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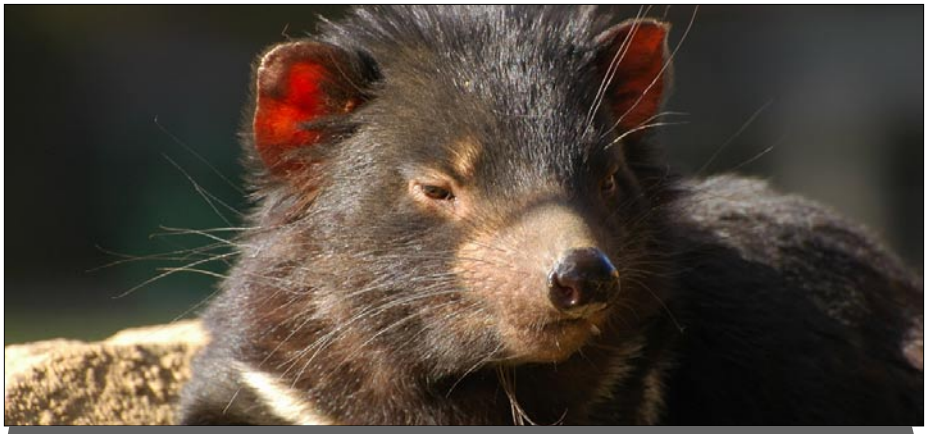
SAVE THE TASMANIAN DEVIL.

SAVE THE TASMANIAN DEVIL PROGRAM

FREE NEWSLETTER

DEVILS ON OFFSHORE ISLANDS

By ANDREW SHARMAN
Manager, Save the Tasmanian Devil Program



A Tasmanian devil joey at Taronga Zoo in Sydney.

Photo: Tony Britt-Lewis

Up to 80 Tasmanian devils will be released on an offshore island this year as we continue to build our Insurance Population.

At this stage we'll be using a limited number of animals of various ages, typical to what you'd find in a wild population. This first release will be a controlled project and, as a precaution, the males will be sterilised to prevent the population breeding and becoming established until we can be sure that this is an ecologically sustainable action for the devils and the island ecology.

Our aim with this initial release is to observe and to monitor. What are the implications of introducing a top-order carnivore into the landscape? How will it impact the species that haven't encountered devils for many generations? What will be the reaction of other carnivores to the new species?

One of the benefits of a staged release is that we can identify and manage issues as they develop, without the concern of unregulated population growth. This information can then be used as a guide for future island releases, as well as other long-term plans.

Critical to this work will be the opportunity to increase our understanding of the role played by devils in the landscape and the ecology. We hope to get an idea of the number of devils we'll need to make sure they are a functioning wild population – that is, the numbers needed to maintain the balance in the ecosystem.

At the moment we're in the process of finalising arrangements for the first release. The next step will be field monitoring of the island's native species so that we can keep track of any changes that occur when the devils are finally released.

Meanwhile work continues on all the other aspects of the Insurance Population: Free Range Enclosures (FREs), possible large-scale fencing projects within Tasmania, and the breeding of captive animals in zoos and wildlife parks. These Insurance Population animals are the devils that could be used, if ever needed, in helping to re-establish healthy populations across Tasmania.

We're also continuing to expand our monitoring of wild populations across the State and in particular those populations ahead of the disease front. Our work in disease suppression in isolated populations is showing we can influence the outcome for devils by management, and as scientific investigations continue to shed light on the disease we hope this will help to develop new tools to bring into the fight for the devil.

This enormous range of work by our committed team usually doesn't make headlines. But it is precisely these efforts, and the information they provide, that is crucial to giving the Tasmanian devil every chance of survival.

DEVILS THRIVE IN THE NORTH-WEST

Tasmanian devils continue to thrive in the far north-west of the State despite the ongoing spread of the Devil Facial Tumour Disease (DFTD), a recent trapping trip has confirmed.

Dr Samantha Fox, a wildlife biologist with the Save the Tasmanian Devil Program, said north-western populations remain free from any evidence of DFTD. In fact some of the devils that the team encountered were nearly seven years old – well beyond the average life expectancy of five to six years.

