Environment & Society Portal

The White Horse Press

Full citation: Dow, Coral. "A 'Sportsman's Paradise': The Effects of Hunting on the Avifauna of the Gippsland Lakes." *Environment and History* 14, no. 2, "Australia Revisited" special issue (May 2008): 145–64. http://www.environmentandsociety.org/node/3323.

Rights: All rights reserved. © The White Horse Press 2008. Except for the quotation of short passages for the purpose of criticism or review, no part of this article may be reprinted or reproduced or utilised in any form or by any electronic, mechanical or other means, including photocopying or recording, or in any information storage or retrieval system, without permission from the publishers. For further information please see http://www.whpress.co.uk.

A 'Sportsman's Paradise': The Effects of Hunting on the Avifauna of the Gippsland Lakes

CORAL DOW

Monash University
Gippsland
Australia
Email: coral.dow@aph.gov.au

ABSTRACT

The Gippsland Lakes form an extensive lake system in south-eastern Australia that is fed by rivers draining the Australian Alps. Until the engineered opening of a permanent entrance to the sea in 1889 they were predominantly a freshwater system, regularly inundated by floodwaters that formed marginal wetlands locally known as morasses. Historical sources document an environment of avifaunal abundance, particularly of waterfowl. Although scientists have explained Australian avifaunal decline on habitat modification, historical sources suggest that on the Gippsland Lakes European interaction with nature in the form of hunting had a significant impact in the period before widespread habitat modification in the twentieth century.

KEYWORDS

Hunting, avifaunal decline, Gippsland, waterfowl, game

Environment and History **14** (2008): 145–164. doi: 10.3197/096734008X303700
© 2008 The White Horse Press

INTRODUCTION

The Gippsland Lakes form an extensive lake system in the state of Victoria in south-eastern Australia. The Gippsland Lakes system is fed by rivers draining south from the Australian Alps. Until the engineered opening of a permanent entrance to the sea in 1889 they were predominantly a freshwater system with lake margins regularly inundated by floodwaters forming extensive wetlands locally known as morasses. Historical sources document an environment of avifaunal abundance, particularly of waterfowl, which declined rapidly by the early twentieth century. This paper examines hunting in the colonial era and attempts to evaluate its role in avifaunal decline on the Gippsland Lakes. Hunting was part of British imperial expansion and is well documented in colonial Africa, Asia and North America.[1] However, the Australian context of colonial hunting has received little scholarly attention. Using historical sources including ethnographic records, diaries, contemporary observations and records it is possible to bring together indigenous, social and natural history in an understanding of hunting in a local narrative with national significance. A synthesis of these sources shows that it is possible to avoid the generally held assumption that the 'records of hunting are incomplete' that 'we will never know its full effects' or that we are unable to 'reconstruct the original population structure of most bird communities'.[2]

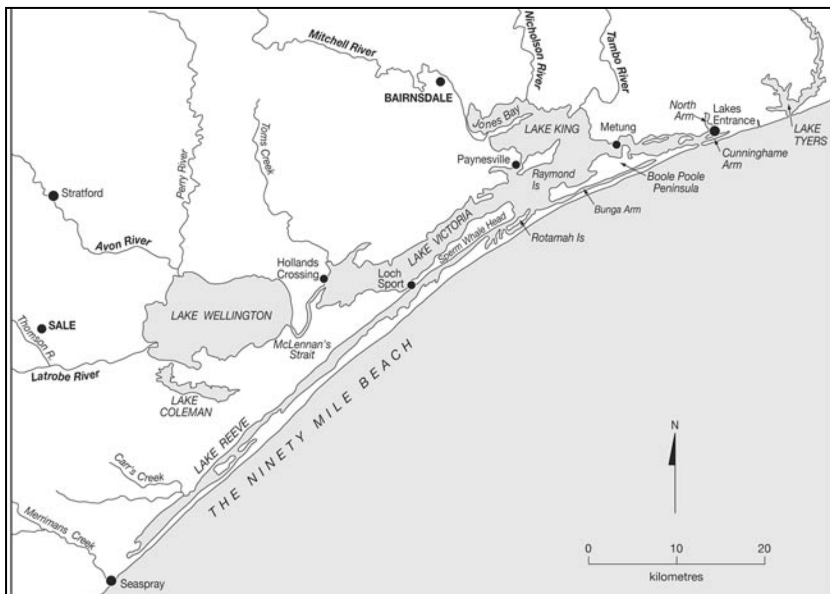

FIGURE 1. The Gippsland Lakes system.

COLONIAL SPORT

Tourism arrived with the railway to Sale, Gippsland, just in time for the Easter holiday of 1878. Some tourists who boarded steamers and sailed the Lakes sought the picturesque. Others on that first crowded train carried guns or rods and were accompanied by ‘sports dogs’ seeking the conquest of nature not its contemplation.[3] The environment was not generally regarded as picturesque: swamps, known locally as morasses, surrounded Sale and the shores of the Gippsland Lakes. *Argus* journalist ‘Vagabond’ pondered what tempted ‘a leading Melbourne barrister to spend long hot summer days in the morasses on the Thomson and Latrobe, going through an amount of physical exertion which would knock up half the swagmen in the country’?[4] Such labour, ordinarily deemed inappropriate for a Victorian gentleman, was in this case laudable because the barrister was indulging his passion for ‘sport’. Hunting was a colonial manifestation of British culture and the best sport was on the swamps and their margins where species that most resembled Britain’s pheasant, partridge, grouse and quail were found.

Hunting in the Australian colonies was at first confined to subsistence: indigenous species supplemented European food supplies. Professional hunter, Horace Wheelwright, noted nearly every immigrant arrived with a ‘first rate gun’ and, without the old game laws of Britain, they were free to sample the local fauna.[5] A young Alfred Howitt found living off the land was easy: ‘a person can travel through the country for days with tea, sugar, some biscuits and a gun’. In 1854 he joined naturalist William Blandowski on a museum collecting trip to the Mornington Peninsula, near Melbourne where he not only skinned and preserved bird specimens but also ate them, trying ‘parrots, parroquets, miners, magpies

FIGURE 2. Lake Wellington and its surrounding morasses.

and quail', preferring the first and last.[6] His was a common colonial experience. As Penny Olsen points out, James Cook's 1770 expedition began a 'long history of parrot eating' by Europeans in this 'land of parrots'.[7] Settlers sampled species to establish acceptable substitutes for domestic fowl and European game species. There was agreement on the delicacy of Pacific Black Duck (*Anas superciliosa*), Chestnut Teal (*Anas castanea*), snipe, quail species, pigeon species, and the Australian Bustard (then known as Native Turkey). Opinion was mixed on Magpie Goose (*Anseranas semipalmate*) and Black Swan (*Cygnus atratus*) but swans' down was found to be an excellent substitute for eider down and their epicurean contribution came via their eggs, which were in high demand by colonial cooks. Australian ornithological publications, such as the work of the Polish artist Gracius Broinowski, provided not only scientific descriptions and aids for species identification but also notes on their desirability for 'the table'.[8]

