

**BANDED STILT *CLADORHYNCHUS LEUCOCEPHALUS*
RESEARCH IN WESTERN AUSTRALIA IN 1995**



**LEG-BANDING AND LEG-FLAGGING ACTIVITY
AT LAKES BALLARD & MARMION IN 1995**

RESEARCH MATERIALS CONSOLIDATION REPORT

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Cover photo: Banded Stilt chick (held by Alan Clarke) being flagged on left leg and banded on right, on Lake Ballard on 30th April 1995. © JAK Lane.

This **Research Materials Consolidation Report** is a preliminary stage in the preparation of research reports and publications relating to the Banded Stilt breeding event on Lakes Ballard and Marmion in Western Australia in 1995.

The purpose of an RMCR is to consolidate and conserve all of the research materials relating to a research project. The material reproduced here is in its original form, with limited or no reformatting.

FUTURE WORK

The next steps to be taken in finalising this RMCR and then preparing reports and publications based on its contents should be to:

- Check through this RMCR for geographic coordinates of any localities involved in the BaSt banding and flagging work on Lakes Ballard and Marmion in 1995. Annotate Google Earth images of Ballard and Marmion with these locations and their coordinates.
- Ask Grant Pearson (GBP) to sign a letter to ABBBS authorising JL to access all ABBBS data/records relating to the banding and flagging work that GBP, JL and CDTM did on Lakes Ballard and Marmion in 1995, all of which was done under permits, bands and flags issued under GBP's 'A' Class Banding Authority (though GBP had requested that these be issued under JL's 'A' Class Banding Authority).
- Ask ABBBS for copies of any records they have of Banded Stilt banding and flagging activities (particularly any banding or flagging 'returns' sent to ABBBS by GBP) on Lakes Ballard and Marmion in 1995. Note that 'Ballard' might be misspelled as 'Bollard' in parts of the ABBBS database.
- Check the accuracy of the geographic coordinates of Banded Stilt records (of 1995 banding & flagging in WA) in the ABBBS database.
- Ask Andy Chapman (ACh) for copies of his field notes from the banding and flagging trips on which he accompanied JL & ACI (Ballard, April-May 1995) and GBP & ACI (Marmion, June 1995).
- Search 'The Tattler' (and 'The Stilt'?) 1995 onwards, for any articles relating to the 1995 BaSt leg-flagging and banding work (and the breeding event more generally) (Done by searching internet in January 2014 by JL, but not all issues are online (yet) and maybe a few relevant articles are yet to be discovered).
- See yellow highlighted text in the remainder of this RMCR summary for other Future Work needed / desirable.

Photographs

Thumbnail prints of photos taken by JL, GBP & ACh during banding and flagging activities on Lakes Ballard and Marmion in 1995 are included in this RMCR. The 'hardcopy' photos (all 35mm colour transparencies?) are held by JL. The scanned (digital) copies of these are on JL's office computer and backups. CDTM might have taken photos of the 10 BaSt chicks that he banded and flagged.

Field Notes

A separate RMCR of 1995 Field Notes has been prepared containing copies of all the Field Notes made by J Lane (JL), G Pearson (GBP), A Clarke (ACI) and A Chapman (ACh) in 1995 while undertaking collaborative research with C Minton (CDTM) on Banded Stilts in Western Australia. For convenience, the field notes by JL while banding and flagging on Lake Ballard in April-May 1995 and those by GBP while banding and flagging on Lake Marmion in June 1995 have also been reproduced in this RMCR.

CONTENTS

Note that from early 1995 to the early 2000s, Jim Lane (JL) was based in Busselton and technical officers Grant Pearson (GBP) and Alan Clarke were based at Woodvale (a northern suburb of Perth) – hence the many faxes and emails between JL and GBP listed below.

This RMCR contains:

1. Table (prepared by JL in Feb 2014) summarising leg-band numbers and dates and places of use on Banded Stilt at Lakes Ballard and Marmion in 1995. The data in this Table is derived from the field notebooks of JL and GBP and summary notes faxed by CDTM to JL on 24/04/1995 (see below). **Did GBP submit banding records to ABBBS? Ask ABBBS.**
2. Table (prepared by JL in Feb 2014) summarising numbers of leg-flags and dates and places of use on Banded Stilt at Lakes Ballard and Marmion in 1995. The data in this Table is derived from reports (GBP only); field notebooks (JL and GBP); summary notes (faxed by CDTM to JL on 24/04/1995) and records of phone conversations (see below for all). **There are inconsistencies in some of these figures. Did GBP submit flagging records to ABBBS? There are no copies among his papers (searched by JL in Jan-Feb 2014). Ask ABBBS. Did CDTM? (see 06/10/2000).**
3. Tally sheet for 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995'. This Tally Sheet was prepared by JL on 01/02/2014 and is based solely on the data in the Excel spreadsheet below (headed 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995').
4. Printout (01/02/2014) of Excel spreadsheet 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995' prepared by JL in late Jan – early Feb 2014. The data in it is derived solely from relevant sections of the field notebooks of JL and GBP and summary notes provided faxed to JL by CDTM on 24/04/1995 (see elsewhere in this RMCR for all of these). **Note that the data JL has derived from GBP's field notebooks does not match the totals in GBP's report of 17/06/1995. Did GBP submit numbers to ABBBS? Ask ABBBS.**
5. 'Print Screens' and a 'copy-paste' of the results of an enquiry made by JL (on 03/02/2014) of Banded Stilt band recoveries as available on-line from the Australian Bird Study Association website. Only 2 records were available. A Longevity record of 11 years 3 months and a Distance Travelled record of 1182 km. The reference for these was Corella 36(4):104, a copy of which is attached. **Note that this was a year 2012 issue of 'Corella'. Check all issues of 'Corella' from 1995 to 2014 for other recoveries (& sightings?) of BaSt chicks banded and/or flagged at Lakes Ballard and Marmion in 1995.**
6. Results of an online search (18/01/2014) by JL of the ABBBS Database for Banded Stilt banding and recovery summary data. **Seek details of all records held by ABBBS of BaSt chicks leg-flagged and/or banded at Lakes Ballard & Marmion in 1995.**
7. Copy of Standen, R. (2012) *Banded Stilt in central WA, May/June 2012*. Journal of the Victorian Wader Study Group, Bulletin No. 35, pp.58-60. On page 60 there is a Table showing the leg flag 'schema' used on Banded Stilt in Australia from 1995 onwards. The first entry is **'A single yellow flag on the upper right leg** was flagged as a chick in 1995 at Lake Ballard in WA. Several of these were seen at Lake Eyre in 2000 and one at Lake George in April 2001'. **Note that, in reality, only 10 BaSt chicks at Ballard in 1995 were flagged on the right leg, while the rest (154) were (correctly) flagged on the left. At Lake Marmion in 1995, approx. 200 were flagged on the right leg and an uncertain number (>100) were flagged on the left.**
8. Extracts from Minton, CDT (2005). *What have we learned from banding and flagging waders in Australia?* Pages 116-142 in 'Status and Conservation of Shorebirds in the East

Asian-Australasian Flyway' – Proceedings of the Australasian Shorebirds Conference 13-15 Dec 2003, Canberra. (Edited by Phil Straw) Refers to banding of '850' Banded Stilt at 'Lake Ballard' by CALM in 1995. Flagging of BaSt at Lake Ballard and Banding / flagging of BaSt at Lake Marmion not referred to. This suggests these data had (have) not been sent to ABBBS (or CDTM).

9. Email (06/10/2000) from CDTM to GBP in which he writes, inter alia, 'I want to put them [recent leg-flag sightings at Lake Eyre] into the system for processing by ABBBS but I do not have the banding details. Could you tell me please (A) the range of dates during which the leg flagging took place; (B) approx coordinates of the part of the lake [sic] where most leg flagging took place; (C) exactly how many BS [BaSt] were flagged, and (D) whether the formal field data sheets returns were made to the Banding Office [ABBBS]'. GBP annotated the email hardcopy with 'colony: 29 44 36 S, 121 29 13 E' and 'camp: 29 47 01 S, 121 33 06'. These are coordinates of locations on Lake Marmion. See them plotted (by JL on 31/10/2014) on the accompanying Google Earth image. These are identical to the coordinates in GBP's typed report of 17/06/1995 (faxed to JL on 19/06/1995).
10. 'Report of Recovery to Bander' (dated 14/09/2000) sent by ABBBS to 'The Australian Wader Study Group, c/- CDTM' and copied by ABBBS to GBP. This reports a leg-flag sighting at Hughes Island, Lake Eyre North SA, on 03/04/2000. Note that banding details are given as 'Lake Bollard [sic; should be 'Ballard'] WA' 'on 00/04/1995'. Curious that this letter was sent to CDTM and copied to GBP, given that the flagging was done under GBP's permit. When asking ABBBS for banding or flagging records, keep in mind that 'Ballard' was misspelt as 'Bollard' in part of their database.
11. Email (13/04/2000) from CDTM to GBP and 'Allan' [Alan Clarke - ACI] inter alia indicating that Alan sent CDTM metal bands and yellow leg flags for potential use at Lake Eyre, but it turned out that they were unable to be used there. CDTM asks whether he should return them 'immediately' to GBP / Alan or hold onto them for a few weeks. Were they returned to GBP or ACI? (Presumably they were not, as JL searched band stocks in laboratory at Busselton office on 01/02/2014 and found neither leg-bands nor leg-flags for BaSt). [Note by JL on 03/02/2014. Double-check for leg-flags, possibly among duck nasal saddles or egret/heron/ibis wing tags?]
12. Faxed (on Fri 17/03/2000; from JL to GBP) copies of a Budget Request and a Science Project Plan for SPP 'Breeding ecology and conservation of Banded Stilt'. The Science Project Plan refers inter alia to 'Leg banding and flagging of chicks on Lakes Ballard and Marmion' in 'Jun 1995' and (under 'Phase 1 (1995-2000)'), 'Develop safe method of catching chicks. Band / leg flag chicks'.
13. Undated (approx. early May 1999) ABBBS 'Requisition for Banding Supplies' form in which GBP requests 1000 size 08, 'metal SS' leg bands be issued to him ('A' Class Authority No. 831). GBP also wrote 'URGENT: NEEDED BY 10 MAY 99' on this form.
14. Article 'Leg-Flagged Banded Stilts' (including sightings received by JL to date) as appeared on pp.16-17 of WA Bird Notes No.80, Dec 1996. Draft is below (at 23/10/1996). This article inter alia reads: '... **500 Banded Stilt chicks were leg flagged and 800 banded** ...'. [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].
Note that a different article with the same heading, with authorship of JL not acknowledged, appeared (page 18) in the March 1996 issue of WA Bird Notes (No.77).
15. Fax (23/10/1996) from JL to John Blyth with typescript of article 'Leg-Flagged Banded Stilts' (including sightings received by JL to date) for December 1996 issue of WA Bird Notes. Inter alia it states that the final numbers banded and flagged at Lakes Ballard and

Marmion in 1995 were **500 leg-flagged and 800 leg-banded**. [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].

16. Fax (14/10/1996) from CDTM to JL that reads, inter alia, 'Re slides [35mm photos]. I don't think I need the banding ones' [for a BaSt presentation CDTM was to give in New Zealand 'next week']. Perhaps CDTM took some photos while banding and flagging 10 BaSt chicks on his own on Lake Ballard on 13/04/1995?
17. Program and Abstract of presentation titled 'Banded Stilt Breeding at Lake Ballard, Western Australia' by JL, GBP & CDTM (presented by JL) at SHOC in Albany, WA, on 07/10/1996. The presentation included information about BaSt leg-banding and leg-flagging activities at Lake Ballard (and Lake Marmion) by the authors in 1995.
18. A Table providing details of the five BaSt leg-flag sightings shown in a map presented by JL at the 'Southern Hemisphere Ornithological Conference' in Albany, WA, on 07/10/1996. This Table, which was not included in the presentation, indicates that **500 BaSt chicks were flagged and 800 chicks were banded** in 1995 (at Lakes Ballard and Marmion). [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].
19. List of slides (photos) used in Banded Stilt talks given by JL to the SHOC at Albany on 07/10/1996 and the RAOU WA Group in Perth on 25(?)09/1996. Eleven of these photos were of BaSt leg-banding and leg-flagging activities by JL & ACI on Lake Ballard in late April – early May 1995.
20. 'Rough jottings [by JL] made in preparation for talk at the 'Sthn. Hem. Orn. Congress' to be held in Albany on 07/10/1996. Includes calculations of numbers of BaSt chicks banded and flagged at Lakes Ballard and Marmion in 1995. Note: scanned over two pages due to length.

These calculations seem to indicate:

- 490 incoloy leg-bands of size 8 were initially issued by ABBBS and another 200 were subsequently issued. If correct, a total of 690 leg-bands were issued for use at Ballard & Marmion in 1995.
 - Some uncertainty about the number of chicks that were banded and/or flagged. These calculations were incomplete. Work on these calculations.
21. Fax (05/08/1996) from JL to CDTM with draft abstract ('Any changes desired?') for presentation titled 'Banded Stilt Breeding at Lake Ballard, Western Australia' by JL, GBP & CDTM, to be presented by JL at SHOC in Albany, WA, on 07/10/1996. The presentation would include information about BaSt leg-banding and leg-flagging activities at Lake Ballard (and Lake Marmion) by the authors in 1995. Finalised abstract, as submitted, is also here.
 22. Hardcopy (16/05/1996) of document 'Banded Stilt *Cladorhynchus leucocephalus* Seminar' '... compiled [by JL] 14-16 May 1996 in preparation for seminar at Woodvale [CALM's Wildlife Research Centre] on Fri 17 May [1996]. Words and sentences relating to banding and flagging, including numbers banded/flagged, have been highlighted in green (by JL on 29/01/2014). Reference made to '**500 flags made by VWSG (Mark Barter)**' [actually Mark Barter, since deceased].
 23. 'Banding Round-Up: A complete list 1992-1996', compiled by E.B. Dettmann of ABBBS. It is 'A revised list of recoveries of Australian-banded waders over 100km from the banding place, between January 1992 and February 1996 ...'. It contained no records of Banded Stilt recoveries. JL searched on-line for more-recent lists such as these but

was unsuccessful. Consider having a look through more-recent hard copies of Corella when next at DPaW library in Kensington.

24. Article titled 'Leg-flagged Banded Stilts' on p.18 of WA Bird Notes, No.77, March 1996. Reports recent leg-flagging activity and requests sighting to be reported to GBP. Doesn't list any sightings to date. First paragraph reads 'In April-May [1995] metal **bands were placed on 500 Banded Stilts and metal bands and yellow leg flags were placed on a further 500**, all in the Lake Ballard area (see WABN 74, p.3 and Wingspan 5(2):13-15, June 1995'. The aim is to gather data on timing and direction of dispersal away from breeding areas, and subsequent movements'. Also: 'The bands and flags were placed above the 'knee' and are most visible when the birds are foraging'. Author not shown. Last sentence says please send records to Grant Pearson.

Note that a different article with the same heading, with authorship by JL, appeared in the Dec 1996 issue of WA Bird Notes (No.80). That article did list leg-flag sightings to date.
25. Fax (11/09/1995) from JL to Barry Baker at ANCA [ABBBS]. It reads 'My apologies for your letter of 13/8/95 to Grant Pearson re banding projects not having been replied to yet. We have a heavy field work load [e.g. SW wetland monitoring] at the moment and it will be approx 3 weeks before a reply can be prepared'.
26. Article on pp.16-17 of WA Bird Notes, No.76, December 1995, titled 'Banded Stilts Complete the Job', authored by 'Clive Minton, Jim Lane and Grant Pearson' and re-printed from 'The Tattler' No.4, July 1995. Inter alia it reads 'Banding and colour-flagging of chicks went very well, with **nearly 1000 birds marked**'. A 'precautionary procedure' adopted for catching chicks is then described.
27. Article titled 'Update on Banded Stilt Breeding event' by Clive Minton, Jim Lane and Grant Pearson, p.9 in Sept 1995 issue of Wingspan, that inter alia reads 'Banding and colour-flagging of chicks went very well, with **nearly 1000 birds marked**'. A 'precautionary procedure' adopted for catching chicks is then described.
28. Fax (23/08/1995) from JL to GBP with memorandum headed 'Banded Stilt Monitoring' that reads '[the recent] air survey by Andy Chapman showed that Lake Marmion will be dry in a week or so and Ballard in the next month or two. The stilt are therefore starting to move ...'.
29. JL's copy of GBP's fax (18/08/1995) to JL. JL has annotated the 13/08/1995 letter from Barry Baker, including with 'Grant. Which projects?'
30. GBP's copy of his fax (18/08/1995) to JL. Cover page reads 'Just some brief comments [needed] on objectives, discussion & continuance of project pls'. Second page is copy of Barry Baker's letter of 13/08/1995 to GBP.
31. Fax (18/08/1995) from GBP to Melinda Maher at ABBBS saying 'Many thanks for the bands. We may have to return the last 280 if there is no further activity'. Next two pages of fax are copies of two 'Receipt of Bands' forms.
One (signed on 18/08/1995 by GBP) was for receipt of **280** 'Size 08', 'Metal SS' leg-bands with 'Prefix 082' and 'Serial Numbers 95721 to 96000', issued on 07/06/1995. **This was the 3rd batch of bands received.** [JL 04/02/1995: None of these bands was used in 1995. It would seem that they were not received in time for the last banding & flagging effort of 1995, which was at Lake Marmion on 11-12/06/1995.
The other was a copy of the form (signed on 01/06/1995 by GBP) for receipt of **200** 'Size 08', 'Metal SS' leg-bands with 'Prefix 082' and 'Serial Numbers 95501 to 95700', issued on 17/05/1995. **This was the 2nd batch of bands received.** [All of these bands were used on 11/06/1995 at Lake Marmion].
GBP's original (pink) copy of the form he signed on 18/08/1995 is also here.
32. Letter (17/08/1995) from GBP replying to Barry Baker's (ABBBS) letter of 13/08/1995 (below). Inter alia reads: 'My guess is the project has probably been completed. However

it is not known whether there is still activity at the Lake Ballard or the Lake Marmion colony and an aerial survey [by ACh] on 21 August will confirm this. [When we have his report] I will complete the relevant details for you and forward then to your office’.

33. Letter (13/08/1995) from Barry Baker (Executive Officer of ABBBS) to GBP referring to a letter of 12/05/1995 ‘... in which you were requested to advise whether you wished to continue any of your banding projects in 1994/95 [or did he mean 1995/96?] and to provide reports on your projects’ BB was still awaiting a response and report/s. ‘Details of previously approved projects are again attached’.
34. Article titled ‘Banded Stilts Complete the Job’ (p.3 in ‘The Tattler No.4, July 1995) authored by ‘Clive Minton, Jim Lane and Grant Pearson’. Inter alia it reads ‘Banding and colour-flagging of chicks went very well, with **nearly 1000 birds marked**’. A ‘precautionary procedure’ adopted for catching chicks is then described. Note that this article was re-printed on pp.16-17 of WA Bird Notes, No.76, December 1995.
35. Faxes (18/07/1995) from JL to Phil Straw (RAOU Sydney) and Kate Gorringer-Smith (RAOU Melbourne) with finalised typescript headed ‘Follow-up note for ‘Wingspan’ and ‘Tattler’ as written by [CDTM], with a few amendments by JL (18/7/1995)’ and two suggested titles: ‘Banded Stilts Complete the Job’ or ‘Banded Stilts Did It!!’ Inter alia it reads ‘Banding and colour-flagging of chicks went very well, with **nearly 1000 birds marked**’. A ‘precautionary procedure’ adopted for catching chicks is then described. This article was published in the Sept 1995 issue of Wingspan (see above) under the title ‘Update on Banded Stilt Breeding event’ and on pp.16-17 of WA Bird Notes, No.76, December 1995, titled ‘Banded Stilts Complete the Job’ (re-printed from ‘The Tattler’ No.4, July 1995).
36. Fax (14/07/1995) from CDTM to JL with handwritten draft of article with suggested alternative titles ‘Banded Stilts Complete the Job’ or ‘Banded Stilts Did It!!’ See JL’s fax above (18/07/1995) to P Straw and K Gorringer for typed version and relevance to this RMCR.
37. Faxes (both 13/07/1995) between JL and CDTM discussing possibility of ‘presenting a paper on the Banded Stilt work’ to SHOC in Albany, WA, on 5th-9th Oct 1996. The presentation would include information about BaSt leg-banding and leg-flagging activities at Lakes Ballard and Marmion by the authors in 1995 and subsequent band/flag sightings.
38. Undated map of Lake Ballard, with annotations in ACI’s handwriting. The following locations are marked: ‘Crossover Lake (Fresh)’, ‘Camp Island’, ‘BaSt No.1 Breeding Colony’, ‘No.2 BaSt Breeding Colony’ and ‘Tripod Island’. The map is also annotated with ‘Dist. between Tripod [Island] and Camp [Island] [is] 16km. Most birds [were] taken between the two islands. Check GBP’s notes’. This annotation must refer to the adult BaSt and chicks that were collected (not banded/flagged) by GBP & ACI (see another RMCR, yet to be prepared, for details of the BaSt collecting that was done). ‘Tripod Island’ is a name conferred by JL on an island that he and ACI used to search for BaSt chicks from (for banding & flagging), using a telescope and tripod. From memory (JL, 31/01/2014) this was about as far west as they could go in their punts. It was too shallow to operate the punts further west.
39. Photos (4 pages of ‘thumbnail prints’), mainly taken by GBP and probably all with his camera, of BaSt banding & flagging activities at Lake Marmion on 11th & 12th June 1995. Also photos (one page; photos supplied to JL by Ian Kealley) that were presumably taken by ACh, in which case they must have been taken on 11/06/1995 (not 12/06/1995) at Lake Marmion.

Note that JL also has other photos taken at Lake Marmion in 1995, but not of banding and flagging activities (see another RMCR, yet to be prepared, for these photos).

40. Faxed (19/06/1995) copy of 17/06/1995 report by GBP for JL, headed 'Report on Survey to Lake Ballard and Lake Marmion 8 June 1995 to 13 June 1995'. Inter alia reads 'A Chapman [ACh] had flown the lakes and reported no flightless [BaSt] chicks remained on [Lake] Ballard but young chicks found at [Lake] Marmion'. Report says GBP, ACI & ACh **banded 200** BaSt chicks on left tibia and **flagged 195** chicks on right tibia on Lake Marmion on 11/06/1995, and GBP & ACI **flagged an unspecified number** of BaST chicks there on 12/06/1995. An annotation by GBP reads '**Total flagged 195 + 260 + 20 = 475**'. How did GBP arrive at these numbers?. Compare with JL's tallying (01/02/2014) of numbers in GBP's field notebook, indicating 200 were banded+flagged and 13 were flagged but not banded on 11/06/1995 and 158 were flagged but not banded on 12/6/1995. Did GBP submit numbers to ABBBS? Ask ABBBS An un-faxed copy of this report, with GBP's work hours annotated at the end, accompanies the faxed copy. Note that the 'colony' and 'camp' coordinates referred to in this report (last page) by GBP refer to Lake Marmion and JL has plotted them (in 2014) on a Google Earth image at 06/10/2000 in this RMCR.
41. Photocopies of pages of GBP's field notebook covering his (with ACI and ACh) 8-13 June 1995 trip to Lakes Ballard and Marmion, during which they banded and leg-flagged BaSt chicks on Lake Marmion only (on 11-12/06/1995). These field notes include (understandably) details of adults, chicks, techniques, etc., that are not in GBP's subsequent report (17/06/1995) on this trip.
42. Notes made by JL that appear to record information GBP communicated to JL by radio telephone on Sun 11/06/1995 at 5.50pm. Inter alia these notes read 'have **used the 200 leg bands**' [which would indicate they only had 200 bands to use] and '220 done today (removed flags from 20!) therefore 200 to date' and 'have **200 flagged**' [contrast with GBP's typed report of 17/06/1995 above which indicates 195 flagged on 11/06, and with JL's tallying (01/02/2014) of numbers in GBP's field notebook, indicating 200 were banded+flagged and 13 were flagged but not banded on 11/06/1995. Perhaps GBP was giving JL approximate figures by phone]. There is also mention of chick ages and catching methodology in these notes. E.g. 'Drive to creche with Argo – chase 20-30 and take back to boat [to band/flag]'. 'Creches c.30. Try to get all then release [after banding/flagging] – adults coming back'.
43. Fax (07/06/1995) from JL to GBP with a four-page 'Revised Program Lake Ballard June 1995' with instructions for GBP, ACh and ACI regarding survey and other work to be undertaken at Lake Ballard and Lake Marmion from Thurs 8th to Wed 14th June 1995. Inter alia the program refers to: 'leg flag glue'; 'I have mailed Australia Post to you [from Busselton, to Woodvale] a bag of leg flags ...', and 'Band and flag flightless chicks [at Lake Marmion from Sun 11/06 onwards]'. There is also a detailed description of the catching, banding & flagging methodology to be followed, including:
- '**band on right tibia** (i.e. above 'knee') and **flag on left tibia** every chick';
 - 'remove any miss-applied bands (special pliers) and flags (separate 'wings' with knife)';
 - 'if you run out of bands (unlikely), continue with flags only';
 - 'record band numbers of chicks in same brood (where identifiable) and band numbers used each day'.
- See JL's fax of 02/06/1995 below to CDTM for the 'draft work program'.
44. Fax (05/06/1995; typed 01/06/1995) message from Mark Lamble, ABC Natural History Unit, to JL with a 'rough diary' of observations he made while at Lake Ballard from 09/05 to 17/05/1995. Note that they encountered a BaSt chick with a leg band on 10/05/1995 '... about 3kms north west of Camp Island at approximately 2pm. ML regrets they did not manage to record the band number. A map of where the stilt chicks were is attached (and where they camped and the vehicular route to it). JL faxed a copy of this fax to CDTM on 06/06/1995.

