

An aerial photograph of a dark sand beach on Macquarie Island. The beach is populated by numerous people in colorful clothing (red, blue, yellow, orange) and a large colony of white birds, likely albatrosses. The ocean is visible in the background with some rocky outcrops. The sky is overcast.

FIGHTING FERALS ON MACQUARIE ISLAND

Saving a fragile ecosystem

STOP PRESS: As we go to press a team of 20 Parks and Wildlife Service staff and contractors employing four helicopters are laying about 300 tonnes of bait to control the rabbits, black rats and house mice that are wreaking so much havoc on this fragile sub-Antarctic ecosystem. In August this year trained dogs and their handlers will be deployed with the objective of eradicating the last of these destructive feral species.



Macquarie Island is a mere speck in the Southern Ocean. A lonely, desolate place lashed by ferocious winds and huge seas, it is so small – 128 square kilometres – it frequently doesn't appear on maps of the world. Tasmania lies 1,500 kilometres to the north-west and Antarctica is 2,000 km in the opposite direction. There is no airstrip for fixed-wing aircraft and it is out of helicopter range. The only way in and out is by ship – two-and-a-half days in fair conditions but decidedly longer when the Southern Ocean and the furious fifties unleash their full force.

Despite its isolation, bleak sub-Antarctic climate and windswept landscape, there is a long waiting list of would-be visitors – scientists, researchers, naturalists, adventurers, conservationists and curious travellers – eager to set foot on Macquarie Island, even for a day. So what is the attraction of this southern outpost of Australia?

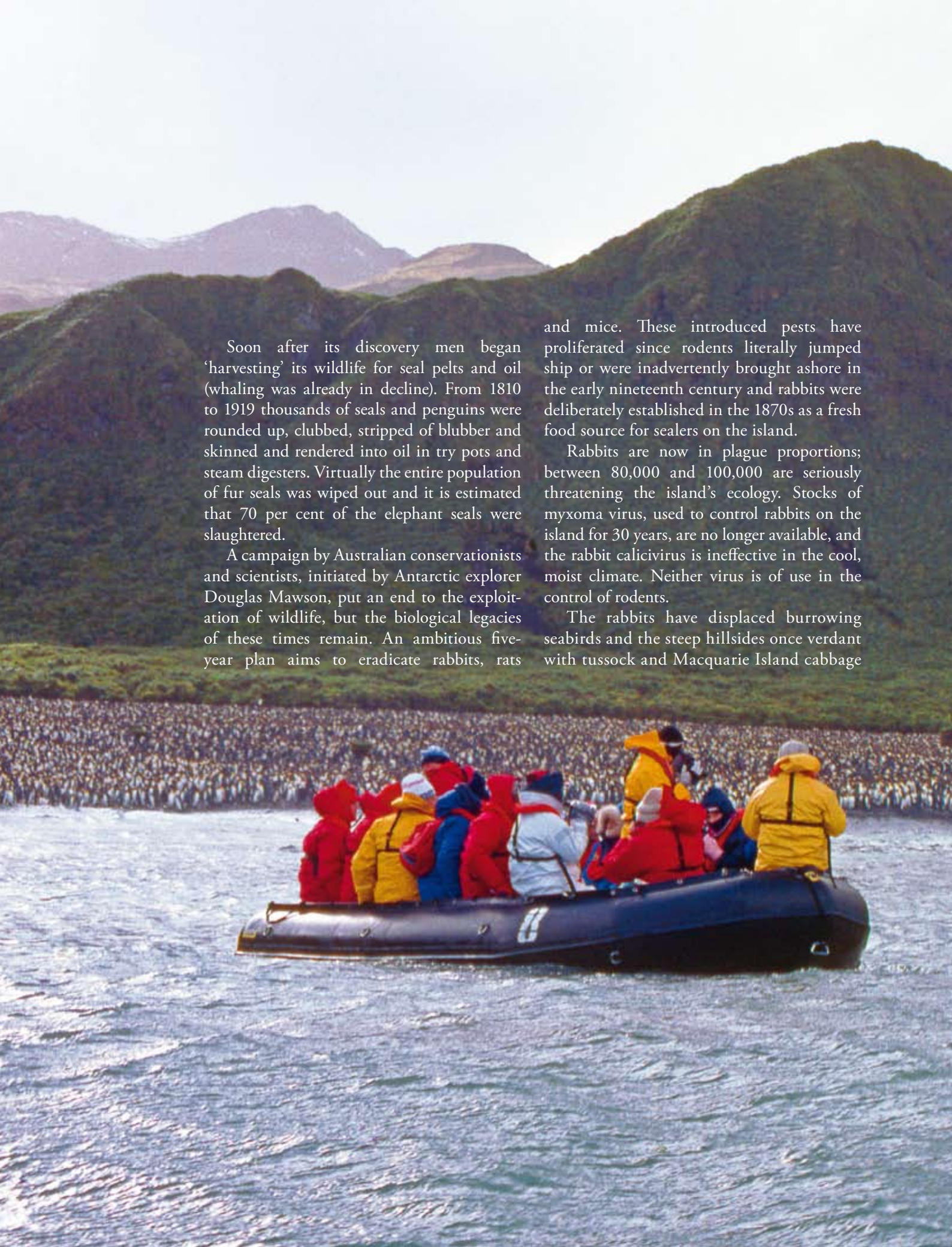
Macquarie Island is one of the world's geological, ecological, botanical, meteorological and zoological marvels. It was granted world heritage status in 1997 – the second Tasmanian World Heritage Area – because of its outstanding geological and natural significance. It is the only island on Earth composed entirely of oceanic crust and mantle rock. Its conservation values were recognised 64 years earlier when the Tasmanian government, which administers Macquarie Island, declared it a wildlife sanctuary. During the 1970s its status was elevated first to a conservation area, then to a state reserve, and in 1977 UNESCO listed it as an International Biosphere Reserve in recognition of its particular importance as a location for monitoring climatic data. Declared in 1999, the 16.2-million-hectare Commonwealth marine park around the island is the largest marine protected area in the world.