Professional shooters supplied Melburnians with a huge range of species, including small waders such as the Hooded Plover (*Thinornis rubricollis*). In 1853, when Melbourne's cooks had to pay twenty-four shillings for a pair of domestic fowl, a cheaper substitute was native duck at twelve shillings a pair. At such rates one elderly man who had been a gamekeeper in England found hunting easier and more profitable than gold prospecting, and was reported making £1000 a year by his gun.[9] Wheelwright, an educated Englishman and lawyer by profession, wrote of his experiences shooting for the Melbourne market. Wheelwright earned his living by supplying birds for the market, and wrote as a 'naturalist' and 'sportsman' addressing his audience in the style and tradition of the British gentleman hunter. His *Bush Wanderings of a Naturalist; or Notes on the Field Sports and Fauna of Australia Felix,* published in 1861, elevated the colonial versions of the 'Old World' species for their ability to provide the best sport, to test a sportsman's skills, equipment and dogs. In it he wrote:

> For small game, I do not think this country can be surpassed; and ducks, pigeon, quail and snipe, may be killed in almost any quantities, at the proper seasons, in those districts where they have not been shot out ... a man can always make sure of a better day's sport here than at home ... without the expense of a certificate, and with no fear of a bullying gamekeeper before his eyes.[10]

'Old World' species passed both the taste and the sporting test and consequently graduated into a small desirable class within a fauna that was fascinating and beautiful to some settlers but generally dismissed as 'useless' or 'vermin'.[11] Before the arrival of the railway, the Gippsland Lakes were too distant to supply Melbourne's market, leaving them the preserve of the Indigenous people and local sportsmen. In 1849 Isaac Buchanan of Roseneath on Lake Wellington invited a 'party of gentleman' to spend Christmas on the Lakes where they were promised some 'scenery quite equal to the lovely watered landscapes of Tasmania'. The six men, provisioned with 'everything required for camping out, and plenty of ammunition', sailed a

whaleboat through the Lakes to the Boole Poole Peninsula near the entrance to the Lakes and camped and hunted for a fortnight.[12]

THE GENTLEMAN HUNTER

In 1851 a young Englishman, William Henry Foster, about to enter Oxford University, was instead banished from England by his father after William's practical joke brought disgrace to the Foster family. He arrived in Melbourne in 1852 with a letter to an influential relative, Governor La Trobe, through whom he obtained a position in the Mounted Police Corps. He was promoted to goldfields warden at Omeo and in 1865 to police magistrate in Sale, a position he held until 1878. His position and background provided an entrée into the small Sale elite. He purchased a substantial property, 'Mowbray Park', as the family home and a yacht, *The Ripple*, to compete in the regattas on Lake Wellington and to holiday on the Lakes.[13] Despite being disgraced at home, in the colonies, William Foster was regarded as a respectable gentleman from a well-to-do English family who indulged in a sport worthy of his class.

Foster was well grounded in the British hunting tradition. His diary, which also acted as his game-book, displayed similarities to that of English sportsman Colonel Peter Hawker and suggests Foster may have read Hawker's influential *Instructions to Young Sportsmen* which guided gentlemen hunters, including Royalty.[14] The diary is a remarkable legacy because of the meticulous records Foster kept and the insights it provides to his zealous attitude. It recorded the dates, places and numbers of birds he and his companions bagged.[15] His shooting companions were the Sale pastoralists, in particular William Boyd Cunninghame; the legal fraternity, especially Judge Bindon; and local police officers Palmer, Freeley and Sadlier. Foster was always on the lookout for new shooting grounds and keen to finish court early in order to get in an afternoon's sport. A dedicated shooter, he was prepared to wade morasses, row the Avon River, rise early for three hours' sport before breakfast or shoot until after midnight, if conditions were suitable. Keen to perform well, he practised trap shooting with Magpies and noted in his diary when he shot well, which meant a high kill rate per shot.

The species Foster most desired was Australian Snipe, now called Latham's Snipe (*Gallinago hardwickii*).[16] Wheelwright regarded it as 'the finest small-game bird in Victoria' and naturalist G. J. Broinowski considered it 'one of the few examples we have of true game and is prized accordingly by sportsmen who have been trained to field sports by English associations'.[17] Like English Snipe, Latham's Snipe is 'cryptic and retiring' and this increased its appeal to sporting shooters, the challenge coming from its habit of bursting in a fast twisting flight when flushed and then dropping for cover.[18] Ignoring the heat, flies and the call of a Kookaburra or cockatoo, snipe shooters could almost believe they were back shooting in the old country. Foster waited eagerly for the snipe's arrival

in spring. On 27 August 1869 he and Judge Bindon finished court early, heading for Glencoe on the Latrobe River and the first afternoon of snipe shooting of the season. Foster's records reflect the migratory habit of the species, with only a few birds shot as they arrived in early September and again when they departed in February. In 1866–7, despite losing a month's shooting through breaking his collarbone, Foster and his companions bagged 783 snipe.[19] They shot as many birds as possible in the time available, such as in three hours at Nambrok and The Ridge when ninety-eight were killed. On 2 November 1867 Foster and William Boyd Cunninghame went to Murdering Hut on The Heart, to shoot snipe. They 'found 15 in a small swamp – shot all but one, neither of us missing a shot'.[20]

What happened to the kill? Foster made no entry of how, or even if, he carried such large numbers out of the swamps but some did grace the pastoralists' dining tables. Foster's sister-in-law, Elizabeth Montgomery, remembered 'the splendid game brought in by the shooting parties'. William Foster 'was a good sportsman and kept our table well supplied with small game … wild turkeys and many braces of wild duck, teal and pigeon'.[21] But not all got to the table. Wheelwright blamed the Australian climate and the ferocity of the flies for the loss of many bagged birds and one suspects Foster, shooting for sport rather than profit, left many where they fell in the swamps.

In March when the snipe returned to Japan, Foster turned to quail shooting, which also brought back memories of England for quail was regarded as the 'Australian partridge'. Wheelwright described quail shooting as:

> The least laborious and pleasantest of all field sports out here. It reminds the sportsman of September at home, for it is fair open sport, and a man can have the pleasure of seeing his dogs work in the old style.[22]

Foster did not distinguish the species but I assume it was the more common Stubble Quail (*Coturnix novaezealandiae*) that he shot, although Brown Quail (*Coturnix australis*), which prefer the margins of swamps, were also present.[23] Ornithologist A.J. Campbell said all quail species were 'esteemed especial favourites by the sportsman, the naturalist and the epicure,' whilst the Stubble Quail's 'gamey little body is excellent for the table'.[24] Quail appeared in Gippsland in January and nested during their stay which coincided with the summer and Easter holiday influx of tourists, resulting in many being shot during their breeding season. Nesting did not deter Foster either, he shot 608 in 1867 and 567 in 1868, but these were not unusually high figures. Wheelwright recorded one hunter near Melbourne who shot 1500 brace (or 3000 birds) in one season. Like snipe, little was known of their movements or breeding habits until the 1890s.