45. Fax (02/06/1995) from CDTM to JL with suggestions on draft works program that JL had sent him on same date. (see below). Inter alia CDTM wrote: 'page 4. I thought band was on left tibia and flag on right tibia. But I may have been wrong. Please re-check your official permission (& note I may have done it wrongly)'. 'page 4. I presume you are recording band numbers put on members of same brood (where identifiable). If not, then I think we should try to'.
46. Fax (02/06/1995) from JL to CDTM (also sent to GBP) with: 'draft work program for Grant [GBP] and co. to work to next week. I ... would appreciate any comments'. The draft program includes a detailed description of the catching, banding & flagging methodology to be followed, including 'band on right tibia (i.e. above 'knee') and flag on left tibia every chick'. Note that there are two copies of the draft program here – one with subsequent annotations by JL and one without. See JL's fax of 07/06/1995 above to GBP for 'Revised Program'.
47. Article in WA Bird Notes (No.74, p.19 – June 1995 issue, author 'Jim Lane') headed 'STOP PRESS Leg-flagged Banded Stilts' inter alia stating 'During the first week of May [1995], Alan Clarke, Andy Chapman and I **leg-flagged 170 chicks** at various stages of growth. The leg-flags are small, made of stiff yellow plastic and located above the left 'knee' (on the tibia)'. This article is a restructured and slightly reworded version of JL's draft of 16/05/1995 (see below).
48. A copy of 'History in the mating: Banded Stilts do it again!' by 'Clive Minton, Grant Pearson and Jim Lane' (pp.13-15 in Wingspan, June 1995) indicates inter alia an intention 'at the time of writing (late April)' to conduct 'banding/colour leg-flagging of the [BaSt] chicks'.
49. Undated page of jottings by JL headed 'Next Ballard Trip (6/95) [June 1995]' that records some preliminary thoughts of JL about the trip to be undertaken to Lake Ballard (and Lake Marmion) by GBP, ACI & ACh in June 1995. Inter alia reads 'I have [leg] flags'. See faxes above for draft (02/06/1995) and revised (07/06/1995) programs.
50. Two pages of jottings by JL that appear to record several phone conversations with Jeremy Hogarth (ABC Natural History Unit) and Clive Minton (CDTM) in May 1995 and perhaps very early June 1995. 'Message from Jeremy Hogarth Th 18/5/95 at 1310 hrs' inter alia refers to '[ABC crew of Mark Lamble and Campbell Miller] caught one banded chick – didn't get number but did record date, time, location'. JL's discussion with CDTM includes 'flag without bands' [does this mean there was a shortage of leg-bands?] and what appears to be 'Aluminium bands' [does this mean that CDTM / JL discussed possibly using aluminium bands if ran out of incoloy bands?].
51. 'Receipt of Bands' form, issued on 17/05/1995 and signed by GBP on 01/06/1995, for issue & receipt of 200 'Size 08', 'Metal SS' leg-bands with 'Prefix 082' and 'Serial Numbers 95501 to 95700'. All of these bands were subsequently used – on 11/06/1995 at Lake Marmion. This form also records issue & receipt of one pair of small banding pliers.
52. Fax (16/05/1995) from GBP to Belinda Dettman [ABBBS]. On cover page GBP writes: 'We need about 500 bands – 490 would be fine'. Strange coincidence that 490 was also the number issued back on 23/03/1995 and GBP requested two pairs of small banding pliers on both occasions. GBP's handwriting in both 'Requisition for Banding Supplies' forms (16/5 & 23/3) is slightly different, indicating that the latter is not a photocopy of the former).

Note that both forms requested bands in 'SS' metal, i.e. stainless steel. Presumably GBP meant incoloy (see JL's fax of 16/05/1995z) and presumably that was what was subsequently supplied (check) by ABBBS. Incoloy is a type of stainless steel.

'Incoloy® 27-7MO is an advanced super-austenitic stainless steel containing over 7% molybdenum'. 'Excellent resistance in ... seawater, brine and high chloride environments along

with higher strengths compared to traditional 6% molybdenum alloys makes the alloy attractive in oil & gas applications'. <http://www.corrosionmaterials.com/documents/dataSheet/alloyIncoloy27-7MODDataSheet.pdf> (downloaded 06/02/2014 by JL).

53. Fax (16/05/1995) from JL (at Busselton) to GBP (at Woodvale) that reads: 'Plse order another 500 size 8 incoloy leg bands for a possible BaSt banding / flagging effort in a few weeks time'. Note that only 490 leg-bands were issued initially (see 23/03/1995), not 500 as this fax by JL could suggest.
54. Fax (16/05/1995) from JL to John Blyth (editor of WA Bird Notes) with hand-written article titled 'Leg-flagged Banded Stilt' for publication in WA Bird Notes. This article inter alia reads: During the first week of May [1995], Alan Clarke and I [JL] leg-flagged 170 (one hundred and seventy) [BaSt] chicks at various stages of growth' and 'The leg flags are small, made of stiff yellow plastic and located above the left 'knee', i.e. on the tibia'. This was also faxed to CDTM, on 30/05/1995, with a cover note that reads: 'Accompanying is the article that will appear in the June issue of 'WA Bird Notes''. See (above) the 'STOP PRESS article on p.19 of WABN No.74 (June 1995) is a restructured and slightly reworded version of this draft.
55. Photos (thumb-prints) of BaSt leg-banding and leg-flagging activities by JL & ACI with ACh on Lake Ballard in late April – early May 1995. See JL's work PC (and backups) for these photos in digital format (scanned from 35mm colour transparencies, i.e. slide film).
56. Photocopies of pages of JL's field notebook covering BaSt chick banding and flagging activity on Lake Ballard during late April – early May 1995 trip with ACI and ACh. For field notes of the entire trip, see the RMCR of all 1995 field notes. JL did not prepare a report on this trip, as these field notes were sufficiently comprehensive. See the Tables at the beginning of this RMCR for details of bands and flags applied each day. For other data and observations concerning the banding / flagging activity and the banded / flagged BaSt chicks, read these field notes.
57. First three pages of a seven page fax (24/04/1995) from CDTM (at Broome Bird Observatory) to JL (at Busselton) with a cover note that reads 'herewith 6 pages of data – some of it partly processed and/or with comments. It will give you knowledge of what we've got & what we still need!'. Inter alia this fax indicates that on 12/04/1995 12 BaSt chicks were 'caught & released [by CDTM] as they left the colony before reaching water i.e. just left nest'. These chicks were weighed but not banded.
 In addition, **10 chicks were 'caught & banded** some 1 km [the large space between 1 and km seems to indicate **a range** was written]. These 10 chicks (in 4 broods) were also weighed and had bill lengths measured.
Their band numbers were recorded as '11' – '20'. The bands issued by ABBBS to GBP on 23/03/1995 (see below) had 'Serial Numbers' 95011 to 95500, with 'Prefix 082'. So the bands that CDTM was referring to here were **bands (082) 95011 to 95020**.
 They were caught and **banded on 13/04/1995** '(probably 0-2 days after leaving nest)' [2 is very faint – maybe 3?].
 Note that JL's only copy of this fax has small amounts of **important text missing** due to cropped borders.
58. JL's recordings (notes) of phone conversation with CDTM in April 1995, after CDTM had left Lake Ballard for Broome. Inter alia, while at Lake Ballard in April 2013, CDTM **'banded [and leg-flagged] 10 chicks** (4 families) on water' [methodology described in detail]; 'do 20-40 per day near colony if can't corral'; '7-7.5mm on 'knee'' [presumably checking suitability of leg-band size]; 'did 10 in 2 hours'; 'Flag on right tibia (of the bird) band on left' and 'Equipment [was left by CDTM] at Jeedamya [pastoral station]'.
 Note that the BaSt chicks were to have been banded on the right tibia and flagged on the left, not the other way around. See faxes of 30/5, 02/6 & 07/6/1995 above and article in

WA Bird Notes June 1995 issue (No.74, p.19) and letter of 23/03/1995 below from ABBBS to GBP.

59. Undated page of handwritten notes by GBP for JL that read, inter alia, Clive [CDTM] was asked to leave the following with John & Cath Finlayson at Jeedamya [pastoral station] (1) Leg bands – in a shoulder bag marked BANDS'. CDTM did; see his note below of 15/04/1995 for JL.
60. Handwritten note (1030am, Sat 15/04/1995) from CDTM to JL. This note was left for JL/GBP with equipment at Jeedamya pastoral station. The note listed, inter alia, 'Bird bands/flags etc.)'.
61. Handwritten notes (only 2nd page included here) by JL headed 'Grant's [GBP's] Tasks Sat 8 → Tues 11 April 95'. Inter alia they read: 'No-one should walk thru or otherwise disturb nesting area which has chicks. No banding of chicks [is to be undertaken] (too small)' and 'Keep leg flags & bands & colour bands & glue with your gear and bring back to Perth'. The 'colour bands' were intended to be used to individually mark adult BaSt on nests (see letter of 23/03/1995 below from ABBBS to GBP).
62. Article 'Banded Stilts Quick off the Mark' by 'Clive Minton, Grant Pearson & Jim Lane' in 'The Tattler, No.3, pp.3-4, April 1995, that inter alia reads: 'We collected lots more data and started some banding/leg flagging. Jim returns on April 26th [1995] to continue the studies – especially banding and creche formation'.
63. Australian Bird Study Association Inc. – Mist Net Service' (NSW) 'Stock Price List – Effective from 1st April 1995'. Inter alia lists 'Banding Pliers', 'Colour bands', 'Single-colour bands' and Multi-coloured bands'. Also lists 'Computer Program 'Sheba' – Ken Roger's program for sexing birds on measurement' [not used by JL *et al.* for BaSt work].
64. Photocopy of a single label that would have accompanied 50 leg-bands numbered 082-95451 to 082-95500'. These were the last 50 of 490 leg-bands [(082) 95011-95500] supplied to GBP by ABBBS on 23/03/1995 (see below). Look to see if we (JL/ACI) still hold any BaSt (i.e. size 8) leg bands (if so, what numbers?) and/or yellow leg flags and glue (trade name of glue?). [JL did so in Feb 2014 and did not find any leftover size 8 bands or any leg flags.
65. A supply/receipt of bands form (23/03/1995) that accompanied leg-bands issued to GBP by ABBBS on 23/03/1995. GBP signed acknowledgement of receipt of these bands – and that the band numbers were as indicated on the form – on 10/04/1995. The form indicates that 490 size '08' leg-bands were issued, with 'Prefix 082' and 'Serial Numbers 95011 to 95500'. **Thus 490 leg-bands were issued on this date.** This form also indicates that the bands were made of 'Metal SS'. Note that 'incoloy' is a type of stainless steel, so 'SS' is not inconsistent with the supplied bands being made of incoloy. See 16/05/1995, above, for more info re incoloy.
66. Undated ABBBS 'Requisition for Banding Supplies' form in which GBP requests 500 size 8, 'metal SS' leg bands be issued to him ('A' Class Authority No. 831). 490 bands were issued on 23/03/1995 (see above) in response to this request.
67. Letter (23/03/1995) from ABBBS to GBP headed 'Approval to Undertake Colour Marking' giving approval to attach yellow leg flags to left tibia of 500 'juvenile' Banded Stilt of '1995+ cohort' in the 'Region' of 'Western Australia'.

This letter also approved individually marking 50 adult BaSt with 'master colour over metal' on left tibia and '1 colour' on right tibia in 1995+ in the 'Region' of 'Western Australia'. JL's recollection (30/01/2014) is that no adults were banded, flagged or otherwise marked during the 1995 work on Lakes Ballard and Marmion, but maybe CDTM managed to catch and mark a few. Confirm that no adult BaSt were marked by CDTM at Lake Ballard in 1995 (they had hoped to be able to capture some on nests and individually mark them).

68. Letter (23/03/1995) from ABBBS to GBP ('Authority No. 831') headed 'Approval of New Project' advising that '... your recent application for a new ABBBS project has been approved'. The project is described as 'Study of Banded Stilt breeding biology' in 'Region: Western Australia', 'Locality L. Ballard', 'Locodes: 0831B1' with 'Start Date: 22/03/1995', 'End Date: 30/06/1995' and 'Collaborators' blank. Compare with the Applications and Locode Registration below (21/03/1995), where JL was named as Project Supervisor and CDTM as Collaborator and Lake Ballard was to be registered as number '0593B1'.
69. Fax (21/03/1995) from GBP to Barry Baker at ABBBS. Cover sheet reads 'Some details on objectives not included. Jim Lane to advise' and 'Bands required: 500 size 8. Could you direct to CALM Kalgoorlie please'. Two 'Applications' and a 'Locode Registration Sheet' were attached.

Note that the 'Application for a Colour Marking Authority' clearly indicated that it was prepared by GBP on behalf of JAK Lane (an 'A' Class bander with ABBBS Authority No. 0593). The Locode for Lake Ballard was indicated by GBP to be 0593B1 and 'Signature of Applicant' was 'G Pearson for Jim Lane'.

Note also that the 'Project Proposal Application Form' specified 'Jim Lane, Authority No.593' as 'Project Supervisor' and 'Collaborators' as 'Clive Minton'. 'Signature of Applicant' was 'GB Pearson for Jim Lane'. The 'colour banding schema' to be used on BaSt adults was described in this application as 'Colour combinations [unspecified] for adults'.

The 'Locode Registration Sheet', dated 21/03/1995, specified 'JAK Lane, Auth. No.0593' as the 'A' Class Bander and requested registration of 'Locode: 0593B1' (the other details were 'Code Name: Ballard 1', 'Location: Lake Ballard WA' and coordinates '29 degrees 27 minutes South Latitude and 121 degrees 01 minutes East Longitude'). See attached Google Earth image (downloaded 31/01/2014 by JL) showing location with these coordinates. The coordinates are not as accurate as they could be, though it's only a matter of 1-2 minutes of Lat and Long.

Was a Locode subsequently registered for Lake Marmion? If so, what was it? (note that banding was not envisaged there initially).

70. Fax (20/03/1995; cover sheet and page 2 only) from JL to GBP that lists equipment for use at Lake Ballard.
- The list under 'Banding' indicates that JL wanted '20 leg bands of each colour' for 'This trip if possible' and **500 yellow leg flags** 'certainly for next trip'. GBP has marked both with 'Y' for 'yes'. The 'leg bands of each colour' were intended for use in individually colour-marking nesting BaSt adults (see fax of 21/03/1995, above). The 'yellow leg flags' were for flagging BaSt chicks. Other banding/flagging items listed are 'Pliers', 'Band removers' and 'Banding box'.
- The list under 'Hide' includes 'Chicken netting trap', 'Fence wire', 'Fishing line' and 'Steel rods'. All or most of these items would have been intended for use in trapping (alive) individual adult BaSt on nests, for individual colour marking.
71. ABBS 'Approved Band Size List' (No.20 – December 1986). First page plus page listing 'Species No. 147 – Banded Stilt – Band Size 08 – Metals SS'. Note that 'incoloy' is a type of stainless steel.
72. Bird band cartoon, reproduced in 1990 in ABBBS's 'Bander's Bulletin'.
73. Various papers (09/06/1989 – 25/08/1989) inter alia including ABBBS's approval of an 'A' Class Bird Banding Authority for GBP on 27/07/1989. This Authority was for work on ducks and other waterbirds by GBP for Stuart Halse of CALM – work unrelated to GBP's work with JL & CDTM on breeding Banded Stilt in WA in 1995.

74. Cover sheet on front cover of black lever arch file (A4) of GBP with handwritten label 'Australian Bird & Bat Banding Scheme. Schedules etc.' on its spine. Cover sheet (by JL) describes content including Australian Pelican and Banded Stilt materials.

Table (prepared by JL in Feb 2014) summarising leg-band numbers and dates and places of use on Banded Stilt at Lakes Ballard and Marmion in 1995. The data in this Table is derived from the field notebooks of JL and GBP and summary notes faxed by CDTM to JL on 24/04/1995 (see below).

Did GBP submit banding records to ABBBS? Ask ABBBS.

Table (prepared by JL in Feb 2014) summarising leg-band use on Banded Stilt chicks at Lakes Ballard and Marmion in 1995.

Date	Lake	Band Prefix & Serial Numbers	Number Banded	Daily Total Banded
1995.04.13	Ballard	(082) 95011-95020	10	10
1995.04.29	Ballard	(082) 95021-95057	37	105
1995.04.29	Ballard	(082) 95059-95109	51	
1995.04.29	Ballard	(082) 95111-95127	17	
1995.04.30	Ballard	(082) 95058	1	119
1995.04.30	Ballard	(082) 95110	1	
1995.04.30	Ballard	(082) 95128-95244	117	
1995.05.01	Ballard	(082) 95245-95369	125	125
1995.05.02	Ballard	(082) 95370-95415	46	46
1995.05.03	Ballard	(082) 95416-95450	35	84
1995.05.03	Ballard	(082) 95452-95500	49	
13/4-03/5	Ballard	(082) 95011-95450 and (082) 95452-95500	489	

1995.06.11	Marmion	(082) 95501-95700	200	200
11/06	Marmion	(082) 95501-95700	200	

13/4-11/6	Ballard & Marmion	(082) 95011-95450 and (082) 95452-95700	689	
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Notes.

1. All of the birds that were banded were flightless chicks, of various (and variously recorded) ages. Some of these chicks were also measured and some family groupings were recorded.
2. The supply & receipt form issued (with the leg-bands) by ABBBS on 23/03/1995 and signed by GBP on 10/04/1995 indicates that 490 bands were supplied initially, with prefix 082 and serial numbers 95011-95500. Of these, 489 were used at Lake Ballard from 13/04/1995 to 03/05/1995.
3. Band number (082) 95451 was missing & presumed not used (at Ballard on 03/05/1995).
4. More leg-bands were requested from ABBBS by GBP on 16/05/1995 and 200 were apparently supplied, in time for the banding undertaken at Lake Marmion on 11/06/1995.
5. Only one of the 690 (490+200) leg-bands supplied by ABBBS was not used (see Note 3 above). Thus 689 of the 690 leg-bands that were supplied by ABBBS were used.
6. The data in this Table is derived from the field notebooks (see another RMCR for these) of JL and GBP and summary notes faxed by CDTM to JL on 24/04/1995 (see elsewhere in this RMCR for these). **Did GBP submit banding sheets to ABBBS? Ask ABBBS.**

Table (prepared by JL in Feb 2014) summarising numbers of leg-flags and dates and places of use on Banded Stilt at Lakes Ballard and Marmion in 1995. The data in this Table is derived from reports (GBP only); field notebooks (JL and GBP); summary notes (faxed by CDTM to JL on 24/04/1995) and records of phone conversations (see below for all). There are inconsistencies in some of these figures. Did GBP submit flagging records to ABBBS? There are no copies among his papers (searched by JL in Jan-Feb 2014). Ask ABBBS. Did CDTM? (see 06/10/2000).

Table (prepared by JL in Feb 2014) summarising leg-flag use on Banded Stilt chicks at Lakes Ballard and Marmion in 1995.

The purpose of this Table is to compare the numbers flagged according to various source materials (all those available to JL as at 03/02/2014), namely 'Field Notes', 'Reports' and 'Other Communications', all of which are included in this RMCR.

The total number flagged at Lake Ballard is clear. It was $171 + 10 = 181$.

The number flagged at Lake Marmion on 11-12/06/1995 is not at all clear. Annotations on GBP's report seem to indicate a total of 475, but a tally of numbers in his Field Notes indicates 371.

Various documents in this RMCR (see in particular 20/03/1995, 22/03/1995, 16/05/1996, 'Rough Jottings' for 07/10/1996, and 13/04/2000) suggest that 500 leg flags were made for the flagging effort in WA in 1995. If, as other documents in this RMCR suggest, all were used, then the total number used at Lake Marmion would have been 500 minus the 181 used at Ballard minus the 20 that were removed (ACI thinks, on 03/02/2014, destructively) after being attached to what was thought be the wrong leg at Marmion. By this calculation, the total number flagged at Marmion would have been 299 ($500 - 181 - 20$), but his isn't close to any of GBP's figures either! For either of GBP's totals to be correct, more than 500 flags would have had to have been supplied by VWSG.

Date	Lake	Number Flagged (according to Field Notes)	Number Flagged (according to Reports)	Number Flagged (according to other communications)	Number Flagged (according to ABBBS Returns)	Flagged by whom?
1995.04.13	Ballard	—	—	10	?	by CDTM.
1995.04.29	Ballard	0	—	—	?	by JL & ACI
1995.04.30	Ballard	19	—	—	?	by JL & ACI
1995.05.01	Ballard	24	—	—	?	by JL & ACI
1995.05.02	Ballard	28	—	—	?	by JL & ACI
1995.05.03	Ballard	100	—	—	?	by JL & ACI
13/4-03/5	Ballard	171	—	10	?	

1995.06.11	Marmion	213	195 (+20?, on 11/06 or 12/06?).	200 (220 done, but 20 then removed).	?	by GBP, ACI & ACh.
1995.06.12	Marmion	158	260? (+20?, on 11/06 or 12/06?) .		?	by GBP & ACI.
11/06	Marmion	371	'475'		?	

Notes.

1. All of the birds that were flagged were flightless chicks, of various (and variously recorded) ages. Some of these chicks were also measured and some family groupings were recorded.
2. The data in this Table are derived from (A) relevant sections of the field notebooks of JL and GBP; (B) a typed report by GBP on the June 1995 flagging at Lake Marmion – and his annotations on this; (C) JL's record of a phone conversation with GBP on 11/06/1995; (D) summary notes faxed by CDTM to JL on 24/04/1995. Copies of all of these are reproduced elsewhere in this RMCR.

3. Tally in GBP's field notes of chicks flagged at Marmion on 11/06/1995 is: 200 (all banded & flagged) + 13 (flagged only) = 213.
4. Tally in GBP's field notes of chicks flagged at Marmion on 12/06/1995 is: 30 + 5 + 26 + 23 + 6 + 22 + 9 + 25 + 12 = 158.
5. Did GBP submit banding sheets to ABBBS? Ask ABBBS.
6. How many yellow leg-flags did CDTM, JL & GBP have for all the flagging that was done from 13/04/1995 (when CDTM did the first flagging) to 12/06/1995 (when GBP & ACI finished using all of the flags they had)? This might be the only way of determining how many flags were used at Lake Marmion on the 11th and, in particular, the 12th June 1995. Would VWSG have a record of how many yellow flags they made and sent to WA in 1995?

Tally sheet for 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995'. This Tally Sheet was prepared by JL on 01/02/2014 and is based solely on the data in the Excel spreadsheet below (headed 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995').

Printed 01/02/2014

Total number of chicks "processed"
was $877 + 2 = 879$.
4 "retraps"

TALLY SHEET for 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995 Tallying data of another Excel spreadsheet with this name.

Date	Lake	Who by?	Total Banded	Band on L	Band on R	Total Flagged	Flagged on L	Flagged on R	Banded but not Flagged	Flagged but not Banded	Banded & Flagged	Banded on L & Flagged on R	Banded on R & Flagged on L	Comments
1995.04.13	Ballard	CDTM	10	10	0	10	0	10	0	0	10	10	0	
Totals		CDTM	10	10	0	10	0	10	0	0	10	10	0	
1995.04.29	Ballard	JL ACI	105	0	105	0	0	0	105	0	0	0	0	
1995.04.30	Ballard	JL ACI	119	2	117	19	19	0	(119-19) =100	0	19	0	19	Plus 2 "retraps"
1995.05.01	Ballard	JL ACI	125	0	125	24	24	0	(125-24) =101	0	24	0	24	
1995.05.02	Ballard	JL ACI	46	0	46	28	28	0	(46-28) =18	0	28	0	28	
1995.05.03	Ballard	JL ACI	84	0	84	100	100	0	1	17	83	0	83	
Totals	Ballard	JL ACI	479	2	477	171	171	0	325	17	154	0	154	
Grand Totals Ballard	Ballard		489	12	477	181	171	10	325	17	164	10	154	
1995.06.11	Marmion	GBP ACI Ach	200	200	0	213	0	213	0	13	200	200	0	
1995.06.12	Marmion	GBP ACI Ach	0	0	0	158	158	0	0	158	0	0	0	
Totals	Marmion	GBP ACI Ach	200	200	0	371	158	213	0	171	200	200	0	
Grand Totals Marmion	Marmion	GBP ACI Ach	200	200	0	371	158	213	0	171	200	200	0	
Grand Totals Ballard & Marmion	Ballard & Marmion		689	212	477	552	329	223	325	188	364	210	154	Plus 2 "retraps"

N° of Bands Issued

490
200
690
-1
689

missing, presumed not used.

in agreement

How many flags were issued.

877

364

01/05/2014

Printout (01/02/2014) of Excel spreadsheet 'Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995' prepared by JL in late Jan – early Feb 2014. The data in it is derived solely from relevant sections of the field notebooks of JL and GBP and summary notes provided faxed to JL by CDTM on 24/04/1995 (see elsewhere in this RMCR for all of these).

Note that the data JL has derived from GBP's field notebooks does not match the totals in GBP's report of 17/06/1995. Did GBP submit numbers to ABBBS? Ask ABBBS.

Banded Stilt banded and/or flagged on Lakes Ballard & Marmion in 1995

This is a Table of each individual banded and/or flagged chick.

TO DO: Count banded, flagged, banded&flagged, flag on left v. flag on right, recaptures (2). Compare sources and tallies. Find all GBP's ABBBS sheets. Check with ABBBS.