WRITER

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PHOTOGRAPHS

Courtesy of the
Parks and Wildlife Service, Tasmania

A group of people wearing colorful jackets (red, yellow, blue) are seated in a black inflatable boat on the water. In the background, a large colony of penguins is visible on the shore, stretching across the width of the image. The scene is set against a backdrop of green, rolling hills and mountains under a clear sky.

Soon after its discovery men began 'harvesting' its wildlife for seal pelts and oil (whaling was already in decline). From 1810 to 1919 thousands of seals and penguins were rounded up, clubbed, stripped of blubber and skinned and rendered into oil in try pots and steam digesters. Virtually the entire population of fur seals was wiped out and it is estimated that 70 per cent of the elephant seals were slaughtered.

A campaign by Australian conservationists and scientists, initiated by Antarctic explorer Douglas Mawson, put an end to the exploitation of wildlife, but the biological legacies of these times remain. An ambitious five-year plan aims to eradicate rabbits, rats

and mice. These introduced pests have proliferated since rodents literally jumped ship or were inadvertently brought ashore in the early nineteenth century and rabbits were deliberately established in the 1870s as a fresh food source for sealers on the island.

Rabbits are now in plague proportions; between 80,000 and 100,000 are seriously threatening the island's ecology. Stocks of myxoma virus, used to control rabbits on the island for 30 years, are no longer available, and the rabbit calicivirus is ineffective in the cool, moist climate. Neither virus is of use in the control of rodents.

The rabbits have displaced burrowing seabirds and the steep hillsides once verdant with tussock and Macquarie Island cabbage

are denuded, pockmarked with warrens and scarred by landslips. On the plateau and lower ground regeneration of megaherbs is hindered by rabbits nibbling at new growth. Rats and mice are compounding the problem by eating flower heads for their seeds, significantly reducing the opportunities for native species to be re-established. The rats also eat the eggs and chicks of burrow-nesting petrels.