"It's important to see that it's not all doom and gloom for the species," Sam said.

"What was exciting to observe was not just the abundance of Tasmanian devils in the far north-west, but also their robustness. We caught eight animals that had been born in 2003, and their health was so good that I can imagine some of them living another couple of years."

The team trapped, monitored and released 107 Tasmanian devils over a 47 km^2 area during a seven-day trip on the Woolnorth property – that's as many animals as they usually catch during a 10-day trip in this area. Forty-three of these animals had been captured on previous trips between 2004 and 2007, and 64 were new animals.

This field work is a further step in exploring the possibility of protecting disease-free populations with various fencing options (a huge, long-term process).

The next stage will be to attach satellite trackers to 'trap happy devils' so that the Program can determine the movement of animals throughout the wider area, as well as reveal how these devils react

to natural geographical features (like mountains and rivers) as well as man-made structures (roads and agricultural fences). This information will help identify any natural obstacles that slow or stop devil movement, as well as highlight the features that can be used as part of a fencing project.

"The great thing about satellite trackers is that we can gain an enormous amount of information about devil movement, home ranges, den sites, habitat suitability and interactions with natural and man-made obstacles," Sam said. "This information may fill some of the gaps in our knowledge about devil ecology. Being a nocturnal animal, they can be difficult to study."

To date, the eastern side of the Murchison Highway is the most westerly point where cases of DFTD have been confirmed. The disease has spread across more than 60 per cent of Tasmania since 1996, when it was first observed at Mt William, in the north-east.

Field monitoring will continue over autumn to determine whether the results from the Woolnorth trip are typical of the wider north-west region.

WHO WE ARE

The Save the Tasmanian Devil Progam is the official response to the threat of DFTD to the survival of the Tasmanian devil.

The Program is a joint initiative of the Australian and Tasmanian Governments in partnership with the University of Tasmania.

Australian Government · Tasmania Explore the possibilities · UTAS

THE STORY SO FAR...

The Devil Facial Tumour Disease (DFTD) was first observed in the State's north-east in 1996. It is a contagious cancer that spreads between individuals through biting. The foreign cells of the tumour aren't rejected by the individual's immune system because of a lack of genetic diversity among Tasmanian devils.

The disease produces small lumps in and around the mouth, which develop into large tumours on the face and neck. Once DFTD becomes visible, death invariably follows, usually within months.

To date, 13 different strains of DFTD have been identified. DFTD is mutating in the wild.

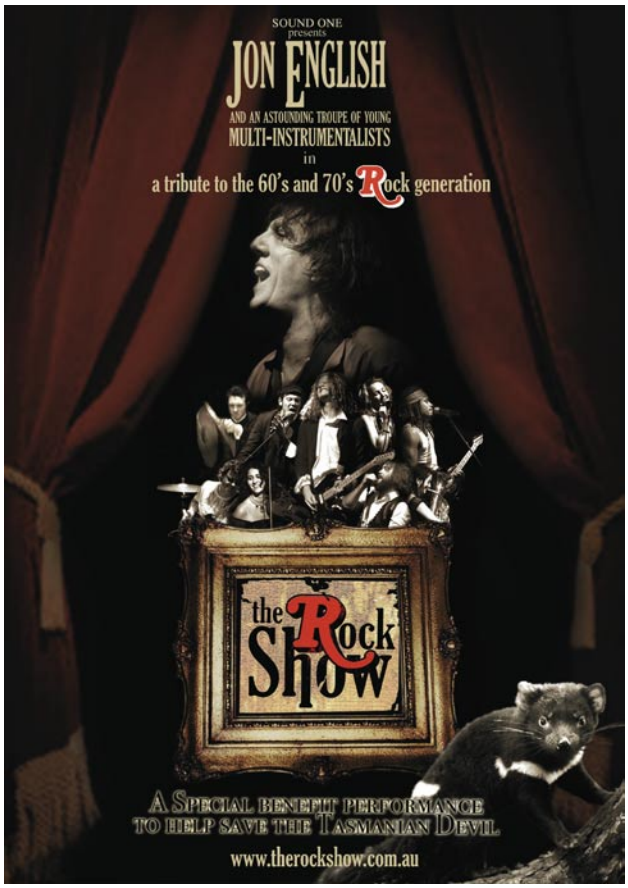
The Tasmanian devil is listed as 'Endangered' under the Commonwealth's Environment Protection and Biodiversity Conservation Act 1999 and the Tasmanian Government's Threatened Species Protection Act 1995.