Printed 01/02/2014

Order of proc-ssing	Order of Bndng / Flgng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
1	1	1995.04.13	Ballard	CDTM	082	95011	L	Y	R	
2	2	1995.04.13	Ballard	CDTM	082	95012	L	Y	R	
3	3	1995.04.13	Ballard	CDTM	082	95013	L	Y	R	
4	4	1995.04.13	Ballard	CDTM	082	95014	L	Y	R	
5	5	1995.04.13	Ballard	CDTM	082	95015	L	Y	R	
6	6	1995.04.13	Ballard	CDTM	082	95016	L	Y	R	
7	7	1995.04.13	Ballard	CDTM	082	95017	L	Y	R	
8	8	1995.04.13	Ballard	CDTM	082	95018	L	Y	R	
9	9	1995.04.13	Ballard	CDTM	082	95019	L	Y	R	
10	10	1995.04.13	Ballard	CDTM	082	95020	L	Y	R	'They were flagged rt, banded lft'
11	11	1995.04.29	Ballard	JL, ACI	082	95021	R	N		Started at 1352hrs
12	12	1995.04.29	Ballard	JL, ACI	082	95022	R	N		
13	13	1995.04.29	Ballard	JL, ACI	082	95023	R	N		
14	14	1995.04.29	Ballard	JL, ACI	082	95024	R	N		
15	15	1995.04.29	Ballard	JL, ACI	082	95025	R	N		
16	16	1995.04.29	Ballard	JL, ACI	082	95026	R	N		
17	17	1995.04.29	Ballard	JL, ACI	082	95027	R	N		
18	18	1995.04.29	Ballard	JL, ACI	082	95028	R	N		
19	19	1995.04.29	Ballard	JL, ACI	082	95029	R	N		
20	20	1995.04.29	Ballard	JL, ACI	082	95030	R	N		
21	21	1995.04.29	Ballard	JL, ACI	082	95031	R	N		
22	22	1995.04.29	Ballard	JL, ACI	082	95032	R	N		
23	23	1995.04.29	Ballard	JL, ACI	082	95033	R	N		
24	24	1995.04.29	Ballard	JL, ACI	082	95034	R	N		
25	25	1995.04.29	Ballard	JL, ACI	082	95035	R	N		
26	26	1995.04.29	Ballard	JL, ACI	082	95036	R	N		
27	27	1995.04.29	Ballard	JL, ACI	082	95037	R	N		
28	28	1995.04.29	Ballard	JL, ACI	082	95038	R	N		
29	29	1995.04.29	Ballard	JL, ACI	082	95039	R	N		
30	30	1995.04.29	Ballard	JL, ACI	082	95040	R	N		
31	31	1995.04.29	Ballard	JL, ACI	082	95041	R	N		
32	32	1995.04.29	Ballard	JL, ACI	082	95042	R	N		
33	33	1995.04.29	Ballard	JL, ACI	082	95043	R	N		
34	34	1995.04.29	Ballard	JL, ACI	082	95044	R	N		
35	35	1995.04.29	Ballard	JL, ACI	082	95045	R	N		
36	36	1995.04.29	Ballard	JL, ACI	082	95046	R	N		
37	37	1995.04.29	Ballard	JL, ACI	082	95047	R	N		
38	38	1995.04.29	Ballard	JL, ACI	082	95048	R	N		
39	39	1995.04.29	Ballard	JL, ACI	082	95049	R	N		
40	40	1995.04.29	Ballard	JL, ACI	082	95050	R	N		
41	41	1995.04.29	Ballard	JL, ACI	082	95051	R	N		
42	42	1995.04.29	Ballard	JL, ACI	082	95052	R	N		
43	43	1995.04.29	Ballard	JL, ACI	082	95053	R	N		
44	44	1995.04.29	Ballard	JL, ACI	082	95054	R	N		
45	45	1995.04.29	Ballard	JL, ACI	082	95055	R	N		
46	46	1995.04.29	Ballard	JL, ACI	082	95056	R	N		
47	47	1995.04.29	Ballard	JL, ACI	082	95057	R	N		
48	48	1995.04.29	Ballard	JL, ACI	082	95059	R	N		95058 used next day.
49	49	1995.04.29	Ballard	JL, ACI	082	95060	R	N		
50	50	1995.04.29	Ballard	JL, ACI	082	95061	R	N		

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
51	51	1995.04.29	Ballard	JL, ACI	082	95062	R	N		
52	52	1995.04.29	Ballard	JL, ACI	082	95063	R	N		
53	53	1995.04.29	Ballard	JL, ACI	082	95064	R	N		
54	54	1995.04.29	Ballard	JL, ACI	082	95065	R	N		
55	55	1995.04.29	Ballard	JL, ACI	082	95066	R	N		
56	56	1995.04.29	Ballard	JL, ACI	082	95067	R	N		
57	57	1995.04.29	Ballard	JL, ACI	082	95068	R	N		
58	58	1995.04.29	Ballard	JL, ACI	082	95069	R	N		
59	59	1995.04.29	Ballard	JL, ACI	082	95070	R	N		
60	60	1995.04.29	Ballard	JL, ACI	082	95071	R	N		
61	61	1995.04.29	Ballard	JL, ACI	082	95072	R	N		
62	62	1995.04.29	Ballard	JL, ACI	082	95073	R	N		
63	63	1995.04.29	Ballard	JL, ACI	082	95074	R	N		
64	64	1995.04.29	Ballard	JL, ACI	082	95075	R	N		
65	65	1995.04.29	Ballard	JL, ACI	082	95076	R	N		
66	66	1995.04.29	Ballard	JL, ACI	082	95077	R	N		
67	67	1995.04.29	Ballard	JL, ACI	082	95078	R	N		
68	68	1995.04.29	Ballard	JL, ACI	082	95079	R	N		
69	69	1995.04.29	Ballard	JL, ACI	082	95080	R	N		
70	70	1995.04.29	Ballard	JL, ACI	082	95081	R	N		
71	71	1995.04.29	Ballard	JL, ACI	082	95082	R	N		
72	72	1995.04.29	Ballard	JL, ACI	082	95083	R	N		
73	73	1995.04.29	Ballard	JL, ACI	082	95084	R	N		
74	74	1995.04.29	Ballard	JL, ACI	082	95085	R	N		
75	75	1995.04.29	Ballard	JL, ACI	082	95086	R	N		
76	76	1995.04.29	Ballard	JL, ACI	082	95087	R	N		
77	77	1995.04.29	Ballard	JL, ACI	082	95088	R	N		
78	78	1995.04.29	Ballard	JL, ACI	082	95089	R	N		
79	79	1995.04.29	Ballard	JL, ACI	082	95090	R	N		
80	80	1995.04.29	Ballard	JL, ACI	082	95091	R	N		
81	81	1995.04.29	Ballard	JL, ACI	082	95092	R	N		
82	82	1995.04.29	Ballard	JL, ACI	082	95093	R	N		
83	83	1995.04.29	Ballard	JL, ACI	082	95094	R	N		
84	84	1995.04.29	Ballard	JL, ACI	082	95095	R	N		
85	85	1995.04.29	Ballard	JL, ACI	082	95096	R	N		
86	86	1995.04.29	Ballard	JL, ACI	082	95097	R	N		
87	87	1995.04.29	Ballard	JL, ACI	082	95098	R	N		
88	88	1995.04.29	Ballard	JL, ACI	082	95099	R	N		
89	89	1995.04.29	Ballard	JL, ACI	082	95100	R	N		
90	90	1995.04.29	Ballard	JL, ACI	082	95101	R	N		
91	91	1995.04.29	Ballard	JL, ACI	082	95102	R	N		
92	92	1995.04.29	Ballard	JL, ACI	082	95103	R	N		
93	93	1995.04.29	Ballard	JL, ACI	082	95104	R	N		
94	94	1995.04.29	Ballard	JL, ACI	082	95105	R	N		
95	95	1995.04.29	Ballard	JL, ACI	082	95106	R	N		
96	96	1995.04.29	Ballard	JL, ACI	082	95107	R	N		
97	97	1995.04.29	Ballard	JL, ACI	082	95108	R	N		
98	98	1995.04.29	Ballard	JL, ACI	082	95109	R	N		
99	99	1995.04.29	Ballard	JL, ACI	082	95111	R	N		95110 used next day.
100	100	1995.04.29	Ballard	JL, ACI	082	95112	R	N		
101	101	1995.04.29	Ballard	JL, ACI	082	95113	R	N		
102	102	1995.04.29	Ballard	JL, ACI	082	95114	R	N		
103	103	1995.04.29	Ballard	JL, ACI	082	95115	R	N		
104	104	1995.04.29	Ballard	JL, ACI	082	95116	R	N		
105	105	1995.04.29	Ballard	JL, ACI	082	95117	R	N		
106	106	1995.04.29	Ballard	JL, ACI	082	95118	R	N		
107	107	1995.04.29	Ballard	JL, ACI	082	95119	R	N		

Order of proc-ssing	Order of Bndng / Flgng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
108	108	1995.04.29	Ballard	JL, ACI	082	95120	R	N		
109	109	1995.04.29	Ballard	JL, ACI	082	95121	R	N		
110	110	1995.04.29	Ballard	JL, ACI	082	95122	R	N		
111	111	1995.04.29	Ballard	JL, ACI	082	95123	R	N		
112	112	1995.04.29	Ballard	JL, ACI	082	95124	R	N		
113	113	1995.04.29	Ballard	JL, ACI	082	95125	R	N		
114	114	1995.04.29	Ballard	JL, ACI	082	95126	R	N		
115	115	1995.04.29	Ballard	JL, ACI	082	95127	R	N		Stopped at 1640hrs.
116	116	1995.04.30	Ballard	JL, ACI	082	95058	R	Y	L	Started soon after 1114hrs
117	117	1995.04.30	Ballard	JL, ACI	082	95129	R	Y	L	On 30/4, only flagged largest chicks.
118	118	1995.04.30	Ballard	JL, ACI	082	95131	R	Y	L	
119	119	1995.04.30	Ballard	JL, ACI	082	95130	R	Y	L	
120	120	1995.04.30	Ballard	JL, ACI	082	95128	R	Y	L	Photos of 95128 or 95132
121	121	1995.04.30	Ballard	JL, ACI	082	95132	R	Y	L	Photos of 95128 or 95132
122	122	1995.04.30	Ballard	JL, ACI	082	95110	R	Y	L	
123	123	1995.04.30	Ballard	JL, ACI	082	95133	R	Y	L	
124	124	1995.04.30	Ballard	JL, ACI	082	95134	R	N		
125	125	1995.04.30	Ballard	JL, ACI	082	95135	L	N		'Banded on left leg by mistake'.
126	126	1995.04.30	Ballard	JL, ACI	082	95136	L	N		'Banded on left leg by mistake'.
127	127	1995.04.30	Ballard	JL, ACI	082	95137	R	Y	L	
128	128	1995.04.30	Ballard	JL, ACI	082	95138	R	N		
129	129	1995.04.30	Ballard	JL, ACI	082	95139	R	N		
130	130	1995.04.30	Ballard	JL, ACI	082	95140	R	N		
131	131	1995.04.30	Ballard	JL, ACI	082	95141	R	N		
132	132	1995.04.30	Ballard	JL, ACI	082	95142	R	N		
133	133	1995.04.30	Ballard	JL, ACI	082	95143	R	N		
134	134	1995.04.30	Ballard	JL, ACI	082	95144	R	Y	L	
135	135	1995.04.30	Ballard	JL, ACI	082	95145	R	Y	L	
136	136	1995.04.30	Ballard	JL, ACI	082	95146	R	N		
137	137	1995.04.30	Ballard	JL, ACI	082	95147	R	N		
138	138	1995.04.30	Ballard	JL, ACI	082	95148	R	Y	L	
139	139	1995.04.30	Ballard	JL, ACI	082	95149	R	N		
140		1995.04.30	Ballard	JL, ACI	082	95094				Retrap of banded but not flagged chick.
141		1995.04.30	Ballard	JL, ACI	082	95092				Retrap of banded but not flagged chick.
142	140	1995.04.30	Ballard	JL, ACI	082	95150	R	N		Stopped at 1255hrs.
143	141	1995.04.30	Ballard	JL, ACI	082	95151	R	Y	L	Re-started at 1315hrs.
144	142	1995.04.30	Ballard	JL, ACI	082	95152	R	Y	L	
145	143	1995.04.30	Ballard	JL, ACI	082	95153	R	Y	L	
146	144	1995.04.30	Ballard	JL, ACI	082	95154	R	Y	L	
147	145	1995.04.30	Ballard	JL, ACI	082	95155	R	N		
148	146	1995.04.30	Ballard	JL, ACI	082	95156	R	N		
149	147	1995.04.30	Ballard	JL, ACI	082	95157	R	N		
150	148	1995.04.30	Ballard	JL, ACI	082	95158	R	N		
151	149	1995.04.30	Ballard	JL, ACI	082	95159	R	N		
152	150	1995.04.30	Ballard	JL, ACI	082	95160	R	N		
153	151	1995.04.30	Ballard	JL, ACI	082	95161	R	N		
154	152	1995.04.30	Ballard	JL, ACI	082	95162	R	N		
155	153	1995.04.30	Ballard	JL, ACI	082	95163	R	N		
156	154	1995.04.30	Ballard	JL, ACI	082	95164	R	N		
157	155	1995.04.30	Ballard	JL, ACI	082	95165	R	N		

Order of proc-ssing	Order of Bndng / Flgng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
158	156	1995.04.30	Ballard	JL, ACI	082	95166	R	N		
159	157	1995.04.30	Ballard	JL, ACI	082	95167	R	N		
160	158	1995.04.30	Ballard	JL, ACI	082	95168	R	N		
161	159	1995.04.30	Ballard	JL, ACI	082	95169	R	N		
162	160	1995.04.30	Ballard	JL, ACI	082	95170	R	N		
163	161	1995.04.30	Ballard	JL, ACI	082	95171	R	N		
164	162	1995.04.30	Ballard	JL, ACI	082	95172	R	N		
165	163	1995.04.30	Ballard	JL, ACI	082	95173	R	N		
166	164	1995.04.30	Ballard	JL, ACI	082	95174	R	N		
167	165	1995.04.30	Ballard	JL, ACI	082	95175	R	N		
168	166	1995.04.30	Ballard	JL, ACI	082	95176	R	N		
169	167	1995.04.30	Ballard	JL, ACI	082	95177	R	N		
170	168	1995.04.30	Ballard	JL, ACI	082	95178	R	N		
171	169	1995.04.30	Ballard	JL, ACI	082	95179	R	N		
172	170	1995.04.30	Ballard	JL, ACI	082	95180	R	N		
173	171	1995.04.30	Ballard	JL, ACI	082	95181	R	N		
174	172	1995.04.30	Ballard	JL, ACI	082	95182	R	N		
175	173	1995.04.30	Ballard	JL, ACI	082	95183	R	N		
176	174	1995.04.30	Ballard	JL, ACI	082	95184	R	N		
177	175	1995.04.30	Ballard	JL, ACI	082	95185	R	N		
178	176	1995.04.30	Ballard	JL, ACI	082	95186	R	N		
179	177	1995.04.30	Ballard	JL, ACI	082	95187	R	N		
180	178	1995.04.30	Ballard	JL, ACI	082	95188	R	N		
181	179	1995.04.30	Ballard	JL, ACI	082	95189	R	Y	L	
182	180	1995.04.30	Ballard	JL, ACI	082	95190	R	Y	L	
183	181	1995.04.30	Ballard	JL, ACI	082	95191	R	Y	L	
184	182	1995.04.30	Ballard	JL, ACI	082	95192	R	N		
185	183	1995.04.30	Ballard	JL, ACI	082	95193	R	N		
186	184	1995.04.30	Ballard	JL, ACI	082	95194	R	N		
187	185	1995.04.30	Ballard	JL, ACI	082	95195	R	N		
188	186	1995.04.30	Ballard	JL, ACI	082	95196	R	N		
189	187	1995.04.30	Ballard	JL, ACI	082	95197	R	N		
190	188	1995.04.30	Ballard	JL, ACI	082	95198	R	N		
191	189	1995.04.30	Ballard	JL, ACI	082	95199	R	N		
192	190	1995.04.30	Ballard	JL, ACI	082	95200	R	N		
193	191	1995.04.30	Ballard	JL, ACI	082	95201	R	N		
194	192	1995.04.30	Ballard	JL, ACI	082	95202	R	N		
195	193	1995.04.30	Ballard	JL, ACI	082	95203	R	N		
196	194	1995.04.30	Ballard	JL, ACI	082	95204	R	N		
197	195	1995.04.30	Ballard	JL, ACI	082	95205	R	N		
198	196	1995.04.30	Ballard	JL, ACI	082	95206	R	N		
199	197	1995.04.30	Ballard	JL, ACI	082	95207	R	N		
200	198	1995.04.30	Ballard	JL, ACI	082	95208	R	N		
201	199	1995.04.30	Ballard	JL, ACI	082	95209	R	N		
202	200	1995.04.30	Ballard	JL, ACI	082	95210	R	N		
203	201	1995.04.30	Ballard	JL, ACI	082	95211	R	N		
204	202	1995.04.30	Ballard	JL, ACI	082	95212	R	N		
205	203	1995.04.30	Ballard	JL, ACI	082	95213	R	N		
206	204	1995.04.30	Ballard	JL, ACI	082	95214	R	N		
207	205	1995.04.30	Ballard	JL, ACI	082	95215	R	N		
208	206	1995.04.30	Ballard	JL, ACI	082	95216	R	N		
209	207	1995.04.30	Ballard	JL, ACI	082	95217	R	N		
210	208	1995.04.30	Ballard	JL, ACI	082	95218	R	N		
211	209	1995.04.30	Ballard	JL, ACI	082	95219	R	N		
212	210	1995.04.30	Ballard	JL, ACI	082	95220	R	N		
213	211	1995.04.30	Ballard	JL, ACI	082	95221	R	N		
214	212	1995.04.30	Ballard	JL, ACI	082	95222	R	N		

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
215	213	1995.04.30	Ballard	JL, ACI	082	95223	R	N		
216	214	1995.04.30	Ballard	JL, ACI	082	95224	R	N		
217	215	1995.04.30	Ballard	JL, ACI	082	95225	R	N		
218	216	1995.04.30	Ballard	JL, ACI	082	95226	R	N		
219	217	1995.04.30	Ballard	JL, ACI	082	95227	R	N		
220	218	1995.04.30	Ballard	JL, ACI	082	95228	R	N		
221	219	1995.04.30	Ballard	JL, ACI	082	95229	R	N		
222	220	1995.04.30	Ballard	JL, ACI	082	95230	R	N		
223	221	1995.04.30	Ballard	JL, ACI	082	95231	R	N		
224	222	1995.04.30	Ballard	JL, ACI	082	95232	R	N		
225	223	1995.04.30	Ballard	JL, ACI	082	95233	R	N		
226	224	1995.04.30	Ballard	JL, ACI	082	95234	R	N		
227	225	1995.04.30	Ballard	JL, ACI	082	95235	R	N		
228	226	1995.04.30	Ballard	JL, ACI	082	95236	R	N		
229	227	1995.04.30	Ballard	JL, ACI	082	95237	R	N		
230	228	1995.04.30	Ballard	JL, ACI	082	95238	R	N		
231	229	1995.04.30	Ballard	JL, ACI	082	95239	R	N		
232	230	1995.04.30	Ballard	JL, ACI	082	95240	R	N		
233	231	1995.04.30	Ballard	JL, ACI	082	95241	R	N		
234	232	1995.04.30	Ballard	JL, ACI	082	95242	R	N		
235	233	1995.04.30	Ballard	JL, ACI	082	95243	R	N		
236	234	1995.04.30	Ballard	JL, ACI	082	95244	R	N		Finished at 1601hrs. '19 flagged on left'.
237	235	1995.05.01	Ballard	JL, ACI	082	95245	R	N		Started soon after 1220hrs.
238	236	1995.05.01	Ballard	JL, ACI	082	95246	R	N		
239	237	1995.05.01	Ballard	JL, ACI	082	95247	R	N		
240	238	1995.05.01	Ballard	JL, ACI	082	95248	R	N		
241	239	1995.05.01	Ballard	JL, ACI	082	95249	R	N		
242	240	1995.05.01	Ballard	JL, ACI	082	95250	R	N		
243	241	1995.05.01	Ballard	JL, ACI	082	95251	R	N		
244	242	1995.05.01	Ballard	JL, ACI	082	95252	R	N		
245	243	1995.05.01	Ballard	JL, ACI	082	95253	R	N		
246	244	1995.05.01	Ballard	JL, ACI	082	95254	R	Y	L	
247	245	1995.05.01	Ballard	JL, ACI	082	95255	R	Y	L	
248	246	1995.05.01	Ballard	JL, ACI	082	95256	R	N		
249	247	1995.05.01	Ballard	JL, ACI	082	95257	R	N		
250	248	1995.05.01	Ballard	JL, ACI	082	95258	R	N		
251	249	1995.05.01	Ballard	JL, ACI	082	95259	R	N		
252	250	1995.05.01	Ballard	JL, ACI	082	95260	R	N		
253	251	1995.05.01	Ballard	JL, ACI	082	95261	R	N		
254	252	1995.05.01	Ballard	JL, ACI	082	95262	R	N		
255	253	1995.05.01	Ballard	JL, ACI	082	95263	R	N		
256	254	1995.05.01	Ballard	JL, ACI	082	95264	R	Y	L	
257	255	1995.05.01	Ballard	JL, ACI	082	95265	R	Y	L	
258	256	1995.05.01	Ballard	JL, ACI	082	95266	R	Y	L	
259	257	1995.05.01	Ballard	JL, ACI	082	95267	R	N		
260	258	1995.05.01	Ballard	JL, ACI	082	95268	R	Y	L	
261	259	1995.05.01	Ballard	JL, ACI	082	95269	R	N		
262	260	1995.05.01	Ballard	JL, ACI	082	95270	R	N		
263	261	1995.05.01	Ballard	JL, ACI	082	95271	R	Y	L	
264	262	1995.05.01	Ballard	JL, ACI	082	95272	R	N		
265	263	1995.05.01	Ballard	JL, ACI	082	95273	R	Y	L	
266	264	1995.05.01	Ballard	JL, ACI	082	95274	R	Y	L	
267	265	1995.05.01	Ballard	JL, ACI	082	95275	R	N		
268	266	1995.05.01	Ballard	JL, ACI	082	95276	R	N		
269	267	1995.05.01	Ballard	JL, ACI	082	95277	R	N		

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
270	268	1995.05.01	Ballard	JL, ACI	082	95278	R	N		
271	269	1995.05.01	Ballard	JL, ACI	082	95279	R	N		
272	270	1995.05.01	Ballard	JL, ACI	082	95280	R	N		
273	271	1995.05.01	Ballard	JL, ACI	082	95281	R	N		
274	272	1995.05.01	Ballard	JL, ACI	082	95282	R	N		
275	273	1995.05.01	Ballard	JL, ACI	082	95283	R	N		
276	274	1995.05.01	Ballard	JL, ACI	082	95284	R	N		
277	275	1995.05.01	Ballard	JL, ACI	082	95285	R	N		
278	276	1995.05.01	Ballard	JL, ACI	082	95286	R	N		
279	277	1995.05.01	Ballard	JL, ACI	082	95287	R	N		
280	278	1995.05.01	Ballard	JL, ACI	082	95288	R	N		
281	279	1995.05.01	Ballard	JL, ACI	082	95289	R	N		
282	280	1995.05.01	Ballard	JL, ACI	082	95290	R	Y	L	
283	281	1995.05.01	Ballard	JL, ACI	082	95291	R	N		
284	282	1995.05.01	Ballard	JL, ACI	082	95292	R	N		
285	283	1995.05.01	Ballard	JL, ACI	082	95293	R	N		
286	284	1995.05.01	Ballard	JL, ACI	082	95294	R	N		
287	285	1995.05.01	Ballard	JL, ACI	082	95295	R	N		
288	286	1995.05.01	Ballard	JL, ACI	082	95296	R	N		
289	287	1995.05.01	Ballard	JL, ACI	082	95297	R	N		
290	288	1995.05.01	Ballard	JL, ACI	082	95298	R	N		
291	289	1995.05.01	Ballard	JL, ACI	082	95299	R	N		
292	290	1995.05.01	Ballard	JL, ACI	082	95300	R	N		
293	291	1995.05.01	Ballard	JL, ACI	082	95301	R	N		
294	292	1995.05.01	Ballard	JL, ACI	082	95302	R	N		
295	293	1995.05.01	Ballard	JL, ACI	082	95303	R	N		
296	294	1995.05.01	Ballard	JL, ACI	082	95304	R	N		
297	295	1995.05.01	Ballard	JL, ACI	082	95305	R	N		
298	296	1995.05.01	Ballard	JL, ACI	082	95306	R	N		
299	297	1995.05.01	Ballard	JL, ACI	082	95307	R	N		
300	298	1995.05.01	Ballard	JL, ACI	082	95308	R	N		
301	299	1995.05.01	Ballard	JL, ACI	082	95309	R	N		
302	300	1995.05.01	Ballard	JL, ACI	082	95310	R	N		
303	301	1995.05.01	Ballard	JL, ACI	082	95311	R	N		
304	302	1995.05.01	Ballard	JL, ACI	082	95312	R	N		
305	303	1995.05.01	Ballard	JL, ACI	082	95313	R	N		
306	304	1995.05.01	Ballard	JL, ACI	082	95314	R	N		
307	305	1995.05.01	Ballard	JL, ACI	082	95315	R	N		
308	306	1995.05.01	Ballard	JL, ACI	082	95316	R	N		
309	307	1995.05.01	Ballard	JL, ACI	082	95317	R	N		
310	308	1995.05.01	Ballard	JL, ACI	082	95318	R	N		
311	309	1995.05.01	Ballard	JL, ACI	082	95319	R	N		
312	310	1995.05.01	Ballard	JL, ACI	082	95320	R	N		
313	311	1995.05.01	Ballard	JL, ACI	082	95321	R	N		
314	312	1995.05.01	Ballard	JL, ACI	082	95322	R	N		
315	313	1995.05.01	Ballard	JL, ACI	082	95323	R	N		
316	314	1995.05.01	Ballard	JL, ACI	082	95324	R	N		
317	315	1995.05.01	Ballard	JL, ACI	082	95325	R	N		
318	316	1995.05.01	Ballard	JL, ACI	082	95326	R	N		
319	317	1995.05.01	Ballard	JL, ACI	082	95327	R	N		
320	318	1995.05.01	Ballard	JL, ACI	082	95328	R	N		
321	319	1995.05.01	Ballard	JL, ACI	082	95329	R	N		
322	320	1995.05.01	Ballard	JL, ACI	082	95330	R	N		
323	321	1995.05.01	Ballard	JL, ACI	082	95331	R	N		
324	322	1995.05.01	Ballard	JL, ACI	082	95332	R	N		
325	323	1995.05.01	Ballard	JL, ACI	082	95333	R	N		
326	324	1995.05.01	Ballard	JL, ACI	082	95334	R	N		