Foster was at his most enthusiastic when there were snipe and quail to shoot. He was more restrained when shooting duck, possibly because he regarded them as easy targets. One of his shooting companions, Police Officer Sadlier, recalled 'the abundance of game in Gippsland – Snipe, Quail and Black Duck

– was far beyond one's wildest dreams'. Sadlier described shooting Pacific Black Duck which rested during the day in 'countless numbers' on the Lakes but left in the afternoon for nearby lagoons. In passing over an old riverbed on The Heart Station 'they could be seen far in the distance coming in twos and threes quicker than one could reload'.[25]

Foster's shooting parties did not subscribe to the 'if it moves shoot it' philosophy. On the rare occasions when they had 'no luck' bagging their target species, they were never tempted to shoot 'undesirable species' for such actions would have been unsporting and uncivilised. But in their adherence to British sporting tradition they indulged in unrestrained slaughter of their favourite species. The Britain they had left behind was changing. Such unrestrained shooting at home where 'notable shooting houses vied for the highest number of kills of specific species in particular seasons' had depleted target species.[26] By 1860 British estate owners were forced to return parts of their agricultural land to 'wilderness' as private reserves where grouse, partridge and pheasants could breed in sufficient numbers for the winter shoot. Pheasant eggs were incubated and the birds were hand-reared for their release on the day of the shooting party. No longer did shooters have to walk the fields, moors or swamps to flush their prey; instead the released birds were driven towards the shooters by an army of gamekeepers, beaters and servants. Such methods allowed even greater numbers of kills. By 1900 the Prince of Wales's Sandringham estate in Norfolk was rearing 12,000 pheasants a year and he and his guests were shooting 1000 birds a day.[27]

Such kills, although controlled and orchestrated, reinforced the acceptance and the respectability in competition to kill the most numbers of birds. Hunting was sport and sport meant competition, not just between shooters but between hunter and the birds and their environment. Hunting pitted skills, knowledge and equipment against all that evolution had provided their prey. The wanton and gratuitous destruction of Australian flora and fauna has been explained by settlers' lack of emotional engagement with a new environment, resulting in melancholia and alienation.[28] However, those Australian avifaunal species more alien to the Old World, birds such as parrots and honeyeaters, although hunted for the pot, survived the initial colonial conquest.[29] It was the familiar species that were pursued and in environments most reminiscent of the Old World.

Hunting's cultural values were replenished by a steady stream of British aristocrats appointed as Governors to Victoria. W. H. Foster hosted Lord Canterbury to a day's shooting when they bagged 217 ducks.[30] Sir George Bowen went kangaroo hunting and Lord Hopetoun's wife, Lady Hopetoun, a keen angler and a crack shot, spent her holidays snipe shooting in Western Victoria and fishing at Lake Tyers.[31] The highest seal of approval came when the Duke of York, with an entourage of dignitaries, came for a day's shooting at Kilmany Park, near Sale. The Duke arrived in Melbourne in May 1901 to open the Commonwealth Parliament, and, as a respite from his official schedule, requested a day of sport. Victoria had nothing to match the Royal Sandringham estate with

a 1000 hand reared birds ready for a day's shoot, so instead an old style shooting party was organised with sport dependent on nature's provision. Kilmany Park, William Pearson's estate near Sale, was chosen as the estate with the best chance of good bags of quail. The colony's best dogs, guns and gamekeepers were brought in for the shoot and Pearson must have been greatly relieved to see plenty of quail in the tussocky paddocks unaware of their impending 'Royal execution'. Three hundred and sixteen Stubble Quail were bagged and the Duke finished the day shooting 'parrots' in the orchard. Colonial sportsmen must have felt pride and honour at such Royal approval, but one brave field naturalist dared to question the Duke's actions. Field naturalists were lobbying for protection of birds through improved game laws and more realistic closed seasons for quail species. Although the Duke's shooting party gave them the opportunity to voice their concerns and to highlight the need for protection, they regretted the encouragement his day at Kilmany Park gave to shooters.[32]

The gentlemen shooters may have been discriminating in their choice of targets, but others were not. At the popular local summer camp of Prospect on the Ninety Mile Beach, every man and boy seemed to have a gun and there was ample opportunity for honing shooting skills. [33] A favourite time was on dusk when 'a continuous firing of guns may be heard'. If ducks were hard to get, shooters went for swans, 'an easy prey to the breechloader'.[34] Rarity was no protection, in fact it may have been an added incentive to those shooters who descended on Sale's Eastern Lagoon in May 1865 when a flock of large egrets had appeared, a species not seen in the district before. Egrets were not a game species, for they were easy prey, hunted when in breeding for their plumage, but in this case the motive seems to have been pure pleasure. Shooters converged on the swamp and shot them all.[35] It was hardly 'sporting' and brought criticism from at least one Sale 'naturalist' who sought to simply enjoy the observation of such rare birds. This was early criticism, at a time when Victoria's first Game Act of 1862 largely protected introduced species and a few indigenous game species in the breeding season. Snipe and quail were not protected by the Act. There was some support for their protection but Dr Hedley, the local Member of Parliament, recognised that they were the most desirable species in his electorate, which included the Lakes. He argued against regulation claiming 'it would prevent quail and snipe shooting altogether'.[36] In the next forty years there was a discernible shift in attitude such that Sale's 'naturalist' was not alone. Appropriate protection of indigenous species, not only game species, was intensely debated and paralleled the increased intensity of hunting by professional and tourist shooters on the Lakes.

TOURISTS AND PROFESSIONALS

The opening of the railway to Sale made professional hunting on the Lakes more attractive, and at the same time transported hundreds of sporting shooters to the district.[37] The Lakes were promoted as a 'sportsman's paradise' where an unlimited bounty awaited the shooter. Tourist guides quoted examples of successful shooters such as 'the gentleman from Daylesford who had almost a boatload of wildfowl from two days shooting with one gun'.[38] The *Gippsland Times* urged tourists to employ local guides with expert knowledge and to camp out 'inland' close to swamps where some of the best shooting existed.[39] Many, however, preferred to stay in comfort, even if the shooting conditions were uncomfortable. The English cricket team spent their 1897 Christmas break at Metung, staying in the Kalimna Hotel. They spent a day in 'scorching hot sun, pockets loaded with cartridges, skin being eaten alive by flies but not getting in a single shot or even seeing one flight of duck'. The next day they resorted to shooting cormorants, coots and swans. At Lake Tyers on Christmas Eve they were more successful, bagging forty brace of snipe, a heron and Wonga Pigeon (*Leucosarcia melanoleuca*).[40] They were typical sporting tourists, supplied with guns, ammunition and information by their hotel. They were prepared to endure the discomforts in order to obtain favoured species of snipe, duck and pigeons but when those species were unavailable they sought some 'sport' by shooting common easy-target waterbirds.

