



Black-fronted Dotterel (*Charadrius melanops*) nesting at Te Ore Ore, Wairarapa.

(Hugh Robertson)

Status of the Black-fronted Dotterel (*Charadrius melanops*) in the Wairarapa

TENICK C. DENNISON¹ and HUGH A. ROBERTSON²

¹129 Renall Street, Masterton, New Zealand;

²Science & Research Unit, Department of Conservation, P.O. Box 10 420,
Wellington, New Zealand

ABSTRACT

The number of Black-fronted Dotterels (*Charadrius melanops*) in the Ruamahanga River catchment of the Wairarapa, North Island, New Zealand, increased from c. 80 birds in 1972 to 300 - 350 birds in 1996. Another c. 100 birds breed on rivers that drain directly to the eastern coast of the Wairarapa. Their numbers and range are still increasing. Lake Wairarapa is an important wintering site for Black-fronted Dotterels, although their origin is uncertain.

KEYWORDS: Black-fronted Dotterel, *Charadrius melanops*, population, Wairarapa, New Zealand

INTRODUCTION

The Black-fronted Dotterel (*Charadrius melanops*) has recently colonised New Zealand from Australia. The first bird was recorded in Hawke's Bay in 1954 (Brathwaite 1956). Black-fronted Dotterels started breeding on Hawke's Bay riverbeds in the late 1950s, then spread to the Manawatu, Wairarapa and across Cook Strait to Marlborough and South Canterbury by the late 1960s, and more recently they have colonised many small rivers in North Canterbury, Otago and Southland (Heather & Robertson 1996). In 1995, the total population was estimated to be c. 1700 birds, including 300 in the Wairarapa (Heather & Robertson 1996).

Black-fronted Dotterels were first recorded in the Wairarapa, at Te Whiti on the upper Ruamahanga River, in 1966 (Stidolph 1971). Breeding was confirmed in 1970, although they must have started breeding several years earlier judging by the number of adult birds seen in 1972 (Heather 1973). Over four weekends in November and December 1972, members of the Wairarapa and Wellington Regions of the Ornithological Society of New Zealand (OSNZ) carried out a full survey of the riverbeds in the Ruamahanga River catchment, plus cursory visits to the Awhea and Opouawe Rivers on the eastern coast of the Wairarapa (see Fig. 1). In total, 78 adult birds were found: 31 on the Ruamahanga River between Masterton and Martinborough, 4 on the Tauherenikau River, and 43 on the Huangarua River (Heather 1973). Most birds were found as pairs.

In January 1989, OSNZ members repeated the survey of the riverbeds in the Ruamahanga Catchment, but extended the search downstream of the Martinborough Bridge to Pukio. In February 1996, an attempt was made to repeat the 1972 and 1989 surveys, but a sudden flood prevented its completion.

In December 1993, Barrie Heather counted Black-fronted Dotterels on the Awhea, Opouawe and Whawarui Rivers. OSNZ members repeated these surveys in February 1996, and also counted birds on the Oterei River.

Each month from November 1984 to October 1994, Barrie Heather and Hugh Robertson recorded the number of Black-fronted Dotterels on the eastern shore of Lake Wairarapa between the Tauherenikau River and the Oporua Floodway (Robertson & Heather 1999). As part of the national wader census, birds on the complete eastern and northern shore of Lake Wairarapa were counted in summer and winter each year (except winter 1993) from 1984 to 1994.

In this paper, we present records from these various surveys, and record incidental observations of Black-fronted Dotterels on other, smaller, rivers in the Wairarapa district. A few adult birds have been caught at nests and individually colour-banded (mainly by Barrie Heather, Dave Sim and Tenick Dennison), and their movements are discussed in relation to the observed summer and winter distributions of birds.

RESULTS

Ruamahanga catchment

The number and distribution of Black-fronted Dotterels seen during the 1972, 1989 and 1996 surveys are given in Table 1.

The 1972 census did not include that portion of the Ruamahanga River below the Martinborough bridge, so there could have been a few more birds there. Between 1972 and 1989, numbers increased substantially on all sections of the Ruamahanga River, and birds spread a few kilometres upstream of the Te Ore Ore bridge at Masterton, and up the lower reaches of the Waingawa and Waiohine tributaries. Numbers on the favoured Huangarua River nearly doubled, but there was minimal change in the numbers recorded on the Tauherenikau River.

