

in this case standard errors of criterion limits are likely to be small leading to a small sampling adjustment.

CRIT_UV

There are two differences between this program and CRIT. First it makes a sampling adjustment to the theoretical criterion limits produced in CRIT which reflects how well defined are the parameters estimated by HUMPS_UV. The size of this adjustment will depend on the number of birds in each sex in the sample, the separation between the sexes, and the extent to which the data are consistent with normal distribution assumptions.

The second difference arises because it is impracticable (certainly difficult if possible) to calculate the adjustment analytically but it can be found by a Monte Carlo calculation. In this, a large number of random samples of the number of birds in the smaller sex, their mean, and the correlation between the estimates is taken and the sexing criterion found for each sample. This enables the standard deviations of ULS and LLL to be found and the appropriate limit consistent with the required minimum probability of correct sexing to be found. The sampling adjustment is made before the measurement precision adjustment.

This program can take a long time to run depending on the speed of the computer used, the data, and the number of Monte Carlo samples to be drawn. If your computer is very slow, or you want a very large number of samples, you might plan the use of CRIT_UV around mealtimes or bedtimes.

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RECOVERY ROUND-UP

This section is prepared with the co-operation of the Secretary, Australian Bird and Bat Banding Schemes, Australian Nature Conservation Agency. The recoveries are only a selection of the thousands received each year; they are not a complete list and should not be analysed in full or part without prior consent of the banders concerned. Longevity and distance records refer to the ABBBS unless otherwise stated. The distance is the shortest distance in kilometres along the direct line joining the place of banding and recovery; the compass direction refers to the same direct line. (There is no implication regarding the distance flown or the route followed by the bird). Where available ABBBS age codes have been included in the banding data.

Recovery or longevity items may be submitted directly to me whereupon their merits for inclusion will be considered.

Hon. Editor.

The following abbreviations appear in this issue:

AWSG — Australasian Wader Study Group.

NSW WSG — New South Wales Wader Study Group.

VWSG — Victorian Wader Study Group.

King Penguin *Aptenodytes patagonicus*

Y1494*. Adult (1+) banded on Ile de la Possession, Crozet Islands, Indian Ocean (46°25'S, 51°45'E) in Dec. 90.

Recovered, released alive with band on Heard Island, Antarctica (53°08'S, 73°43'E) on 13 Apr. 92. 1 735 km ESE.

*French Banding Scheme band.

Fiordland Penguin *Eudyptes pachyrhynchus*

J12130*. Adult (1+) banded at Taumaka Island, Open Bay Islands, New Zealand (43°52'S, 168°53'E) on 17 Nov. 93. Recovered dead at Shelly Point, Scamander, Tas. (41°28'S, 148°16'E) on 20 June 94. 1 702 km W.

*New Zealand Banding Scheme band.

Wandering Albatross *Diomedea exulans*

(a) 140–25115. Banded by J. D. Gibson at sea off Bellambi, NSW (34°20'S, 151°00'E) on 22 Aug. 64. Recaptured, released alive with band, on Adams Island, Auckland Islands (50°55'S, 166°00'E) on 26 Jan. 94, over 29 years 5 months after banding. 2 205 km SSE.

(b) 140–25801. Adult (1+) banded by S. G. Lane at sea of Malabar, NSW (33°58'S, 151°16'E) on 25 June 66. Recaptured, released alive with band, on Adams Island, Auckland Islands (50°55'S, 166°00'E) on 7 Feb. 94, over 27 years 7 months after banding. 2 229 km SSE.

- (c) 140-26315. Adult (1+) banded by H. Battam at sea off Malabar (33°58'S, 151°20'E) on 18 Oct. 69. Recaptured, released alive with band in breeding colony, on Antipodes Island, New Zealand (49°40'S, 178°48'E) on 2 Mar. 94, over 24 years 4 months after banding. 2 841 km SE.

Black-browed Albatross *Diomedea melanophrys*

- (a) CF26201*. Adult (5+) banded on Iles Kerguelen, South Indian Ocean (49°20'S, 70°15'E) in Nov. 86. Recaptured, released alive with band by M. H. Waterman at sea off Kangaroo Island, SA (36°30'S, 138°00'E) on 8 May 94, over 7 years 5 months after banding. 5 502 km ESE.
- (b) CF15962*. Adult (5+) banded on Iles Kerguelen, South Indian Ocean (49°20'S, 70°15'E) in Nov. 86. Recaptured, released alive with band, by H. Battam at sea off Wollongong, NSW (34°19'S, 151°02'E) on 18 June 94, over 7 years 6 months after banding. 6 568 km ESE. (Bird was also banded with band No. 140-34744.)

*French Banding Scheme band.