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
327	325	1995.05.01	Ballard	JL, ACI	082	95335	R	N		
328	326	1995.05.01	Ballard	JL, ACI	082	95336	R	N		
329	327	1995.05.01	Ballard	JL, ACI	082	95337	R	N		
330	328	1995.05.01	Ballard	JL, ACI	082	95338	R	N		
331	329	1995.05.01	Ballard	JL, ACI	082	95339	R	N		
332	330	1995.05.01	Ballard	JL, ACI	082	95340	R	N		
333	331	1995.05.01	Ballard	JL, ACI	082	95341	R	N		
334	332	1995.05.01	Ballard	JL, ACI	082	95342	R	N		
335	333	1995.05.01	Ballard	JL, ACI	082	95343	R	N		
336	334	1995.05.01	Ballard	JL, ACI	082	95344	R	N		
337	335	1995.05.01	Ballard	JL, ACI	082	95345	R	N		
338	336	1995.05.01	Ballard	JL, ACI	082	95346	R	N		
339	337	1995.05.01	Ballard	JL, ACI	082	95347	R	N		
340	338	1995.05.01	Ballard	JL, ACI	082	95348	R	N		
341	339	1995.05.01	Ballard	JL, ACI	082	95349	R	N		
342	340	1995.05.01	Ballard	JL, ACI	082	95350	R	N		
343	341	1995.05.01	Ballard	JL, ACI	082	95351	R	N		
344	342	1995.05.01	Ballard	JL, ACI	082	95352	R	N		
345	343	1995.05.01	Ballard	JL, ACI	082	95353	R	Y	L	
346	344	1995.05.01	Ballard	JL, ACI	082	95354	R	Y	L	
347	345	1995.05.01	Ballard	JL, ACI	082	95355	R	Y	L	
348	346	1995.05.01	Ballard	JL, ACI	082	95356	R	Y	L	
349	347	1995.05.01	Ballard	JL, ACI	082	95357	R	Y	L	
350	348	1995.05.01	Ballard	JL, ACI	082	95358	R	Y	L	
351	349	1995.05.01	Ballard	JL, ACI	082	95359	R	Y	L	
352	350	1995.05.01	Ballard	JL, ACI	082	95360	R	Y	L	
353	351	1995.05.01	Ballard	JL, ACI	082	95361	R	Y	L	
354	352	1995.05.01	Ballard	JL, ACI	082	95362	R	Y	L	
355	353	1995.05.01	Ballard	JL, ACI	082	95363	R	N		
356	354	1995.05.01	Ballard	JL, ACI	082	95364	R	N		
357	355	1995.05.01	Ballard	JL, ACI	082	95365	R	Y	L	
358	356	1995.05.01	Ballard	JL, ACI	082	95366	R	Y	L	
359	357	1995.05.01	Ballard	JL, ACI	082	95367	R	N		
360	358	1995.05.01	Ballard	JL, ACI	082	95368	R	Y	L	
361	359	1995.05.01	Ballard	JL, ACI	082	95369	R	Y	L	Stopped at 1640hrs.
362	360	1995.05.02	Ballard	JL, ACI	082	95370	R	Y	L	Started after 0840hrs. ACh with us.
363	361	1995.05.02	Ballard	JL, ACI	082	95371	R	N		Stopped at 0925hrs.
364	362	1995.05.02	Ballard	JL, ACI	082	95372	R	N		Re-started at 1432hrs.
365	363	1995.05.02	Ballard	JL, ACI	082	95373	R	N		
366	364	1995.05.02	Ballard	JL, ACI	082	95374	R	N		
367	365	1995.05.02	Ballard	JL, ACI	082	95375	R	N		
368	366	1995.05.02	Ballard	JL, ACI	082	95376	R	N		
369	367	1995.05.02	Ballard	JL, ACI	082	95377	R	N		
370	368	1995.05.02	Ballard	JL, ACI	082	95378	R	N		
371	369	1995.05.02	Ballard	JL, ACI	082	95379	R	N		
372	370	1995.05.02	Ballard	JL, ACI	082	95380	R	N		
373	371	1995.05.02	Ballard	JL, ACI	082	95381	R	N		
374	372	1995.05.02	Ballard	JL, ACI	082	95382	R	Y	L	
375	373	1995.05.02	Ballard	JL, ACI	082	95383	R	N		
376	374	1995.05.02	Ballard	JL, ACI	082	95384	R	Y	L	
377	375	1995.05.02	Ballard	JL, ACI	082	95385	R	N		
378	376	1995.05.02	Ballard	JL, ACI	082	95386	R	N		
379	377	1995.05.02	Ballard	JL, ACI	082	95387	R	Y	L	
380	378	1995.05.02	Ballard	JL, ACI	082	95388	R	Y	L	
381	379	1995.05.02	Ballard	JL, ACI	082	95389	R	N		
382	380	1995.05.02	Ballard	JL, ACI	082	95390	R	N		

Order of proc-ssing	Order of Bndng / Flgng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
383	381	1995.05.02	Ballard	JL, ACI	082	95391	R	N		
384	382	1995.05.02	Ballard	JL, ACI	082	95392	R	N		
385	383	1995.05.02	Ballard	JL, ACI	082	95393	R	Y	L	
386	384	1995.05.02	Ballard	JL, ACI	082	95394	R	Y	L	
387	385	1995.05.02	Ballard	JL, ACI	082	95396	R	Y	L	1542hrs.
388	386	1995.05.02	Ballard	JL, ACI	082	95397	R	Y	L	
389	387	1995.05.02	Ballard	JL, ACI	082	95395	R	Y	L	
390	388	1995.05.02	Ballard	JL, ACI	082	95398	R	Y	L	
391	389	1995.05.02	Ballard	JL, ACI	082	95399	R	Y	L	
392	390	1995.05.02	Ballard	JL, ACI	082	95400	R	Y	L	
393	391	1995.05.02	Ballard	JL, ACI	082	95401	R	Y	L	
394	392	1995.05.02	Ballard	JL, ACI	082	95402	R	Y	L	
395	393	1995.05.02	Ballard	JL, ACI	082	95403	R	Y	L	
396	394	1995.05.02	Ballard	JL, ACI	082	95404	R	Y	L	
397	395	1995.05.02	Ballard	JL, ACI	082	95405	R	Y	L	
398	396	1995.05.02	Ballard	JL, ACI	082	95406	R	Y	L	
399	397	1995.05.02	Ballard	JL, ACI	082	95407	R	Y	L	
400	398	1995.05.02	Ballard	JL, ACI	082	95408	R	Y	L	
401	399	1995.05.02	Ballard	JL, ACI	082	95409	R	Y	L	
402	400	1995.05.02	Ballard	JL, ACI	082	95410	R	Y	L	
403	401	1995.05.02	Ballard	JL, ACI	082	95411	R	Y	L	
404	402	1995.05.02	Ballard	JL, ACI	082	95412	R	Y	L	
405	403	1995.05.02	Ballard	JL, ACI	082	95413	R	Y	L	
406	404	1995.05.02	Ballard	JL, ACI	082	95414	R	Y	L	
407	405	1995.05.02	Ballard	JL, ACI	082	95415	R	Y	L	Stopped at 1650hrs. ACh with us.
408	406	1995.05.03	Ballard	JL, ACI	082	95416	R	Y	L	Started after 0906hrs.
409	407	1995.05.03	Ballard	JL, ACI	082	95417	R	Y	L	
410	408	1995.05.03	Ballard	JL, ACI	082	95418	R	Y	L	
411	409	1995.05.03	Ballard	JL, ACI	082	95419	R	Y	L	
412	410	1995.05.03	Ballard	JL, ACI	082	95420	R	N		
413	411	1995.05.03	Ballard	JL, ACI	082	95421	R	Y	L	
414	412	1995.05.03	Ballard	JL, ACI	082	95422	R	Y	L	
415	413	1995.05.03	Ballard	JL, ACI	082	95423	R	Y	L	
416	414	1995.05.03	Ballard	JL, ACI	082	95424	R	Y	L	
417	415	1995.05.03	Ballard	JL, ACI	082	95425	R	Y	L	
418	416	1995.05.03	Ballard	JL, ACI	082	95426	R	Y	L	
419	417	1995.05.03	Ballard	JL, ACI	082	95427	R	Y	L	
420	418	1995.05.03	Ballard	JL, ACI	082	95428	R	Y	L	
421	419	1995.05.03	Ballard	JL, ACI	082	95429	R	Y	L	
422	420	1995.05.03	Ballard	JL, ACI	082	95430	R	Y	L	
423	421	1995.05.03	Ballard	JL, ACI	082	95431	R	Y	L	
424	422	1995.05.03	Ballard	JL, ACI	082	95432	R	Y	L	
425	423	1995.05.03	Ballard	JL, ACI	082	95433	R	Y	L	
426	424	1995.05.03	Ballard	JL, ACI	082	95434	R	Y	L	
427	425	1995.05.03	Ballard	JL, ACI	082	95435	R	Y	L	
428	426	1995.05.03	Ballard	JL, ACI	082	95436	R	Y	L	
429	427	1995.05.03	Ballard	JL, ACI	082	95437	R	Y	L	
430	428	1995.05.03	Ballard	JL, ACI	082	95438	R	Y	L	
431	429	1995.05.03	Ballard	JL, ACI	082	95439	R	Y	L	
432	430	1995.05.03	Ballard	JL, ACI	082	95440	R	Y	L	
433	431	1995.05.03	Ballard	JL, ACI	082	95441	R	Y	L	
434	432	1995.05.03	Ballard	JL, ACI	082	95442	R	Y	L	
435	433	1995.05.03	Ballard	JL, ACI	082	95443	R	Y	L	
436	434	1995.05.03	Ballard	JL, ACI	082	95444	R	Y	L	
437	435	1995.05.03	Ballard	JL, ACI	082	95445	R	Y	L	
438	436	1995.05.03	Ballard	JL, ACI	082	95446	R	Y	L	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
439	437	1995.05.03	Ballard	JL, ACI	082	95447	R	Y	L	
440	438	1995.05.03	Ballard	JL, ACI	082	95448	R	Y	L	
441	439	1995.05.03	Ballard	JL, ACI	082	95449	R	Y	L	
442	440	1995.05.03	Ballard	JL, ACI	082	95450	R	Y	L	
443	441	1995.05.03	Ballard	JL, ACI	082	95452	R	Y	L	Band 95451 missing & presumed not used.
444	442	1995.05.03	Ballard	JL, ACI	082	95453	R	Y	L	
445	443	1995.05.03	Ballard	JL, ACI	082	95454	R	Y	L	
446	444	1995.05.03	Ballard	JL, ACI	082	95455	R	Y	L	
447	445	1995.05.03	Ballard	JL, ACI	082	95456	R	Y	L	
448	446	1995.05.03	Ballard	JL, ACI	082	95457	R	Y	L	
449	447	1995.05.03	Ballard	JL, ACI	082	95458	R	Y	L	
450	448	1995.05.03	Ballard	JL, ACI	082	95459	R	Y	L	
451	449	1995.05.03	Ballard	JL, ACI	082	95460	R	Y	L	
452	450	1995.05.03	Ballard	JL, ACI	082	95461	R	Y	L	
453	451	1995.05.03	Ballard	JL, ACI	082	95462	R	Y	L	
454	452	1995.05.03	Ballard	JL, ACI	082	95463	R	Y	L	
455	453	1995.05.03	Ballard	JL, ACI	082	95464	R	Y	L	
456	454	1995.05.03	Ballard	JL, ACI	082	95465	R	Y	L	
457	455	1995.05.03	Ballard	JL, ACI	082	95466	R	Y	L	
458	456	1995.05.03	Ballard	JL, ACI	082	95467	R	Y	L	
459	457	1995.05.03	Ballard	JL, ACI	082	95468	R	Y	L	
460	458	1995.05.03	Ballard	JL, ACI	082	95469	R	Y	L	
461	459	1995.05.03	Ballard	JL, ACI	082	95470	R	Y	L	
462	460	1995.05.03	Ballard	JL, ACI	082	95471	R	Y	L	
463	461	1995.05.03	Ballard	JL, ACI	082	95472	R	Y	L	
464	462	1995.05.03	Ballard	JL, ACI	082	95473	R	Y	L	
465	463	1995.05.03	Ballard	JL, ACI	082	95474	R	Y	L	
466	464	1995.05.03	Ballard	JL, ACI	082	95475	R	Y	L	Stopped before 1210hrs.
467	465	1995.05.03	Ballard	JL, ACI	082	95476	R	Y	L	Re-started after 1300hrs.
468	466	1995.05.03	Ballard	JL, ACI	082	95477	R	Y	L	
469	467	1995.05.03	Ballard	JL, ACI	082	95478	R	Y	L	
470	468	1995.05.03	Ballard	JL, ACI	082	95479	R	Y	L	
471	469	1995.05.03	Ballard	JL, ACI	082	95480	R	Y	L	
472	470	1995.05.03	Ballard	JL, ACI	082	95481	R	Y	L	
473	471	1995.05.03	Ballard	JL, ACI	082	95482	R	Y	L	
474	472	1995.05.03	Ballard	JL, ACI	082	95483	R	Y	L	
475	473	1995.05.03	Ballard	JL, ACI	082	95484	R	Y	L	
476	474	1995.05.03	Ballard	JL, ACI	082	95485	R	Y	L	
477	475	1995.05.03	Ballard	JL, ACI	082	95486	R	Y	L	
478	476	1995.05.03	Ballard	JL, ACI	082	95487	R	Y	L	
479	477	1995.05.03	Ballard	JL, ACI	082	95488	R	Y	L	
480	478	1995.05.03	Ballard	JL, ACI	082	95489	R	Y	L	
481	479	1995.05.03	Ballard	JL, ACI	082	95490	R	Y	L	
482	480	1995.05.03	Ballard	JL, ACI	082	95491	R	Y	L	
483	481	1995.05.03	Ballard	JL, ACI	082	95492	R	Y	L	
484	482	1995.05.03	Ballard	JL, ACI	082	95493	R	Y	L	
485	483	1995.05.03	Ballard	JL, ACI	082	95494	R	Y	L	
486	484	1995.05.03	Ballard	JL, ACI	082	95495	R	Y	L	
487	485	1995.05.03	Ballard	JL, ACI	082	95496	R	Y	L	
488	486	1995.05.03	Ballard	JL, ACI	082	95497	R	Y	L	
489	487	1995.05.03	Ballard	JL, ACI	082	95498	R	Y	L	
490	488	1995.05.03	Ballard	JL, ACI	082	95499	R	Y	L	
491	489	1995.05.03	Ballard	JL, ACI	082	95500	R	Y	L	
492	490	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	Start 4 flagged only.
493	491	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
494	492	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	

Order of processing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
495	493	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	End 4 flagged only 1505hrs. Start 3 flagged only.
496	494	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
497	495	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
498	496	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	End 3 flagged only. Start 10 flagged only.
499	497	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
500	498	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
501	499	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
502	500	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
503	501	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
504	502	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
505	503	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
506	504	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
507	505	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	End 10 flagged only. Stopped before 1610hrs.
508	506	1995.05.03	Ballard	JL, ACI		Not bnnd		Y	L	
509	507	1995.06.11	Marmion	GBP, ACI, ACh	082	95501	L	Y	R	Started before 0930hrs.
510	508	1995.06.11	Marmion	GBP, ACI, ACh	082	95502	L	Y	R	
511	509	1995.06.11	Marmion	GBP, ACI, ACh	082	95503	L	Y	R	
512	510	1995.06.11	Marmion	GBP, ACI, ACh	082	95504	L	Y	R	0930hrs.
513	511	1995.06.11	Marmion	GBP, ACI, ACh	082	95505	L	Y	R	
514	512	1995.06.11	Marmion	GBP, ACI, ACh	082	95506	L	Y	R	
515	513	1995.06.11	Marmion	GBP, ACI, ACh	082	95507	L	Y	R	
516	514	1995.06.11	Marmion	GBP, ACI, ACh	082	95508	L	Y	R	
517	515	1995.06.11	Marmion	GBP, ACI, ACh	082	95509	L	Y	R	
518	516	1995.06.11	Marmion	GBP, ACI, ACh	082	95510	L	Y	R	
519	517	1995.06.11	Marmion	GBP, ACI, ACh	082	95511	L	Y	R	
520	518	1995.06.11	Marmion	GBP, ACI, ACh	082	95512	L	Y	R	
521	519	1995.06.11	Marmion	GBP, ACI, ACh	082	95513	L	Y	R	1011hrs?
522	520	1995.06.11	Marmion	GBP, ACI, ACh	082	95514	L	Y	R	
523	521	1995.06.11	Marmion	GBP, ACI, ACh	082	95515	L	Y	R	
524	522	1995.06.11	Marmion	GBP, ACI, ACh	082	95516	L	Y	R	
525	523	1995.06.11	Marmion	GBP, ACI, ACh	082	95517	L	Y	R	
526	524	1995.06.11	Marmion	GBP, ACI, ACh	082	95518	L	Y	R	
527	525	1995.06.11	Marmion	GBP, ACI, ACh	082	95519	L	Y	R	
528	526	1995.06.11	Marmion	GBP, ACI, ACh	082	95520	L	Y	R	
529	527	1995.06.11	Marmion	GBP, ACI, ACh	082	95521	L	Y	R	
530	528	1995.06.11	Marmion	GBP, ACI, ACh	082	95522	L	Y	R	
531	529	1995.06.11	Marmion	GBP, ACI, ACh	082	95523	L	Y	R	
532	530	1995.06.11	Marmion	GBP, ACI, ACh	082	95524	L	Y	R	
533	531	1995.06.11	Marmion	GBP, ACI, ACh	082	95525	L	Y	R	
534	532	1995.06.11	Marmion	GBP, ACI, ACh	082	95526	L	Y	R	
535	533	1995.06.11	Marmion	GBP, ACI, ACh	082	95527	L	Y	R	
536	534	1995.06.11	Marmion	GBP, ACI, ACh	082	95528	L	Y	R	
537	535	1995.06.11	Marmion	GBP, ACI, ACh	082	95529	L	Y	R	
538	536	1995.06.11	Marmion	GBP, ACI, ACh	082	95530	L	Y	R	
539	537	1995.06.11	Marmion	GBP, ACI, ACh	082	95531	L	Y	R	
540	538	1995.06.11	Marmion	GBP, ACI, ACh	082	95532	L	Y	R	
541	539	1995.06.11	Marmion	GBP, ACI, ACh	082	95533	L	Y	R	
542	540	1995.06.11	Marmion	GBP, ACI, ACh	082	95534	L	Y	R	
543	541	1995.06.11	Marmion	GBP, ACI, ACh	082	95535	L	Y	R	
544	542	1995.06.11	Marmion	GBP, ACI, ACh	082	95536	L	Y	R	
545	543	1995.06.11	Marmion	GBP, ACI, ACh	082	95537	L	Y	R	
546	544	1995.06.11	Marmion	GBP, ACI, ACh	082	95538	L	Y	R	
547	545	1995.06.11	Marmion	GBP, ACI, ACh	082	95539	L	Y	R	
548	546	1995.06.11	Marmion	GBP, ACI, ACh	082	95540	L	Y	R	
549	547	1995.06.11	Marmion	GBP, ACI, ACh	082	95541	L	Y	R	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
550	548	1995.06.11	Marmion	GBP, ACI, ACh	082	95542	L	Y	R	
551	549	1995.06.11	Marmion	GBP, ACI, ACh	082	95543	L	Y	R	
552	550	1995.06.11	Marmion	GBP, ACI, ACh	082	95544	L	Y	R	
553	551	1995.06.11	Marmion	GBP, ACI, ACh	082	95545	L	Y	R	
554	552	1995.06.11	Marmion	GBP, ACI, ACh	082	95546	L	Y	R	
555	553	1995.06.11	Marmion	GBP, ACI, ACh	082	95547	L	Y	R	
556	554	1995.06.11	Marmion	GBP, ACI, ACh	082	95548	L	Y	R	
557	555	1995.06.11	Marmion	GBP, ACI, ACh	082	95549	L	Y	R	
558	556	1995.06.11	Marmion	GBP, ACI, ACh	082	95550	L	Y	R	
559	557	1995.06.11	Marmion	GBP, ACI, ACh	082	95551	L	Y	R	
560	558	1995.06.11	Marmion	GBP, ACI, ACh	082	95552	L	Y	R	
561	559	1995.06.11	Marmion	GBP, ACI, ACh	082	95553	L	Y	R	
562	560	1995.06.11	Marmion	GBP, ACI, ACh	082	95554	L	Y	R	
563	561	1995.06.11	Marmion	GBP, ACI, ACh	082	95555	L	Y	R	
564	562	1995.06.11	Marmion	GBP, ACI, ACh	082	95556	L	Y	R	
565	563	1995.06.11	Marmion	GBP, ACI, ACh	082	95557	L	Y	R	
566	564	1995.06.11	Marmion	GBP, ACI, ACh	082	95558	L	Y	R	
567	565	1995.06.11	Marmion	GBP, ACI, ACh	082	95559	L	Y	R	
568	566	1995.06.11	Marmion	GBP, ACI, ACh	082	95560	L	Y	R	
569	567	1995.06.11	Marmion	GBP, ACI, ACh	082	95561	L	Y	R	
570	568	1995.06.11	Marmion	GBP, ACI, ACh	082	95562	L	Y	R	
571	569	1995.06.11	Marmion	GBP, ACI, ACh	082	95563	L	Y	R	
572	570	1995.06.11	Marmion	GBP, ACI, ACh	082	95564	L	Y	R	
573	571	1995.06.11	Marmion	GBP, ACI, ACh	082	95565	L	Y	R	
574	572	1995.06.11	Marmion	GBP, ACI, ACh	082	95566	L	Y	R	
575	573	1995.06.11	Marmion	GBP, ACI, ACh	082	95567	L	Y	R	
576	574	1995.06.11	Marmion	GBP, ACI, ACh	082	95568	L	Y	R	1148hrs.
577	575	1995.06.11	Marmion	GBP, ACI, ACh	082	95569	L	Y	R	
578	576	1995.06.11	Marmion	GBP, ACI, ACh	082	95570	L	Y	R	
579	577	1995.06.11	Marmion	GBP, ACI, ACh	082	95571	L	Y	R	
580	578	1995.06.11	Marmion	GBP, ACI, ACh	082	95572	L	Y	R	
581	579	1995.06.11	Marmion	GBP, ACI, ACh	082	95573	L	Y	R	
582	580	1995.06.11	Marmion	GBP, ACI, ACh	082	95574	L	Y	R	
583	581	1995.06.11	Marmion	GBP, ACI, ACh	082	95575	L	Y	R	
584	582	1995.06.11	Marmion	GBP, ACI, ACh	082	95576	L	Y	R	
585	583	1995.06.11	Marmion	GBP, ACI, ACh	082	95577	L	Y	R	
586	584	1995.06.11	Marmion	GBP, ACI, ACh	082	95578	L	Y	R	
587	585	1995.06.11	Marmion	GBP, ACI, ACh	082	95579	L	Y	R	
588	586	1995.06.11	Marmion	GBP, ACI, ACh	082	95580	L	Y	R	
589	587	1995.06.11	Marmion	GBP, ACI, ACh	082	95581	L	Y	R	
590	588	1995.06.11	Marmion	GBP, ACI, ACh	082	95582	L	Y	R	
591	589	1995.06.11	Marmion	GBP, ACI, ACh	082	95583	L	Y	R	
592	590	1995.06.11	Marmion	GBP, ACI, ACh	082	95584	L	Y	R	
593	591	1995.06.11	Marmion	GBP, ACI, ACh	082	95585	L	Y	R	
594	592	1995.06.11	Marmion	GBP, ACI, ACh	082	95586	L	Y	R	
595	593	1995.06.11	Marmion	GBP, ACI, ACh	082	95587	L	Y	R	
596	594	1995.06.11	Marmion	GBP, ACI, ACh	082	95588	L	Y	R	
597	595	1995.06.11	Marmion	GBP, ACI, ACh	082	95589	L	Y	R	
598	596	1995.06.11	Marmion	GBP, ACI, ACh	082	95590	L	Y	R	
599	597	1995.06.11	Marmion	GBP, ACI, ACh	082	95591	L	Y	R	
600	598	1995.06.11	Marmion	GBP, ACI, ACh	082	95592	L	Y	R	
601	599	1995.06.11	Marmion	GBP, ACI, ACh	082	95593	L	Y	R	
602	600	1995.06.11	Marmion	GBP, ACI, ACh	082	95594	L	Y	R	
603	601	1995.06.11	Marmion	GBP, ACI, ACh	082	95595	L	Y	R	
604	602	1995.06.11	Marmion	GBP, ACI, ACh	082	95596	L	Y	R	
605	603	1995.06.11	Marmion	GBP, ACI, ACh	082	95597	L	Y	R	
606	604	1995.06.11	Marmion	GBP, ACI, ACh	082	95598	L	Y	R	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
607	605	1995.06.11	Marmion	GBP, ACI, ACh	082	95599	L	Y	R	
608	606	1995.06.11	Marmion	GBP, ACI, ACh	082	95600	L	Y	R	
609	607	1995.06.11	Marmion	GBP, ACI, ACh	082	95601	L	Y	R	
610	608	1995.06.11	Marmion	GBP, ACI, ACh	082	95602	L	Y	R	
611	609	1995.06.11	Marmion	GBP, ACI, ACh	082	95603	L	Y	R	
612	610	1995.06.11	Marmion	GBP, ACI, ACh	082	95604	L	Y	R	
613	611	1995.06.11	Marmion	GBP, ACI, ACh	082	95605	L	Y	R	
614	612	1995.06.11	Marmion	GBP, ACI, ACh	082	95606	L	Y	R	1223hrs stop.
615	613	1995.06.11	Marmion	GBP, ACI, ACh	082	95607	L	Y	R	1250hrs re-start.
616	614	1995.06.11	Marmion	GBP, ACI, ACh	082	95608	L	Y	R	
617	615	1995.06.11	Marmion	GBP, ACI, ACh	082	95609	L	Y	R	
618	616	1995.06.11	Marmion	GBP, ACI, ACh	082	95610	L	Y	R	
619	617	1995.06.11	Marmion	GBP, ACI, ACh	082	95611	L	Y	R	
620	618	1995.06.11	Marmion	GBP, ACI, ACh	082	95612	L	Y	R	
621	619	1995.06.11	Marmion	GBP, ACI, ACh	082	95613	L	Y	R	
622	620	1995.06.11	Marmion	GBP, ACI, ACh	082	95614	L	Y	R	
623	621	1995.06.11	Marmion	GBP, ACI, ACh	082	95615	L	Y	R	
624	622	1995.06.11	Marmion	GBP, ACI, ACh	082	95616	L	Y	R	
625	623	1995.06.11	Marmion	GBP, ACI, ACh	082	95617	L	Y	R	
626	624	1995.06.11	Marmion	GBP, ACI, ACh	082	95618	L	Y	R	
627	625	1995.06.11	Marmion	GBP, ACI, ACh	082	95619	L	Y	R	
628	626	1995.06.11	Marmion	GBP, ACI, ACh	082	95620	L	Y	R	
629	627	1995.06.11	Marmion	GBP, ACI, ACh	082	95621	L	Y	R	
630	628	1995.06.11	Marmion	GBP, ACI, ACh	082	95622	L	Y	R	
631	629	1995.06.11	Marmion	GBP, ACI, ACh	082	95623	L	Y	R	
632	630	1995.06.11	Marmion	GBP, ACI, ACh	082	95624	L	Y	R	
633	631	1995.06.11	Marmion	GBP, ACI, ACh	082	95625	L	Y	R	
634	632	1995.06.11	Marmion	GBP, ACI, ACh	082	95626	L	Y	R	
635	633	1995.06.11	Marmion	GBP, ACI, ACh	082	95627	L	Y	R	
636	634	1995.06.11	Marmion	GBP, ACI, ACh	082	95628	L	Y	R	
637	635	1995.06.11	Marmion	GBP, ACI, ACh	082	95629	L	Y	R	
638	636	1995.06.11	Marmion	GBP, ACI, ACh	082	95630	L	Y	R	
639	637	1995.06.11	Marmion	GBP, ACI, ACh	082	95631	L	Y	R	
640	638	1995.06.11	Marmion	GBP, ACI, ACh	082	95632	L	Y	R	
641	639	1995.06.11	Marmion	GBP, ACI, ACh	082	95633	L	Y	R	
642	640	1995.06.11	Marmion	GBP, ACI, ACh	082	95634	L	Y	R	
643	641	1995.06.11	Marmion	GBP, ACI, ACh	082	95635	L	Y	R	
644	642	1995.06.11	Marmion	GBP, ACI, ACh	082	95636	L	Y	R	
645	643	1995.06.11	Marmion	GBP, ACI, ACh	082	95637	L	Y	R	1317hrs.
646	644	1995.06.11	Marmion	GBP, ACI, ACh	082	95638	L	Y	R	
647	645	1995.06.11	Marmion	GBP, ACI, ACh	082	95639	L	Y	R	
648	646	1995.06.11	Marmion	GBP, ACI, ACh	082	95640	L	Y	R	
649	647	1995.06.11	Marmion	GBP, ACI, ACh	082	95641	L	Y	R	
650	648	1995.06.11	Marmion	GBP, ACI, ACh	082	95642	L	Y	R	
651	649	1995.06.11	Marmion	GBP, ACI, ACh	082	95643	L	Y	R	
652	650	1995.06.11	Marmion	GBP, ACI, ACh	082	95644	L	Y	R	
653	651	1995.06.11	Marmion	GBP, ACI, ACh	082	95645	L	Y	R	
654	652	1995.06.11	Marmion	GBP, ACI, ACh	082	95646	L	Y	R	
655	653	1995.06.11	Marmion	GBP, ACI, ACh	082	95647	L	Y	R	
656	654	1995.06.11	Marmion	GBP, ACI, ACh	082	95648	L	Y	R	
657	655	1995.06.11	Marmion	GBP, ACI, ACh	082	95649	L	Y	R	
658	656	1995.06.11	Marmion	GBP, ACI, ACh	082	95650	L	Y	R	
659	657	1995.06.11	Marmion	GBP, ACI, ACh	082	95651	L	Y	R	
660	658	1995.06.11	Marmion	GBP, ACI, ACh	082	95652	L	Y	R	
661	659	1995.06.11	Marmion	GBP, ACI, ACh	082	95653	L	Y	R	
662	660	1995.06.11	Marmion	GBP, ACI, ACh	082	95654	L	Y	R	
663	661	1995.06.11	Marmion	GBP, ACI, ACh	082	95655	L	Y	R	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
664	662	1995.06.11	Marmion	GBP, ACI, ACh	082	95656	L	Y	R	
665	663	1995.06.11	Marmion	GBP, ACI, ACh	082	95657	L	Y	R	
666	664	1995.06.11	Marmion	GBP, ACI, ACh	082	95658	L	Y	R	
667	665	1995.06.11	Marmion	GBP, ACI, ACh	082	95659	L	Y	R	
668	666	1995.06.11	Marmion	GBP, ACI, ACh	082	95660	L	Y	R	
669	667	1995.06.11	Marmion	GBP, ACI, ACh	082	95661	L	Y	R	
670	668	1995.06.11	Marmion	GBP, ACI, ACh	082	95662	L	Y	R	
671	669	1995.06.11	Marmion	GBP, ACI, ACh	082	95663	L	Y	R	
672	670	1995.06.11	Marmion	GBP, ACI, ACh	082	95664	L	Y	R	
673	671	1995.06.11	Marmion	GBP, ACI, ACh	082	95665	L	Y	R	
674	672	1995.06.11	Marmion	GBP, ACI, ACh	082	95666	L	Y	R	
675	673	1995.06.11	Marmion	GBP, ACI, ACh	082	95667	L	Y	R	
676	674	1995.06.11	Marmion	GBP, ACI, ACh	082	95668	L	Y	R	
677	675	1995.06.11	Marmion	GBP, ACI, ACh	082	95669	L	Y	R	1416hrs.
678	676	1995.06.11	Marmion	GBP, ACI, ACh	082	95670	L	Y	R	1423hrs.
679	677	1995.06.11	Marmion	GBP, ACI, ACh	082	95671	L	Y	R	
680	678	1995.06.11	Marmion	GBP, ACI, ACh	082	95672	L	Y	R	
681	679	1995.06.11	Marmion	GBP, ACI, ACh	082	95673	L	Y	R	
682	680	1995.06.11	Marmion	GBP, ACI, ACh	082	95674	L	Y	R	
683	681	1995.06.11	Marmion	GBP, ACI, ACh	082	95675	L	Y	R	
684	682	1995.06.11	Marmion	GBP, ACI, ACh	082	95676	L	Y	R	
685	683	1995.06.11	Marmion	GBP, ACI, ACh	082	95677	L	Y	R	
686	684	1995.06.11	Marmion	GBP, ACI, ACh	082	95678	L	Y	R	
687	685	1995.06.11	Marmion	GBP, ACI, ACh	082	95679	L	Y	R	
688	686	1995.06.11	Marmion	GBP, ACI, ACh	082	95680	L	Y	R	
689	687	1995.06.11	Marmion	GBP, ACI, ACh	082	95681	L	Y	R	
690	688	1995.06.11	Marmion	GBP, ACI, ACh	082	95682	L	Y	R	
691	689	1995.06.11	Marmion	GBP, ACI, ACh	082	95683	L	Y	R	
692	690	1995.06.11	Marmion	GBP, ACI, ACh	082	95684	L	Y	R	
693	691	1995.06.11	Marmion	GBP, ACI, ACh	082	95685	L	Y	R	
694	692	1995.06.11	Marmion	GBP, ACI, ACh	082	95686	L	Y	R	
695	693	1995.06.11	Marmion	GBP, ACI, ACh	082	95687	L	Y	R	
696	694	1995.06.11	Marmion	GBP, ACI, ACh	082	95688	L	Y	R	
697	695	1995.06.11	Marmion	GBP, ACI, ACh	082	95689	L	Y	R	
698	696	1995.06.11	Marmion	GBP, ACI, ACh	082	95690	L	Y	R	
699	697	1995.06.11	Marmion	GBP, ACI, ACh	082	95691	L	Y	R	
700	698	1995.06.11	Marmion	GBP, ACI, ACh	082	95692	L	Y	R	
701	699	1995.06.11	Marmion	GBP, ACI, ACh	082	95693	L	Y	R	
702	700	1995.06.11	Marmion	GBP, ACI, ACh	082	95694	L	Y	R	1443hrs.
703	701	1995.06.11	Marmion	GBP, ACI, ACh	082	95695	L	Y	R	
704	702	1995.06.11	Marmion	GBP, ACI, ACh	082	95696	L	Y	R	
705	703	1995.06.11	Marmion	GBP, ACI, ACh	082	95697	L	Y	R	
706	704	1995.06.11	Marmion	GBP, ACI, ACh	082	95698	L	Y	R	
707	705	1995.06.11	Marmion	GBP, ACI, ACh	082	95699	L	Y	R	
708	706	1995.06.11	Marmion	GBP, ACI, ACh	082	95700	L	Y	R	
709	707	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
710	708	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
711	709	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
712	710	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
713	711	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
714	712	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
715	713	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
716	714	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
717	715	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
718	716	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
719	717	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	
720	718	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	