By 1996, there had been a further substantial increase in the numbers of birds on the sections of the Ruamahanga River that were counted. Assuming similar numbers below Morrisons Bush as in 1989, the total had increased to c. 200 birds on the Ruamahanga River alone; however, if the numbers had increased at the same rate as elsewhere on the Ruamahanga River, then the total would become c. 250 birds. On the Waiohine River, the population had increased from two to ten birds. Strangely, none was recorded on the Waingawa River where eight had been recorded in 1989, and on the Huangarua River, numbers had halved from 81 in January 1989 to 40 in February 1996; whether these were temporary or long-term changes have yet to be determined. The numbers seen on the Tauherenikau River were boosted by an influx of birds into good breeding habitat (Heather 1973) on the newly-formed gravel delta where the river enters Lake Wairarapa.

TABLE 1 – Number and distribution of Black-fronted Dotterels in the Ruamahanga River catchment, in 1972, 1989 and 1996. The estimated total for 1972 assumes that a single bird was in the Martinborough Bridge to Pukio section of the Ruamahanga River. The lower value of the 1996 range assumes that the number of birds between Morrisons Bush and Pukio was the same as counted in 1989 (i.e., 63 missed); the upper value assumes an increase in these two sections at the same rate as on the rest of the Ruamahanga River (i.e., 113 missed).

	1972	1989	1996
Ruamahanga River to:			
Te Ore Ore Bridge	0	5	2
Waingawa Junction	4	13	15
Gladstone Bridge	5	18	54
Ponatahi Bridge	5	24	36
Waiohine Junction	6	6	10
Morrisons Bush	6	12	24
Martinborough Bridge	5	31	n.c.
Pukio	n.c.	32	n.c.
Waingawa River	1	8	0
Waiohine River	0	2	10
Huanga River	43	81	40
Tauherenikau River	4	3	22
Other small rivers*	0	15	25
Total counted	79	250	238
Estimated total	80	250	300-350

n.c. not counted

* estimated (Dave Sim, pers. comm.)

Dave Sim (pers. comm.) recorded Black-fronted Dotterels breeding on several other streams in the catchment that were not covered by the major surveys. On the western side of Lake Wairarapa, he saw a pair at the delta of Cross Creek in summer 1996/97, and a few pairs have bred on the Waiorongomai River between the Rimutaka Forest Park and the delta since at least 1988. One pair has bred for many years near the delta of the Pounui River to the north of Lake Onoke. Several pairs nest on the Turanganui River below the bridge on the Lake Ferry road, but birds have also been seen above the bridge on Te Rata Road. Several pairs nest in the last kilometre of the Tauanui River, near the Ruamahanga Diversion.

We estimate that the population in the Ruamahanga River catchment has increased from c. 80 birds in 1972 to c. 250 in 1989, and to 300 - 350 birds in 1996.

East Coast rivers

Results of repeated surveys of the Awhea, Opouawe and Whawanui Rivers are given in Table 2. These rivers were colonised sometime after 1972, and numbers on the Opouawe River, at least, seem to be still increasing.

Tenick Dennison, Tim Harington and Colin Scadden made a thorough search of the lower reaches of the Whareama River by small boat on 29 March 1990.

TABLE 2 – Number and distribution of Black-fronted Dotterels in 1993 and 1996 on eastern coast Wairarapa rivers that have been systematically searched.

	1993	1996
Oterei River	n.c.	2
Awhea River	42	33
Opouawe River	16	36
Whawanui River	4	4
Total	62	75

n.c. not counted

There was plenty of muddy edge habitat suitable for Black-fronted Dotterels to feed, but no suitable breeding habitat nor birds were seen. No adequate surveys of the Mataikona, Kaiwhata or Pahaoa Rivers have yet been conducted, although eight birds were recorded at the Mataikona River estuary by an OSNZ party in April 1995, and birds have been reported on the Kaiwhata River (Dave Sim, pers. comm.), and on the lower Pahaoa River (OSNZ party) and well inland on its tributary, the Wainuioru River (Hamish Banks, pers. comm.).

In 1996, a total of 75 birds was counted on four rivers, and we estimate that if the other rivers were included, then there were probably c.100 birds altogether on these east coast rivers.

