

inland". On South East Island one such limiting factor is clearly the skua, whose effect seems to be to confine breeding attempts to those parts of the island not used by breeding skuas. On Chatham Island, skuas do not breed and are rarely encountered. It seems more likely there that often the herons do not find trees, as suggested by Gordon (1979), or the bush fragments they do find are untenable given the wind — perhaps the case on Motuhinahina, where they did not use the available trees. In more sheltered locations the herons may still nest in trees — as they do periodically in the fine shelter belts of *Macrocarpa* at Kaiwhata on the north-east corner of Chatham Island. Thus, we need not invoke the absence of Reef Herons at all, but see cleft nesting as a response to climate, harassment by skuas or simply lack of trees.

LITERATURE CITED

- GORDON A. 1979. White-faced Herons on Chatham Island. *Notornis* 26: 46.
ROBERTSON, H. A.; DENNISON, M. D. 1979. White-faced Herons on the Chatham Islands. *Notornis* 26: 198.

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Black Stilts nesting at Lake Ellesmere

Three Black Stilts (*Himantopus novaeseelandiae*) constructed nests independently at Lake Ellesmere in spring 1986. Two were mated with Pied Stilts (*H. himantopus leucocephalus*). The third was two years old and was possibly unmated.

At Greenpark Sands on the shores of Lake Ellesmere on 23 September 1986, CO'D, Ken Hughey, Liz Jarman and Dick Hutchinson observed a Black Stilt feeding with Pied Stilts in a pond surrounding a small breeding colony of Pied Stilts. While we were watching, a Pied Stilt mounted and copulated with the Black Stilt. About 15 minutes later the Black Stilt moved to a small, grass-covered island, where it began arranging dry grasses at what appeared to be a nest.

There were 10 pairs of Pied Stilts in the colony. Their nests, which all had eggs, were on small hummocks of mud, covered with a salt-tolerant grass, *Agrostis stolonifera*, and surrounded by shallow water (100 mm). The colony was on the upper margin of the lake shore, close to farmland and nearly 2 km from open lake water.

The site was visited again on 25 September. The Black Stilt was roosting at the nest site, which was an empty scrape lined with dry grasses. A week later, on 2 October, CO'D, Ken Hughey, and Ron Nilsson visited the site and found the Black Stilt incubating four eggs. Two new Pied Stilt nests were also found and about 30 birds were at the colony. During two hours of observation, the Black Stilt incubated twice for 30 minutes, its pure pied mate incubating for the intervening hour. When Ron Nilsson visited the nest again on 9 October, the Black Stilt was not seen and all but one of the eggs had disappeared. During further checks over later weeks, the Black Stilt was not seen at the abandoned nest site.

Also in September, Teri Meis observed a second Black Stilt at Birdling's Flat, c.10 km further along the lake shore. This stilt was distinguished by its grey face and several white feathers about the vent. It was resident

in a colony of about 100 Pied Stilts during late September and throughout October. Although no nest was found, Teri Meis, Peter McClelland, and Peter Reese saw the bird performing broken wing displays when they were near the colony in late October. On 20 November CO'D and Peter Dilks saw what appeared to be the same Black Stilt with four juveniles on the Greenpark Sands.

A third Black Stilt, a colour-banded two-year-old, was also resident on the lake in September and October 1986. On 21 October CO'D, Peter Dilks, and Kaye Stark observed it building a nest at Kaituna Lagoon. When first seen, the bird was collecting mud and vegetation from the edge of a pond. Later it was sitting or standing on a large mound, arranging the material around itself. However, this stilt was not seen on subsequent visits and probably did not breed; subadult stilts often build "play nests" (R. Nilsson, pers. comm.).

The Black Stilt has declined greatly in numbers and become in danger of extinction since the expansion of Pied Stilts in New Zealand earlier this century (Pierce 1984a). The present population comprises fewer than 100 birds, and breeding is confined to the Mackenzie Basin, where only 10 pairs nested in the summer of 1986-1987 (R. Nilsson, pers. comm.). Canterbury and Otago riverbeds supported large numbers of Black Stilts during the late 19th and early 20th centuries (Pierce 1984a). In lowland South Canterbury they persisted much longer than they did in North Canterbury, and breeding still occurred widely between 1920 and 1950. The last recorded nesting by a Black Stilt pair in lowland South Canterbury was on the Orari River in 1957 (Child 1959).

This nesting of Black Stilts at Lake Ellesmere seems to be the first in lowland Canterbury since 1979 and the first in North Canterbury since about 1905. There are two records of Black Stilts nesting with pied mates in lowland Canterbury since 1957, in the Hakataramea Valley (1971) and at Wainono Lagoon (1979) (Pierce 1984a). Whether the nesting at Ellesmere reflects some expansion in the range of Black Stilts as a result of management of breeding pairs in the Mackenzie Basin or was only a chance event is not known. Lake levels at Ellesmere were particularly suitable for stilts throughout 1986. Invertebrates were abundant in the thousands of hectares of shallow water. With up to 4000 stilts on the lake in autumn and winter 1986 and c. 1800 staying to breed, the Black Stilts may have lost the stimulus to return to the Mackenzie Basin. Black Stilts normally mate with other Black Stilts, but if none are available, they will mate with hybrids of peds (Pierce 1984b). The colour-banded bird was originally raised by Pied Stilt foster parents, but the history of the other two is not known.

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LITERATURE CITED

- CHILD, P. 1959. A nest of the Black Stilt. *Notornis* 8: 53.
PIERCE, R. J. 1984a. The changed distribution of stilts in New Zealand. *Notornis* 31: 7-18
PIERCE, R. J. 1984b. Plumage, morphology and hybridisation of New Zealand stilts. *Notornis* 31: 106-130.

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