Order of proc-ssing	Order of Bndng / Flgng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
721	719	1995.06.11	Marmion	GBP, ACI, ACh		Not bndd		Y	R	1507hrs. '... said bndd lft & flgd rt at Ballard. Check with Cive'. [11Jun] bndd 200 lft, flgd 195 rt'.
722	720	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start 0900hrs.
723	721	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
724	722	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
725	723	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
726	724	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
727	725	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
728	726	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
729	727	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
730	728	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
731	729	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
732	730	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
733	731	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
734	732	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
735	733	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
736	734	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
737	735	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
738	736	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
739	737	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
740	738	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
741	739	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
742	740	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
743	741	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
744	742	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
745	743	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
746	744	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
747	745	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
748	746	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
749	747	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
750	748	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
751	749	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	'Flgd lft tibia 30 chicks'.
752	750	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Started flagging 5 chicks.
753	751	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
754	752	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
755	753	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
756	754	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Finish flagging 5 chicks.
757	755	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Started flagging 26 chicks.
758	756	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
759	757	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
760	758	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
761	759	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
762	760	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
763	761	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
764	762	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
765	763	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
766	764	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
767	765	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
768	766	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
769	767	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
770	768	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
771	769	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
772	770	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
773	771	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
774	772	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
775	773	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
776	774	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
777	775	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
778	776	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
779	777	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
780	778	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
781	779	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
782	780	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Finish flagging 26 chicks at 0956hrs.
783	781	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start release of 23 chicks.
784	782	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
785	783	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
786	784	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
787	785	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
788	786	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
789	787	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
790	788	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
791	789	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
792	790	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
793	791	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
794	792	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
795	793	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
796	794	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
797	795	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
798	796	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
799	797	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
800	798	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
801	799	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
802	800	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
803	801	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
804	802	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
805	803	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End release of 23 chicks.
806	804	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start release of 6 chicks.
807	805	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
808	806	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
809	807	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
810	808	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
811	809	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End release of 6 chicks at 1043hrs.
812	810	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start catch of 22 chicks.
813	811	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
814	812	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
815	813	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
816	814	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
817	815	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
818	816	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
819	817	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
820	818	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
821	819	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
822	820	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
823	821	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
824	822	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
825	823	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
826	824	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	

Order of proc-ssing	Order of Bndng / Flngng	Date	Lake	Who by?	Band Prfx	Band No.	Band Leg	Flagd?	Flag Leg	Comment
827	825	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
828	826	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
829	827	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
830	828	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
831	829	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
832	830	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
833	831	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End catch of 22 chicks.
834	832	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start catch of 9 chicks.
835	833	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
836	834	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
837	835	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
838	836	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
839	837	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
840	838	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
841	839	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
842	840	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End catch of 9 chicks.
843	841	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start '25 mixed ages'.
844	842	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
845	843	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
846	844	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
847	845	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
848	846	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
849	847	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
850	848	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
851	849	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
852	850	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
853	851	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
854	852	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
855	853	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
856	854	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
857	855	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
858	856	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
859	857	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
860	858	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
861	859	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
862	860	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
863	861	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
864	862	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
865	863	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
866	864	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
867	865	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End '25 mixed ages'.
868	866	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	1456hrs. '12 flags left'.
869	867	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	Start use of last 12 flags.
870	868	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
871	869	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
872	870	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
873	871	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
874	872	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
875	873	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
876	874	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
877	875	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
878	876	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	
879	877	1995.06.12	Marmion	GBP, ACI		Not bndd		Y	L	End use of 12 last flags.

This is the last page R 01/02/14

‘Print Screens’ and a ‘copy-paste’ of the results of an enquiry made by JL (on 03/02/2014) of Banded Stilt band recoveries as available on-line from the Australian Bird Study Association website. Only 2 records were available. A Longevity record of 11 years 3 months and a Distance Travelled record of 1182 km. The reference for these was Corella 36(4):104, a copy of which is attached. Note that this was a year 2012 issue of ‘Corella’. Check all issues of ‘Corella’ from 1995 to 2014 for other recoveries (& sightings?) of BaSt chicks banded and/or flagged at Lakes Ballard and Marmion in 1995.

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australia band "recovery roundup"


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147 Banded Sw

leucocephalus

leucocephalus

02481

Corella

30(4/11/04) - ACUR

1134

NOTES:

1. ID Number is the Number for this species per the RAOU Checklist (19XX).

2. Many local Common Names exist, so this is not necessarily the one used in your area.

3. Numbered bands are put on birds' legs by researchers licensed to do so by the Australian Bird and Bat Banding Schemes. Information is given for birds banded under foreign banding schemes, but recovered in Australia.

4. These records have all been published in **The Australian Bird Bander (B)** or **Corella(C)**, both published by ABSA.

5. Reference is to the Journal volume, edition and page number where the information was published.

6. Longevity refers to the period between banding, and when the band was seen again, usually on recapture, sometimes on a dead bird.

7. The distance is the straight-line distance between place of banding and place of recapture. The actual distance flown may be much greater than this.

8. If no details appear, then there are no records for that species published in Corella or Australian Bird Bander.

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Here is the information about the longest time between banding and recapture of a(n) Banded Stilt:

ID	Common Name	Other Common Names	Scientific Name at Date of Banding	Note	Current Scientific Name	Band Number	Published in:	Reference	Age when banded	Longevity (years.months)
147	Banded Stilt		Cladorhynchus leucocephalus		Cladorhynchus leucocephalus	083-02581	Corella	36(4):104	Adult	11.03

The following results are for the Banded Stilt that has travelled the longest distance between banding and recapture:

ID	Common Name	Other Common Names	Scientific Name at Date of Banding	Note	Current Scientific Name	Band Number	Published in:	Reference	Age when banded	Distance travelled (kms)
147	Banded Stilt		Cladorhynchus leucocephalus		Cladorhynchus leucocephalus	083-02581	Corella	36(4):104	Adult	1182

NOTES:

1. ID Number is the Number for this species per the RAOU Checklist (19XX).
2. Many local Common Names exist, so this is not necessarily the one used in your area.
3. Numbered bands are put on birds' legs by researchers licensed to do so by the Australian Bird and Bat Banding Schemes. Information is given for birds banded under foreign banding schemes, but recovered in Australia.
4. These records have all been published in **The Australian Bird Bander (B)** or **Corella(C)** , both published by ABSA.
5. Reference is to the Journal volume, edition and page number where the information was published.

6. Longevity refers to the period between banding, and when the band was seen again, usually on recapture, sometimes on a dead bird.

7. The distance is the straight-line distance between place of banding and place of recapture. The actual distance flown may be much greater than this.

8. If no details appear, then there are no records for that species published in Corella or Australian Bird Bander.

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Thank you for using the ABSA database.

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.

NSWNPWSP – NSW National Parks and Wildlife Service Seabird Project

VWSG – Victorian Wader Study Group.

Brown Booby *Sula leucogaster*

121-16818. Nestling banded by B.R. King on Raine Island, Qld. on 21 Dec. 1984. Recaptured, released alive with band at banding place by S. Taylor on 6 Dec. 2009, over 24 years, 11 months after banding.

(This is the oldest recorded for the species.)

Banded Stilt *Cladorhynchus leucocephalus*

083-02581. (plus Leg Flag Orange). Adult (2+) banded by VWSG at Werribee Sewerage Farm (Spit, Point Wilson), Vic. on 28 Dec. 2000. Band number read in field, (bird not trapped) at Central Island, Middle of Lake Eyre South, SA by K. Onton on 8 April 2012, over 11 years 3 months after banding. 1182 km NW.

(This is the oldest and longest movement recorded for the species.)

Bar-tailed Godwit *Limosa lapponica*

073-63725. Adult (2) banded by VWSG off Mans Beach, Corner Inlet, Vic. (38°41'00"S 146°50'00"E) on 28 June 2010. Recovered dead (shot for food or sport) at Odoptu Bay, Northern Sakhalin, Russia (53°23'32"N 143°06'53"E) on 6 May 2012. 10 241 km N.

Fairy Tern *Sternula nereis*

Leg Flag Pale (Lime) Green. Juvenile banded as part of a cohort by D. McKay under the NSW NPWSP at Tathra, NSW on 5 Jan. 2012. Colour marking sighted in field (cohort only) at Kirk Point, near Western Treatment Plant, Vic. by R. Ganly & C. Morley on 17 Feb. 2012. 501 km SW.

Superb Fairy-wren *Malurus cyaneus*

018-51640. Juvenile banded by L.W. Filewood at Scheyville National Park near Windsor, NSW on 15 Feb. 2004. Recaptured, released alive with band at banding place nine times, the last occasion by K. Gover on 20 May 2012, over 9 years, 3 months after banding.

White-browed Scrubwren *Sericornis frontalis*

023-47761. Adult (1+) banded by J. Hardy at Munghorn Gap Nature Reserve near Mudgee, NSW on 26 Jan. 2001. Recaptured, released alive with band at banding place four times the last occasion by J. Farrell on 2 Oct. 2011, over 10 years, 8 months after banding.

(The bird was also banded with band no. 025-95997.)

Striated Thornbill *Acanthiza lineata*

018-00338. Adult (1+) banded by R. & R. Jacobs at Munghorn Gap Nature Reserve near Mudgee, NSW on 25 Jan. 1997. Recaptured, released alive with band at banding place five times the last occasion by G. Fry on 29 Dec. 2010, over 13 years, 11 months after banding.

(The bird was also banded with band no. 018-87741.)

018-47564. Adult (1+) banded by R. & R. Jacobs at Munghorn Gap Nature Reserve near Mudgee, NSW on 15 Sep. 2001. Recaptured, released alive with band at banding place five times the last occasion by G. Fry on 2 Sep. 2011, over 9 years, 11 months after banding.

(The bird was also banded with band no. 018-57294.)

Eastern Spinebill *Acanthorhynchus tenuirostris*

019-20411. Adult (1+) female banded by A.J. Leishman at Munghorn Gap Nature Reserve near Mudgee, NSW on 24 April 2005. Recaptured, released alive with band at banding place three times the last occasion by R. & R. Jacobs on 2 Oct. 2011, over 6 years, 5 months after banding.

White-cheeked Honeyeater *Phylidonyris niger*

035-44267. Juvenile banded by D. McKay at Agnes Banks Nature Reserve near Windsor, NSW on 12 May 2002. Recaptured (as adult male), released alive with band at banding place twice the last occasion by C. Scholz, on 14 Oct. 2012 over 10 years 5 months after banding.

White-browed Babbler *Pomatostomus superciliosus*

052-12907. Adult (1+) banded by G. Fry at Warraderry State Forest near Grenfell, NSW on 17 Sep. 2005. Recaptured, released alive with band at banding place twice the last occasion on 19 Aug. 2011, over 5 years, 11 month after banding.

(The bird was also banded with band no. 052-12952.)

Australasian Figbird *Sphecotheres vieilloti*

071-98113. Adult (2+) banded by G. P. Clancy on Susan Island, Grafton, NSW on 29 Oct. 1998. Recaptured, released alive with band at banding place (as adult female) on 25 Jun 2012, over 13 years 7 months after banding.

Australian Magpie *Cracticus tibicen*

091-14092. Banded by D.C. Paton at Yilki, SA on 28 Dec. 1996. Recovered being attacked by other Magpies at banding site, taken into care for 24 hours then released at banding site on 26 July 2012, over 15 years, 6 months after banding.

Rufous Fantail *Rhipidura rufifrons*

017-23149 Adult (1+) banded by K. Wood at Iluka Nature Reserve, NSW on 22 Oct 2006. Recaptured, released alive with band at banding place by G. P. Clancy on 27 Aug 2012, over 5 years 10 months after banding.

Grey Fantail *Rhipidura albiscapa*

018-57180. Adult (2+) female banded by G. Fry at Munghorn Gap Nature Reserve near Mudgee, NSW on 1 Oct. 2005. Recaptured, released alive with band at banding place twice the last occasion by J. Farrell on 1 Oct. 2011, over 6 years after banding.

White-winged Chough *Corcorax melanorhamphos*

091-34738. Immature (1) banded by A.J. Leishman at Munghorn Gap Nature Reserve, near Mudgee, NSW on 25 April 2005. Recaptured, released alive with two bands at banding place by G. Fry on 24 Feb. 2012, over 6 years, 10 months after banding.

(The bird was also banded with band no. 091-43311.)

Eastern Yellow Robin *Eopsaltria australis*

025-85605. Adult female banded by L.W. Filewood at Scheyville National Park, near Windsor NSW on 12 Dec. 2004. Recaptured, released alive with band at banding place five times, the last occasion by D. McKay on 10 June 2012, over 7 years 6 months after banding.

**Results of an online search (18/01/2014) by JL of the ABBBS Database for
Banded Stilt banding and recovery summary data. Seek details of all
records held by ABBBS of BaSt chicks leg-flagged and/or banded at Lakes
Ballard & Marmion in 1995.**

Bird and bat banding

Frequently asked questions

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ABBBS Database Search: Cladorhynchus leucocephalus (Banded Stilt)

Free Text Search	Banded Stilt
Scientific Name	Cladorhynchus leucocephalus
Family	Recurvirostridae
SPRAT Database	SPRAT Listing

[Search the Species Profile and Threats Database](#)

Banding Data

Total Banded	508
First Banded	March 1959
Last Banded	February 2005

Recovery Data

Total Recoveries	5
Resightings	
Recovered Only Once	5
Distinct Recoveries	5
Most Frequent Resighting	Once
First Recovery	September 1986
Last Recovery	April 2012

Maximum Movement and Elapsed Time Details

Movement	Minimum: 2 km Average: 311 km Maximum: 1181 km Band 08302581, banded in December 2000 at WERRIBEE SEWERAGE FARM (SPIT, PT WILSON), VIC (-38 deg 5 min, 144 deg 31 min). Recovered after 11 years 3.4 months at CENTRE ISLAND, MIDDLE OF LAKE EYRE SOUTH, SA (-29 deg 21 min, 137 deg 13 min) in April 2012 after moving 1181 km. Recovery method: BAND NUMBER READ IN FIELD (BIRD NOT TRAPPED) Recovery status: WAS ALIVE IN THE WILD WITH THE BAND.
Elapsed Time	Average: 2 years 11.5 months Maximum: 11 years 3.4 months Band 08302581, banded in December 2000 at WERRIBEE SEWERAGE FARM (SPIT, PT WILSON), VIC (-38 deg 5 min, 144 deg 31 min). Recovered after 11 years 3.4 months at CENTRE ISLAND, MIDDLE OF LAKE EYRE SOUTH, SA (-29 deg 21 min, 137 deg 13 min) in April 2012 after moving 1181 km. Recovery method: BAND NUMBER READ IN FIELD (BIRD NOT TRAPPED) Recovery status: WAS ALIVE IN THE WILD WITH THE BAND.

Caveat

This database is designed to provide information on bird and bat species, banded under the auspices of the Australian Bird & Bat Banding Scheme (ABBBS) managed by the Australian Government Department of the Environment, Water, Heritage and the Arts. It has been compiled from a range of sources including information provided by banders and recoveries of banded birds and bats made by members of the public. While reasonable efforts have been made to ensure the accuracy of the information, no guarantee is given, nor responsibility taken, by the Commonwealth for its accuracy, currency or completeness. The Commonwealth does not accept any responsibility for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the information contained in this database. The information contained in this database does not necessarily represent the views of the Commonwealth. This database is not intended to be a complete source of information on the matters it deals with.

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**Copy of Standen, R. (2012) *Banded Stilt in central WA, May/June 2012*.
Journal of the Victorian Wader Study Group, Bulletin No. 35, pp.58-60.
On page 60 there is a Table showing the leg flag 'schema' used on Banded
Stilt in Australia from 1995 onwards. The first entry is 'A single yellow
flag on the upper right leg was flagged as a chick in 1995 at Lake Ballard
in WA. Several of these were seen at Lake Eyre in 2000 and one at Lake
George in April 2001'. Note that, in reality, only 10 BaSt chicks at Ballard
in 1995 were flagged on the right leg, while the rest (154) were (correctly)
flagged on the left. At Lake Marmion in 1995, approx. 200 were flagged on
the right leg and an uncertain number (>100) were flagged on the left.**

Banded Stilt in central WA

May/June 2012

Rog Standen

While on a stay with friends who own the pastoral lease of Cunyu Station, immediately below the Little Sandy Desert of WA, I stumbled across huge numbers of Banded Stilt on a number of lakes that filled early in 2011 and/or 2012.

I knew from discussions with Maureen Christie that there had been chicks banded and flagged over the last couple of years at Lake Torrens SA, so I set about trying to find out if any had made their way to WA.



Camping beside Red Lake (one of the more accessible lakes) for a few days gave me the opportunity to spend many hours scouring the thousands of legs I could see through the scope. The birds continually fed across the vast lake and also formed a roosting raft that varied in size depending on how many were out feeding. Interestingly, the raft was always in the same part of the lake every time I went there over a three week period (frustratingly the raft was at the other end of the lake to where the track was closest to it).

