

Signs of South Island kokako
Callaeas cinerea near Abut Head,
South Westland

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Abstract

About 20 years ago a bird that almost certainly was a South Island kokako or orange wattled crow *Callaeas cinerea* was seen on a branch on the edge of bush near Abut Head, South Westland. On 2 June 1997 in the same place, I saw a dark bird twice and heard two loud wing beats which matched recorded purported South Island kokako wing beats. Since about the late 1980s several long mournful double notes and one musical organ or flute-like call attributed to South Island kokako have been heard on a bushed hillside about 1.06 km further west. On 24 October 1996 in this area and through binoculars I saw a blue wattle on the right side of a bird's head, and later a bird was seen and heard "clucking" in the same spot. Also, a blue wattle was glimpsed as a bird flew into the same spot. The size, shape and colour of birds was analogous to that of 18 specimens of South Island kokako in the Canterbury Museum. The observations reported here strongly suggest that the very rare South Island kokako is extant near Abut Head.

1. Introduction

The South Island kokako or orange wattled crow, *Callaeas cinerea*, was common in at least several areas of the South Island until late last century (Potts 1873, 1882, Reischek 1885, Buller 1888, Smith 1888, Douglas 1899) and Stewart Island early this century (Cockayne 1909). Thereafter substantive reports of birds have been few (e.g. Chapman 1959, McBride 1981, Buckingham 1987), but have covered a wide geographical range from Stewart Island to North-west Nelson. Where abundant last century, birds were sometimes easily seen and were described as gentle, confident, and with caution, allowing a close approach (Potts 1882), hopping tamely about the tent door (Smith 1888), and extremely tame, hopping to within a few feet of the intruder (Cockayne 1909). However, in contrast Reischek (1885) said that kokako "when disturbed, are adept in the art of hiding, either under a limb in the fork of a tree, or between thick leaves". The Red Data Book (Williams & Given 1981) listed the subspecies as extinct, but Tisdall *et al.* (1994) list South Island kokako under category X (have not been sighted for a number of years but which may still exist).

Here I describe and discuss various recent signs including observations suggestive of the presence of South Island kokako near Abut Head, South Westland.

2. Locality description

Abut Head is the western extremity of a hilly peninsula about 10 km long and 1-2.5 km wide which lies east-west on the north bank of the Whataroa River in South Westland. The Saltwater Lagoon forms the northern boundary of the eastern half, and the Tasman Sea lies to the north and west of the western half (Fig 1). Geologically the peninsula is Otiran moraine (Warren 1967), with more or less one or two irregular ridges up to 100-200 m high running somewhat east-west. The Whataroa River swings away from the morainic wall in three places, leaving extensive river flats. The western flat is mostly swamp which was drained and burnt early this century, but which has reverted to a near-original state. The middle and eastern flats were cleared of all but scattered large trees early this century, and have been extensively modified with introduced grasses and herbs, gorse *Ulex europaeus*, and trees, primarily pine *Pinus radiata* and eucalyptus *Eucalyptus delegatensis*. The hilly terrain is clothed in indigenous forest which has a discontinuous, generally open overstorey of rimu *Dacrydium cupressinum* and miro *Prumnopitys furruginea* above a main canopy generally dominated by kamahi *Weinmannia racemosa* with a dense undergrowth of kiekie *Freycinetia baueriana*, supplejack *Ripogonum scandens* and tree ferns *Cyathea* spp. and *Dicksonia* spp. (Wardle 1985). Swampy areas between river flats and the hilly terrain are fringed with dense forest dominated by white pine *Dacrycarpus dacrydioides*. The only major man-made modifications to the native forest are a disused pack track that dates from late last century and runs for about 5.5 km along cliff tops from Abut Head to the western end of the Saltwater Lagoon, and three transect lines chainsawed across the western half of the peninsula in January 1995. Also, perhaps 2 ha just above the river on the southernmost flank of a steep hill on Section 2464 were cut over around the turn of the century, but the light forest has regenerated.

