



# ON THE BRINK

A new field of research questions the ethical and cultural limits of conservationists' efforts to save species from extinction, writes Fiona MacDonald.

IN A REED-FILLED reserve outside of Berlin, Wisconsin, a man is dressed head-to-toe in white and carries a bird puppet. He's a strange sight, but appearances are the least of Joe Duff's worries – his focus is the light brown, whooping crane chicks squawking in front of him as he encourages them to imitate the puppet's feeding behaviour. His costume is an attempt to convince the chicks he's an adult crane, perhaps their mother, while the puppet makes up for what he lacks in bird anatomy. His main job is to teach these endangered birds that they're whooping cranes, while also imparting to them some of the skills and social and sexual cues they'll need to survive in the wild.

A little more than 100 years ago, there were only 20 of these elegant migratory cranes left, but the species is now in recovery, with an estimated 437 birds in the wild and 165 more in captivity. Thanks to the efforts of Duff and his team at Operation Migration, alongside significant ongoing investments from the US Geological Survey, the US Fish and Wildlife Service and the International Crane Foundation, the tallest birds in North America have finally returned to the skies.

Arguably, however, the success is the result of a decades-long, multifaceted deception – Duff and the team at Operation Migration not only walk around for hours in the heat of the summer sun wearing costumes in order to mimic parent cranes, they also train chicks to follow a light aircraft, which eventually guides them along their 2,000km migration route to Florida in the winter. The work begins before the chicks even hatch, when they're exposed to engine noise to develop familiarity with the aeroplanes. The project also involves frequent artificial insemination of females. In one case, a staff member was engaged in a relationship with a particular crane

over many years where they would dance and sing together in the breeding season to stimulate the bird's fertility hormones.

There's no doubt that, in the process of bringing these 1.5 metre-tall cranes back from the brink, conservationists have been required to develop some very invasive approaches, intervening in birds' developmental processes to steer them in new directions. And while this project and countless others around the world are to be applauded for their success, researchers such as UNSW's Dr Thom van Dooren, are beginning to question some of the underlying ethical and cultural dimensions of these approaches.

Van Dooren spent time with whooping cranes and a range of other endangered birds while researching his book *Flight Ways: Life and Loss at the Edge of Extinction*. In it, he attempts to untangle what extinction really means – biologically and culturally – how it is experienced by various communities and by the animals themselves. He aims to share stories about how far we will go to save species we've pushed to the brink.

"I wanted to look at the cultural dimensions of extinction, and also the philosophical and ethical questions it poses," says van Dooren, who works in UNSW's new Environmental Humanities program.

Van Dooren says the introduction of the program in the Faculty of Arts and Social Sciences is timely.

"In the past 10 years it's become increasingly obvious that scientists simply cannot address all of the complex cultural, ethical and political questions being thrown up by the new challenges facing our planet," he says. "There is a vital role for an environmentally engaged humanities."

One of the first of its kind, the program brings together scholars of history, philosophy, cultural studies, literature,





science and technology, and social theory to examine our ‘remaking’ of the natural world – whether it be damming of rivers or altering genetic sequences. UNSW now offers the first undergraduate qualification in this area anywhere in Australia, and it’s also one of the first in the world.

And the cutting-edge approach has attracted researchers internationally. Dr Matthew Kearnes came from the UK to design and teach the program alongside van Dooren, while anthropologist Dr Eben Kirksey moved from New York. And the area is growing quickly: other staff include Stephen Muecke, Deborah Bird Rose, Judy Motion, Stephen Healy and Paul Munro.

Kirksey is using a prestigious DECRA (Discovery Early Career Researcher Award) grant from the Australian Research Council (ARC) to research the “amphibian ark”, a transnational network of biosecure holding tanks and cryogenic banks of frozen tissue, working to conserve some of the world’s disappearing species of frogs. Kearnes has been awarded an ARC Future Fellowship to develop his research on the social and political dimensions of geo-engineering as a response to climate change.

For the researchers, it is literally a race against time. According to the International Union for Conservation of Nature (IUCN), the Earth is witnessing the greatest extinction crisis since dinosaurs disappeared 65 million years ago.

“We are arguably living through the Earth’s sixth mass extinction event,” van Dooren says. Such an event is defined as the loss of up to 75% of species.

But even though humans are largely the perpetrators through habitat destruction, what van Dooren finds equally upsetting is that we tend not to think much about the species we’re losing or all of the ways in which we are ourselves ‘remade’ by extinction.

“We’re impacted on by these extinctions in a range of ways, whether or not we realise it,” says van Dooren. “I’ve spoken with communities in India whose funerary practices have broken down in the absence of vultures, and people whose livelihoods and cultural practices are threatened by the disappearance of other birds. It’s not just about ‘biodiversity’, it’s about appreciating how our humanity is shaped in relationship to a wider world.”

Equally important are the ethical limits of conservation, van Dooren says.

“I’m less interested in condemning particular conservation projects than I am in rethinking some of the underlying assumptions of conservation. In particular, the notion that the end always justifies the means,” he explains. “My work has aimed to explore our ethical obligation not to drive species to extinction, but also our broader obligations to respect the wellbeing of individual animals and the human communities caught up in these extinction events.”

One of the most ambitious projects underway goes beyond conservation to the idea of resurrection, or ‘de-extinction’. Groups of geneticists and molecular biologists around the world are

working with DNA preserved in museum specimens to bring species such as the US passenger pigeon and perhaps even the woolly mammoth and Tasmanian tiger back from extinction. One of the world leaders in this field is UNSW Professor Mike Archer, from the School of Biological, Earth and Environmental Sciences, who recently succeeded in cloning embryos of the extinct gastric brooding frog as part of his Lazarus Project.

Van Dooren isn’t convinced that these projects offer a sustainable solution.

“I think there needs to be a lot more work done on the cultural context of these projects. We frequently hear that ‘the world misses these species’, but I’m not sure that things are so straightforward,” he says. “For example, in Australia, if we have issues with living with dingoes, on what grounds would we imagine that reintroducing another potential livestock predator, such as the thylacine, would work?”

But, Archer argues, bringing back some of these species would play an important role in restoring faith in environmental projects and create a new-found passion for animals.

Archer sees his work as one of the few tools still available to reverse massive biodiversity loss – and we need to use it now.

“In the face of an avalanche of global extinctions making ecosystems everywhere increasingly unstable, we’re not doing enough to stop – let alone slow down – the rate of these unfolding disasters.

“This is not a time to mourn; it’s a time to act in every way we can. We’ve been working on the naïve assumption that the environment will bounce back, but we’ve taken that resilience of natural systems away,” he says.

On that, Archer and van Dooren agree. While they suggest different approaches to conservation, both admit that society has taken species for granted for too long, and now must deal with the consequences. But after years of talking about conservation with local communities, van Dooren believes such high-stakes projects could be a waste of time and precious resources until people find ways to live more sustainably.

“I suppose I hope that by stopping and thinking about these species and what they really mean to society, people will not want to just find a quick conservation solution, but will make real change,” he says. Cultural awareness is required and this is what drives van Dooren to tell the stories of endangered species and their interactions with society.

“Good stories,” he explains, “have the power to change the world. And that’s what we really need.”

*Flight Ways: Life and Loss at the Edge of Extinction* will be published by Columbia University Press in June.

► Dr Thom van Dooren. Photo: Michelle Young

## 5 SPECIES UNDER THREAT

1. Ivory Billed Woodpecker: may actually be extinct
2. Amur Leopard: <30
3. Javan Rhinoceros: <60
4. Northern Sportive Lemur: <60
5. Kakapo Parrot: <150

Source: IUCN Red List.