What excitement I had when I finally found one of the flagged chicks! Still in immature plumage with just a hint of a breast band, the bird wore orange over yellow flags that were clipped to triangular flags meaning it was banded in early 2011. This bird was very recognisable as it also had a slightly upturned beak. That physical feature proved to be very useful a few days later when I took Dawn, the owner, to see this wonderful spectacle of thousands of birds in a huge raft. To my surprise I managed to find the flagged bird again in the same place on the lake as before. Dawn had seen the flock of birds, rising like a cloud, from her vehicle at the other end of the lake about 5km across, but did not know what they were. She was very excited about seeing these birds through a scope and especially seeing the flagged bird.



News of the sighting was relayed to Maureen who circulated it among the core Banded Stilt people and on a return email (this one from PhD candidate Reece Pedler) I found that another bird, with a satellite transmitter fitted at Lake Eyre in early 2012, had also flown to this property and was on Lake Nabberu at that time. The trouble was that Lake Nabberu is actually a series of connected lakes about 100 km long! Fortunately he could send me a satellite image showing which part of the Nabberu Lake complex it was last seen on. It happened to be on the other side of the Frere Range to where Red Lake is so still on Cunyu. Subsequent email traffic showed that it moved to Red Lake! Despite my attempts I could not find that one among the possible hundred thousand birds on the lake. But at least I could add some valuable information about what other birds were with the satellite bird and information about habitat and possible food.

In relation to the food, there was virtually nothing to see with the naked eye in the lake that the birds were eating. I hopefully have some samples that I sieved through some gauze that I will try and identify under a microscope. The water was not as salty about 11,000 EC, as I thought it might have been.

Contrary to the invisible food, one noticeable thing happening was that the wind was pushing the water hundreds of metres from one side and it then flowed back overnight when it calmed down creating a 'tidal' movement in the lake. This made it attractive to over 1,000 Red-capped Plovers and over 500 Red-necked Stint.

Other lakes had varying numbers from five to 1,800 to several thousand and at another lake further west, which is part of the extensive Lake Nabberu, close to one hundred thousand birds. However, when I got to this one, prompted by Reece's satellite bird having moved there, I suspect many of the Red Lake birds had gone there too as the numbers had dropped off at Red Lake by then. Other species on the Red Lake included Black-winged Stilt (over a thousand), Red-necked Avocets (10s), Curlew Sandpipers (5), Sharpies (3) and a single Greenshank with tens of thousands of Grey Teal, Pink-eared Duck by the thousand and a few of several other duck species.

Several of the lakes dried up during my stay there, but the most westerly Lake Nabberu where the stilt went was much deeper than the rest and would have kept water in it for some months.

The size of the lakes, difficult access and numbers of birds moving around made it impossible to get good estimates of numbers but the order of magnitude was in no doubt. Where will they go when these lakes do dry out – as they always do? This will be fascinating to find out.



The Banded Stilt were the highlight of a month spent building a bird list for the million-acre property and capturing the station in pictures. My thanks go to Ken and Dawn for their hospitality and access to the property through the use of a station vehicle that enabled me to get to places I wouldn't have gone with my own vehicle.

BANDED STILT FLAGS

	<p>A single yellow flag on the right upper leg was flagged as a chick in 1995 at Lake Ballard in WA. Several of these were seen at Lake Eyre in 2000 and one at Lake George in April 2001.</p>
	<p>A single orange flag on the right upper was flagged in Victoria, the majority at Werribee in 2000. Several of these have been seen in the Coorong (Feb 2005, August 2007). And one in the pastoral lands in May, 2011.</p>
	<p>Orange above yellow flags on the right upper (rectangular flags) was flagged as a chick in the Coorong in 2006. There have been several sightings of these in Victoria. In Feb 2008 one was seen at Yalgorup National Park, WA (about ½ way between Mandurah and Bunbury, on the coast). This is the first recorded movement of Banded Stilt from eastern Australia to Western Australia. One was seen accompanying a group of chicks to the water at Lake Torrens in June, 2010. A Coorong flagged adult was seen in the 2011 Lake Torrens breeding colony</p>
	<p>Orange above yellow flags on the left upper (rectangular flags) was flagged as a chick at Lake Torrens in June 2010. One seen in the pastoral lands in May, 2011.</p>
	<p>Orange above yellow flags on the left upper (triangular flags) was flagged as a chick at Lake Torrens in April 2011.</p>

Journal of the Victorian Wader Study Group
Bulletin Number 35 2012

CONTENTS		
Mission Statement		2
VWSG Office Bearers		3
Summary of VWSG Activities to August 2011	C. Minton	4
Total waders caught by species January to December 2011	H. Vaughan, C. Minton	7
Total waders caught by species 1975 to December 2011.	H. Vaughan, C. Minton	8
New and retrapped waders caught each calendar year by VWSG	H. Vaughan, C. Minton	9
Total waders caught each six months 1979-2011 – VWSG	H. Vaughan, C. Minton	10
Location of waders caught in Victoria, SA and Tasmania	H. Vaughan, C. Minton	11
Number of waders processed by the VWSG each month to Dec. 2011	H. Vaughan, C. Minton	12
Number of waders leg-flagged in Victoria (orange)	H. Vaughan, C. Minton	14
Number of waders leg-flagged in SA (orange/yellow)	H. Vaughan, C. Minton	15
VWSG Field Work Programme 2012	C. Minton	16
Recoveries of waders banded in Victoria	C. Minton, R. Jessop & M. Christie	17
Sightings of waders leg-flagged in Victoria, SA and King Island Tasmania.	C. Minton, R. Jessop, M. Christie, H. Gibbs, M. Burgess & I. Stewart	21
Sightings of waders leg-flagged elsewhere and then seen in Victoria, South Australia or King Island, Tasmania.	C. Minton, R. Jessop, M. Christie, H. Gibbs	24
Tern breeding and banding report 2011/12	C. Minton, R. Jessop, S. Taylor	26
Tern recovery report 2011/12	C. Minton, R. Jessop, S. Taylor	28
Sightings of Victorian flagged Terns 2011/12	C. Minton, R. Jessop, H. Gibbs, S. Taylor	30
South Australian Team Report – August 2011 – July 2012	M. Christie	32
Shorebird SE Newsletter 88	M. Christie	39
Conservation Report August 2012	D. Graham	41
Clive Awarded the Eisenmann Medal	R. Jessop	45
Victorian Coastal Awards – Bernie McCarrick	R. Jessop	47
Amazing Results from Geolocators	C. Minton, K. Gosbell, R. Jessop & M. Christie	48
Banded Stilt in WA	R. Standen	57
Oriental Pratincole	G. Beal	60
My Bird Catch	H. Lee	61
Visit to King Island – 27 November to 2 December 2011	C. Minton & R. Jessop	62
Report of a Visit to King Island – April 2012	C. Minton & R. Jessop	69
Have you seen?	R. Jessop	72
Wader Breeding Success in the 2011 Arctic Summer	C. Minton, R. Jessop & C. Hassell	75
Corner Inlet – 19 to 22 June 2012	Ila Marks & E. Miller	82
VWSG at the Werribee Sewerage Farm	B. Campbell	83
Mark Barter	K. Gosbell	87
Gavin Jackson	B. Green	88
Publications and presentations using VWSG data	R. Jessop	91
Financial Report	C. Minton, R. Davidson	92
Migration Devastation – newspaper article		95
VWSG Membership List	R. Davidson	96

Extracts from Minton, CDT (2005). *What have we learned from banding and flagging waders in Australia?* Pages 116-142 in 'Status and Conservation of Shorebirds in the East Asian-Australasian Flyway' – Proceedings of the Australasian Shorebirds Conference 13-15 Dec 2003, Canberra. (Edited by Phil Straw) Refers to banding of '850' Banded Stilt at 'Lake Ballard' by CALM in 1995. Flagging of BaSt at Lake Ballard and Banding / flagging of BaSt at Lake Marmion not referred to. This suggests these data had (have) not been sent to ABBBS (or CDTM).

What have we learned from banding and flagging waders in Australia?

Clive Minton

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Abstract

More than a quarter of a million waders have been banded in Australia over the last 45 years, 95% being migratory species. Around 126,000 of these have also been colour leg-flagged since this process was introduced in 1990. There have so far been 534 recoveries and 3903 sightings of leg-flagged birds overseas, as well as 150 recoveries and 225 leg-flag sightings in Australia of waders marked overseas. Overseas recovery rates for species varied widely, between 0.03% for Red-necked Stints banded in NW Australia and 1.1% for Red Knot from SE Australia. The average recovery rates for migratory waders banded in these two regions were 0.32% and 0.12% respectively, and 0.21% for Australia as a whole. Overseas flag-sighting rates were on average 30 times higher for birds marked in SE Australia and 5.6 times higher for NW Australia than banding recoveries. Flag-sightings have now been reported from 16 different countries in the Flyway. There is a strong preponderance of flag-sightings in Asia, of birds on northward migration over birds on southward migration. Maps of recoveries and flag-sightings show the marked differences in migration routes and destinations between different species, and even between different populations of the same species. Other knowledge gained from banding activities is briefly outlined, and future priorities discussed.

Introduction

Waders comprise nine percent of the Australian avifauna. Of the 73 species recorded in Australia, 37 are migrants (36 being from the Northern Hemisphere), 17 are vagrants (again, all from the Northern Hemisphere), and 19 are residents (nine being endemic to Australia).

As in many parts of the world intensive studies of waders have lagged behind studies of other groups of birds, especially land birds, seabirds and waterfowl. Systematic widespread population censuses of wader populations in Australia only commenced in 1981. The chicks of some resident species of waders have been banded ever since the inception of bird-banding in Australia in 1953. However large-scale banding of adult waders, especially of the migratory species, only commenced in the 1970s, when mist-nets and cannon-nets were first employed to catch the birds.

This paper concentrates on information that has come out of banding and colour leg-flagging activities via recoveries and re-sightings of colour-marked birds in the last 25 years. Other knowledge (such as biometric and moult data, age data, survival and reproduction rate information) gained during catching and banding operations is only briefly covered.

History

In comparison with many other banding activities, wader banding is very much a team operation. This is partly because of the logistics of handling heavy and bulky catching equipment, often in difficult terrain, but also because, in both mist- and cannon-netting, quite large numbers of birds may be caught at once. To process these birds quickly and collect the maximum amount of data, a large team is needed.

Wader banding activities around Australia have resulted largely from the efforts of a few experienced and enthusiastic individuals who gathered teams together to carry out the fieldwork. These teams have operated at different periods in time and at different locations over the last 45 years. Some programs operated for just a few years whilst others have been sustained over more than 25 years.

The main programs are summarised below:

- a) Dom Serventy and Lexie Nichols caught waders on the Swan Estuary, Perth, from 1958 to at least 1961, using walk-in style traps (Serventy et al. 1962).
- b) Jim Lane continued wader studies on the Swan River using mist-nets from 1972 to 1978. In 1979 the WA Wader Study Group (WAWSG) took over responsibility for wader banding in the Swan River Estuary, later introducing cannon-nets. This activity is continuing under the guidance of Mike Bamford,
- c) Fred van Gessel, assisted by others including Bill Lane, commenced cannon-netting and mist-netting waders in New South Wales in 1970, mainly on the Hunter Estuary near Newcastle. These activities have continued intermittently up to the present time. The NSW Wader Study Group was also active in cannon-netting waders from 1991-97, under the leadership of Phil Straw.
- d) Wader mist-netting was commenced by David Robertson and others at Werribee Sewage Farm in Victoria in late 1975. These efforts were augmented in late 1978 when Clive Minton introduced large-scale cannon-netting, as developed in Europe. The Victorian Wader Study Group (VWSG) was formally constituted at this time. These activities have been consistently maintained over a 26-year period.
- e) The Australasian Wader Studies Group (AWSG) held the first of its expeditions to Northwest Australia (NWA) in 1981. These visits have become almost

- annual, covering Roebuck Bay (Broome), 80-Mile Beach, and Port Hedland Saltworks. Since the formation of Broome Bird Observatory (BBO) in 1988, BBO staff and other local enthusiasts have maintained wader banding operations between expeditions and in recent years these have been led by Chris Hassell.
- f) Wader banding in the Hobart region, Tasmania, took place for about six years from 1979 to the mid-1980s, mainly employing cannon-nets. Mark Fletcher was the main co-ordinator.
 - g) Regular small-scale wader banding was commenced by Vic Smith in Albany, southern Western Australia, in 1985 and is continuing. Mist-nets were initially used and were later complemented with cannon-nets.
 - h) Extensive wader banding activities were carried out by the Queensland Wader Study Group (QWSG) in Moreton Bay, near Brisbane, between 1989 and 1999. Most birds were caught with cannon-nets. These activities terminated when the licensed cannon-netter, Peter Driscoll, became unavailable, then moved away from the area.
 - i) Attempts over the years to start regular wader banding in the Adelaide area, South Australia, have been unsuccessful. Max Waterman made a couple of good cannon-net catches of Red Knot in the Spencer Gulf in 1981-82, but activities then ceased. However since 1993 the VWSG has made annual visits to the southeast coast of South Australia, mainly to catch Sanderling and Ruddy Turnstone (see Tables 1 and 2 for scientific names). This is continuing, and is now supplemented by cannon-netting carried out by Maureen Christie, who lives in the area.
 - j) Some wader banding has taken place over the years in the Darwin region, Northern Territory. Occasional mist-netting by a number of people (Tony Hertog, Fred van Gessel) over the years has been augmented by short periods of cannon-netting, organised by Ray Chatto and assisted by visits of experienced people from elsewhere in Australia.
 - k) The WA Department of Conservation and Land Management carried out a major banding exercise on chicks at a Banded Stilt colony at Lake Ballard in 1995, with Grant Pearson the principal person involved.

Methods

Total numbers of individuals of each species banded in Australia were obtained directly from the groups and individuals (or their publications) involved in wader-banding activities over the last 45 years. This was necessary because some of the banding data submitted to the Australian Bird and Bat Banding Scheme (ABBBS) Office prior to the introduction of computerisation in 1984, have not yet been incorporated into its database. Also, several years of the most recent banding data are not yet incorporated into the database. I estimate that I have gathered at least 98% of the banding data on migratory waders but a smaller proportion of the banding data for resident waders, mainly because many of the latter were marked as chicks by very many individual banders over many years. Where the ABBBS figure for a species exceeds the total obtained from my direct approach to known major wader-banders, the ABBBS total has been used.

All recoveries have been provided by the ABBBS. A recovery is any report of a banded bird that can be identified individually, either by the number on the metal band, by unique colour-markings (e.g. multiple colour bands / leg flags), or by alphanumerically engraved leg flags. Recoveries may be of dead or injured birds, birds recaptured alive by banders away from the site of banding, or birds sighted as colour-marked individuals. Recoveries up to 29 November 2003 are included in this analysis.

The placing of a coloured PVC leg-flag on waders began, in Victoria, in December 1990. Leg-flagging in NW Australia began in August 1992 and leg-flagging has subsequently been introduced in other areas. To co-ordinate the introduction of flagging throughout the East Asian – Australasian Flyway, a Protocol was developed in the late 1990s under the auspices of Wetlands International and the ABBBS. The number of birds flagged each year in Australia, up to the end of 2003, has been collected from each wader-banding group or individual.

Flag-sightings have been gathered from a variety of sources, especially the groups and individuals responsible for the flagging. Since 2001 the AWSG has operated a centralised leg-flagging database on behalf of the ABBBS, with the financial support of the Federal Department of Environment and Heritage (previously Environment Australia). The numbers of birds flagged are provided up to the end of 2003. Flag-sightings (all of which relate to live birds) are provided up to 1 December 2003.

A recovery is a unique event (though very occasionally birds may be recovered more than once) but the number of flag-sighting reports doesn't necessarily equal the number of different flagged birds that have been seen, because a bird carrying a flag cannot be individually identified. For example, at regularly monitored migration stop-over locations, such as Mai-Po Marshes in Hong Kong, an individual bird may be re-sighted and recorded on a number of different days during its stop-over. Also, when a bird permanently changes its non-breeding area, for example from Victoria to an interstate location such as Moreton Bay or Roebuck Bay, it may be sighted several times over a period of months, or even years. Each sighting on a different day is added to the database as a new record. This potential multiplicity of records for a flagged bird needs to be considered when interpreting sightings data.

There is also potential for duplication of records when several flagged birds are present at a particular locality on the same day, often in the same flock. Many regular observers of flagged birds are skilled at determining the number of individual flagged birds present by using criteria such as the proportion of breeding plumage on the bird, its sex (determined by plumage or size), the position of the metal band, and the position of the flag(s). Duplication of records is more likely when two independent observers see a flagged bird on the same day at the same location. Follow-up discussion with the observers can often resolve this situation.

Table 2. Resident Waders Banded in Australia

Region	STATE	VIC	NWA	Lake Ballard	WA	Perth	Perth	Albany	NSW	TAS	QLD	NT	TOTAL	ABBBS Totals
Bander/s		VWSG	AWSG/BBO/NWWSG	CALM	WAWSG	Serventy & Nicholls		Vic Smith	Fred van Gessel	BOAT	QWSG	Ray Chatto		
Period		1975-	1981-	1995	1979-	1958-60		1985-	1970-	1980-87	1989-99	1995-96		
Scientific name														
Pied Oystercatcher		2081	205		6					451	164		1	2908
Red-capped Plover		631	884		546	108		47	188	245	12		7	2754
Banded Stilt		151	92	850	23			4						1120
Red-necked Avocet		312	232		36				287	252				265
Black-winged Stilt		24	409		51				218	205			28	1119
Sooty Oystercatcher		638	50							14				941
Red-kneed Dotterel		135	192		2	1			84	3			9	702
Masked Lapwing		160	99						10	6	2		4	426
Black-fronted Plover		56	109		6				76	2			7	343
Hooded Plover		26			10					24				300
Banded Lapwing									3	1	12			60
Painted Snipe			6											16
Beach Stone-curlew														96
Bush Stone-curlew									1			1		6
Comb-crested Jacana														2
Inland Dotterel														15
Charadrius australis														20
TOTAL		4214	2278	850	680	109	51	866	556	852	184	57	10698	12422*
Species		10	10	1	8	2	2	7	8	7	4	1	7	16

As at Dec. 2003.
ABBBS totals are ex their data bank as at Sept. 2003.

* Summation using the higher figure for each species in the two "totals" columns

Table 8. Numbers of Waders Flagged in Australia

State (region): Bander/s:	VIC VWSG	WA (northwest) AWSG	QLD QWSG	SA VWSG	WA (southwest) WAWSG Vic Smith	NSW NSWWSG	TOTAL
Flag colour/s:	Orange	Yellow	Green	Orange/Yellow	Yellow/Orange	Orange/Green	
Species							
Latham's Snipe	278			4			282
Pin-tailed Snipe		1					1
Swinhoe's Snipe		5					5
Black-tailed Godwit	3	558					561
Bar-tailed Godwit	1753	6989	1647	3			10392
Little Curlew		890					890
Whimbrel	21	256	94				371
Eastern Curlew	524	137	206				867
Common Redshank		4					4
Marsh Sandpiper	2	95					97
Common Greenshank	395	135					530
Wood Sandpiper		41					41
Terek Sandpiper	10	3739					3749
Common Sandpiper		45					45
Grey-tailed Tattler	5	3703	189	1			3898
Ruddy Turnstone	1454	804	76	802			3136
Asian Dowitcher		95					95
Great Knot	290	10372	874		1		11537
Red Knot	2733	2884	258		1		5876
Sanderling	1488	640		1128			3256
Little Stint	5	1					6
Red-necked Stint	42078	8336		1013	230	4	51661
Long-toed Stint		45					45
Pectoral Sandpiper	1	1					2
Cox's Sandpiper	1						1
Sharp-tailed Sandpiper	3373	599		36			4008
Curlew Sandpiper	9241	5300	247	238			15026
Broad-billed Sandpiper	3	484					487
Ruff		1					1
Red-necked Phalarope		22					22
Painted Snipe		6					6
Pied Oystercatcher		192	79				271
Sooty Oystercatcher		45					45
Black-winged Stilt	6	253					259
Banded Stilt	151						151
Red-necked Avocet	84	133					217
Pacific Golden Plover	64	19		3			86
Grey Plover	75	237			2		314
Little Ringed Plover		1					1
Red-capped Plover	81	514		13			608
Double-banded Plover	282			10			292
Lesser Sand Plover	55	230	72				357
Greater Sand Plover	16	6113	33		1		6163
Oriental Plover		238					238
Black-fronted Dotterel	1	66		3			70
Hooded Plover				1			1
Red-kneed Dotterel	2	74					76
Masked Lapwing	17	72		4			93
Oriental Pratincole		75					75
Australian Pratincole		11					11
TOTAL	64492	54461	3775	3254	235	4	126221

Data to end of 2003

VIC total also includes some Sanderling and Ruddy Turnstone flagged orange (only) in S.E. of South Australia prior to April 1999

Table 11. Origin of Overseas-flagged Waders seen in Australia

Species	Japan	New Zealand	Korea	China	Taiwan	Hong Kong	TOTAL
Grey-tailed Tattler	116				4		120
Great Knot	6		22	1			29
Bar-tailed Godwit		7	6	11			24
Red Knot	1	23					24
Red-necked Stint	8						8
Ruddy Turnstone	4		2				6
Black-tailed Godwit	4						4
Curlew Sandpiper	1					2	3
Greater Sand Plover					2		2
Lesser Sand Plover	1						1
Double-banded Plover		1					1
Terek Sandpiper	1						1
Sharp-tailed Sandpiper					1		1
Broad-billed Sandpiper	1						1
TOTAL	143	31	30	12	7	2	225

As at 01/12/2003

Table 12. Flag-sightings within Australia away from the Flagging Location

Flagging Location	TOTAL Sighting Location							TOTAL
	WA	SA	QLD	NSW	VIC	TAS	NT	
VIC	285	290	290	187	91	80	19	1242
SA	54	31	1	7	98	1	5	197
NWA	30	16	5	22	40	2		115
QLD			6	24	2			32
SW WA	1	1						2
TOTAL	370	338	302	240	231	83	24	1588

As at 01/12/2003

Table 13. Overseas Sightings of Australian-flagged Waders on Northward and Southward Migration through Asia

Country	Migration Season	
	Northward	Southward
Hong Kong	880	9
Korea	228	90
Japan	177	293
Taiwan	154	47
China	106	2
Mongolia	17	2
Vietnam	5	0
Malaysia	3	1
Indonesia	1	4
Brunei	1	3
TOTAL	1572	451

As at 01/12/2003

Table 14. Overseas Sightings of Waders Leg-flagged in S.E. Australia

Species	Number Flagged in S.E. Australia*	No. Flag Sightings Overseas**	Overseas Flag-sighting Rate %
Red Knot	2733	989	36.2
Bar-tailed Godwit	1756	457	26.0
Curlew Sandpiper	9479	357	3.8
Red-necked Stint	43091	311	0.7
Sanderling	2616	167	6.4
Ruddy Turnstone	2256	34	1.5
Eastern Curlew	524	21	4.0
Grey Plover	75	19	25.3
Great Knot	290	14	4.8
Sharp-tailed Sandpiper	3409	13	0.4
Greater Sand Plover	16	11	68.8
Terek Sandpiper	10	4	40.0
Double-banded Plover	292	3	1.3
Black-tailed Godwit	3	2	66.7
Lesser Sand Plover	55	1	1.8
Other species (migratory only)	783		
TOTAL	67388	2403	3.6

*to end 2003

**to 01/12/2003

S.E. Australia includes Victoria and the southeast of South Australia

► Community involvement

- The Role of Wetland Centres in Shorebird Conservation. **C. Prietto and L. Young.** 102
- Linking scientific knowledge on shorebirds with multiple sectors of local community through education and public awareness – Lessons learnt from the Kashima Model in Japan and its adaptive application to the Yellow Sea Ecoregion in China and Korea. **T. Sadayosi** 107
- "A Year on the Wing" the Reality and Rigours of Shorebird Migration: An online documentary. **N. White** 108
- Shorebird Conservation in Australia – community conservation action. **B. Priest** 110

► Shorebird Studies

- What Have We Learned from Banding and Flagging Waders in Australia? **C.D.T. Minton** 116
- Shorebird studies in Taiwan. **C.Y. Chiang and W.T. Liu** 143

► Key wetlands in the Flyway

- Population Estimates and Important Sites for Shorebirds in the East Asian-Australasian Flyway. **M. Bamford and D. Watkins** 148
- Are Populations of Migratory Shorebirds in The East Asian Australasian Flyway at Risk of Decline ? **D. Milton, C.D.T. Minton and K. Gosbell** 153
- Yellow Sea-driven Priorities for Australian Shorebird Researchers. **M. Barter** 158
- The Penzhina River Estuary, Kamchatka, Russia – a very important shorebird site during southward migration **Y. Gerasimov** 161

► The need to identify critical sites in the Flyway

- The Spoon-billed Sandpiper on the Edge: a review of breeding distribution, population estimates and plans for conservation research in Russia. **E. Syroechkovskiy, Jr.** 169
- Movements of Red Knot between Australia and New Zealand **A. Riegen, C.D.T. Minton, R. Jessop and P. Collins** 175
- Action Planning to Save the Dunlin? **M. Barter** 183
- Critical Habitat in the Yellow Sea from a Korean Perspective. **J.Y. Yi** 188

► Frameworks for shorebird conservation

- Shorebird Action Plan for the East Asian-Australasian Flyway: Lessons Learned. **W. Lee Long and D. Watkins** 190

► Poster papers

- Not Just Another Survey - Mackay Wader Surveys 2003 **S. Harding, D. Ball, I. Whyte, D. Milton** 196
- Managing Habitats for Shorebirds – the Parramatta River Estuary **J. Harrington** 196
- Nocturnal and Diurnal Habitat use by Double-banded Plover *Charadrius bicinctus* in Botany Bay, New South Wales, Australia. **G. Ross and S. Weekes** 197

Status and Conservation of Shorebirds in the East Asian-Australasian Flyway

Proceedings of the Australasian Shorebirds Conference
13-15 December 2003, Canberra, Australia

Edited by Phil Straw

This conference was convened by:
Australasian Wader Studies Group (AWSG)
Wetlands International - Oceania

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International Wader Studies 17

2005

ISBN: 9058820270



Email (06/10/2000) from CDTM to GBP in which he writes, inter alia, 'I want to put them [recent leg-flag sightings at Lake Eyre] into the system for processing by ABBBS but I do not have the banding details. Could you tell me please (A) the range of dates during which the leg flagging took place; (B) approx coordinates of the part of the lake [sic] where most leg flagging took place; (C) exactly how many BS [BaSt] were flagged, and (D) whether the formal field data sheets returns were made to the Banding Office [ABBBS]'. GBP annotated the email hardcopy with 'colony: 29 44 36 S, 121 29 13 E' and 'camp: 29 47 01 S, 121 33 06'. These are coordinates of locations on Lake Marmion. See them plotted (by JL on 31/10/2014) on the accompanying Google Earth image. These are identical to the coordinates in GBP's typed report of 17/06/1995 (faxed to JL on 19/06/1995).