The western half of the peninsula is surveyed into four blocks. From west to east these blocks and the bush on them are: Abut Head, 99.2 ha, owned by the Department of Conservation; Rural Section 2463, 140.8 ha, owned by Donovan Family Trusts; Rural Section 2464, 150.9 ha, purchased in May 1997 by the Department of Conservation for a bird reserve; and Rural Section 2465, 277.6 ha, owned by Donovan Family Trusts. There are three huts on the southern edge of Section 2463 and one on the river flat of Section 2465. The Whataroa white heron colony lies 4.7 km to the southwest from the southern hilltop of Section 2464.

3. Methods

Since 1970 my family and friends and I have spent 3-5 days engaged in farm forestry and holidaying, primarily on Section 2465, about six times a year. I first became aware of the possible presence of South Island kokako in the area in May 1996 when reading the February 1996 issue of *Forest and Bird*, in

which John Kendrick presented Buller's 1892 description of the sound made by South Island Kokako as "a long plaintive double-note, pitched in a minor key". Since October 1996 I have spent several hours looking for South Island kokako on Section 2465 on about 20 occasions, and on Section 2464 on 28 occasions. All times of day have been covered, from pre-dawn until almost dark. Recorded tape calls of North Island kokako or the blue wattled crow (*C. c. wilsoni*) were played on both Sections on three different days in October 1996. Tape calls of North Island kokako, and purported South Island kokako calls and wing beats, sent by Rhys Buckingham and John Kendrick, were played in late May/early June 1997, the first tape only on Section 2464 and both tapes on Section 2465. From October 1996 detailed records have been kept in a notebook maintained at my home, and not in the but log book as was implied by Buckingham (1998).

4. Results

Observation 1, possible sighting, Section 2465

About 20 years ago while walking on grassland on the river flat of Section 2465, I saw a dark bird sitting on a branch about five metres above ground level on the edge of native bush. As I approached to almost beneath the tree, the bird looked at me with no apparent apprehension. Unfortunately, the information that I can remember is rather limited, but the bird was dark and a rather patchy grey. It was larger than a blackbird *Turdus merula*, but smaller than a pigeon *Hemiphaga novaeseelandiae*. It was definitely not a blackbird, pigeon, starling *Sternus vulgaris*, bellbird *Anthornis melanura*, tui *Prothemandera novaeseelandiae*, kaka *Nestor meridionalis*, falcon *Falco novaeseelandiae*, or morepork *Ninox novaeseelandiae*. My impression of its overall appearance was that it looked somewhat bedraggled, but this may have been because of its patchy grey appearance which I had not (and have not) seen in other birds in the area. I do not remember whether wattles were present or not. The bird remained on the branch as I walked away. At the time my knowledge of native birds was limited, so I did no more than briefly wonder if the bird was a rare native or perhaps a rare migrant.

Observation 2, possible sightings and loud wing beats, Section 2465

On 2 June 1997 at 13.30 h I began playing the Buckingham and Kendrick tapes at the area where I had seen the bird described in Observation 1. The weather was cool with traces of frost still in the shadows, the sky was completely clear and there was absolutely no wind. At 13.50 h as I faced the edge of the forest a dark bird flew strongly from my right along to my left and about 20 m into the bush behind the area where I had seen the bird on a branch many years earlier. The bird was in view for about 40 m, and was about 15-20 m from me at its closest approach and about eight metres above the ground.

At 14.03 h as I was bending over to rewind a tape, suddenly two loud 'crunchy' wing beats sounded from behind me. I spun around and saw a dark bird flying soundlessly from the origin of the wing beat sounds back towards the origin of the first flight. Both flights were too far from me for features of the birds to be distinguished.

