

In January, 1958, Mr. W. J. Broun and I were watching Black Swans (*C. atratus*) feeding well off shore. To reach bottom they had to employ the familiar "tip up" method, immersing neck and upper breast to do so. Among the swans were some half-dozen Shovelers diving, obviously for food, because with the aid of binoculars we could plainly see the action of swallowing, as the birds emerged from the dive. The swans appeared to be feeding on subaqueous vegetation and naturally we supposed that the ducks were also. The duration of submergence we calculated to be about ten seconds, although not timed by watch.

Again in May, 1958, in the same area Mr. H. R. McKenzie and I watched a similar performance. This time an isolated group of Shovelers were diving continuously, in what we estimated would be from six to eight feet of water. On this occasion I timed the dives, using the "sweep" or second hand of the watch, whilst my companion kept the telescope on the divers. The duration of seven recorded dives was: 7, 8, 8, 9, 9, 9, 10 seconds; an average of $8\frac{1}{2}$ seconds.

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FEEDING HABITS OF THE BLACK-BILLED GULL

Introduction:

This investigation was carried out in Southland between 15th October and 10th December, 1957, by a Technical Field Officer of the Marine Department. The Technical Field Service, to which the Officer belongs, undertakes investigations in freshwater fisheries and is sponsored by the Council of South Island Acclimatisation Societies. This study, which was requested by the Southland Acclimatisation Society, was made to find out whether Black-billed Gulls eat trout during the breeding season.

Findings:

(a) Nesting Habits

During the summer months the Black-billed Gull nests in large numbers in certain river beds. The birds nest in colonies of about 50-100, or in colonies up to several thousand birds. The nesting sites are usually on an island or on high shingle bars away from floods. Five colonies were found on the Aparima River between Wrey's bush and the Jacob River bridge, and two on the Oreti River between Rocky Point and the railroad bridge near Lumsden.

Two colonies on the Aparima River were selected for detailed study. The small colony, (A) on a shingle bar, consisted of about 500 nests, each of which contained up to three eggs. The larger colony (B), situated on a well consolidated shingle island, covered about 10,000 sq. yards and contained about 3000 nests.

On 22nd October, fourteen chicks were seen at colony A and none at B, and by 8th November the numbers of chicks had increased to 81 at A and 47 at B. After this date the number of chicks increased rapidly, but a severe flood in the Aparima completely destroyed colony A on 18th November, 1957. No re-nesting attempts were seen at the site of this colony. 200 chicks were killed by the same flood at colony B. When observations ceased on 22nd November, 750 chicks were counted

at colony B. On this date several fully fledged chicks were seen and two were observed flying with adult birds.

(b) Feeding Habits

Observations on feeding gulls were made with the aid of binoculars. Also 20 gulls were shot and an examination of stomach and crop contents made. As far as possible, birds shot were those which had been observed feeding on the river margins but in some cases birds were shot at random from flocks returning from the feeding areas.

Feeding, especially after rain, appeared to take place mainly in areas away from the river, e.g. cultivated areas. Prior to the severe flood (18/11/57), birds were observed feeding on the river margins. 25% of the birds shot contained food taken from the river bed consisting of Caddis Larvae (*Olinga* spp and *Pycnocentria* spp) and one creeper (*Archichauliode* spp). The remaining 75% contained vegetable material, earthworms, grassgrubs and wire worms.

No birds were seen to take fish nor were any fish remains found in any stomach. Gulls were seen to dip down to the surface of the water and to snap at flying insects. This usually took place during a hatch of mayflies. However, no birds seen feeding in this manner were shot. The flocks of gulls range at least six miles from the colony to feed, and probably they feed in the paddocks. It was not always possible to note where the gull were feeding.

The adult birds disgorge food to the chicks and worms were fed to all chicks which were observed being fed.

Conclusion:

The results show that the Black-billed Gulls did not take trout or fish during the nesting season, and little feeding was done in the river. However, the severe flood of 18th-19th November may have reduced the availability of larvae of aquatic insects on which some gulls would feed.

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EARLY BREEDING OF THE MOREPORK IN 1958

The late Dr. W. R. B. Oliver, in his recent book, *New Zealand Birds*, in describing the breeding habits of the Morepork (*Ninox novaeseelandiae*) followed the late Edgar Stead (*The Life Histories of New Zealand Birds*) in respect of the egg-laying period. They write: "laying season extends from October to November" without reference to any particular area or latitude. A slight variation might well be expected in response to latitude.

On 2/9/'58, when going down the road in Khandallah, Wellington, after 8 p.m. my attention was attracted by the "weezie" call of a Morepork. On looking up, I saw one sitting on a power pole and another hawking insects around the light and the neighbouring trees. The perched one was in full light and was clearly visible. The plumage was that of a young bird with clear roundish white spots on the breast. It kept up calling at short intervals. From time to time the one that was hawking insects would return to the power pole and deliver a moth or