

Breeding of the Cape Barren Goose on the Anser and Glennie Islands, Victoria, Australia

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Summary

In June 1964 Cape Barren Geese were found to be breeding on the islands off Wilson's Promontory. This was the first authenticated record since 1910.

This report of the 1964 findings includes introductory notes on the known history of the species and on its notable biological significance and rarity. The desirability of increased conservation measures is stressed and proposals for such measures (including other ecological research work relevant to good management) are outlined.

Introduction

This report was written for submission to the Fisheries & Wildlife Department of Victoria, with a view to establishing a research and conservation programme. It is reprinted here, by permission, in a slightly amended form.

The Cape Barren Goose *Cereopsis novaehollandiae* is one of the rarest geese in the world. A handsome bird, standing nearly two feet tall, grey with black wing-tips and tail, and a striking yellow-green cere on the bill, it introduces a bold and rather wild note to the open landscape it inhabits. It bears a remarkable resemblance in many ways to the true grey geese of the north and as such is the only one of its type in the southern hemisphere. This 'parallelism' or convergence is of considerable zoological interest.

It received its vernacular name after being used as a source of much-needed food by survivors of the ship "Sydney Cove", wrecked on Preservation Island south of Cape Barren Island in Bass Strait early in 1797. Matthew Flinders, who travelled there from Port Jackson in the rescue schooner 'Francis', commented '... I found this bird in considerable numbers on the smaller islands, but principally upon Preservation Island; its usual weight was from 7 to 10 pounds and it formed our best repasts, but had become shy ...'. About the same time, in the summer of 1797-98, George Bass recorded taking geese on unidentified islands off Wilson's Promontory during his whaleboat voyage to Westernport. Together with mutton-birds and seals they formed an important food standby.

Early as these records may seem, they appear late in the Cape Barren Goose timescale. Recognisable waterfowl occur in the fossil record as early as the Cretaceous, 60 million years ago. Studies on its bone-structure, muscle-formation and behaviour are currently going on in an attempt to establish its relationships with the other

waterfowl. Some workers have linked it with the extinct New Zealand goose *Cnemidornis*, others with the Shelducks and with the South American Kelp Geese, and others with the true geese of the north; some consider it deserves a tribe of its own. All that is certain at the moment is that the Cape Barren Goose is an unusual goose-like bird of undoubted rarity and apparently ancient origin, which possesses no close relatives and is found nowhere else on earth - a bird worth preserving.

The Cape Barren Goose in the Furneaux Group, Bass Strait, and on the Victorian mainland

The Cape Barren Goose breeds on a few islands from as far as the Recherche Archipelago in West Australia to the Furneaux Group, but the latter area is its headquarters. Aerial surveys conducted since 1957 by the Tasmanian Animals and Bird Protection Board indicate that the population in the Furneaux Group has fluctuated, counts varying from 943 in 1960 to 2,600 in 1964.

The Cape Barren Goose has a long winter breeding season. It commences laying as early as April and continues in some cases until the end of October. About September each year some flocks make an annual summer migration to the plains of Western Victoria, but the migratory habits of the species are still to be investigated, a project only now getting under way. So far as is known, at present there are only about four places where geese may be seen with any certainty during this summering period. In each case these are jealously-guarded grazing properties. In one place a flock of 100 birds appears most years but records of 50 years ago indicate that such flocks were once found over a much larger area of the Western District. There is little doubt that overall numbers have shown a considerable decline. Since the majority of Cape Barren Geese seen during this summer migration probably originate in the Furneaux Group, hitherto it seemed that

their continued presence in Victoria depended on the success of the conservation efforts of another State. It is now four years since the last shooting season of four weeks was permitted in the Furneaux Group. On that occasion 184 licences were issued and 252 birds taken, which may have represented something like 20% of the total Furneaux Group population, as the aerial count of the previous year had shown there to be about 1,200 geese in the area. Since then the bird has been declared a partly-protected species, and it has been claimed that numbers have shown an increase, although there is little doubt that some illegal shooting, destruction of eggs, and capture of goslings continues. We have observed geese in these islands, and appreciate the problems faced there by the Tasmanian conservation authorities. The goose islands are scattered, sometimes considerable distances from the nearest port, and hard to police. They are frequented by fishermen (not only local ones) and mutton-birders; some are privately owned, and farmers grazing stock are in some cases antagonistic to the presence of grazing geese. Of all these islands (about 20), one, Goose Island (about 250 acres and one of the most remote) has been declared a sanctuary; one other smaller one, Little Woody, has been reserved for wildlife purposes; and in the cases of those islands held on Crown Land leases, it is intended that restrictive clauses beneficial to the geese will be inserted when the leases become due for renewal.

The Cape Barren Goose on Victorian islands

In view of the situation in the Furneaux Group, the status of the species on islands off the Victorian coast, many of them already declared sanctuaries and none having grazing interests or being privately owned, is of some interest.