The eradication project, devised and managed by the Tasmanian Parks and Wildlife Service, is the most ambitious ever attempted for the control of these three species. Consequently, the state and federal governments have provided \$24.7 million for a meticulously prepared strategy that has sought expertise and advice from the New Zealand Department of Conservation's Island Eradication Advisory Group, recognised as the world leader in eradicating introduced

pests from island habitats. On New Zealand islands, pigs, donkeys, sheep, cattle, horses, goats and dogs were easily removed once they were no longer needed by seal hunters. The ground-nesting, flightless weka (the New Zealand woodhen), also introduced as a food source, proved more resistant but eventually was eradicated by concerted hunting.

On Macquarie Island feral cats were even more resistant – they devastated colonies of migratory and resident seabirds. The last cat was shot nine years ago. The aim is that, by 2015, no rabbit, ship rat or house mouse will remain.

This latest eradication plan, which started in May 2010, will begin with helicopters dropping pellets of cereal laced with rat poison. A ground offensive with field teams of dogs and hunters will follow, flushing out and eliminating any remaining rodents. It may sound simple enough but the island's remoteness, weather and topography require careful logistical planning.

Zodiacs in
Lusitania Bay





Macquarie Island
Station

The aerial dispersal of 300 tonnes of bait is intended to kill all of the rodents and more than 90 per cent of the rabbits. (Trials with non-toxic bait pellets have shown that most of the native bird species are unaffected. Some losses are possible, however, among scavenging bird species such as gulls and skuas.) The poison will be dropped in winter to minimise impact on non-target species – when most of the island’s migratory species (elephant seals, fur seals, penguins and albatrosses) are at sea. And this is the time when the pests are most vulnerable. Their numbers are at a seasonal low and there is less vegetation for browsing.

Winter weather will limit the operation of helicopters. Although it is estimated that three separate bait drops will each require three full days of dry and reasonably still conditions, the project planners have predicted that about 100

days may be needed to provide these critical windows of opportunity. The island has been divided into sections and baits will be distributed in overlapping 80-metre baiting lines to ensure total coverage. (The pilots have flown similar missions over New Zealand’s pest-ridden sub-Antarctic Campbell Island and forested areas in the South Island.)

It is estimated that, after poisoning is completed, five years will be required for teams of highly trained dogs and hunters to seek out the last of the rabbits. The dogs have been carefully selected for their effectiveness. The hunters will camp in self-contained insulated huts and the dogs in cosy, insulated kennels. Much of the work will involve roaming the island at night looking for rabbits by spotlight.

Two of the seven springer spaniels selected for the project have had a dry run on the island.

These dogs were trained to ignore birds among pheasants, guinea fowl and chickens; they virtually ignored the seabirds and the king and gentoo penguins. Their trainer, Steve Austin, is confident that the dogs have been extremely well trained for their task. Two colleagues in New Zealand are also training four labradors; these dogs too will focus only on rabbits. The dogs are equipped with fluorescent collars and body-hugging thermal coats for visibility and safety.



The Macquarie Island eradication program is regarded by the Parks and Wildlife Service as a flagship project, highlighting co-operation between Tasmania and New Zealand to harness expertise which in the future could be made available to other countries. The UK is already seeking advice on eradicating the mice that are attacking albatross colonies on one of its South Atlantic territories. This follows a successful campaign against Norway rats on the 11,300-hectare sub-Antarctic Campbell Island, the biggest of more than 100 islands New Zealand has cleared of pests.

The Macquarie Island project will not end with the removal of the last introduced pest. A biosecurity plan will ensure they don't return ... *ever*. Surveillance will be ongoing and there will be strict measures to guard against the re-introduction of vermin (and microscopic pathogens).

Hopes are high that the island's ecosystem will recover from past devastation. It won't happen quickly, but already revegetation of fenced exclosure plots and the return of grey petrels to breed since the eradication of feral cats are positive signs that renewal is possible. 40

Rabbit damage on the island