Competition to local and visitor sporting shooters came from professional hunters who shot as many birds as possible, for profit, not sport. They were treated with disdain by sporting shooters largely because they used a crude but effective weapon: the punt or swivel gun. Such guns, mounted on a swivel on a small boat, enabled them to kill great numbers of birds quickly, cheaply, and with as little effort as possible. Punt guns were murderous weapons with a long muzzle-loading barrel and were loaded with a variety of ammunition including broken glass, shot, gravel and pieces of scrap iron.[41] In a few days at Port Albert in 1866 one was used to shoot 800 snipe, duck and Black Swan.[42] But only when the use of punt guns on the Lakes threatened the tourist industry was there an outcry from the local press.[43] On the Lakes, public opinion supported the protection of birds if it protected the tourist industry. However, when legislation worked against tourism, such as in 1891 when the opening of the duck season was moved to the end of February, a time when most tourists had returned to Melbourne, it was opposed. One aggrieved shooter ventured to claim the opening date should suit the shooter not the birds.[44] The tourist industry set Gippsland apart; elsewhere game laws were debated largely on class lines. Opponents of Victoria's first Game Preservation Bill in 1862, introduced to protect imported game species, argued that it 'was not preserving game but keeping the people off the squatter's run'.[45] Similarly debate on the prohibition of swivel guns was largely between the sporting shooters who criticised swivel guns as 'unmanly' and 'unsportsmanlike' and those

advocating the rights of the working class to earn a living by supplying Melbourne households with plentiful and reasonably priced native game.[46] Sporting shooters lobbied through the Acclimatisation Society and thought they had won when the Game Protection Act of 1884 prohibited the use of the swivel gun. Swivel guns continued to be used due to loopholes in the legislation. Some shooters escaped prosecution by proving that they could lift the gun to their shoulder, others by freezing birds, such as in 1897 when 7655 'teal and other ducks' were found in Melbourne freezers waiting to be sold at the end of the closed season.[47] In 1884 it was estimated 200 professional shooters were using swivel guns throughout Victoria. How many were operating on the Lakes is unknown but the campaign against swivel guns on the Lakes continued. In 1890, the *Gippsland Mercury* claimed the unrestrained and indiscriminate shooting by professionals was having a significant impact: 'in a short time duck shooting in Gippsland will be a thing of the past'.[48]

THE COLLECTOR

There was another type of hunter in the colonial era: the collector. Some leading naturalists were also collectors and hunters. Two distinguished newspaper columnists, Donald Macdonald and A.J. Campbell, wrote of their delight in hunting. Macdonald found nothing 'to equal the fascination of sitting over a pool at night waiting for duck to come'.[49] Both learnt about birds from hunting and by visits to Melbourne game shops that Macdonald described as 'amazing museums of dead game'.[50] Related to Gippsland's pioneer Campbell family, A.J. Campbell spent summers at Metung where he took nests, eggs and shot specimens for his collection.[51] Like many naturalists of the nineteenth century Campbell and Macdonald were not opposed to hunting but they were against what Macdonald called outrageous, illogical and 'overpowered sportsmanship', preferring instead regulation and closed season shooting. [52] As Tom Griffiths has shown, the study of nature and the culture of hunting were closely aligned in the nineteenth century. Hunting and collecting were respectable and often synonymous.[53] Melbourne's National Museum of Victoria, founded in 1854, collected and exhibited colonial nature, while in Gippsland the gentleman hunter, Judge Bindon, was responsible for establishing the Sale Mechanics Institute Museum in 1874.[54] Collecting was a respectable pastime of the educated and wealthy who were prepared to pay for specimens. On the Gippsland Lakes, Cyril Stafford who had begun his hunting career as Horace Wheelwright's mate supplying the Melbourne markets with game, later earned his living shooting birds for collectors.[55] Stafford moved to Metung and lived in a hut overlooking the Lakes. Stafford, who died in 1902, was remembered as 'an interesting and well educated man, engaged in capturing bird specimens for museums all over the world'.[56] His target species were the exotic for European collectors

and the rare for museums. Between 1873 and 1885 he supplied the Museum of Victoria with many specimens including the first record of a Scarlet Honeyeater (*Myzomela sanguinolenta*) in Victoria which he shot at Lakes Entrance.[57] In 1899 Cyril Stafford sold twenty-eight skins, including 'some very rare ones' to Metung shooter Arthur Morduant Hunter who sent them 'home' to English collector Gracie Ulterson.[58] The extent of Stafford's hunting is unclear but it is evident that to meet the demands of collectors and collections throughout the world, rarities were targeted.

Hunting culture in all its manifestations – the gentleman shooter, the sporting tourist, the pot shooter, the professional and the collector – seem to pervade the historical record of human interaction with nature on the Lakes. Was there any man who did not shoot? And could any shooter show restraint? One man not averse to shooting and eating birds, but who was not a hunter, was Foster's work colleague, Bairnsdale's police magistrate, A.W. Howitt. Howitt and Foster were a similar age, both left England in 1852 and worked in positions in the goldfields before their appointments as police magistrates, Foster in Sale in 1865 and Howitt in Bairnsdale in 1866. Both used the court rounds to be out in the field and to indulge their passions for hunting, but Howitt was interested not in shooting but in collecting, a type of collecting that filled notebooks not display cabinets. While his prime interests were geology and the emerging discipline of anthropology, he had more than a passing interest in the biological fields of botany, zoology and entomology.[59] His letters to his family in England display a sensibility to his environment not evident in Foster's diary. In April 1869 while Foster was out shooting 130 ducks, Howitt wrote to his sister describing a recent trip to the Boole Poole Peninsula on the southern shores of the Lakes:

> We rounded some low promontories and turned towards our destination for the night, a place called 'Boul Boul'. It was beautiful to see the gradual changes in effect as night came in – how the distant shore of the lakes seemed to recede as they became dim and the distant mountains drew dense curtains of clouds round their summits and vanished in the grey of the evening. The bay at the end of which lay Boul Boul was covered with waterfowl – and as we pulled along they got up before us in a half circle of countless swans, ducks, coots and in fact all kinds of birds – their wings flapping the water as they rose and echoing against the forest shores like no other sound I ever heard; when Palmer fired a shot the thundering echoes and the din of the fowl was deafening.[60]

Police Officer Palmer, a regular shooting companion with Foster, was there with Howitt. He was more restrained on this trip, shooting just three waterhens, which they roasted for breakfast.