Yellow-nosed Albatross *Diomedea chlororhynchos*

- (a) CF18225*. Nestling banded on Ile Amsterdam, Indian Ocean (37°50'S, 77°51'E) on 1 Apr. 82. Recaptured, released alive with band, by M. H. Waterman at sea off Kangaroo Island, SA (36°17'S, 137°22'E) on 9 Apr. 94, over 12 years after banding. 5 190 km ESE.
- (b) CF24708*. Nestling banded on Ile Amsterdam, Indian Ocean (37°50'S, 77°51'E) on 9 Feb. 85. Recaptured, released alive with band, by M. H. Waterman at sea off Kangaroo Island, SA (36°11'S, 137°24'E) on 12 Apr. 94, over 9 years 2 months after banding. 5 197 km ESE.

*French Banding Scheme band.

Shy Albatross *Diomedea cauta*

- 131-65785. Nestling banded by N. P. Brothers on Albatross Island, Tas. on 21 Apr. 94. Recovered dead at Boat Harbour near Nelson Bay, NSW on 25 July 94. 1 074 km NE.

Southern Giant-Petrel *Macronectes giganteus*

- 1806529*. Nestling banded near King George Island, Antarctica (62°00'S, 58°15'W) on 26 Feb. 94. Recovered, exhausted, alive in captivity, at Port Adelaide, SA (34°50'S, 138°30'E) on 21 July 94. 9 140 km SSW.

*Bird Banding Laboratory (USA) band.

Wedge-tailed Shearwater *Puffinus pacificus*

- 161-70817. Adult (3+) banded by N. M. Swanson on Muttonbird Island, Coffs Harbour, NSW on 24 Oct. 84. Recaptured at banding place by S. G. Lane on 26 Oct. 94, over 10 years after banding.

Australasian Gannet *Morus serrator*

- (a) M56239*. Juvenile banded on White Island, Bay of Plenty, New Zealand (37°31'S, 177°12'E) on 30 Jan. 94. Recovered dead between Red Rock and Point Addis, Vic. (38°24'S, 144°15'E) on 23 Mar. 94. 2 874 km WSW.
- (b) M56502*. Juvenile banded on White Island, Bay of Plenty, New Zealand (37°31'S, 177°12'E) on 30 Jan. 94. Recovered dead at Wurtulla Beach, Qld (26°46'S, 153°08'E) on 25 Apr. 94. 2 551 km WNW.
- (c) M56982*. Juvenile banded on White Island, Bay of Plenty, New Zealand (37°31'S, 177°12'E) on 30 Jan. 94. Recovered dead by A. K. Morris at Bar Beach, Newcastle, NSW (32°56'S, 151°46'E) on 12 Mar. 94. 2 357 km W.

*New Zealand Banding Scheme band.

Brown Booby *Sula leucogaster*

- 121-14551. Adult (1+) male banded by B. R. King on Raine Island, Qld (11°36'S, 144°01'E) on 23 June 80. Recovered dead at Alexishaffen, Madang Province, Papua New Guinea (05°05'S, 145°48'E) on 17 Aug. 94, over 14 years 1 month after banding.

Pied Cormorant *Phalacrocorax varius*

- (a) 130-44115. Nestling banded by M. H. Waterman at Price Yorke Peninsula, SA on 23 Apr. 66. Recovered dead at Moonta, SA on 12 Jan. 94, over 27 years 8 months after banding. 45 km WNW.
- (b) 131-29961. Nestling banded by M. H. Waterman on Shag Island, SA on 26 Mar. 78. Recovered dead at Couch's Beach, Yorke Peninsula, SA on 1 Dec. 93, over 15 years 8 months after banding. 167 km SSW.

Intermediate Egret *Egretta intermedia*

- (a) 101-10063. Nestling banded by G. R. Cam at Wilgara/Sandy Camp, Macquarie Marshes, NSW on 22 Jan. 94. Recovered dead near Mackay, Qld on 16 Aug. 94. 1 082 km N.
- (b) 101-10069. Nestling banded by G. R. Cam at Wilgara/Sandy Camp, Macquarie Marshes, NSW on 22 Jan. 94. Recovered dead near Yeppoon, Qld on 22 Sep. 94. 915 km NNE.

Pied Oystercatcher *Haematopus longirostris*

- 100-82051. Adult (2) banded by VWSG at Rhyll, Phillip Island, Vic. on 1 Mar. 80. Recovered (colour marking sighted in field, band number inferred) at 3 Mile Rocks, Beachport, SA on 17 Sep. 93, over 13 years 6 months after banding. 475 km W.

Large Sand Plover *Charadrius leschenaultii*

- 051-81912. Adult (2+) banded by AWSG at 80 Mile Beach, WA (19°15'S, 121°20'E) on 12 Mar. 94. Recovered dead at Red River Delta, Vietnam (19°57'N, 106°07'E) on 22 Apr. 94. 4 662 km NNW.

Bar-tailed Godwit *Limosa lapponica*

080-14486. Adult (1+) banded by S. G. Lane at Towra Point, Botany Bay, NSW on 8 Jan. 77. Recovered (band number read in field) by NSW WSG at Sandringham Bay, Botany Bay, NSW on 2 Oct. 94, over 17 years 8 months after banding. 3 km W.