A perusal of old records, conversations with fishermen, and a brief visit by D.F.D. during the non-breeding season, indicated that the Glennie and Anser Groups of islands off Wilson's Promontory might be breeding grounds for geese. As already mentioned, Bass had taken geese on islands off the Promontory in 1797-98. More recently, in 1910, a party of Melbourne naturalists, which included Sir James Barrett, had landed on Great Glennie Island and reported geese breeding. Contemporary records in the files of the Fisheries and Wildlife Department indicated the presence of geese on several of the islands, although apparently no breeding records had been made. Accordingly, in June a party of ten visited the Anser

and Glennie Groups in a fishing boat chartered from Port Franklin. High winds and rough seas made possible only an inspection by sea of Wattle, Kanowna and Anser Islands in the Anser Group and of the eastern sides of Greater Glennie, Dannevig, Citadel and McHugh Islands in the Glennie Group. Geese were seen on all these islands. Finally, a landing was made on Great Glennie Island, numerous geese were seen, and four nests with eggs discovered.

The greatest numbers of Cape Barren Geese seen at one inspection during the investigation, which took place between June 13 and 17, were as follows.

Anser Group

Wattle Island - 4 pairs, possible duplication of 1 pair; Anser Island - 6 pairs on ground, flock of 20 flying; Kanowna Island - 3 pairs.

Glennie Group

Great Glennie Island - 23 geese flew as the boat arrived. 9 pairs seen elsewhere; Dannevig Island - 3 pairs; Citadel Island - 3 birds; McHugh Island - 1 pair.

The occurrence of geese in pairs intruded itself immediately. Generally these were seen on more or less pure areas of poa tussock of anything from one to five or more acres in extent, ranging from 50 feet above sea-level, where vegetation succeeds the steep granite shoreline, to the crests of the islands which vary in height between 150 and 500 feet. With practice it became possible to predict areas where geese would appear as the boat approached. Invariably the birds were already alarmed by the time they were distinguished, and just as invariably flew before the boat approached within gunshot. In the light of the tameness of Cape Barren Geese observed on the adjacent mainland at the conclusion of the investigation (see below) this wildness would seem to indicate that on the islands at least the birds associate the approach of a boat with gunfire, or at least danger in one form or another. No flying birds were seen to cross between the islands. When disturbed they either moved directly to settle on another part of the same island, or flew about for a short time before doing so.

Since the prime purpose of the venture was to establish beyond doubt that the Cape Barren Goose still breeds on the islands, the time spent ashore on Great Glennie Island was directed entirely to a search for nests. To this end all 10 members formed a beat along the eastern slope of the island, moving northward from the anchorage. However, it soon proved that stalking

was more effective than beating, since the birds rose at extreme range and 3 of the 5 nests discovered were located by Dorward who had observed birds in pairs on two of the territories during a visit to Great Glennie in April 1964. Two nests, several hundred years apart, were sited in an area of tussock 50 ft. above sea-level directly above the steep granite slope rising from the sea. One of these nests was empty but fresh, the other contained five eggs. The other three nests were on the exposed ridge of the island, some 200 ft. above sea-level. One nest had five eggs (three stained, two clean) and a down lining. The second had two little-stained eggs. The third, only some twenty feet from the second, was empty and weathered. It lacked down and was probably at least a season old. All five nests were built in slight depressions hard against tussocks on the lee side, the wind-curved grass tending to bend over them. The nest territories appeared to be approximately 300–500 yards in diameter.

It seems reasonable to conclude that between the months of April and December the Anser and Glennie Groups form an important Cape Barren Goose breeding ground. Apart from flocks at least 26 pairs of birds were seen. The amount of available territory would seem to suggest that at the time of our visit there may have been two to four times that number of pairs actually present and about to breed. In other words, up to five per cent of the world's Cape Barren Goose population may rely on these Victorian islands for breeding purposes. This is a possibility which has apparently not been appreciated up to the present.

Conservation

Any conservation campaign to ensure the security of this breeding population of geese must rest on more than the declaration of sanctuaries, since both groups of islands have long been designated as such. The four main islands in the Glennie Group – Great Glennie, Dannevig, Citadel and McHugh – were declared a sanctuary in 1910; the Anser Group, and the two northernmost islands on the west coast of the Promontory (Norman and Shellback Islands), and in addition Rabbit, Granite, Doughboy and Benison Islands on the east coast, all became part of the Wilson's Promontory National Park in 1916. It is already becoming the practice of the hardier holiday fishermen to take light boats out through the surf from the popular Tidal River settlement, from which Great Glennie Island is a bare six miles – about 20 minutes run in a fast dinghy. Access to the islands will presumably become easier as

development of the area proceeds. It would be desirable to restrict or prevent landing on the islands to minimise disturbance of breeding geese.