Another group of men hunted with restraints imposed by a different culture and under differing laws. Victoria's Aborigines were exempt from the provisions of the Game Acts, but at Ramahyuck Mission on Lake Wellington hunting rights were regulated by the missionary the Rev. Friedrich Hagenauer, who rewarded

well-behaved residents with permission to hunt on Saturdays or to act as beaters for visiting shooters. Visiting shooters were offered some good sport on Ramahyuck's 1500 acres and adjacent morasses on the Avon River and they benefited from Aboriginal skills and local knowledge.[61] Hunting alongside Gippsland's Kŭrnai brought sharp contrasts between the two hunting cultures, not so much in technology and methods but in attitudes. European hunters were surprised at the number of kangaroos on Ramahyuck. Their culture suggested that such abundance should have been reduced by an enthusiastic sporting effort. Instead they learnt that Ramahyuck residents held great respect for kangaroos and were therefore restrained in their hunting.[62]

ESTIMATING AND EXPLAINING CHANGE

What effect did this nineteenth century hunting culture have on bird numbers on the Lakes? Environmental historian Keith Hancock in *Discovering Monaro: A Study of Man's Impact on his Environment* recognised the difficulties of explaining faunal changes. He concluded that 'to explore these swings of population is a task that an ecologist and a historian might profitably tackle in partnership, provided they had a few years to spare'.[63] Such collaborative work has rarely taken place. Scientists who have undertaken historical research have restricted their conclusions to establishing the existence of species rather than explaining population change, and most of this work has been undertaken on the mammalian rather than ornithological record.[64] The latter emphasis might be explained by the greater number of mammal extinctions and by the difficulty of interpreting data on birds because they move greater distances.

Two fundamental problems exist in such historical research: establishing the number and density of species at the time of European settlement and explaining population change, particularly population decline. Scientists have argued the data does not exist and have evaluated change from more recent data, leaving what wildlife researcher H.J. Frith calls 'chapter one' of Australia's wildlife history unwritten. Frith, an ecologist and a contemporary of Hancock, believed that the greatest sin of European settlers was not their exploitative practices but their lack of collecting and documentation. According to Frith, 'it is one of the tragedies of early settlement of New South Wales that people did not record the wildlife ... The first chapter of the story is missing, we only know the second chapter'.[65] Can this missing chapter be told? Frith was generalising but in some regions, including the Lakes, it can be told. It is possible to at least compile a species list and make general conclusions about densities and changes in the period before major habitat modification occurred.

One of the most overlooked historical sources is the ethnographic record of the Taungalung people that lived on the Lakes. I deliberately use the word lived on, rather than beside or around the lakes, because their cultural focus was the

water and its resources rather than the land or sea. *Bung Yaarnda*, the name for Lake Tyers, encapsulates this emphasis. It contains the word *yaarnda* for water, and the word *bung* for camp or sometimes canoe. It is glossed as 'home on water' but is better expressed as 'water country'. Tatungalung plant and animal food sources came largely from the Lakes and all were named. However, unlike some areas where word lists collected by Europeans are too general, for example with reference to ducks but not duck species, Gippsland's ethnographic record is rich, largely a legacy of the scientific knowledge of A. W. Howitt. His word lists have notes and asides, sometimes even scientific names, which aid the compilation of flora and fauna lists to species level. In the case of the Anatidae family, consisting of swans, geese and ducks, ten species can be identified from the word lists collected between the 1840s and 1880s. The two teal, Chestnut Teal (*Anas castanea*) and Grey Teal (*Anas gibberifrons*), are indistinguishable due to the shortcomings of the collector and the Hardhead (*Aythya australis*) is most likely the bird on Howitt's word list described as 'a duck with a white ring round the eyes'.[66] Therefore thirteen of the nineteen species of Australian waterfowl were present on the largely fresh water lakes and adjacent wetlands of the Gippsland Lakes.

Establishing the status of these species – their numbers, how common they were and if they were residents or migrants – is more difficult. What were their numbers and did they fluctuate during the year or in particular climatic conditions? Such questions may have been answered by Aboriginal ecological knowledge based on observation and cultural tradition, but Europeans appropriated scraps of knowledge that assisted their own hunting, leaving the body of ecological knowledge unrecorded. Establishing the status of species at and after European settlement is left to an analysis of the European record, which scientists assume to be vague and unreliable. However, hidden in a range of historical sources exists sufficient detail to provide some insight into their numbers. The first European record of the Lakes' avifauna is from Angus McMillan who arrived at Lake Victoria in January 1840 and found it 'covered with wild ducks, swans and pelicans'.[67] In 1842 pastoralist W.A. Brodribb reached Lake Wellington where he observed 'thousands of black swans and ducks [which] almost darkened the air'.[68] McMillan and Brodribb, pastoralists in search of grazing country, had some contextual knowledge from their experience in New South Wales and reported significant numbers of waterfowl. In May 1844, Protector of Aborigines, G.A. Robinson visited Eagle Point on Lake King where he observed innumerable 'swans, geese, ducks and other birds are on these lakes'.[69] In November 1846 the deputy leader of the expedition in search of the white woman, James Warman, observed that on Lake Reeve 'all sorts of wildfowl are in the greatest abundance, but as for ducks they are innumerable'.[70] Like McMillan and Brodribb, Robinson and Warman were well-travelled, careful observers and acceptable witnesses. Forty years later scientists Baldwin Spencer and French on a trip through the Lakes could do little better at quantifying the Black Swan on Lake Wellington.

They resorted to agricultural terms: 'counted by the acre'.[71] These records suggest that on the four lakes that comprise the Gippsland Lakes, waterfowl existed in greater densities than they do today. Did nineteenth century hunting contribute to declining numbers, or did the status of avifaunal species remain stable until more recent habitat modification?

Australian scientists have stressed habitat loss as the most significant factor in species decline. Even A.J. 'Jock' Marshall in *The Great Extermination: a Guide to Anglo-Australian Cupidity, Wickedness and Waste,* a chronicle of hunting, egg collecting and extinctions, argued 'habitat destruction does the worst damage'.[72] However, there is evidence that suggests hunting had a significant impact. When the Field Naturalists' Club of Victoria was formed in 1880 members displayed growing concern for the destruction of birds and the inadequacy of their protection. Ornithologist A.J. Campbell, whose knowledge came from earlier collecting expeditions, was by 1890 an advocate of protection, raising awareness through his column in the *Australasian* and in the *Victorian Naturalist* and later the ornithological journal *Emu*, of which he was an editor.[73] Unlike the more regulated fishing industry, the records of professional hunting are patchy, but thousands of birds were sold at the markets and many destroyed that never made it to market. In 1938 ornithologist George Mack met one man on the Lakes who, in the 1880s, 'commonly shot as many as eighty pairs of ducks per day for the Melbourne market'.[74] This man alone may have accounted for 15,000 birds per annum. In 1897 Campbell said that restaurants always sold White-eyed Duck (now Hardhead) and that on the Gippsland Lakes they 'are, *or were*, exceedingly numerous'.[75]