Observation 3, double note, Section 2464

During 1985 two friends and I cut a track across the peninsula on Section 2464. Several times since then - perhaps 4-5 times, and while near the top of the southernmost ridge, I have heard what could be described as a loud, long cry which resembled what could be made by a distressed young boy calling for help, followed immediately by a similar but much shorter call. Unfortunately, I have only one record of the date the sound has been heard - 8 April 1996, when the sound was heard by both myself and Vaughan Myers. The time was about 16.30 h and light rain was beginning. The sound appeared to be centred perhaps 80-100 metres away along and somewhat down the hillside on the southeast face towards the Whataroa River. Mr Myers and I have never heard this sound elsewhere.

Observation 4, organ or flute call, Section 2464

On 27 February 1990 or 1 March 1991 (exact date uncertain), Mr Myers and I heard a loud organ or flute-like note(s) in a tree about 8-10 metres directly above us on the track about 10 metres below the ridge on the southeast side. It was difficult to determine if there was just one note, or possibly one note with harmonics. The call was definitely very different to sounds made by tuis and bellbirds which are common in the area.

Observation 5, sighting of blue wattle, Section 2464

On 24 October 1996, while searching for the origin of the bird calls in the same area as observation 4, I noticed a bird noisily fossicking through scrubby growth 6-7 metres from me. I focused my binoculars on the spot, and suddenly the bird's head popped into clear view. In sharp focus and square on I saw a sky blue wattle on the right side of the bird's head. Only the head of the bird was visible between plant material. The bird remained stationary for just 2-3 seconds before flying slightly down and away from me in clear view from a lookout area out over low growth over the hillside for 10-12 metres, before disappearing behind a kamahi tree. I had no opportunity to refocus my binoculars on the flying bird, but it was dark in appearance, and was larger than a tui and much smaller than a pigeon. Its flight appeared strong and the wing beats were continuous.

Observation 6, "clucking", Section 2464

After my sighting of a blue-wattled bird I made three trips to the area at roughly 1-2 monthly intervals with 2-3 visits to the site per trip, without detecting any sign of kokako. One trip later on Friday 7 March 1997, from about seven metres away, I saw a dark bird the size and shape of a kokako among small branches in a shadowed area close to the ground and just a few metres from the position of the blue-wattled bird sighted in October 1996. When it ap-

peared to see me the bird sprang up backwards about 300 mm and at an angle of about 45 degrees from the horizontal while remaining facing forward, and landed on a branch before turning to its right and scrabbling away from me through low growth. The whole time it was in view it made loud clucking noises quite similar to those of a domestic hen. The "clucks" were not the rapid alarm calls of a blackbird, they were slow in comparison, and were rather evenly spaced. Because of the shadows and branches I could not see any obvious characters of the bird, except that there was no sign of white throat feathers typical of tui.

Observation 7, glimpse of blue wattle, Section 2464

On 31 May 1997 at about 16.30 h I began playing the Buckingham tape of purported South Island kokako calls. I directed the speakers at the growth within which I had seen the blue-wattled bird the previous October (observation 5). At about 16.40 h towards the end of the third playing of the tape and as 'manufactured' North Island kokako `bong' notes were ringing out, I suddenly heard a bird flying just behind me and over my right shoulder. I turned quickly to the right, and as a dark bird flew past about 3-4 m away I caught a glimpse of a blue wattle. The bird was in shadow as it flew behind a tree fern into the growth wherein I had seen the blue-wattled bird in October.

5. Discussion

Bird on a branch, Section 2465

A most unusual feature of this sighting was that the bird stayed on the branch, even when I approached to within a few metres of the trunk of the tree, and also as I moved away. Blackbirds, which to me perhaps more closely approach kokako in general appearance than any other birds in the area, would, in my experience, almost certainly have flown off when I first appeared.

The habitat of this bird is consistent with that reported by Potts (1873), who said that the South Island kokako may be found on the outskirts of the bush, in the open glades that fringe some of the large rivers.

Heavy wing beats, Section 2465

The two heavy, `crunchy' wing beats heard on 2 June 1997 sounded just like the wing beats on the Kendrick tape. However, my impression of the size of the bird flying from the source of the wing beats was that it seemed rather small to have made such loud sounds. A search of the trees with binoculars did not disclose any other bird. If indeed the bird was a South Island kokako, its occurrence within a few metres of the bird on the branch about 20 years earlier, would confirm that kokako have inhabited this area for at least 20 years.