The Save the Tasmanian Devil Program is the official joint strategy of the Australian and Tasmanian Governments. It features captive and free-ranging Insurance Populations, collaborative laboratory-based investigations of DFTD, and management strategies for wild populations.

JON'S PACT WITH THE (TASMANIAN) DEVIL

Aussie rock legend Jon English rose to fame playing Judas Iscariot in the musical Jesus Christ Superstar. Several decades later, he's still working for the devil (and we love him for it!)

Jon is the driving force behind The Rock Show, a series of fundraising concerts that came to Tasmania last month as a precursor to DEVIL ROCK, planned for late 2010.



"We in Australia have a terrible reputation for not saving our native species," Jon said. "It's bad enough that we lost the Tasmanian tiger. To lose the devil too would be tragic."

A DVD of Jon's fantastic Tassie shows will soon be available.

For more information on DEVIL ROCK, as well as tour dates for eastern Australia, go to www.devilrock.com.au

LEFT: The poster for The Rock Show, a series of special benefit performances to help save the Tasmanian devil.

RESEARCH FUNDING

Twice each year, research grants and scholarships are allocated from donations received through the Save the Tasmanian Devil Appeal, via the University of Tasmania (UTAS) Foundation. In late 2009, four projects shared $75,000 in funding.

- Rodrigo Hamede, a PhD student from the UTAS School of Zoology, received $23, 851 to study the basis of variant disease dynamics and population impacts of DFTD at West Pencil Pine.

- Dr Alex Kreiss, from the UTAS Menzies Research Institute, received $13,800 toward the expansion of a research quarantine facility.

- Terry Pinfold, a PhD student from the UTAS Menzies Research Institute, was granted $26,250 to evaluate the DFTD immune response.

- Dr Hannah Siddle, from the University of Sydney, is part of an international team that received $10,000 to study how DFTD cells escape the immune system.

LOCAL HEROES

Anthology, which owns Cradle Mountain Huts, pledged $200 per person toward the fight to save the Tasmanian devil from every booking that was made in January.

"We established Anthology to deliver distinctive Australian experiences to our guests," said Grant Hunt, the Anthology CEO.

"We also wanted to provide our guests with a way to feel that they could lend a helping hand. We consider the Tasmanian devils to be at the heart of this practice and want to help provide funds for this critical program."

Meanwhile Juicy Isle, hot on the heels of the launch of its next range of Hartz mineral waters, has added the label "Supporter of the Save the Tasmanian Devil Appeal" to its packaging. The company will also provide an annual cash donation.

"We're an extremely proud Tasmanian company," said Michael Cooper, Juicy Isle's managing director.

"Part of that heritage is the iconic Tasmanian wilderness, so supporting the Tasmanian devil is a natural fit for us."

Other corporate donors to the Save the Tasmanian Devil Appeal include: Bradley Surfboards, Pepper's Calstock Resort, Rent-a-buggy, The Soundscape Festival, Tasmanian Building Group, Sportsguard and Woolston Printing.