One species, the Magpie Goose (*Anseranas semipalmata*), declined to such an extent that it was locally extinct by 1900. It was probably the goose mentioned by Robinson on Lake King in 1844. In the 1850s, surveyor John Pettit wrote to his father in England from the Mitchell River. Listing the available sport, he promised his father: 'I could manage to give you always Kangaroo, Swan, Goose, Turkey, Duck, Quail, Pigeon and Wallaby shooting – or should you prefer it an evening of Wallaby or Wildcat hunting'.[76] The emphasis on 'always' implies that these species were common, but forty years later the Magpie Goose, turkey (Australian Bustard) and one of the native cats were locally extinct. In 1885, *The Argus* correspondent 'Vagabond', reported Sale's Lake Guthridge as a refuge and breeding place for waterfowl including Magpie Geese where they were protected within the municipal boundaries from shooters.[77] However, such a small refuge was not sufficient. In the same year, naturalist and artist, G.J. Broinowski, reported 'great numbers of Magpie Geese are consumed in Melbourne, where the birds are obtained fresh from Gippsland by railway, and can be bought at the low price of half a crown apiece'. He went on:

> When the Gippsland Lakes and rivers are high and the extensive flats in the vicinity of Sale are submerged, the surface waters are literally covered with Wild Geese and Black Swans ... the destruction of these birds carried on by means of swivel guns, which generally wound twice the number they secure, and by the

> nets which drown great numbers that are never recovered, besides those which fall to the more legitimate sportsman is simply wholesale.[78]

Further records are patchy and unreliable. In 1887 'geese' were present on Lake Reeve and the last Gippsland record may be that of 'wild geese heard' at Sale in July 1894. However, both records could possibly refer to the Cape Barren Goose.[79] It is considered the Magpie Goose was extinct, not only in Gippsland, but also throughout Victoria by 1911 and south-eastern Australia by the 1920s.[80] Recent analysis indicates that as in Gippsland hunting was a significant factor in the early decline of the species.[81] Magpie Geese are a traditional food supply of the Northern Territory Mak Mak people. They are hunted in the wet season until it is observed that they are no longer feeding on *Eleocharis dulcis* (spike rush) bulbs. This is a sign that the birds are under stress and hunting stops.[82] Gippsland does not have an equivalent wet and dry season, but similar signs may have existed, particularly in dry years, but went unnoticed by Europeans intent on uncontrolled harvesting to meet market demands.

It is certain that hunters were ignorant of the ecology of their target species. They knew little about bird migration and breeding habits. Hunters were unfamiliar with the nomadic habits of Australian waterfowl and quail, and their ability to respond to irregular climatic prompts instead of predictable seasons. With few localised and sedentary species, hunters had minimal ability to ascertain any changes at the local level because nomadic populations replenished or replaced birds that were shot. Such factors misled hunters into a sense of complacency and clouded the historic record.

Such ignorance is best exemplified in W.H. Foster's favourite target, Latham's Snipe. Hunters knew snipe appeared in August and departed in March but speculated as to where they spent the winter and where they bred. Wheelwright had heard 'that they breed on the high ranges at the head of the Yarra'.[83] Not until the 1890s did ornithologists establish they breed in Japan and then migrate to the wetlands of eastern Australia for the Australian summer.[84] As late as 1946 ornithologist Neville Cayley wrote 'little is known of its habits while in Australia'.[85] A real understanding of the snipe's migratory habits was finally gained when Elliott McClure surveyed and banded migrating birds along 'the East Asian flyway' between 1963 and 1971.[86] Near Melbourne, snipe were hunted to such an extent that Wheelwright declared 'no bird has been driven from this district more than the snipe, and to get a good day's shooting a man must now go a long way afield'.[87] Increasingly Sale became the destination for those shooters who believed it provided 'the best snipe shooting in the colonies'.[88] In the 1980s the wetlands of the Latrobe River were still regarded as suitable habitat where snipe might be found in 'large numbers': defined as 100 birds recorded in a day on a single wetland.[89] The significance of Foster's data becomes apparent, when he recorded shooting that number in one day. Shooters in Gippsland may have made a significant impact by the 1880s. Foster's contemporaries, Elizabeth Montgomery and Police Officer Sadlier, suggest hunting had some impact on bird

numbers. In 1913 Sadlier claimed 'the sport as it existed in Gippsland in those days has ceased for ever;' and Foster's sister-in-law, Elizabeth Montgomery, observed in 1916 'nothing like the bags [of teal, duck and pigeon] are to be had now'.[90]

In 1973, North American zoologist, Ian McTaggart Cowan, using Australian research data, argued that over-exploitation of waterfowl had contributed to their declining numbers to a greater extent than previously accepted by Australian scientists.[91] The degree of wetland modification on the Gippsland Lakes is significant. In 1980 scientists Corrick and Norman estimated since European settlement seven per cent of wetlands in the Snowy River and Gippsland Lakes catchment had been eliminated and a further twenty-nine per cent greatly modified by drainage and flood control works.[92] However, the effects of significant habitat changes such as the permanent opening of the entrance to the Lakes, drainage of the morasses, river modification, dam construction, and salinity and pollution of wetlands were largely felt in the twentieth century. The 'first chapter' in the story of species decline is set in the nineteenth century. Despite a depleted scientific record, the first chapter is not missing. It can be written from ethnographic and other historical sources. It shows the Lakes held an abundance of birds, that a hunting culture elevated those species reminiscent of old world species to a position at the top of the hunting taxonomy, and that position placed them under considerable pressure in the period before major habitat modification.

NOTES

[1] John M. MacKenzie, *The Empire of Nature: Hunting, Conservation and British Imperialism* (Manchester: Manchester University Press, 1988).

[2] See for example: I. McAllan, 'The Legacy of Hunting', *Wingspan* 17,1 (2007): 34–9.

[3] *Gippsland Mercury*, 23 April 1878.

[4] 'Vagabond', *The Argus*, 26 December 1886.

[5] H.W. Wheelwright, *Bush Wanderings of a Naturalist; or Notes on the Field Sports and Fauna of Australia Felix* (London: Routledge, Warne and Routledge, 1861), 185.

[6] A.W. Howitt to his father. Quoted in Mary Howitt Walker, *Come Wind, Come Weather: a Biography of Alfred Howitt* (Melbourne: Melbourne University Press, 1971), 76–7.

[7] P. Olsen, 'A Penchant for Parrot', *National Library News* 16,9 (2006): 7–9. See also Bruce Boehrer, who argues that in Europe, despite a source of plentiful supply of parrots from the Americas, parrots were regarded as 'pets and as zoological marvels and annoyances, but seldom as dinner'. B. Boehrer, 'The Parrot Eaters: Psittacophagy in the Renaissance and Beyond', *Gastronimca* 4,3 (2004): 46–59, doi: 10.1525/gfc.2004.4.3.46.

[8] Gracius J. Broinowski, *Birds of Australia* (Melbourne: Charles Stuart, 1890–91); Gracius J. Broinowski, *Birds and Mammals of Australia* (Sydney: Murray, 1885).

[9] J. D'Ewes, *Sporting in Both Hemispheres* (London: Routledge and Co., 1858), 323.

[10] Wheelwright, *Bush Wanderings of a Naturalist,* xi–xii.