Double note, Section 2464

Travers (1871) found that the note of kokako at his cattle station at Lake Guyon in the Nelson Province "is wonderfully sweet and plaintive, and during the breeding season, its song is one of the most varied and beautiful of all the New Zealand birds. It appears, however, always to be pitched in a minor key". Buller (1892b) described one of the sounds of a captive male South Island kokako from Westport as "a long plaintive double-note, pitched in a minor key -". He says it was "in perfect plumage, with bright-orange wattles, dark-blue at the base". The sound might be that described from the same bird by Buller (1892a) as "a melancholy call in a high key, exactly like the Maori words "Kowai-koe?" (who are you?)".

Further, Douglas (1899) when writing about the kokako in South Westland said "The cry of the crow is indiscribably mournfull [sic]. The wail of the wind through a leafless forest is cheerfull [sic] compared to it. Perhaps the whistling of the wind through the neck of an empty whiskey bottle is the nearest approach to it and is sadly suggestive of departed spirits".

These descriptions fit extremely well the sound heard on 8 April 1996 (observation 3), and on several other occasions dating back to the late 1980s. According to Rau Kirikiri of Landcare Research Ltd, the sounds of the words "Kowai koe" could indeed be similar to my rendition of the double note - but they could also resemble a lot of other sounds. None of the calls on the Buckingham and Kendrick tapes in any way resembles the double note reported here.

Organ or flute note(s), Section 2464

Potts (1882) described the notes of South Island kokako as soft and flute-toned, while Buller (1892a) said of his bird from Westport that "occasionally, but not often, (it) sounded the rich organ-note - short, but of surpassing sweetness-".

The sound reported in Observation 4 was similar to these reports and to some of the organ or flute notes of North Island kokako on the Kendrick and Buckingham tapes.

Both the long mournful double notes and the organ or flute note(s) were heard only after persons crested the ridge from the north and started down the southeast facing slope. This suggests that the sounds were made in response to the sudden appearance of people crashing along the track and thus disturbing a bird.

Wattle colour, Section 2464

My sighting of a blue wattle rather than an orange wattle on 24 October 1996, is puzzling, as the subspecies has been frequently referred to as the orange wattled crow (e.g. Potts 1873, 1882, Campbell 1879, Reischek 1885, Buller 1892b). However, it has also been called the yellow-wattled crow (Smith 1888), although in the body of the text the wattles are said to be orange-coloured and most conspicuous. Reports of wattle colour of adults have ranged from rich crimson-lake (i.e. reddish purple), the base tinted with violet (Campbell

1879), one half of the wattle orange, the other dark blue (Reischek 1885), bright orange, dark blue at the base (Buller 1892b), bright red or blue (Douglas 1899), and putty coloured, just a light fawn (McBride 1981). There are also two reports of kokako with wattles of two different colours occurring together. Douglas (1899) when describing kokako which were "all about the camp as I write" (in South Westland), said "At the side of the jaws are two bright red wattles, hanging down like those of a domestic fowl, only much smaller. In some birds the wattles are blue". Stidolph (1971) lists birds recorded at Milford Sound by Mr Sutherland prior to 1918. Included are orange-wattled crows and blue-wattled crows.

The wattles of chicks appear to be different again. Those of two nestlings at Milford Sound which were as yet unable to see were reported by Potts (1873) to be rosy pink, like an infant's hand. Campbell (1879) said that the wattles of two nearly fledged birds from a nest near the Hokitika River were of a light rose tint, changing into a violet colour towards the base. Some weeks later after death when their skins were dried the wattles assumed a dull orange tint.