Great Knot *Calidris tenuirostris*

P904986*. Adult (3+) female banded at Balaganchik River (Anadyr River Tributary) North-East Siberia (64°55'N, 168°35'E) on 22 June 94. Recovered (colour marking sighted in field, band number inferred) at Roebuck Bay, Broome, WA (18°00'S, 122°22'E) on 9 Sep. 94. 10 011 km SW.

*Russian Banding Scheme band.

Curlew Sandpiper *Calidris ferruginea*

NV69703*. Adult (2+) banded at Mai Po Marshes, Hong Kong (22°29'N, 114°19'E) on 4 May 93. Recaptured, released alive with band, by AWSG at Saltworks, Port Hedland, WA (20°15'S, 118°55'E) on 13 Apr. 94. 4 777 km S.

*BTO Banding Scheme band.

Great Skua *Stercorarius skua*

(a) DZ19010*. Nestling banded on Ile Amsterdam, Indian Ocean (37°50'S, 77°51'E) on 2 Dec. 93. Recovered dead at Puralka, Vic. (37°49'S, 141°05'E) on 7 May 94. 5 439 km ESE.

*French Banding Scheme band.

(b) 242514*. Adult (1+) banded at Bellings, South Shetland Islands, Antarctica (62°12'S, 58°58'W) on 2 Mar. 87. Recaptured, released alive with band, near Point Maud, Coral Bay, WA (23°08'S, 113°45'E) on 28 July 90. 10 502 km S.

*German Banding Scheme band.

Little Tern *Sterna albifrons*

(a) 3B37110*. Nestling banded at Tenryu River, Nagashima, Hamakita-Shi, Japan (34°48'N, 137°48'E) on 15 June 94. Recovered sick, later died, at Kowanyama, Qld (15°29'S, 141°44'E) on 2 Oct. 94, 3 months 7 days after banding. 5 605 km S.

*Japanese Banding Scheme band.

(b) 041-47387. Adult (2+) banded by VWSG at Spermwhale Head/Ocean Grange Area, Vic. on 5 Mar. 89. Recovered (colour marking sighted in field, band number inferred) by C. D. T. Minton at Kingscliff, NSW on 26 Sep. 94. 1 207 km NNE.

(c) 041-59331. Adult (2+) banded by VWSG at Spermwhale Head/Ocean Grange Area, Vic. (37°58'S, 147°44'E) on 14 Jan. 90. Recaptured, released alive with band at Tenryu

River, Nagashima, Hamakita-Shi, Japan (34°48'N, 137°48'E) on 26 June 94, over 4 years 5 months after banding. 8 154 km N. (This is the longest movement recorded for this species.)

(d) 041-83694. Adult (2+) banded by VWSG at Spermwhale Head/Ocean Grange Area, Vic. on 29 Jan. 94. Recovered (colour marking sighted in field, band number inferred) by C. D. T. Minton at Kingscliff, NSW on 26 Sep. 94. 1 207 km NNE.

Crested Tern *Sterna bergii*

(a) 071-07887. Nestling banded by M. H. Waterman on Stoneywell Island, Coorong, SA on 14 Dec. 69. Recovered dead at Sealers Cove, Wilsons Promontory, Vic. on 20 Mar. 94, over 24 years 3 months after banding. 702 km ESE.

(b) 072-21058. Nestling banded by W. C. Wakefield at Bicheno, Tas. on 13 Dec. 92. Recovered dead at Sandy Cape, Fraser Island, Qld on 6 Sep. 93. 1 888 km N.

(c) 072-23879. Nestling banded by VWSG on Mud Island, Port Phillip Bay, Vic. on 19 Dec. 92. Recovered dead near Sandy Cape, Fraser Island, Qld on 3 Sep. 94. 1 634 km NE.

Ground Parrot *Pezoporus wallicus*

230-03527. Adult (1+) banded by Richard Jordan at Barren Grounds Nature Reserve, Jamberoo, NSW, on 19 Nov. 88. Recaptured near banding place by Paul Stubbs on 10 Nov. 94, over 5 years 11 months after banding.

Common Koel *Eudynamis scolopacea*

090-70508. Pullis banded by S. G. Lane at Red Rock, NSW (in nest of Noisy Friarbird) on 20 Jan. 90. Recovered, (caught inside a man-made structure, released with band) at Arranarra, NSW, on 6 Oct. 94, over 4 years 9 months after banding. 11 km S.

Variegated Fairy-wren *Malurus lamberti*

015-56698. Juvenile banded by D. Geering at Red Rock, NSW on 11 Oct. 87. Recaptured (full plumage male) at banding place by S. G. Lane on 12 Nov. 94, over 7 years 1 month after banding.

Yellow Thornbill *Acanthiza nana*

014-93073. Adult (1+) banded by A. J. Leishman at Mount Annan Botanic Garden, Campbelltown, NSW on 4 Oct. 87. Recaptured (for the first time) by J. Dale at banding place on 20 Nov. 94, over 7 years after banding.

Regent Bowerbird *Sericulus chrysocephalus*

061-46577. Adult male (full plumage) banded by S. G. Lane at Moonee, NSW, on 5 Oct. 85. Recaptured at banding place on 6 Aug. 94, over 8 years 10 months after banding.