[11] J.M. Powell, 'Conservation and Resource Management in Australia 1788–1860', in *Australian Space and Time: Geographical Perspectives,* ed. J.M. Powell and M. Williams (Melbourne: Oxford University Press, 1975), 18–60.

[12] *Gippsland Times,* 28 May 1879.

[13] Dorothy La Trobe Leopold, *With a Letter to Mr La Trobe: Life of W. H. Foster, 1852–1894* (Melbourne: Dorothy Leopold, 1988).

[14] Peter Hawker (1786–1853) published his *Instructions to Young Sportsmen* in 1830 and it was revised a number of times. See also Peter Hawker, *The Diary of Colonel Peter Hawker* (Richmond: Publishing Co., 1971).

[15] W.H. Foster, Diaries 1862–1870, Royal Historical Society of Victoria, MS 000980 (hereafter Foster Diary). Foster's diaries for the years 1871–1878 remain in a private collection and have not been consulted.

[16] Latham's Snipe is also known as Japanese Snipe, Common Snipe, Jack Snipe, Bleater, Longbill. Its Kŭrnai name is Klik.

[17] Wheelwright, *Bush Wanderings,* 96–100; Broinowski, *Birds of Australia*, Vol. 2.

[18] See Graham Pizzey, *A Field Guide to the Birds of Australia* (Sydney: Collins, 1980), 126.

[19] In 1865–6 Foster and his companions shot 511 snipe (401 by Foster). In 1866–7, 783 (420 by Foster). 1867–8 and 1868–9 were poor seasons, followed by 1869–70 when 683 snipe were shot (385 by Foster).

[20] Foster, Diary, 2 November 1867.

[21] Leslie and Cowie, *The Wind Still Blows,* 101–2.

[22] Wheelwright, *Bush Wanderings,* 103.

[23] Stubble Quail is also known as Grey Quail. The Brown Quail is also known as Swamp Quail, Silver Quail and Partridge Quail.

[24] A. J. Campbell, *Australasian,* 14 March 1896.

[25] John Sadlier, *Recollections of a Victorian Police Officer* (Melbourne: George Robertson, 1913), 141–2.

[26] MacKenzie, *Empire of Nature*, 19.

[27] Jonathon Garnier Ruffer, *The Big Shots: Edwardian Shooting Parties* (London: Debrett's Peerage, 1984). MacKenzie, *Empire of Nature*, 19–21, discusses the creation of private estates as reserves.

[28] This view has been challenged. See Tim Bonyhady, *The Colonial Earth*, (Melbourne: Melbourne University Press, 2000).

[29] P. Olsen, 'A Penchant for Parrot',

[30] Leopold, *With a Letter to Mr. La Trobe*,

[31] *Gippsland Mercury,* 17 December 1878; *Table Talk*, 30 September 1892, 15; Marguerite Hancock, *Colonial Consorts: The Wives of Victoria's Governors 1839–1900* (Melbourne: Melbourne University Press, 2001), 212.

[32] *The Australasian,* 18 May 1901; *Gippsland Times,* 16 May 1901, 10 June 1901; 'Quails in Victoria', *Emu* 12 (1913). 202–3; A.J. Campbell, 'The Protection of Native Birds', *Emu* 2 (1903): 187–94; J.R. Kinghorn, 'Economic Value of the Stubble Quail', *Emu* 25 (1926): 112–19.

[33] *Gippsland Times,* 10 February 1890.

[34] *Gippsland Times*, 7 February 1887.

[35] *Gippsland Times,* 10 May 1865.

[36] Victorian Parliamentary Debates, 1862, 876.

[37] *Gippsland Times,* 28 December 1877.

[38] 'Tanjil', *Our Trip to Gippsland Lakes and Rivers* (Melbourne: M.L. Hutchinson, 1882), 38.

[39] *Gippsland Times,* 5 October 1881.

[40] Frank Keating, 'Way Back When', *The Guardian (London),* 22 December 1997, 6.

[41] C. McGuiness, *Gippsland Memories* (Moe: Star Newspaper, 1948[?]). 11.

[42] *Gippsland Times*, 24 April 1866, 2 December 1881.

[43] *Gippsland Mercury,* 24 April 1879; *Gippsland Times*, 9 June 1879, 2 June 1880.

[44] *Gippsland Times,* 29 July 1891.

[45] Victorian Parliamentary Debates 1861–2, 231–2 and .415–18. For discussion of Victoria's game laws see M.C. Downes, 'Early Wildlife Legislation in Victoria', *Fur, Feathers and Fins* 50 (May 1962): 13–18; A. Dunbavin Butcher, 'Attitudes to Wildlife', *Victoria's Resources* 5, no. 1 (March–May 1963): 2–3; F.I. Norman and A.D. Young, 'Short-sighted and Doubly Short-sighted are They: A Brief Examination of the Game Laws of Victoria, 1858–1958', *Journal of Australian Studies* 7 (November 1980): 3–24.

[46] Victorian Parliamentary Debates 1884, 2220–24.

[47] *Australasian,* 16 October 1897.

[48] *Gippsland Mercury,* 2 December 1890.

[49] Donald Macdonald, 'The Wild-Fowlers', in Donald Macdonald, *The Brooks of Morning: Nature and Reflective Essays* (Sydney: Angus and Robertson, 1933), 108–13.

[50] Macdonald, 'The Wild-Fowlers', 109.

[51] From 1893 to 1900 A.J. Campbell wrote 'Some Australian Birds', a column for *The Australasian*. His notes on collecting and correspondence with readers were used in A.J. Campbell, *Nests and Eggs of Australian Birds: Including the Geographical Distribution of the Species and Popular Observations Thereon* (Sheffield: A.J. Campbell, 1900).

[52] Macdonald, 'The Wild-Fowlers', 108; see for example A.J. Campbell, 'The Protection of Our Native Birds', *Victorian Naturalist* 1 (1885): 161–6; A.J. Campbell, 'The Protection of Native Birds', *Emu* 2 (1903): 187–94.

[53] Tom Griffiths, *Hunters and Collectors: The Antiquarian Imagination in Australia* (Melbourne: Cambridge University Press, 1996), 12–21; Tom Griffiths, *Forests of Ash: An Environmental History* (Cambridge: Cambridge University Press, 2001), 102–14.

[54] Peter Synan, *Three Cheers for the Commonwealth of Australia: George Henry Wise – Federationist* (Bairnsdale: Kapana Press, 2001), 27.

[55] Wheelwright wrote of 'his mate' but did not name him. H.M. Whittell identified Stafford as 'the mate' who camped at Mordialloc with Wheelwright from 1853 to 1858. See H.M. Whittell, *The Literature of Australian Birds: A History and a Bibliography of Australian Ornithology* (Perth: Paterson Brokensha, 1954).

[56] Gay Halstead, *Whispers Over Wildwood, 1066–2003* (Metung: Nungurner Press, 2003), 35.

[57] Whittell, *The Literature of Australian Birds;* Campbell, *Nests and Eggs of Australian Birds,* 353.

