved, contact:

Janneke Webb
Tasmanian Conservation Trust
102 Bathurst Street
Hobart 7000
Phone: 6234 3552
Mobile: 0400 194 725
Email: tct@southcom.com.au

in the Tamar....*we need your help*

shorebirds for roosting and breeding, and mudflats used by the birds for feeding. It is hoped that signs, combined with talks to schools and the public, as well as opportunities for people to participate in planting activities, will help foster local stewardship of this important site.

The Shorebird Discovery Project aims to minimise disturbance to shorebirds through influencing human behaviour on Tasmanian beaches. To do this, shorebird education kits have been produced for the Tasmanian Discovery Ranger Program, complemented by a series of shorebird talks to the public and schools in the Tamar region over the coming summer months.

Members of the public interested in participating in planting activities, attending a shorebird talk, or finding out more about the Program, should contact the Program Coordinator, Bianca Priest, on 6234 3552 or 0413 300 797 or email b.priest@birdsaustralia.com.au.



Derwent Penguins Receive Commonwealth Help

The Derwent Estuary Program (DEP) and the TCT have received funding through the Envirofund (Round 10) to continue our work for the benefit of Derwent little penguins.

The purpose of this project is to protect the remaining little penguins in the Derwent estuary by implementing recommendations in the report generated through the previous Community Action for Penguins Envirofund project.

Veronica Thorp and Fiona Rice have been engaged to carry out the project and will commence early in 2008.

The project has twin aims:

1) On-ground works

We will continue to protect and enhance the remaining locally vulnerable penguin colonies through habitat restoration and the installation of artificial burrows. Specifically we wish to carry out works at the following sites.

Site 1

At Boronia Beach (the largest colony in the estuary with 30 breeding pairs recorded in 06/07) with funding through the previous Envirofund Community Action for Penguins grant, fencing and swing gates have been installed to protect the nesting sites from stray dogs and discourage dog-walking in this restricted area, whilst allowing penguins access to nesting sites. Signage now informs beach users of dog restrictions and the importance of the area for nesting seabirds. Burrow installation and revegetation has increased nesting opportunities. Entangling weeds that restricted penguin access were removed on the public land and further revegetation will increase nesting opportunities in the area. With this project it is proposed that further revegetation in the public area be undertaken with support from the Understorey Network (USN), Kingborough Council and a Green Corp team. The track to the beach will also be diverted away from nesting sites. The construction of burrows on adjoining private land using materials that naturally occur including associated weeding and revegetation will be undertaken. Work on private land is the next step in improving habitat for little penguins at Boronia Beach based on the success of on-ground works on the public land. The private landholder, Kingborough Council, DPIW Biodiversity Conservation Branch, the Understorey Network and the DEP will work together here.

Site 2

At Alum Cove the DEP will work with the Tarooma Environment Network, DPIW Biodiversity

Conservation Branch, Kingborough Council and the Understorey Network to remove weeds, revegetate and create burrows from naturally occurring materials. Boxthorn will need to be tackled by a contractor as it occurs in steep sections of the site, and can cause poisoning if not handled with care.

Site 3

At Lucas Point the DEP will work with Parks and Wildlife and the DPIW Nature Conservation Branch to fence the coastal reserve to protect the colony from stray cats and dogs, install artificial burrows (concrete and wooden boxes) and increase natural nesting opportunities.

Assessment of sites suitable for recolonisation

In the initial inventory of penguin sites in the Derwent in 2004 numerous sites were recorded as once being occupied by little penguins but these are now extinct. As the restoration of habitat and the installation of artificial burrows has been successful at existing colonies, it is proposed that other sites be assessed to determine their suitability for habitation by penguins.



Derwent Estuary Penguin Project

Factors to assess would include threats to penguins such as the presence of dogs and/or cats, human traffic, existing nesting opportunities and vegetation condition. Recommendations from this assessment would help guide future on-ground works, whether undertaken by community groups, councils or the Parks and Wildlife Service in cooperation with the Derwent Estuary Program and the DPIW Biodiversity Conservation Branch.

2) Community education and awareness

An important aspect of the project is continuing the education and awareness generated among local residents, dog-walking groups and local councils about the plight of little penguins. This will include:

- Development of Little Penguin Management Guidelines based on lessons learned from previous Little Penguin Envirofund Grants. These guidelines will be valuable to councils and other land managers and community groups in areas where little penguins occur and will build on guidelines that already exist. They will be particularly helpful in providing advice on revegetation techniques in southern Tasmania, and outlining burrow-building techniques and options for a range of environments. The guidelines will also cover options to assist residents on the foreshore to best manage their land in order to protect penguin habitat.
- A regional workshop introducing the guidelines as well as a refresher for the community on penguin ecology and habitat maintenance was recommended at the end of the previous penguin project. There was excellent response to the first workshop, with 50 people attending from southern Tasmania, and the workshop encouraged groups to manage penguins in their patch (e.g. on the Tasman Peninsula). The interest of participants was high and interest in another workshop was expressed.
- Presentations to schools (primary, and some secondary) in the Derwent region about penguins, including their ecology and avoiding disturbance.
- Media to raise awareness of how people can cohabit with little penguins living in an urban area, e.g. controlling weeds and removing garden waste appropriately.

Community involvement in habitat restoration at some colonies in the previous Envirofund project has been excellent and it is our intention to continue working with our partners in future revegetation that will include the planting of local plant species, weed removal and installation of burrows.

Protection of key breeding sites will include ongoing discussion with local residents of the importance of keeping dogs and cats away from penguin colonies. These methods have proved successful in previous projects, with the coordination of land managers and community groups being facilitated through a Penguin Advisory Group which has members from councils, state government and the community. This group will continue to oversee the management of little penguins in the Derwent with a key aim of following up the good work that has already been achieved through previous Envirofund projects.

You can contact either Veronica Thorp or Fiona Rice in relation to the project via the TCT on 03 6234 3552.

Looking after our ‘backyard bandicoots’

A new teaching package, *Backyard Bandicoots*, about the eastern barred bandicoot will assist teachers to enlist the help of students and the community in protecting the threatened species.

The education package, for students in years 2–6, was initiated by the Hobart City Council Faunacare Group, funded by WWF’s Threatened Species Network and



supported by the Parks and Wildlife Service and the Department of Primary Industries and Water.

Project officer Lydia Marino said the education package teaches students general ecology of the eastern-barred bandicoot as well as practical ways to strengthen local populations.

The eastern-barred bandicoot is considered threatened because the species is potentially at risk of becoming extinct. This may seem surprising to many Tasmanians, as the bandicoots are still common in parts of the state. However, the eastern-barred bandicoot is now extinct in South Australia and ‘critically endangered’ in Victoria, where the population has been reduced to a mere 200 individuals. Large-scale loss of much of the eastern-barred bandicoot’s natural habitat, native grasslands, has caused it to almost disappear from its natural range in Tasmania .

This has meant that bandicoots have largely moved into the fringes of rural areas and often urban areas. Here they shelter in weeds and non-native vegetation, often in gardens and parks.

Unfortunately, bandicoots face many threats in the urban environment, including road kills, predation by cats and dogs and habitat loss, as well as the emerging threat of foxes.

The package contains a teacher training book, community brochure, poster and book stickers.

Teachers are requested to register their interest in the workshop by contacting Sonya Stallbaum, Hobart City Council Bushland and Reserves Unit on 6238 2884 or stallbaums@hobartcity.com.au

Source: Parks and Wildlife Service
Department of Tourism, Arts and the Environment

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 See the TCT website at <http://www.tct.org.au>
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