To: Grant Pearson@WOOD.SID@CALM
From: "Pat and Clive Minton" <mintons@ozemail.com.au>
Cc:
Subject: yellow flagged Stilts
Attachment:
Date: 06/10/2000 7:58 AM

6th Oct 2000

Seen at Lake Eyre in
April + July 2000
Therefore this email
is 6th Oct 2000
31/01/2014

DEar Grant

I'm not sure whether i've told you but we've had at least 3 different yellow flagged banded Stilts breeding at L Eyre this year. I want to put them into the system for processing by ABBBS but I do not have the banding details. Could you tell me please

- A) the range of dates during which the leg flagging took place in 1995
- B) approx coordinates of the part of the lake where most leg flagging took place.
- C) exactly how many BS were flagged
- D) whether the formal field data sheets returns were made to the Banding Office.

29 44 36
121 29 13 colony

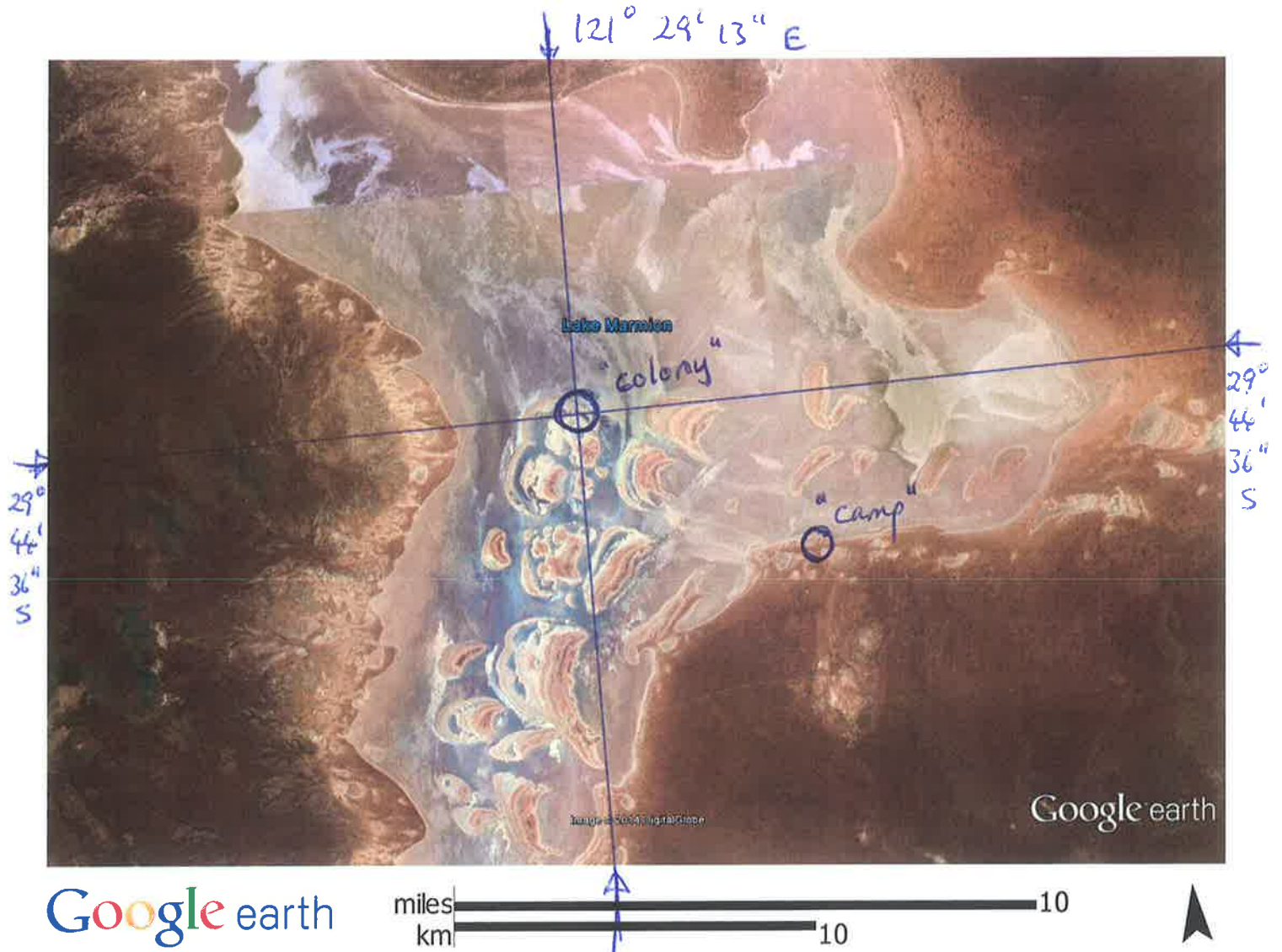
29 47 01
121 33 06 camp

Looking forward to hearing from you
Best wishes Clive

These are coordinates
of "colony" and "camp"
at Lake Mearns.

See accompanying Google Earth
image of 31/01/2014 with
these coordinates marked
on it by me.

31/01/2014



This is Lake Marmion, WA.

31/01/2014

'Report of Recovery to Bander' (dated 14/09/2000) sent by ABBBS to 'The Australian Wader Study Group, c/- CDTM' and copied by ABBBS to GBP. This reports a leg-flag sighting at Hughes Island, Lake Eyre North SA, on 03/04/2000. Note that banding details are given as 'Lake Bollard [sic; should be 'Ballard'] WA' 'on 00/04/1995'. Curious that this letter was sent to CDTM and copied to GBP, given that the flagging was done under GBP's permit. When asking ABBBS for banding or flagging records, keep in mind that 'Ballard' was misspelt as 'Bollard' in part of their database.

PLEASE
RETURN
TO
JOHN
CEADY

Copy: Grant Pearson
@ CALM

AWSG



AUSTRALIAN BIRD AND BAT BANDING SCHEME

John Gorton Building Parkes Place PARKES ACT 2600 GPO Box 8 CANBERRA ACT 2601 Telephone (02) 62742407 Fax (02) 62742455	Barry Baker Belinda Dettmann Amelia McCulloch David Drynan	02.62742402 02.62742405 02.62742406 02.62742407	barry.baker@ea.gov.au belinda.dettmann@ea.gov.au amelia.mcculloch@ea.gov.au david.drynan@ea.gov.au
--	---	--	---

14-SEP-2000

THE AUSTRALASIAN WADER STUDY GROUP
C/- DR CDT MINTON
165 DALGETTY ROAD
BEAUMARIS VIC 3193

Banded Stilt

REPORT OF RECOVERY TO BANDER

Dear Clive,

I have received a report of the recovery of a bird that you have banded. I apologise for the delay in getting this report to you. Please check the information given below and, if necessary, make any alterations and return this letter to me. If you do not contact the Banding office it will be assumed that the details given below are correct.

FINDING DETAILS

LEG FLAG Yellow was sighted on 03/04/2000
At : HUGHES ISLAND, LAKE EYRE NORTH SA
Latitude : 28deg 36min 0sec S ; Longitude : 137deg 5min 0sec E

Flag sighting

The bird was : COLOUR MARKING SIGHTED IN FIELD (COHORT ONLY)
And : WAS ALIVE IN THE WILD WITH THE BAND.

The finder is : Ros Jessop and Peter Collins
RMB 4009
COWES VIC 3922

BANDING DETAILS OF THE COHORT OF BIRDS

You placed this band on a(n) : Banded Stilt
or scientific name : *Cladorhynchus leucocephalus*
on : 00/04/1995
at : LEG FLAGS - LAKE BOLLARD WA
Latitude : 29deg 25min 0sec S; Longitude : 120deg 50min 0sec E;

The bird was age code : NESTLING, sex code : UNKNOWN

The exact time between banding and recovery is unknown. The bird had moved a distance of : 1581 km with a bearing of 91 degrees.

Yours sincerely

A McCulloch

D D. Drynan
Project Officer

Copy: Grant Pearson
@ CALM

AWSG



AUSTRALIAN BIRD AND BAT BANDING SCHEME

John Gorton Building
Parkes Place PARKES ACT 2600
GPO Box 8 CANBERRA ACT 2601
Telephone (02) 62742407 Fax (02) 62742455

Barry Baker
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amelia.mcculloch@ea.gov.au
david.drynan@ea.gov.au

14-SEP-2000

THE AUSTRALASIAN WADER STUDY GROUP
C/- DR CDT MINTON
165 DALGETTY ROAD
BEAUMARIS VIC 3193

Banded Stilt

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Dear Clive,

I have received a report of the recovery of a bird that you have banded. I apologise for the delay in getting this report to you. Please check the information given below and, if necessary, make any alterations and return this letter to me. If you do not contact the Banding office it will be assumed that the details given below are correct.

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And : WAS ALIVE IN THE WILD WITH THE BAND.

The finder is : Ros Jessop and Peter Collins
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at : LEG FLAGS - LAKE BOLLARD WA
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The bird was age code : NESTLING, sex code : UNKNOWN

The exact time between banding and recovery is unknown. The bird had moved a distance of : 1581 km with a bearing of 91 degrees.

Yours sincerely

A McCulloch

D D. Drynan
Project Officer

Email (13/04/2000) from CDTM to GBP and 'Allan' [Alan Clarke - ACI] inter alia indicating that Alan sent CDTM metal bands and yellow leg flags for potential use at Lake Eyre, but it turned out that they were unable to be used there. CDTM asks whether he should return them 'immediately' to GBP / Alan or hold onto them for a few weeks. Were they returned to GBP or ACI? (Presumably they were not, as JL searched band stocks in laboratory at Busselton office on 01/02/2014 and found neither leg-bands nor leg-flags for BaSt). [Note by JL on 03/02/2014. Double-check for leg-flags, possibly among duck nasal saddles or egret/heron/ibis wing tags?]

To: iSMTP@CALM.COMO.1@Servers[<mintons@ozemail.com.au>], Jim
Lane@BUSS.SID@CALM
From: Grant Pearson@WOOD.SID@CALM
Cc:
Subject: re: Banded Stilts
Attachment:
Date: 13/Apr/2000 3:20 PM

Hi Clive.

Good news about the yellow flag indeed! I flew Ballard, Barlee, Marmion and Gourly last week and found no breeding. Water levels were mostly lower than expected. I'm in the process of a full report for Jim and will copy it to you.

Cheers

Grant

Grant Pearson
Department of Conservation and Land Management
WA Wildlife Research Centre
Wildlife Place
Woodvale WA 6026
Tel: (8) 9405 5163, Fax: (8) 9306 1641
Email: grantp@calm.wa.gov.au
----- Original Text -----

From: "Pat and Clive Minton" <mintons@ozemail.com.au>, on 13/04/2000 1:55 PM:

Dear Grant and Allan,

1. Thankyou allan for getting the metal bands and yellow leg flags so promptly. As it happened we were not able to band any chicks from the last nine thousand nests, only 322 chicks survived the silver gull predation onslaught!

I am pleased that the SA authorities are most receptive to the recommendation for drastic silver gull control in the environs of future Banded Stilt colonies.

2. Great surprise! A yellow flag adult Banded Stilt nesting in the Lake Eyre colony. This is the first example of the intermixing of the WA and SA populations.

Would it be possible for you to prepare please, in the near future, a consolidated list of all yellow flag sightings?

3. Have you managed to carry out an aerial recce yet over the Guld fields saltlakes?

Best wishes to you both,
Clive.

P.S. Shall I return the metal bands/yellow leg flags immediately or hold them here until we see what transpires over the next few weeks (eg. a new nesting attempt at Lake Eyre when the Queensland water arrives in early May)?

Here to be from our
1995 Silver-Bellied
+ Marmion flying
effort.

details? when?

17/4/00

Faxed (on Fri 17/03/2000; from JL to GBP) copies of a Budget Request and a Science Project Plan for SPP 'Breeding ecology and conservation of Banded Stilt'. The Science Project Plan refers inter alia to 'Leg banding and flagging of chicks on Lakes Ballard and Marmion' in 'Jun 1995' and (under 'Phase 1 (1995-2000)'), 'Develop safe method of catching chicks. Band / leg flag chicks'.

10

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

14 QUEEN STREET, BUSSELTON WA 6280
PHONE - (08) 9752 1677 FAX - (08) 9752 1432



FAXED



FACSIMILE TRANSMITTAL SHEET

TO: *Grant Pearson*

FROM: *Jim L.*

COMPANY:

DATE: *17/3/00*

FAX NUMBER:

TOTAL NO. OF PAGES INCLUDING COVER:

(9)

PHONE NUMBER:

SENDER'S REFERENCE NUMBER:

RE:

YOUR REFERENCE NUMBER:

NOTES/COMMENTS:

Re Monkey's flyto

- a) CF (including ED / NC Division) allocation: \$5,000
- b) External allocation and source: Support to value of \$2,000 provided by mining industry.

6. PLANNED ACHIEVEMENTS FOR 1999/2000 (5-6 dot points):

- Sorting, identification and quantification of aquatic invertebrate sweep samples from 1995 breeding event at Lake Ballard.
- Identification and quantification of Banded Stilt oesophagus contents from 1995 breeding at Ballard.
- Egg laying, incubation and hatching success data to be extracted from daily photographic monitoring of quadrats established in 1995 Ballard breeding colonies.
- Data and observations from 1995 Ballard breeding event to be prepared for publication in "Emu".
- *In the event that suitable rainfall occurs, aerial surveys are proposed to determine Banded Stilt breeding locations, colony size, colony site characteristics, breeding success, etc.*
- *In the event that suitable rainfall occurs and breeding is successful, banding and flagging of Stilt chicks is proposed to determine movements, longevity, etc.*

7. 1999/2000 CF BUDGET REQUEST:

BIODIVERSITY CONSERVATION GROUP

CF BUDGET REQUESTS

1999 / 2000

1. SPP TITLE: Breeding ecology and conservation of Banded Stilt
2. SPP NUMBER: Req. No. WD/0023
3. SCIENTIST: J.A.K. Lane
4. ACHIEVEMENTS IN 1998/9 (5-6 dot points):
 - Aerial survey of limited number of known and potential breeding sites in Eastern Goldfields conducted in April 1999 following rainfalls from ex-tropical cyclones Elaine and Vance.
 - Effectiveness of March-April 1999 rainfall in providing suitable conditions for breeding activity by Banded Stilt on Lakes Ballard, Goongarrie, Marmion and Carey determined.
 - Precise location of new breeding site on Goongarrie identified.
 - Mining industry support obtained for CALM Banded Stilt research.
 - Potentially useful contacts established with mining industry.
5. 1998/9 BUDGET ALLOCATION:
 - a) CF (including ED / NC Division) allocation: \$5,000
 - b) External allocation and source: Support to value of \$2,000 provided by mining industry.
6. PLANNED ACHIEVEMENTS FOR 1999/2000 (5-6 dot points):
 - Sorting, identification and quantification of aquatic invertebrate sweep samples from 1995 breeding event at Lake Ballard.
 - Identification and quantification of Banded Stilt oesophagus contents from 1995 breeding at Ballard.
 - Egg laying, incubation and hatching success data to be extracted from daily photographic monitoring of quadrats established in 1995 Ballard breeding colonies.
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 - *In the event that suitable rainfall occurs and breeding is successful, banding and flagging of Stilt chicks is proposed to determine movements, longevity, etc.*
7. 1999/2000 CF BUDGET REQUEST:

- a) Operating (including requests for ED / NC Division funding):
\$3,000 See special note at Item 10 below.
 - b) Chemistry Centre:
\$0
8. EXTERNAL FUNDING RECEIVED OR EXPECTED TO RECEIVE, AND SOURCE:
- There is a strong possibility of significant, external, in-kind support (\$1,000s) being provided by the mining industry and/or other sources in the event that suitable rainfall occurs in 1999/2000 or subsequent years.
9. COMPLETION DATE FOR THIS WORK (mm/yy):
- Depends upon timing of rainfall events and level of funding and in-kind support obtained. Rainfall events suitable for successful breeding appear to occur once in 3-10 years.
10. ANY OTHER INFORMATION RELEVANT TO BUDGET REQUEST:
- CALMSscience funding (\$3,000) is being sought for 1999/2000 to enable a *rapid response* in the event (<50% probability) that a potentially-suitable rainfall event occurs. These funds would be used for an initial aerial survey. External funds would be sought to support follow-up work in the event that breeding colonies with a high likelihood of success are located.
11. ENDORSEMENT BY PROJECT LEADER:

Department of Conservation and Land Management

CALMScience Division

Science Project Plan

(Page 1)

Important: Refer to the *Explanatory Notes* (Staff Guideline No. 7) when preparing an SPP.

PART A Title and Location

SPP Number: [allocated by D/AA]

Request No: [allocated by WASPP]

WD/0023

Concept Plan No: [allocated by D/AA]

1. Project Title: Breeding ecology and conservation of the Banded Stilt
2. CALMScience Group: Biodiversity Conservation Project Team: Aquatic Ecosystems
3. Staff [Names and estimates of percentage of time]:

Supervising Scientist:	J. Lane (15% in 1999/00)
Other Scientists:	
Technical Officers:	G. Pearson (2% in 1999/00)
	A. Clarke (10% in 1999/00)
External Collaborators:	Dr C. Minton (Australian Wader Study Group)
Volunteer(s):	A. Chapman
4. a) Departmental Program(s): Nature Conservation
 - b) Land Tenure(s): Vacant crown land, pastoral lease, CALM-managed land.
 - c) CALM Region(s): Goldfields, Wheatbelt, Pilbara
 - d) CALM District(s): All within above regions.
 - e) Location of plots/transects [Name] : Not applicable
5. Related SPPs: WD/0024 (*A Directory of Important Wetlands In Australia*)
6. Proposed commencement date: Phase 1: 1995 Phase 2: 1999
7. Proposed completion dates: Phase 1: 2001 Phase 2: 2005
8. Date of submission of this Plan and signature of Supervising Scientist:

(Page 2)

PART B Endorsements

9. List the relevant District Manager(s), Business Unit Manager(s), and/or Regional Manager(s) whom you have consulted about the SPP. If the SPP relates to all Regions, you should confer with the Director of Regional Services:

Goldfields Regional Manager (Ian Keally)

10. Biometrician:
Return comments to D/AA

11. Animal Ethics Committee:
Return comments to D/AA

12. Project Team Leader:
Return comments to D/AA

13. Group Manager:
Science Group Manager to forward to D/AA

14. Divisional Administrative Assistant (D/AA):
Divisional Admin. Assistant to manage approval process, load approved SPP on WASPP, arrange filing at SOHQ, publish in CALMScience News, send photocopy of completed SPP to Supervising Scientist and notify Biometrician of SPP No., copy cover sheet to Regional Manager, District Manager and relevant Program Manager (for their information)

PART C Relevance and Outcomes

15. **Background:** The Banded Stilt *Cladorhynchus leucocephalus* is an Australian endemic. It nests in large colonies (up to 100,000+ pairs) on small islands (about 1-5 ha) on huge (100+ km²) claypan lakes of inland Western (mainly) and South Australia following exceptional rainfall events (c. 3-7 year intervals). Its breeding biology has been little studied, due mainly to the difficulty of finding and gaining access to breeding colonies. Nesting attempts fail spectacularly if lakes dry prematurely during breeding attempts. Few known nesting locations are within conservation reserves, and these only partly. The mining industry is showing substantial interest in mining the beds of claypan lakes and utilising them for storage / disposal of wastes and for water supply. Without an improved knowledge of Banded Stilt breeding biology and environmental requirements, CALM is not well placed to ensure conservation of the species.
16. **Project aims:**
- Determine the principal breeding locations of Banded Stilt in Western Australia and their relative importance.
 - Develop an improved understanding of their breeding biology.
 - Quantify key environmental factors (e.g. hydrological regime, salinity) governing breeding success;
 - Identify any significant human-induced threats to nesting colonies and habitats.
 - Obtain and disseminate knowledge needed to ensure conservation of the species.
17. **Anticipated project outcome(s):** Scientific and other publications that will provide information necessary to ensure that the principal breeding sites and habitats of the Banded Stilt can be adequately conserved and wisely managed.
18. **Anticipated users of the knowledge to be gained and technology transfer strategy:** CALM, Department of Environmental Protection, Environmental Protection Authority, Department of Minerals & Energy, mining and tourism industries, conservation groups. **Results of Phase 1 have been transferred through articles in the media, popular and ornithological magazines, an ABC television documentary, presentation at Southern Hemisphere Ornithological Conference. Scientific publication is also proposed.**
19. **Milestones [Describe tasks and when they will be completed]:**
- Phase 1: (1995-2000)
- | | |
|---|----------|
| • Aerial survey to locate Banded Stilt breeding colonies in Eastern Goldfields following passage of Cyclone Bobby. | Mar 1995 |
| • Establishment of base camp to study Lake Ballard breeding colony | Apr 1995 |
| • Collection of data on breeding colony characteristics, timing of nesting, clutch size, incubation period, hatching & fledging success, fledging period, lake filling / drying cycle, water chemistry. | Jun 1995 |
| • Collection of stilt adults and chicks for gut content analysis. | Jun 1995 |
| • Leg banding and flagging of chicks on Lakes Ballard and Marmion. | Jun 1995 |
| • Sorting, identification and quantification of macroinvertebrate sweep samples and stilt gut contents. | Dec 1999 |
| • Extraction of clutch size, incubation period, hatching success data from photographic monitoring of 1995 Ballard nesting event. | Dec 1999 |
| • Preparation and write-up of 1995 breeding event data and observations for scientific publication. | Apr 2000 |
| • Publication of 1995 breeding event results in journal <i>Emu</i> . | 2001 |
- Phase 2: (1999-2005)
- | | |
|--|------|
| • Monitor rainfall reports from Eastern Goldfields and Wheatbelt. | 2004 |
| • In the event that exceptional rainfall occurs (annual probability low), conduct aerial surveys to locate and photograph breeding colonies. | 2004 |

- In the event that exceptional rainfall occurs and breeding colonies become established, conduct aerial (& possibly ground) monitoring to determine colony success and major limiting factors. 2004
- In the event that successful fledging of chicks appears probable, 2004 conduct banding and leg flagging of chicks. →
- Prepare and write-up of data and observations for publication. end 2004
- Publish in *Emu* or other scientific journal. 2005

PART D Study Design

20. Method [including statistical analysis]: Phase 1 (1995-2000): Conduct aerial survey of Lakes Barlee & Ballard following Cyclone Bobby (Feb 1995) to locate breeding colonies. Establish base camp on Lake Ballard. Establish quadrats in nesting areas for daily monitoring (photographs) to determine laying rate, clutch size, incubation period and hatching success. Collect adults and chicks to determine diet. Conduct macro-invertebrate (standardised sweeps) to monitor food availability. Install continuous recorder to monitor lake water level. Sample water chemistry. Develop safe method of catching chicks. Band / leg flag chicks. Conduct additional aerial surveys to monitor fledging success. Analyse results. Prepare for publication. Publish.
- Phase 2 (1999-2005): Rainfall in the main breeding range of the Banded Stilt (in WA) will be monitored using daily rainfall data obtained by the Bureau of Meteorology. Following exceptional rainfall events (approx 3-7 year intervals) and reports of flooding, aerial surveys will be conducted to locate and monitor breeding colonies. Colonies will be photographed from the air and, if feasible, visited on the ground to determine number of breeding pairs, nesting and fledging success, water depths, water chemistry and food availability. Chicks will be banded and leg-flagged to obtain information on movements and longevity. Standard statistical techniques will be used where appropriate.

PART E Data Management and Budget

21. Voucher specimens [how many are anticipated to be collected and where will they be lodged?]: Voucher specimens (at least) from macroinvertebrate samples will be retained and curated at CALMScience Woodvale.
22. Data management [how and where are data being archived/maintained?]: The original data (field note books, other papers) and nest monitoring photographs are held by J.Lane at CALM Busselton. Data from a continuous water level recorder (Lake Ballard 1995) are on disk in a datasafe in JL's office. The 1995 macroinvertebrate samples are held and curated by A.Clarke at CALMScience Woodvale. Data to be collected (Phase 2) will be held by JL at Busselton.
23. Budget Estimate [anticipated expenditure]:

Consolidated Funds (CALM)

	Year 1 (94/95)	Year 5 (98/99)	Year 6 (99/00)
FTEs - Scientist	0.2	0.02	0.15
FTEs - Technical	0.5	0.03	0.12
Equipment	0	0	200
Vehicle	0	0	500
Travel	0	0	500
Other	0	5 000	1 800
TOTAL	0	5 000	3 000*

	Years 7 to 10 (00/01 to 03/04)	Year 11 (2004/05)	
FTEs - Scientist	0.05	0.1	
FTEs - Technical	0.1	0.05	
Equipment	200	200	
Vehicle	500		
Travel	500		
Other	1 800	800	
TOTAL	3 000*	1 000	

External Funds

	Year 1 (94/95)	Year 5 (98/99)	Year 6 (99/00)
Salaries/Wages/Overtime			
Overheads			
Equipment			
Vehicle			
Travel			
Other			
TOTAL	10 000**	1 200**	**

	Years 7 to 10 (00/01 to 03/04)	Year 11 (2004/05)	
Salaries/Wages/Overtime			
Overheads			
Equipment			
Vehicle			
Travel			
Other			
TOTAL	**	**	

* CALMScience funding (\$3,000 each year) is being sought from 1999/00 to 2003/04 to enable a *rapid response* in the event (<50% probability) that potentially-suitable rainfall events occur. These funds will be used for aerial surveys. External funds will be sought to support follow-up work in the event that breeding colonies with a high likelihood of success are located. In years when potentially-suitable rains do not occur (by end of April), *the funds could be reallocated* to other projects.

