

Race to save the devil Down Under

May 17 2012, by Amy Coopes



Adrian Good, a keeper at Devil Ark in the Barrington Tops area of Australia's New South Wales state, holds "Scooter" a 14 month old Tasmanian Devil. At Devil Ark a group of endangered Tasmanian Devils are being taught to forage in the wild as researchers race to defeat a contagious cancer threatening the species with extinction.

It's been hundreds of years since the Tasmanian devil last lived on the

Australian mainland but, in the misty hills of Barrington Tops, a pioneering group is being bred for survival.

Rat-like in appearance but with a marsupial pouch and carnivorous jaws that can crack bone, Tasmanian devils are an enigmatic Australian species.

They are reclusive creatures who sleep by day and forage by night, and are best known for the guttural cries which saw the early British settlers call them "devils" and inspired a Warner Bros. cartoon character.

But the burrowing, tree-climbing animals are in a battle for survival against an aggressive and contagious [facial cancer](#) which experts fear could see them become extinct in the wild in as little as five years.

"Its viability at present seems critical," said [conservationist](#) Tim Faulkner of the animal.

"In 1996 the disease was first found -- since then you've had a 91 percent population decrease," Faulkner, who is based at the Australian Reptile Park, said.

"There's no sign of a cure, there's no sign of a vaccine and there's no sign of the disease slowing up."

Devil facial tumour disease has seen the animals plunge from a [pest species](#) to endangered in a very short period, with Faulkner estimating their numbers -- once in excess of 250,000 -- in the "low tens of thousands."

The Tasmanian Devil

Australian marsupials in a battle for survival against a contagious cancer, which experts fear could see them extinct in the wild in as little as five years

Sarcophilus harrisii

- ▶ Nocturnal meat eater that carries its young in a pouch
- ▶ Roams up to 16 km a day, scavenges on anything available
- ▶ Declared endangered in 2009

Devil facial tumour disease

- ▶ Infectious cancer that mainly affects face
- ▶ Spreads from devil to devil through bites
- ▶ About 91 percent population decrease since disease was first found in 1996

Weight:
up to 5 kg (juvenile)
up to 12 kg (adult male)

Length:
up to 1.1 m

Tasmania

Found in farming areas, coastal heath, mountains, forests

Mainland

Extinct: believed killed off by wild dogs over 600 years ago



Graphic on Australia's Tasmanian Devils, rare carnivorous marsupials in a battle for survival against a contagious facial cancer.

They once roamed Australia but since about 1600 have been isolated to Tasmania, an island state south of the mainland, where a series of [disease outbreaks](#) has seen their genetic stocks severely diminished.

The cancer, which typically causes death within three to six months, is spread during fighting over food and territory, when a healthy devil will bite an infected devil's face and pick up [cancer cells](#).

Because the devils are so inbred their immune systems fail to recognise the cancer cell as foreign and don't fight it off, according to geneticist Kathy Belov, who describes the animals as "immunological clones".

Belov's team at the University of Sydney are studying the tumour in search of a vaccine or cure, but she believes cataloguing the genes of healthy animals and selectively breeding them in captivity is the devils' best hope.

"In 30 years' time, a few generations down the track, we want devils that we can release back into the wild that can hunt and can fend for themselves," Belov told AFP.



A 14-month-old Tasmanian Devil bites the trouser leg of keeper Adrian Good, at Devil Ark in Australia's New South Wales state. The burrowing, tree-climbing animals are in a battle for survival against an aggressive and contagious facial cancer which experts fear could see them become extinct in the wild in as little as five years.

"We want to have devils that behave like wild animals, but not to lose any of that (genetic) diversity, and that's going to be the challenge."

Enter "Devil Ark" -- 500 hectares (1,236 acres) of farmland set in pristine national park which was gifted to the [Tasmanian devil](#) conservation movement by the wealthy Packer family of casino and media fortunes.

Situated in remote and mountainous alpine forest very similar to the devils' natural habitat, Devil Ark is what keeper Adrian Good describes as a "free-range" captive breeding project.

Devils are kept in densely vegetated pens of between two and three football fields in size enclosed by a climb and burrow-proof fence, and their pen mates are chosen by experts from a genetic "stud book" to optimise breeding.

Their lives are designed to closely mirror those of wild devils; they are left a kangaroo or other carcass to eat in the evenings and will sleep through the day.

Each pen contains between six and 10 devils, with an even mix of males and females, and Good said there had been excellent breeding success last year, which was the Ark's first year of operation, with 24 babies -- or "joeys" -- born.



Tasmanian Devils once roamed Australia but since about 1600 have been isolated to Tasmania, an island state south of the mainland, where a series of disease outbreaks has seen their genetic stocks severely diminished.

"They just love being here, all the signs are that they are happy and healthy devils," he said.

Social dominance is a constant battle in the wild and Devil Ark is no different -- having to share their territory with others forces the devils to fight for their food and mating rights, skills they can quickly lose in a zoo.

"Those wild traits are crucial for them being able to survive when they're re-released," said Good.

There are currently just under 100 devils living at the Ark and keepers are targeting 350 by 2016, with plans for as many as 1,000 in the years after that to be trickled back into Tasmania once the wild population dies

out.

The Australian Reptile Park's Faulkner is overseeing the project and said it was unique in the world because unlike most other endangered species captive-bred devils would be able to be returned to their habitat.

"Its environment's pristine, feral predators aren't a problem, if we can just get past the disease you can put them back and it literally has a happy ending," he said.

Belov said there would be valuable lessons for the management of other vulnerable native species, including the koala.

"I think we have to learn from the devil, this disease simply couldn't have spread like it has had there been more genetic diversity," she said.

"It's a warning for us because we have a lot of wildlife populations that are isolated... and that's where you have problems."

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