Wattles of North Island kokako also vary in colour. The Hamilton Junior Naturalists' Club (1975) in a review of wattle colour reported that wattles of chicks two or three days old were pinkish lavender, which five days later had become purple edged with bluish, in seven more days were pale pinky blue, and in five more days were pale blue, rather purplish on the underside. A fledgling young had wattles of a brighter blue than those of adults. Further, three reports were detailed of North Island kokako with wattles other than blue: one had orange-yellowish wattles, a second had bright orange wattles, and the third pale orange yellow wattles. Brown (1991) in direct light and at close range saw a kokako with dull orange wattles. He also states that the wattles of (North Island) kokako nestlings are pink, changing to lilac on fledging.

The range of wattle colours reported for both South Island and North Island kokako suggests several possible scenarios that might explain the blue wattle I saw on Section 2464. One is that the wattles of immature South Island kokako are at first lilac which changes to blue as in North Island kokako, but then as the bird further matures orange creeps up from the extremities until only the basal third remains blue. It is also possible that Douglas, Sutherland and I saw only the blue bases of wattles, the remainder of which may have been orange and tucked under the birds' throats. Buller (1892b) reported that the wattles of his captive male kokako from Westport were always carried tightly compressed under the chin and meeting at their edges.

If wattles are blue before orange creeps up from the lower margin, and I saw the whole wattle, the bird I saw on 24 October may thus have been an immature one.

The glimpse of a blue wattle on 31 May 1996 on a bird flying into the very spot where I had seen the blue-wattled bird in October 1997 confirmed that the area is frequented by one or more birds with blue wattles.

Of course there must be a possibility that the blue wattle belonged to a rare vagrant.

"Clucking", Section 2464

The Hamilton Junior Naturalists' Club (1975) reported that a male of a nesting pair of North Island kokako "cluck-clucked", and the female was "making clucking noises". Clucking by North Island kokako was also mentioned by Hay et al. (1985). A similar call described as "thucks" was heard and tape recorded on Stewart Island by R. Buckingham in 1984 at a location where South Island kokako were thought to be present (R. Buckingham pers. comm.). The evidence thus suggests that the bird seen on 7 March could have been a kokako. However, blackbirds which can make clucking sounds are common among native trees on the river flat below the hill, and so, although not seen on the hillside, could be there.

5.1 HISTORICAL REPORTS OF SOUTH ISLAND KOKAKO ON THE WEST COAST

Hamilton (1878) included kokako (as *Glaucoptis cinerea*) in his list of birds he had seen in the District of Okarito. The northern limit of his District appeared to be the Whataroa River (as Wateroa). Reischek (1885) during his research on the West Coast in 1884 saw kokako near the sea shore (and also up in the high ranges) but he did not specify localities. Buller (1888) believed that kokako were very abundant on some of the wooded ranges of Westland. O'Donnell & Dilks (1986) reported evidence that kokako had occurred about the Waitaha River and near Mikonui to the north and Glacier reserves to the south.

The next closest records of occurrence to the Abut Head area that I have been able to find are to the north, near the Ko-i-te-rangi hill on the Hokitika River, where two nests were found (Campbell 1879), and to the south, two eggs from near the Paringa river (Potts 1873).

5.2 RECENT BIRD SURVEYS AND OTHER REPORTS ON THE WEST COAST

Kokako were not reported from the Saltwater State Forest (Imboden & Coker 1978) which is adjacent to the east end of the Abut Head peninsula, nor from all of South Westland including the adjacent Saltwater State Forest (Coker & Imboden 1980). A number of possum hunters and poisoners active intermittently from about the 1930s have not reported kokako from the Abut Head peninsula. My friends and I have seen no indication of kokako along several other tracks that we have cut through the forest in the western half of the peninsula, nor along the old pack track or all along the river margins, but until recently we were unaware of the characteristics of kokako signs and sounds. Three foresters who chain-sawed one survey line south/north across Section 2463 and two across Section 2465 in 1995 did not report any indications of kokako.

In response to my reported observations of kokako, several ornithologists surveyed the area in September and November 1997, and a few possible kokako calls were heard during September (Buckingham 1998).