If you'd like to keep up with developments from the Appeal, please send a message, including your email address, to appeal@tassiedevil.com.au

DEVILISH FOLK

KAREN MACNAB

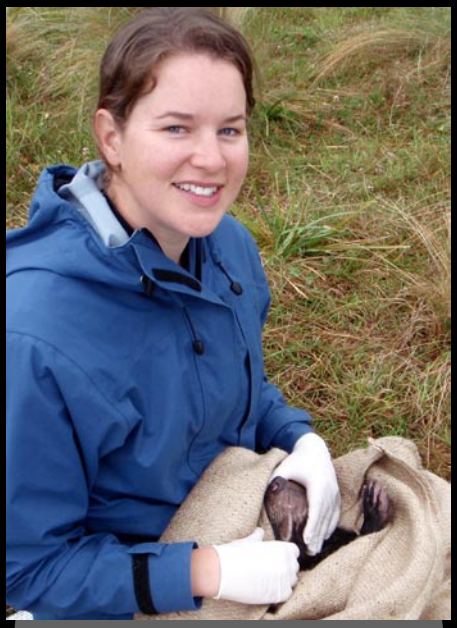
The diversity of expertise among members of the Save the Tasmanian Devil Program plays an important role in furthering our knowledge. Our quarterly newsletter gives us the opportunity to introduce members of the team.

Senior devil keeper Karen Macnab said she'll never forget her first day with the Save the Tasmanian Devil Program.

"I was doing my best to be all impressive," she said. "One of the vets needed a hand with a health check and she asked me to hold an anesthetic mask on the face of a badly diseased devil.

"It was pretty confronting, but I said I would. Then, the next thing I knew, I was waking up on the ground. I'd passed out."

Karen needn't have worried about the impression she was making. Her skill in caring for some of the Program's captive insurance devils is now being put to good use at the 12ha Free Range Enclosure (FRE) on Tasmania's east coast.



Karen Macnab

"The FREs are one of the most exciting parts of our Program," Karen said.

"When you work with captive devils, you really get to know their personalities. They're all such individuals.

"But in the FREs, we try to minimise our contact with the devils so that the animals keep their natural behaviour. This will be important if we re-release devils back into the wild."

It's already possible to see differences between the Tasmanian devils in the FRE and those kept in smaller, hands-on facilities. The FRE devils are still nocturnal and remain afraid of humans. When they need to be checked by keepers, most wild devils freeze with fear. But animals in the intensively-managed captive populations can lose their fear of humans because, for starters, they're fed by people.

"We're determined to keep it wild in the FRE," Karen said. "In an effort to have even less contact with the FRE devils, we're starting to monitor them on remote cameras. We've also made a picture ID poster so we can identify the marking of individual animals.

"All of this is unpredictable and completely new. That's why it's so important."

The east-coast FRE was opened in 2008 by the Devil Island Project. The land was donated by Bruce and Maureen Englefield of East Coast Natureworld.

MULTIPLE DEVIL DADS

Paternity tests for the joeys born within the Bicheno Free Range Enclosure (FRE) have confirmed that three individual male devils mated with three female animals.

"This is promising news," said Dr David Sinn, a scientific officer with the Save the Tasmanian Devil Program.

"We want to maintain genetic diversity within the Insurance Population, so it's important that a single male doesn't monopolise the females. But it's difficult to control who mates with whom when you're working within a free-ranging environment."

The team hypothesized that monopolisation would be more likely if the females were clumped together. This would allow a single male to defend them.

So, to encourage the females to spread out across the 12ha enclosure, excess water resources and den sites were provided and food was placed at various, random spots.

"We can't be sure that our resource manipulation was the reason why a single male wasn't able to monopolise the girls," David said. "But it certainly would have been harder to move forward with the FREs if monopolisation had occurred.

"We still have a lot of questions to answer – ones that we won't be able to test until we have additional FREs up and running."

The eight joeys born within the FRE last year were the first to be produced within the east coast enclosure. One died in the pouch and two haven't been recaptured since they dispersed. Five have been confirmed as living.

A further three FREs have been announced by the Save the Tasmanian Devil Program, in partnership with the Devil Island Project.

CAPTIVE POPULATION GROWS

The captive breeding Insurance Population on mainland Australia has grown to 196 Tasmanian devils with the birth of 57 joeys last year – an increase on the 34 young produced in 2008.

These births, along with the fact that only one death was recorded during the period, mean that the mainland breeding program is well placed to reach its current target of 250 devils.