[58] Arthur Morduant Hunter, Diary 10 May 1899; see also a similar entry on 24 April 1895 when Hunter sent parrot skins to Ulterson. Royal Historical Society of Victoria, MS 000888.

[59] Howitt's scientific endeavours and the connections between his geology and anthropology is discussed by Ian Keen, 'The Anthropologist as Geologist: Howitt in Colonial Gippsland', *The Australian Journal of Anthropology* 11,1 (2000): 78–97.

[60] W. H. Foster, Diary, 20 April 1869; A.W. Howitt to Anna Mary Watts, 18 April 1869. Howitt Papers, State Library of Victoria, Box 1046/3b (9).

[61] Aborigines were exempt under Clause 13 of *An Act to Protect Game, 1867*; Ramahyuck Visitors Book, 18 February 1882, 27 July 1895; 'Vagabond', *Argus,* 2 January 1886; Franz Barfus, 'A Visit to the Mission Station Ramahyuck, at Lake Wellington, Gippsland (Victoria), [1881]' Monash University Churchill, Centre for Gippsland Studies Collection, 3063.

[62]*Gippsland Times*, 19 January 1891.

[63] Keith Hancock, *Discovering Monaro: A Study of Man's Impact on his Environment* (Cambridge: Cambridge University Press, 1972), 65.

[64] For the collaborative work on Gippsland see the 1970s research undertaken by the Arthur Rylah Institute. For example: K.C. Norris et al., *Vertebrate Fauna of the Gippsland Lakes Catchment Victoria,* Occasional Paper Series No. 1. (Melbourne: Ministry for Conservation. Fisheries and Wildlife Division, June 1983); A.H. Corrick and F.I. Norman, 'Wetlands and Waterbirds of the Snowy River and Gippsland Lakes Catchment', *Proceedings. Royal Society of Victoria* 91 part 1 (1980): 1–15; I.M. Mansergh et al., 'An Annotated Bibliography of the Avifauna of the Gippsland Lakes Catchment and Hinterland', *Memoirs of the National Museum of Victoria* 40 (1979): 201–28. For examples of mammalian research, see Daniel Lunney and Tanya Leary, 'The Impact on Native Mammals of Land-Use Changes and Exotic Species in the Bega District, New South Wales, Since Settlement', *Australian Journal of Ecology* 13 (1988): 67–92, doi: 10.1111/j.1442-9993.1988.tb01417.x; J.H. Seebeck, 'Terrestrial Mammals in Victoria: A History of Discovery', *Proceedings. Royal Society of Victoria* 107, no. 1 (1995): 11–23.

[65] H.J. Frith, Evidence to the Commonwealth Parliament. House of Representatives Select Committee on Wildlife Conservation, 1 September 1970. Unpublished typescript, Commonwealth Parliamentary Library. See also similar views in H. J. Frith, *Wildlife Conservation* (Sydney: Angus and Robertson, 1973).

[66] I.M. Mansergh and L.A. Hercus, 'An Aboriginal Vocabulary of the Fauna of Gippsland', *Memoirs of the National Museum of Victoria* 42 (1981): 107–22; see also Howitt Papers, Australian Institute of Aboriginal and Torres Strait Islander Studies Library.

[67] McMillan in *Letters from Victorian Pioneers,* ed. Thomas Francis Bride (Melbourne: Currey O'Neil, 1983), 205.

[68] W.A. Brodribb, *Recollections of an Australian Squatter 1835–1883* (Sydney: John Ferguson, 1978), 40.

[69] G. A. Robinson, Journal, 24 May 1844. Mitchell Library, A 7040.

[70] Warman, Diary, 8 November 1846, *Port Phillip Herald,* 23 February 1847.

[71] Baldwin Spencer and C. French, 'Trip to Croajingolong', *Victorian Naturalist* 6, (1889): 1–38.

[72] A.J. Marshall, *The Great Extermination: A Guide to Anglo-Australian Cupidity, Wickedness and Waste* (London: Panther, 1968), 44.

[73] A.J. Campbell, *Oology of Australian Birds* (Melbourne: Campbell, 1883).

[74] George Mack, 'Cormorants and the Gippsland Lakes Fishing Industry', *Memoirs of the National Museum Victoria* 12 (1941): 95–117.

[75] *The Australasian*, 20 November 1897.

[76] John Pettit, letter to his father from camp on the Mitchell and Macarthur River, [No date, ca 1857]. Mitchell Library MS B 1418.

[77] *The Argus,* 15 December 1885.

[78] Broinowski, *Birds and Mammals of Australia,* no pagination.

[79] *Gippsland Times,* 7 February 1887; *Gippsland Mercury*, 13 July 1894.

[80] H.J. Frith, W*aterfowl in Australia* (Sydney: A.H. and A.W. Reed, 1977), 44–63; E.R. Nye, C.R. Dickman and R.T. Kingsford, 'A Wild Goose Chase: Temporal and Spatial Variation in the Distribution of the Magpie Goose (*Anseranus semipalmata*) in Australia', *Emu* 107 (2007): 28–37, doi: 10.1071/MU05012.

[81] Nye et al., 'A Wild Goose Chase'

[82] Deborah Bird Rose, *Country of the Heart: An Indigenous Australian Homeland* (Canberra: AIATSIS, 2002), 88.

[83] Wheelwright, *Bush Wanderings,* .98.

[84] A.J. Campbell *The Australasian,* 29 July 1893. See also A.J. Campbell, *Nests and Eggs of Australian Birds: Including the Geographical Distribution of the Species and Popular Observations Thereon* (Sheffield: A.J. Campbell, 1900), 823.

[85] Neville Cayley, *What Bird is That? A Guide to the Birds of Australia* 11th edn (Sydney: Angus and Robertson, 1946).

[86] See: Libby Robin, *The Flight of the Emu: A Hundred Years of Australian Ornithology 1901–2001* (Melbourne: Melbourne University Press, 2001), 246–7.

[87] Wheelwright, *Bush Wanderings,* 100.

[88] *Gippsland Times,* 23 January 1875; *The Argus,* 26 December 1885.

[89] Brett A. Lane, *Shorebirds in Australia* (Melbourne: Thomas Nelson, 1987), 110–11; M. Blakers, S.J.J.F. Davies and P.N. Reilly, *The Atlas of Australian Birds* (Melbourne: Melbourne University Press, 1984).

[90] Sadlier, *Recollections of a Victorian Police Officer,* 142; Leslie and Cowie, *The Wind Still Blows,* 101; *The Australasian,* 20 November 1897.

[91] Ian McTaggart Cowan, *The Conservation of Australian Waterfowl* (Canberra: Australian Government Publishing Service, 1973).

[92] A.H. Corrick and F.I. Norman, 'Wetlands and Waterbirds of the Snowy River and Gippsland Lakes Catchment', *Proceedings of the Royal Society of Victoria* 91, part 1 (1980): 1–15.