Lake Wairarapa

The eastern shore of Lake Wairarapa is an important wintering site for Black-fronted Dotterel, with a maximum of 175 birds there during the annual winter censuses. This is equivalent to about 40% of our estimated population of 400-450 breeding birds in the Wairarapa. During ten years of monthly counts of the eastern shore between the Tauherenikau River and Oporua Floodway, migrating Black-fronted Dotterels generally started to arrive in March or April, numbers peaked between May and August (maximum 117 birds in May 1990), and virtually all had gone by the end of September (Robertson & Heather 1999). At Lake Wairarapa, Black-fronted Dotterels were found feeding along the edge of sheltered backwaters, especially where marsh-turf was interspersed with areas of open mud. Numbers were highly variable from month to month, and strongly influenced by fluctuations in water levels in the lake; few birds remained when water levels were 10.3 m or more above an imaginary reference point (datum) and covered their preferred feeding habitat (Robertson & Heather 1999).

The extent of local movement of Black-fronted Dotterels within the Wairarapa can be gauged by the sightings of a single bird that was colour-banded on the Ruamahanga River between Te Ore Ore Bridge and Waingawa Junction in 1988,

seen 100 m away at Henley Lake, Masterton, on 24 March 1990 (Barrie Heather and Tenick Dennison), then seen 40 km away at Lake Wairarapa on 12 May 1990 (Barrie Heather and Hugh Robertson), and again seen at Henley Lake on 2 June 1990 (Tenick Dennison). This was the only colour-banded bird seen at Lake Wairarapa (and many were checked for bands) out of about 10 that had been banded on the upper Ruamahanga River. Hence, we conclude that the main influx of birds to Lake Wairarapa was either from the nearby lower Ruamahanga, or from the rivers (also about 40 km away) that run to the eastern coast of the Wairarapa which are prone to flash-flooding during winter months. It is possible that some of the birds migrate north to Lake Wairarapa from South Island nesting sites, but no colour-banding has been done there.

Other wintering sites

Many Black-fronted Dotterels remain on their breeding territory all year, and only leave during floods. Most breeding birds colour-banded on the upper Ruamahanga River were seen in winter only within 5 km of their banding site, usually still on the rivers or on nearby temporary shallow muddy pools created by heavy rains or flooding. Their other favoured feeding sites in winter were the concrete lap-strips surrounding artificial lakes at the Homebush oxidation ponds near Te Whiti and Henley Lake at Te Ore Ore, Masterton. Black-fronted Dotterels formerly congregated on the wet paddocks used to soak up effluent from the Waingawa Abattoir before it was closed down in the 1980s.

Birds colour-banded on small streams around the lower end of the Wairarapa valley (e.g. Tauanui, Turanganui and Waiorongomai Rivers) also remained close (<2 km) to their banding site. However, few have been seen in winter, except for a bird banded in the lower part of the Tauanui River on 9 November 1990 and seen 2 km away, c. 500 m above the barrage gates at the outlet of Lake Wairarapa (Dave Sim, pers. comm.).

DISCUSSION

The population of Black-fronted Dotterels in the Wairarapa has grown from c. 80 birds in 1972 to 400 - 450 in 1996. The Wairarapa population now represents over 20% of the estimated national population of Black-fronted Dotterels (Heather & Robertson 1996). Heather (1973) noted that Black-fronted Dotterels have special habitat requirements, favouring shingle rivers with numerous backwaters with still or gently flowing water and patches of wet mud. The present distribution shows that these habitat qualities are still needed, as there has not been any marked change in distribution within the Ruamahanga River system, but rather an increase in density within the range occupied in 1972. The main expansion has been to the rivers on the eastern coast, which have proven to be more suitable than imagined during a cursory examination in 1972 (Heather 1973).

The winter distribution of Black-fronted Dotterels in the Upper Ruamahanga River system still seems to be much the same as that reported by Heather (1973),

i.e. some post-breeding flocking and local movement, but most pairs remaining close to their breeding territory. Lake Wairarapa has, however, proven to be an important wintering habitat for Black-fronted Dotterels, with a peak population equivalent to about 40% of the Wairarapa population. It is perhaps especially important for those birds breeding on the nearby lower Ruamahanga River or on the east coast rivers that are prone to flash-flooding in winter.

Further surveys are needed to determine the status of Black-fronted Dotterels on several of the rivers on the eastern coast of the Wairarapa where birds have been reported, but not counted systematically.

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