This population was established in 2005 by the Save the Tasmanian Devil Program in partnership with the Zoo Association (formerly known as the Australasian Regional Association of Zoological Parks and Aquaria). Devils are currently being held by 19 Zoo Association members on mainland Australia, far away from the Devil Facial Tumour Disease (DFTD).

Chris Hibbard, who manages the Australasian Species Management Program for the Zoo Association, said that target numbers for devil Insurance Populations are set according to the scenario in Tasmania.

"Right now we can recruit disease-free animals from the far north-west of Tasmania," Chris said. "We also have an effective quarantine procedure that allows us to take animals from diseased areas. This means that our target population size can be smaller.

"Sometimes there's confusion over the mainland Insurance Population because it's perceived as being small. But we're actually tracking appropriately with our targets."

Intensively managed populations require fewer devils than free-ranging animals because many aspects of the breeding process can be managed and manipulated to optimise genetic diversity.

It is estimated that the current mainland Insurance Population captures 98.49% of the known genetic diversity of wild devil populations that have been drawn from for the captive population.

The Zoo Association plans to continue to build the genetic diversity of the population by further increasing their numbers of east-coast devils. This can be achieved through additional partnerships with the Save the Tasmanian Devil Program and other captive holders, as well as gathering orphaned devils to undergo the appropriate quarantine.

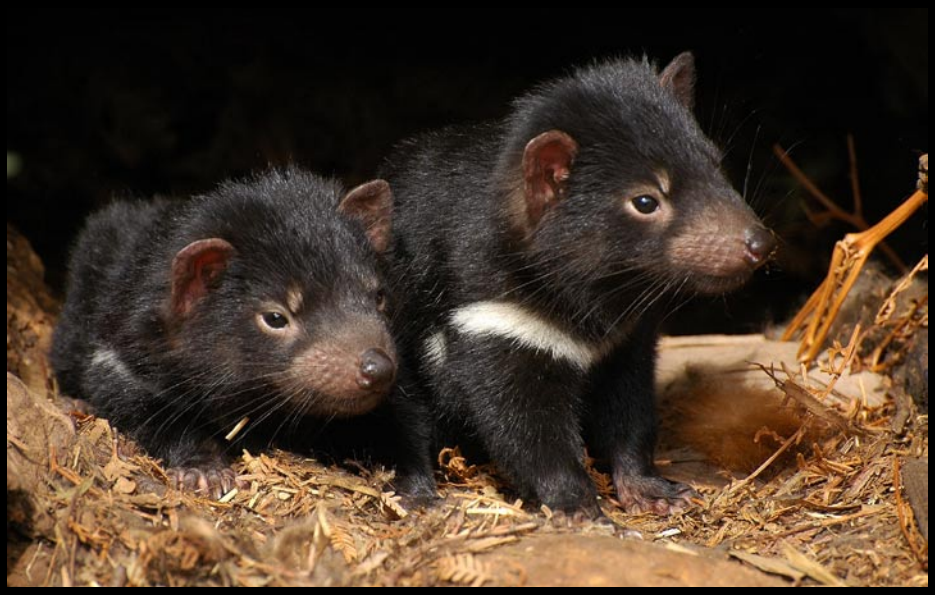


Photo: Tony Britt-Lewis

DEVILS ON THE TASMAN PENINSULA

A wild population of Tasmanian devils still exists on the Tasman Peninsula, remote camera trapping confirmed last January.

The next phase of monitoring work, which is planned for this month, will help to determine if there's any evidence among these animals of the Devil Facial Tumour Disease (DFTD).

Sam Thalmann, a wildlife biologist with the Save the Tasmanian Devil Program, said the status of devils on the south-eastern peninsula had been in question for several years.

"Many locals felt there weren't any devils left in the area," he said. "But others had seen evidence of devil activity, such as scats, footprints and roadkills. We targeted these areas with our camera traps."

Over a two-week period the team got pictures of devils in six locations across the peninsula. Eight individual devils have since been identified.