5.3 PROBLEMS FOR RECOGNISING SOUTH ISLAND KOKAKO

The paucity of detailed observations of characteristics of South Island kokako from last century when birds were still common, at least locally, and the almost complete absence of records for this century, mean that apart from the presence of wattles, characters that might allow quick recognition are not well delineated nor well known. Because the South Island kokako and the North Island kokako are classified taxonomically as subspecies, there seems to be an expectation that the South Island kokako must closely resemble the North Island kokako. The body plumage of the North Island subspecies is shown in photographs as medium grey, or even grey-blue, against which the black facial mask stands out most prominently, and the birds often appear to be quite plump. However, the body plumage of 18 authentic specimens of the South Island subspecies held in the Canterbury Museum, and which I have inspected, is best described as very dark grey, or even grey black. When compared with a North Island kokako on display in the Canterbury Museum, the plumage of South Island kokako is obviously very much darker. A consequence of this is that the black facial mask is much less obvious than in North Island kokako. All but two of the 18 specimens of South Island kokako are slim, but this could be an artifact of preservation. Their wattle colour ranges from completely yellow, to up to about the basal third blue and the remainder yellow, orange or dark orange.

The birds I have seen near Abut Head conformed wholly to the body plumage colour and size of the South Island kokako specimens in the Canterbury Museum.

5.4 PERSISTENCE OF KOKAKO

The possible persistence of kokako on the western half of the Abut Head peninsula, when the subspecies is at best very rare elsewhere, is remarkable, given that rats *Rattus* sp., mice *Mus musculus*, stoats *Mustela erminea*, and possums *Trichosurus vulpecula*, are present, at least on the middle river flat. Possums are known to eat birds' eggs including those of North Island kokako, and have been implicated in predation upon North Island kokako nestlings and an adult (Brown et al. 1993), and ate eggs, chicks and probably an adult North Island kokako in Rotoehu Forest (Innes et al. 1996). On the river flat of Sections 2464/2465 possum numbers were so high during the early 1970s that cabbage tree (*Cordyline australis*) heads were severely chewed, and several hunters could each bag 30 or more possums a night with little effort. However, during the late 1980s government agencies began poisoning and trapping possums on the river flat about 50 m back into the bush in an effort to eliminate TB. By this combined with intermittent shooting, possum numbers have been greatly reduced since the late 1980s; on the night of 2 June

1997 a friend and I saw and shot only two on part of the river flat of Section 2465.

6. Conclusions

Most of the observations reported here, such as the bird on the branch, the double notes, the organ or flute note, the clucking bird or the heavy 'crunchy' wing beats, do not constitute concrete evidence of the existence of South Island kokako of the type accepted by ornithologists (e.g. a photograph, materials such as a feather or egg shell, or similar reports from two or more knowledgeable ornithologists experiencing the same phenomenon at the same time). However, the blue wattle could not have belonged to any other known endemic bird: of the only two other New Zealand wattle birds, the huia *Heteralocha acutirostris* was never known from the South Island (except for two unconfirmed sightings near Nelson (Buller 1888)), and both it and the South Island saddleback *Philesturnus carunculatus carunculatus* had orange wattles. The possibility that the blue wattle belonged to a rare vagrant seems extremely unlikely. Considering all the evidence presented here, South Island kokako can be considered present on the Abut Head peninsula at two sites just over a kilometre apart, and to have been present at one site for at least 20 years and at the other site for about 10 years.

7. Recommendations

Knowledgeable ornithologists should urgently inspect in detail the two sites to seek confirmatory evidence of kokako. If this is obtained, the whole peninsula and adjacent forest should be surveyed to ascertain the numbers of birds and their condition. If a viable population exists, the isolation of the peninsula, with all but the short eastern end bordered by water, and the virtually unmodified state of the native forest, which covers about 2000 ha, predispose the area to restoration and management as a 'mainland island' refuge for South Island kokako.