The anchorage at Great Glennie provides the only shelter on the west coast of the Promontory. Professional fishermen have been using this anchorage and landing on Great Glennie, and probably shooting geese, since these waters began to be worked. One of the authors has been told by fishermen in a nearby coastal town of parties taking up to 40 geese in a day, and of goslings being brought home for pets. The comparatively small size of these islands makes shooting easier; geese do not normally leave the islands on being disturbed, but fly about and offer many chances.

Hence there is need for active measures to protect the geese of these islands from shooting. Probably the cheapest method would be a non-regular aerial patrol. Such a patrol would seek to recognize any boats in the anchorage. The propaganda value of such a patrol would probably be greater than the actual policing function.

At the same time an aerial count of the geese along lines pioneered in Tasmania could be used to assess the annual fluctuation in numbers, an essential part of any wildlife management programme. Including Norman and Shellback Islands, the Groups concerned are strung over a distance of some twenty miles, and could easily be covered in a morning's flying. The air distance from Moorabbin Airport, Melbourne is 100 miles.

Another important step which could be taken at present would be irregular patrolling by a sea-going boat. Inspectors of the Fisheries and Wildlife Department are already responsible for maintaining watch on the area and the activities of fishermen. If a Fisheries and Wildlife Department vessel were available for all the Department's coastal commitments, policing of the islands could be made an additional one.

Research

The Cape Barren Goose is not only a rare animal, it is also one of considerable zoological interest. At present, ecological research is being done on its breeding biology by workers in Tasmania, and one of the authors is conducting a research programme on its behaviour, history, classification, and evolutionary relationships at Monash University. Hitherto all field work has necessarily involved travelling to Tasmania. In light of the recent discoveries, it is hoped that the emphasis of the Monash programme will shift to the

Victorian coast. The Department of Zoology at Monash University already is beginning to work in co-operation in a number of ways with the Fisheries and Wildlife Department, and it is envisaged that further co-operation will arise in the case of the Cape Barren Goose. Thus, for example, research workers making observations regularly on the islands could assist with policing, while their transport difficulties might be eased by the Department vessel. Again, while research workers catch geese for banding and other purposes, X-ray examination of the birds (for determination of shooting pressure, as already in progress for ducks) could be carried out. Also, at the Department's wildfowl study area at Lara a breeding programme for geese is planned; studies complementary to those in the islands could be made, and birds reared for release in the islands.

Other ecological studies for the islands are in the planning stage: a new Monash University Research Scholar will, it is hoped, undertake work on the ecological inter-relations of burrowing sea-birds (petrels, penguins) and rabbits. Rabbit and Citadel Islands are particularly suitable for this purpose. A study of the regeneration and rehabilitation of seabirds following removal of rabbits (a project already discussed with the Vermin and Noxious Weeds Destruction Board) is proposed; the relevance of this to geese is that restoration of the habitat would almost certainly result in re-occupation of these islands by geese. Approach has been made to the

National Parks Authority and to the Director of Lighthouses, Commonwealth Department of Shipping and Transport, for permission to make plans for such research work in areas under their jurisdiction.

Research is the basis of any conservation programme. The research discussed above, together with the protection measures, would constitute such a programme. Since the Cape Barren Goose, like most waterfowl, is a potential game bird, a conservation programme for it is the same as a game management programme. Eventually, any successful game or wildlife management programme comes to include some controlled cropping. This would no doubt be appreciated by sporting interests in the State. In addition, a successful programme would earn world-wide respect in the field of conservation research, a field in which present successes are few and when they occur highly acclaimed and remarkably popular (as, for example, the Koala in Victoria and the return of the Osprey to the Scottish Highlands). The World Wildlife Fund and the International Union for the Conservation of Nature would undoubtedly lend approval and support to this project, although their commitments elsewhere are already too great to make financial support probable. The State of Victoria has the reputation of being a leader in Australian conservation matters. It seems highly desirable that the chance to preserve one of the country's rarest birds should be seized while it yet remains.

The ecology and numbers of aquatic birds on the Kafue Flats, Zambia

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Introduction

The Kafue Flats in southern Zambia are located at about 15°30'S and between 27 and 28°E. They are flooded annually by the Kafue River, and extend for some 140 miles along the river with a width of between 10 and 30 miles. The total area of the Flats is some 2,500 square miles. The area is at an elevation of about 3,100 ft; it has an average rainfall of 32 inches per annum and a mean annual temperature of 70-75°F. The flood water rises, after the rains have begun, in November and December and the flood peak occurs between April and June. At times of peak flood the level of water on the Flats varies

between a few inches and 10 feet. The rise and fall of the flood water is a gradual process.

The Kafue Flats area, with its striking concentrations of Lechwe antelope and birds (including wildfowl, shorebirds, wading and some fish-eating birds), has long been considered one of the greatest spectacles in Africa. Many distinguished ornithologists have expressed the opinion that the variety and numbers of aquatic birds on the Flats compare favourably with the best wetland areas in the world. The preservation of this area for all time has long been advocated. Two of the most important sectors of the Flats remain