"From here, we'd like to do some standard monitoring so we can get an accurate idea of the population numbers, the distribution of these animals and, most importantly, the disease status of the devils that we capture," Sam said.

The geographically-isolated Tasman Peninsula is connected to the Forestier Peninsula by a stretch of land called Eaglehawk Neck. This isthmus is fewer than 30 metres wide at its narrowest point.

CELLS OF ORIGIN

Cells that protect nerves are the likely source of the Devil Facial Tumour Disease (DFTD), suggests research published in January this year.

A collaboration of Australian and US scientists has discovered that DFTD originated from cells called Schwann cells, which protect peripheral nerve fibres.

These findings have been published in the international journal, *Science*.

The lead author of the paper, Dr Elizabeth Murchison from the Australian National University, said that the discovery has led to the identification of a genetic marker that could be used to accurately diagnose DFTD.

"Devils, like humans, are susceptible to a number of different cancers, including breast cancer, leukaemia and so on," Elizabeth said.

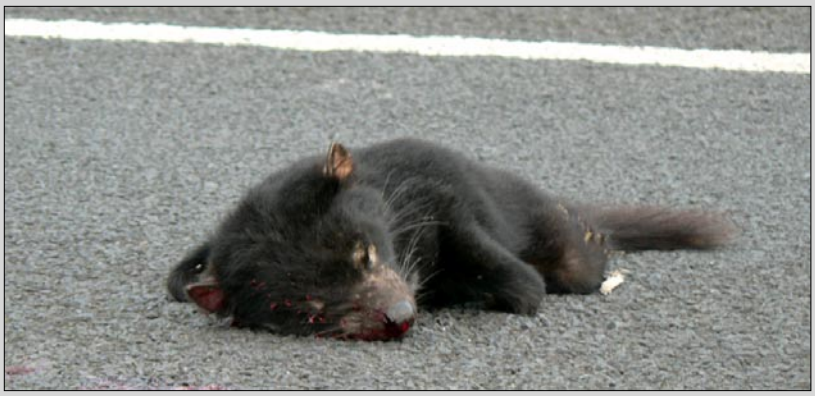
"Sometimes it can be difficult to tell the difference between these cancers and DFTD.

"Now that we know that these very specific Schwann genes are expressed in DFTD, we can use them to develop a diagnostic test for the disease."

TWEETS AND BLOGS

Follow us on Facebook and Twitter. You'll get the latest news from the Program, as well as information about how you too can help the Tasmanian devil.

www.tassiedevil.com.au



ROADKILL PROJECT UPDATE

We'd like to say a huge 'thank you' to all the members of the public, as well as local businesses and community groups, who've supported our Roadkill Project during summer.

Recent studies estimate that more than 2000 devils are killed on Tasmanian roads each year – a shocking figure at any time, but especially now that the species is being decimated by the Devil Facial Tumour Disease (DFTD).

Last December we launched the Roadkill Project to encourage motorists to slow down between dusk and dawn. We're also asking for your help to report devil roadkill sightings so that we can find out how significant it is as a threat to the survival of depleted devil populations.

For more information, as well as details about how you too can become part of this project, go to: www.tassiedevil.com.au/roadkillproject.html

NUMBERS STILL IN DECLINE

Devil numbers across Tasmania have declined by 80% since the Devil Facial Tumour Disease (DFTD) was first observed in 1996, monitoring figures from 2009 have confirmed.

The percentages used to indicate this decline are the result of state-wide spotlighting surveys, explained Dr Samantha Fox, a wildlife biologist with the Save the Tasmanian Devil Program. But Sam cautioned that once you get such low numbers of devils, the loss of only a few animals can make a big impact on the percentages.

"These standardised spotlight surveys have been carried out every year since 1985," Sam said, "so we have some good pre-disease figures to use as a comparison.

"What we find now, though, is that the numbers of devils seen on spotlighting surveys are so few that the reduction of even a couple of devils, in comparison to the previous year's total, can make a big difference to the decline results."

Despite this fact, these results do confirm that devils are continuing to decline throughout the State.

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