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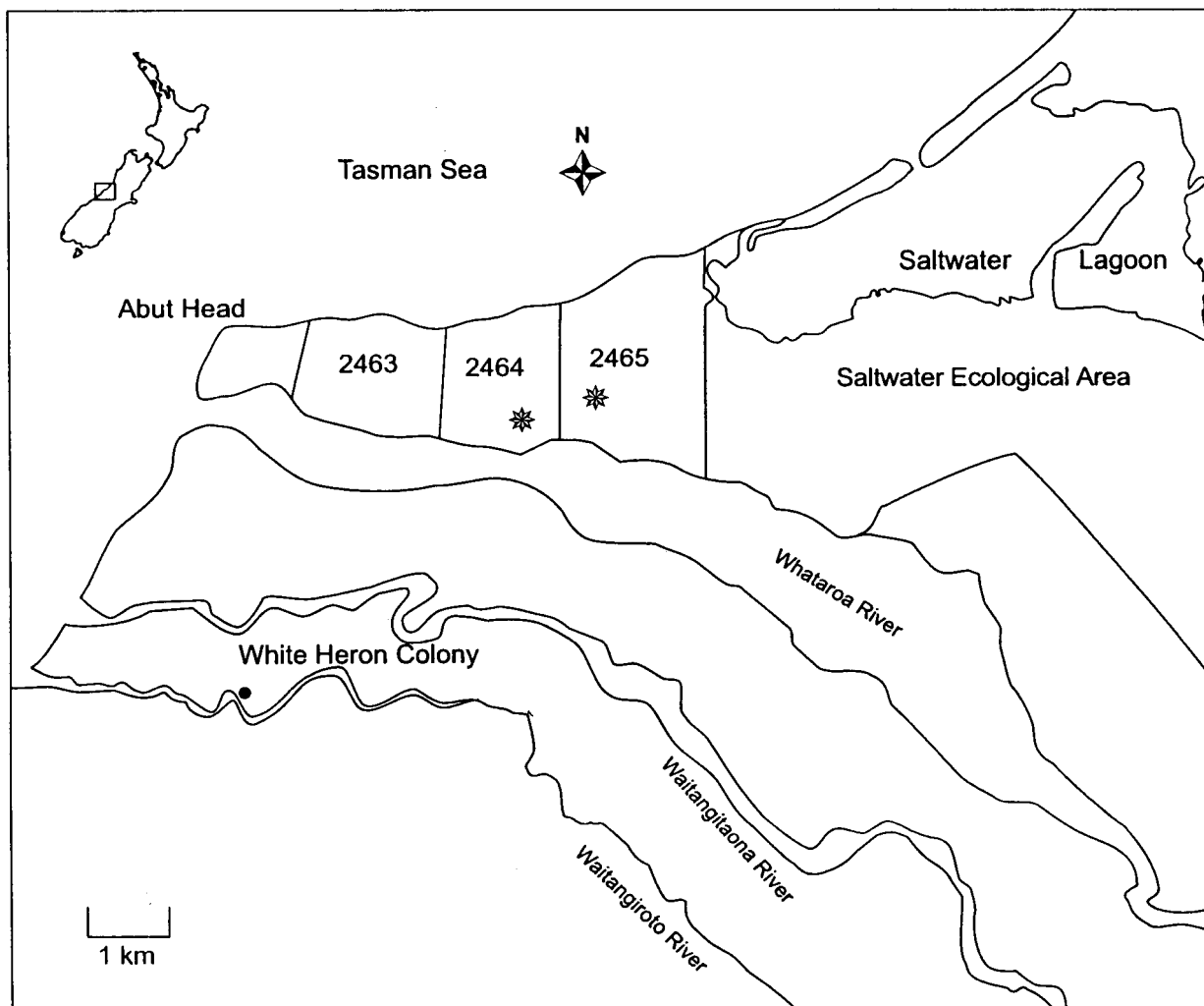


Figure 1. Map of Abut Head peninsula, South Westland. Asterisks on Sections 2464 and 2465 mark the sites of sightings and other signs suggestive of South Island Kokako.