** There is a strong possibility of significant, external, in-kind support (\$1,000s) being provided (as occurred in 1994/95 & 1998/99) to this project by the mining industry and other sources in the event that suitable rainfall events occur in 1999/2000 and subsequent years.

24 Budget Actual [to be updated at the end of each financial year by D/AA and local AA]:

Consolidated Funds (CALM)

	Year 1 (94/95)	Year 5 (98/99)	Year 6 (99/00)
FTEs - Scientist	0.2	0.02	
FTEs - Technical	0.5	0.03	
Equipment	0	0	

Vehicle	0	0	
Travel	0	0	
Other	0	0	
TOTAL	0	0	

	Years 7 to 10 (00/01 to 03/04)	Year 11 (2004/05)	
FTEs - Scientist			
FTEs - Technical			
Equipment			
Vehicle			
Travel			
Other			
TOTAL			

External Funds

	Year 1 (94/95)	Year 5 (98/99)	Year 6 (99/00)
Salaries/Wages/Overtime			
Overheads			
Equipment			
Vehicle			
Travel			
Other			
TOTAL	10 000**	2 000**	

	Years 7 to 10 (00/01 to 03/04)	Year 11 (2004/05)	
Salaries/Wages/Overtime			
Overheads			
Equipment			
Vehicle			
Travel			
Other			
TOTAL	**	**	

- 25 Account code(s) for this SPP [allocated by Group AA]:
- 26 Latitude and longitude of plots/transects: Not applicable (no permanent plots/transects)

Undated (approx. early May 1999) ABBBS 'Requisition for Banding Supplies' form in which GBP requests 1000 size 08 , 'metal SS' leg bands be issued to him ('A' Class Authority No. 831). GBP also wrote 'URGENT: NEEDED BY 10 MAY 99' on this form.



AUSTRALIAN BIRD AND BAT BANDING SCHEMES

G.P.O. Box 8 Canberra, A.C.T. 2601

Phone (062) 500321

FAX (06) 2500314

REQUISITION FOR BANDING SUPPLIES

From:

Grant Pearson
P.O. Box 51 Warrnambool
DEPT CALM *6065*

Is this a new address?

ANPWS Authority No.

NO

0832

Please list your requirements in the spaces provided. It is important to state the number of bands in hand for each size ordered so that we can anticipate your future requirements. When the supplies are sent to you, a receipt will be enclosed together with an unused form for your future use. PLEASE CHECK THE SIZE, METAL, PREFIX AND SERIAL NUMBERS OF THE BANDS BEFORE SIGNING THE RECEIPT AND RETURNING IT TO THE BANDING OFFICE. ANY DISCREPANCY BETWEEN THE TEMS LISTED AND THOSE RECEIVED SHOULD BE NOTED ON THE FORM. Please consult the List of Approved Band Sizes or the recommended band size and metal for each species. Use the following abbreviations to denote the respective metals: SS — Stainless steel; AM — Aluminium; AY — Alloy; ML — Monel and IN — Incoloy.

BANDS

REQUESTED						DESPATCHED					
Size	In hand	Required	Metal	Prefix	Serial numbers	Size	In hand	Required	Metal	Prefix	Serial numbers
<i>08</i>	<i>-</i>	<i>1000</i>	<i>SS</i>								
<i>URGENT NEEDED BY 10 May 99.</i>											

BANDING PLIERS

	REQUESTED	DESPATCHED		REQUESTED	DESPATCHED
Small pliers			Large pliers		

LITERATURE AND FORMS

TITLE	REQ'D	TITLE	REQ'D
Bird Bander's Manual		Data Sheets — Type I — Standard: Bird Banding	
Bird Bander's Manual: Current Version Ch.		Data Sheets — Type II — Colour Banding: Birds	
Bat Bander's Manual *		Data Sheets — Type III — Additional Information: Birds	
Bat Bander's Manual: Current Version Ch. *		Data Sheets — Type I — Bat Banding	
List of Approved Band Sizes: Australia: Alphabetical		Banders Diary Sheets	
List of Approved Band Sizes: Australia: Taxonomic			
List of Approved Band Sizes: PNG		Plumage Description Form	
Initial Enrolment Forms		Moult Recording Data Sheets	
Upgrading of Authority Forms		Access to Banding Data Form	
New Projects Form		Publicity Brochure	
Location Code Registration Form		Mistnets: Information and Prices	
This Form		Colour Bands: Information and Prices	
Transfer of Banding Supplies Form		Application to Colour Mark Form	
Trial of Band Size Form			
Data Sheets Despatch/Acknowledgement Form			

* = not currently available

OFFICE USE ONLY

Bands Issued By:	Date:	Bands Despatched on:	
Catalogued By:	Date:	Receipt Returned on:	OK/Update
Bands Checked By:	Date:	Update to Catalogue Completed:	

Article 'Leg-Flagged Banded Stilts' (including sightings received by JL to date) as appeared on pp.16-17 of WA Bird Notes No.80, Dec 1996. Draft is below (at 23/10/1996). This article inter alia reads: '... 500 Banded Stilt chicks were leg flagged and 800 banded ...'. [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].

Note that a different article with the same heading, with authorship of JL not acknowledged, appeared (page 18) in the March 1996 issue of WA Bird Notes (No.77).

other lakes in the area.

In August, John and Jeanette Hyndes lead us to Lillian Stoke Rock in the Frank Hann National Park. Eighteen of us braved the threat of a soaking and camped out for the weekend. Little rain actually fell and everyone enjoyed the very interesting area including gnamma holes. Thirty-one species were noted, including two species of cuckoo and a pair of Redthroats. Despite hearing a Crested Bellbird at least 30 times, the elusive bird was never sighted by the ever-vigilant mob.

The absence of the often dominating Yellow-throated Miner was appreciatively noted. This was probably due to the fact that the nearest agricultural clearing was many kilometres away.

Our September project was to repeat our October 1995 Hooded Plover Survey. Twelve people participated in seven groups but only 32 Hooded Plovers were seen at four sites during the weekend. There was much more water at most sites than in 1995.

Next month, Allan Rose is demonstrating mist netting for us at Hyndes' place which should be interesting. A canoe trip is planned for November.

Kate Dawson



Chestnut Teal, male
Drawn: Val Talbot

ALBANY BIRD GROUP

September Outing

For our September outing, we had hoped to spend three full days at Madgedup. This is a farm within the Shooters Hill complex situated on the Pallinup River.

Nine people arrived mid afternoon and once we had set up camp in the shearers' quarters, we all went down to the river. We saw ten species of waterbirds in just a few minutes.

We had a very pleasant evening discussing birds and wildflowers and other subjects as well! At that stage the weather was fine.

The next day five other members joined us for the day. The weather wasn't kind to us. It started to rain during the night, and the wind came up about 11 am and it blew and blew.

We all returned to the river which has been fenced off for some time. Acacias and all casuarinas are regenerating. From there we visited a large natural bushland where we were joined by Mrs. S Stone, the owner of the property. Mrs. Stone then took us to yet another area where there were lots of orchids. At this stage the wind was increasing so birding came to a halt. The group returned to the shearers' quarters for lunch.

It was decided that the situation was impossible, so we all packed up and went home. I did feel sorry for Viv Dare and

Jan Rogers who had come from Perth for the camp.

However, we did see orchids as I have not seen them for years. It seems to be a very good year for them. We also managed to see 41 species of birds. The place has great potential and we have been invited to return. I haven't a doubt we will before too long.

October Outing

The meeting place will be the parking area, Denmark River, Denmark, to visit swampland and farming area.

Vivian McCormick

Notices

RAOU CALENDARS

1997 calendars are now available for purchase at Perry House. As usual, these are of a very high standard, with excellent photographs of birds and their habitats. Your purchase helps the WA Group and the RAOU national body.

BIRDING SITES AROUND PERTH

We are progressing with the work of revising this publication, thanks to support from members

- visiting sites to check information
- providing professional advice and assistance
- loan of bird slides
- preparing bird illustrations

The Department of Land Administration has generously allowed us to use maps from Streetsmart Street Directory.

Local government departments have provided information on request.

Our WA Group Database, *WA Bird Notes* and Suburban Bird Survey are a valuable source of information on current distribution of species.

Members are helping to finance the project by sponsoring a page for \$20.00.

If you would like to be part of this project and be acknowledged as a page sponsor, we would welcome your help.

Sponsorship money can be sent to:

Birding Sites Around Perth
71 Oceanic Drive
Floreat WA 6014

LEG-FLAGGED BANDED STILTS

Last year, following torrential rains and successful breeding on Lakes Ballard and Marmion near Menzies, 500 Banded Stilt chicks were leg-flagged and 800 banded (see WABN Nos 74-76 for details).

Since then, the following sightings have been reported:

Date	Location	Number sighted	Distance (km)	Reported by
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* 3 flags and 1 band only; all other sightings are of flags.

We are very keen to get as many sightings as we can during the new few years (the flags should last that long) and the next 12 months in particular. These are the only Banded Stilts to have ever been leg-flagged and it may be many years before another opportunity to study this fascinating species arises.

So, should you sight a leg-flagged stilt we would be most grateful if you could pass the details on to Grant Pearson at CALM's Woodvale office (ph 09 405 5163 or fax 09 306 1641) or to Jim Lane at CALM's Busselton office (097 52 1677 or fax 097 52 1432).

The leg-flags are small, made of stiff yellow plastic and positioned above the 'knee'.

The information we are seeking is location, date, number of flagged stilts seen, how well-developed the breast bands of the flagged stilts were, the total number of stilts at the site and any other information of possible interest. Please also include the name of the observer and a contact number or address.

If you would like advice on where (which lakes, estuaries, saltworks, etc.) to look for Banded Stilts, please ring Grant or myself.

Also, if you are interested in joining, on a cost-sharing basis, a special search for flagged stilts this summer, please contact Grant Pearson. We are trying to organise a trip.

Hope to see you out on the briny!

Jim Lane

TWITCHATHON '96 AND PRE-CHRISTMAS BREAKFAST

We need as many teams as possible from the metro area to really try and get that telescope back from the Broome Bandits. Join the fun on 21/22 December and seek a winning score. It does not matter if you are a relatively inexperienced birder, because some of the 'older hands' will be only too pleased to include you in their team; so get your name down if you are seeking a team. Start time is 8 am on Saturday 21st and you must finish by 8 am Sunday 22nd.

There will be a breakfast fit for a King at Perry House starting at 8:30 am. All lists from the country can be faxed or phoned in after 8 am and before 8:30 am. Sadly, our country competitors will have to have their own breakfast celebrations but can combine this with a Xmas get-together. Albany have already promised at least one team so Esperance and Mandurah should at least equal this. Our new group at Narrogin may like to try their luck. We will give them a treble score for a Freckled Duck!

An open invitation to the pre-Christmas Breakfast is also extended to all those volunteers who have worked during the year to make our Group such a success. Even if you don't Twitch, come along for the fun. The Breakfast will also serve as a welcome to all new members who are especially invited to meet the old hands. Please join us for whatever reason.

There is a sheet at the Office to record your attendance so PLEASE ring the volunteer and have your name included. This will enable our catering to be adequate.

There is also a sheet on which you should put the name of your TWITCHATHON TEAM and the leader's name and contact number.

Anyone who would like to take part please ring Clive Napier on (09) 332 7265 and we will find a group for you.

A CALENDAR OF EVENTS IN THE BIRD WORLD

To increase the public's understanding of birds and their routines it is proposed to include a regular item in *Earth 2000*. It could possibly be prepared for monthly publication.

The idea is to highlight those bird events which occur regularly. Such events might include arrivals and departures (waders, cuckoos, bee-eaters, etc.), territorial behaviours (magpies), unusually large gatherings or the occupation by particular species of specific habitats. It would be valuable also to describe phenomena which are determined by such events as irregular weather conditions.

Contributions are therefore sought from WA Group members who know of some of these chronological events. Please forward your ideas to the RAOU (WA Group) office.

OFFICE VOLUNTEERS

The RAOU office at Perry House serves a very useful purpose in linking RAOU activities with the general public, as well as being open Monday-Friday 9:30 am - 12:30 pm for the sale of books, calendars and cards to anyone who ventures in.

All this would not be possible without the band of enthusiastic volunteers who throughout the year provide this service for the WA Group. We are served extremely well by our volunteers and are the envy of birding organisations in other states.

Raise your glass to them this Christmas and continue to be aware of the role played by the many volunteers in our very active organisation.

Max Bailey

REQUEST FOR INFORMATION: POLLINATION OF WEST AUSTRALIAN NATIVE PLANTS

I have just started compiling a database on existing records (published or unpublished) of pollination of native WA plants by vertebrates and invertebrates, as a contract for the WA Naturalists Club, and I would welcome any observations that would expand this database. Unpublished observations from your notebooks would be particularly welcome. Most of the observations will probably be of flower visitors rather than confirmed pollinators, and it would be useful to me to know whether the visitors to the flowers were after nectar, pollen or insects. Ideally, I would like identifications of plant and pollinator as accurate as possible, as well as location and date information. However, any observations would be useful.

I would be most appreciative of any observations to increase the database which I hope to complete by August 1997.

I can be contacted at the Research Laboratory at King's Park at:

hzb@kpbg.wa.gov.au (Email)

or

(09) 480 3640 (phone)

or

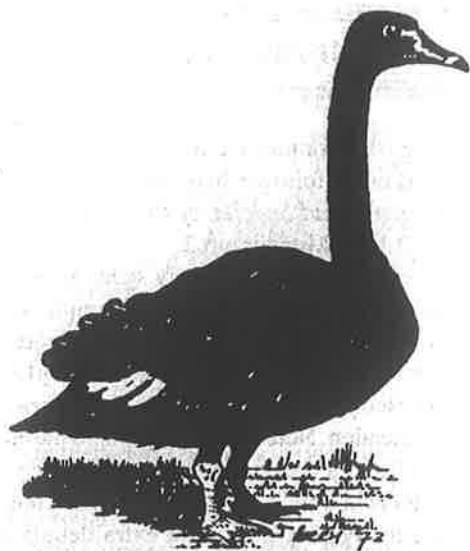
(09) 480 3641 (fax).

Liz Brown

"BOP WATCH": A NATIONAL SURVEY OF OUR BIRDS OF PREY

The diurnal birds of prey are top predators which, together with their relatively high visibility and their known sensitivity to environmental conditions, makes them ideal 'indicator

J. Lane



Western Australian Bird Notes

Quarterly Newsletter of Birds Australia WA
(Royal Australasian Ornithologists Union)

No 80 December 1996

LITTLE PENGUINS ON PENGUIN ISLAND

One of the WA Group's newest members, Dr Belinda Cannell of Biological Sciences at Murdoch University, is conducting a detailed study of Little Penguins at Penguin Island, and is seeking interested (and trainable) volunteers to help radio-track some of the birds. Belinda has provided the following story for Bird Notes, and can be contacted by prospective volunteers on 09 360 2202 (bus hours) and 09 272 4079 (after hours). Please contact her and help with this fascinating work; Eds.

STUDY ON LITTLE PENGUINS

The Little Penguin *Eudyptula minor* colony on Penguin Island is the only one of significant size on the west coast of Australia, and is estimated to have a current population of about 1000-1200. It is a long-established colony but is very isolated; the nearest colonies of any size are more than 1500 km away. Little Penguins do not breed on the Western Australian mainland and their absence from many islands around Perth (e.g. Rottnest Island) implies that, as well as breeding sites free from predators and disturbance, they require additional resources available only on or near Penguin, Garden and Carnac Islands. The most probable requirement is access to a reliable, year-round supply of small, schooling fish within 5-10 km of their breeding colony.

Evidence from penguin populations throughout Australia indicates that their numbers are declining, particularly those populations close to expanding urban areas. The colony on Penguin Island is only 600 m offshore from the suburbs of Rockingham and thus is the closest WA penguin colony to areas of high density urban development. Growing demand for recreational and commercial access to coastal venues will obviously continue to place pressure upon the small, isolated and unusual penguin colony on Penguin Island. In addition:

- the human population of Rockingham has doubled over the last five years and is projected to treble in size over

the next 20 years;

- the number of recreational boats registered in Western Australia rose from 20 000 in 1970, to 40 000 in 1980 and 70 000 in 1990;
- trawl and beach seine fisheries operate in and around the Marine Park.

The penguins on Penguin Island have been studied by Murdoch University researchers since 1984. In 1986, 55 nesting boxes were placed in areas with different levels of human disturbance. These boxes have been visited weekly since their placement, allowing the collection of information on the condition of the penguins throughout the year, how often they return to nest-boxes, when they breed, how successfully they breed, and in a limited fashion, their diet. However, it is not known where the penguins feed, when they feed, nor whether these habits change throughout the year. Visual tracking of penguins at sea is very difficult and satellite tracking is prohibitively expensive; at present radio-tracking is the best way to determine their foraging patterns.

We have joined forces with a local community group — the Friends of Shoalwater Islands Marine Park (FSIMP), and together obtained a grant from the Gordon Reid Foundation for Conservation. Murdoch University has obtained extra funding from Port Kennedy Resorts Pty Ltd. These funds are also to be used to gather information on the diet of the penguins throughout the year, as well as the location, abundance and size distribution of the prey species (or bait fish) taken by Little Penguins in the project area.

Anyone who has done any radio-tracking will agree that it is a very costly exercise, both in monetary terms and the number of hours over which the animals must be tracked, and hence the large number of personnel required. We will be attaching temporary lightweight and streamlined transmitters on ten birds and tracking them concurrently from three sites over a 10-day period. The tracking sessions will occur at four

Fax (23/10/1996) from JL to John Blyth with typescript of article 'Leg-Flagged Banded Stilts' (including sightings received by JL to date) for December 1996 issue of WA Bird Notes. Inter alia it states that the final numbers banded and flagged at Lakes Ballard and Marmion in 1995 were 500 leg-flagged and 800 leg-banded. [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
BUSSELTON DISTRICT
FAX NO: (097) 521 432

13.

FAXED

TO: JOHN DLYTH URGENT: YES / NO

AT: WRC

Fax No.

FROM: JIM LANE

DATE: 23/10/96

Your Ref:

Local Ref:

Have Enclosed attached article for Dec
issue of WARD to you today. Cheers

No. of pages inc. this page: (2)

Please call us on (097) 521 677 if this message was incomplete or illegible

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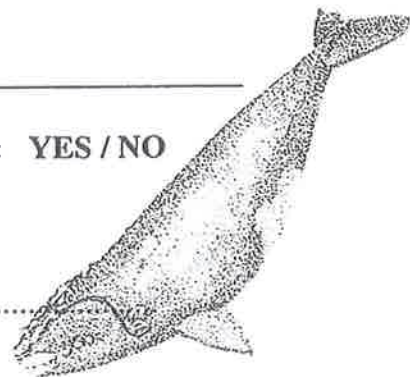
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Hope to see you out on the briny!

Jim Lane

23/10/96



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Jim Lane

23/10/96

Fax (14/10/1996) from CDTM to JL that reads, inter alia, 'Re slides [35mm photos]. I don't think I need the banding ones' [for a BaSt presentation CDTM was to give in New Zealand 'next week']. Perhaps CDTM took some photos while banding and flagging 10 BaSt chicks on his own on Lake Ballard on 13/04/1995?

14/10/96

Fax to Tim Lane CALM Busselton 097-521-432

14/10/96

How thoughtful of you to send me the two OHPs. Many thanks.
I will use them in New Zealand later this week!

It also seems to me that a photocopy (not OHP) of the sheets of data you showed in your talk would also be useful to me. They may contain some facts I don't remember & will also ensure we tell the same story. Could you fax them to me please?

Re slides. I don't think I need the banding ones. And I don't think I've got anything that you haven't. If I do come across something I'll copy it to you.

Great to see you & to meet Garrett. I have you both on the 'provisional' list for Aug - Oct 1998!

Best wishes, Clive

03-9589-4901

Program and Abstract of presentation titled 'Banded Stilt Breeding at Lake Ballard, Western Australia' by JL, GBP & CDTM (presented by JL) at SHOC in Albany, WA, on 07/10/1996. The presentation included information about BaSt leg-banding and leg-flagging activities at Lake Ballard (and Lake Marmion) by the authors in 1995.

Wader migration strategies in the Australasian- Asian Pacific flyway

C Minton (Wader Studies Group, Australia)

A comprehensive analysis of all recoveries of waders banded in the Australian-East Asian Flyway, together with sightings of colour leg-flagged birds, has been undertaken. The information will be used to outline migration routes and key stopover locations for different species. Weight data collected on migrants prior to departure will also be used to delineate the different migration strategies employed by various species in the flyway. Such data are the foundation for conservation initiatives now being promulgated, including the Australasian-East Asian Flyway Shorebird Reserve Network.

Banded Stilt breeding at Lake Ballard, Western Australia

J Lane (WA Department of Conservation and Land Management, Australia), **G Pearson** (WA Department of Conservation and Land Management, Australia) and **C Minton** (Wader Studies Group, Australia)

Banded Stilts *Cladorhynchus leucocephalus* are endemic to Australia, and unique among the 214 species of wading bird in the world in that they nest colonially, have white downy chicks and raise their young in creches. Breeding is confined to recently-flooded saline lakes of the arid interior. Here, the birds nest in the tens of thousands and feed on a super-abundance of brine shrimps *Parartemia*. Because of the considerable difficulty of finding and gaining access to nesting islets, Banded Stilt breeding has been infrequently observed and little studied. In February 1995, Cyclone Bobby dumped 380mm of rain to the north of Kalgoorlie in four days of continuous downpour. An aerial survey on 12 March revealed a colony of Banded Stilt on an islet in Lake Ballard (60,000ha). During ensuing months, this breeding event was followed by CALM scientific and management staff, Clive Minton of the Australasian Wader Study Group and a film crew from the ABC TV Natural History Unit. Preliminary results of this work will be presented.

Conservation of endemic New Zealand waders

R Pierce (Department of Conservation, New Zealand)

New Zealand has nine species of endemic waders, three of which also exhibit sub-specific variation. Of the nine endemic species, eight are considered threatened. The rarest taxa are the Chatham Island Oystercatcher (*Haematopus chathamensis*), Shore Plover *Thinornis novaeseelandiae*, Black Stilt (*Himantopus novaeseelandiae*), and the southern sub-species of New Zealand Dotterel (*Charadrius obscurus*), each of which numbers fewer than 150 individuals. Management programmes for all species have focused on combinations of habitat restoration, predator control, public awareness, captive breeding and release, translocations and pest contingency planning. Habitat restoration has focused primarily on mainland sites, particularly riverbeds and other wetlands which have become infested with weeds. This is best illustrated by Project River Recovery in the MacKenzie Basin where clearance of willows from riverbeds has resulted in recolonisation and breeding by four endemic species of wader, and other riverbed birds. Some predator control has been undertaken, with varying success, for Black Stilt nest protection, and elsewhere for southern and northern races of the New Zealand Dotterel and Variable Oystercatcher. Public awareness programmes have been successful in increasing the productivity of shorebirds generally, particularly on North Island beaches where many breeding grounds are fenced off from an increasingly beach-going public. Captive breeding programmes for the Black Stilt have resulted recently in the release of up to 30 juveniles (or sub-adults) into the wild each year, with some of these birds being recruited into the Black Stilt population. Shore Plovers have been raised in captivity in recent years, and two experimental releases on to mammal-free islands off the New Zealand mainland have taken place, the first failing because of predation by moreporks (*Ninox novaeseelandiae*) and dispersal of survivors to the mainland. Further releases of captive-reared

1540	Avian diversity and insect-induced dieback in remnant eucalypt woodlots M. Grey (La Trobe University, Australia), M. Clarke (La Trobe University, Australia) and R. Loyn (Victorian Department of Natural Resources and Environment, Australia)	Nocturnal habitat use and foraging behaviour of Pacific Golden Plover (<i>Pluvialis fulva</i>) in northern NSW D. Rohweder (Southern Cross University, Australia)	Fire and its impact on avian population dynamics B. Baker, B. Dettmann and S. Wilson (Australian Nature Conservation Agency, Australia)
1600	AFTERNOON TEA		
	EFFECTS OF FIRE AND HABITAT FRAGMENTATION ON BIRD COMMUNITIES (CONT.) (Flinders Room) Chair: D. Saunders (CSIRO Division of Wildlife and Ecology, Australia)	WADER BIOLOGY AND MOVEMENTS (CONT.) (Adelaide Room) Chair: P. Hockey (FitzPatrick Institute of Ornithology, South Africa)	
1630	Biology of the Blue-breasted Fairy-wren in a fragmented landscape in the wheatbelt of Western Australia M. Brooker (CSIRO Division of Wildlife and Ecology, Australia)	Wader migration strategies in the Australasian-Asian Pacific flyway C. Minton (Wader Studies Group, Australia)	
1650	Use of remnant forest habitat by birds during winter in subtropical Australia: patterns and processes C. Catterall, M. Kingston and K. Park (Griffith University, Australia)	Banded Stilt breeding at Lake Ballard, Western Australia J. Lane (WA Department of Conservation and Land Management, Australia), G. Pearson (WA Department of Conservation and Land Management, Australia) and C. Minton (Wader Studies Group, Australia)	
1710	Habitat dynamics, species interactions and habitat models: a case study of the White-winged Chough and the Australian Magpie S. Cox and J. Bauer (Charles Sturt University, Australia)	Conservation of endemic New Zealand waders R. Pierce (Department of Conservation, New Zealand)	

TUESDAY, 8 OCTOBER

0830 - 1600	MID-CONGRESS FIELD TRIPS
1930 - 2300	Optional Congress Dinner at Pyrmont House

WEDNESDAY, 9 OCTOBER

0900	PLENARY LECTURE (Flinders Room) Chair: I. Rowley (CSIRO, Australia) Southern perspectives of bird breeding systems M. du Plessis (FitzPatrick Institute of Ornithology, South Africa)		
1000	MORNING TEA		
	BREEDING BIOLOGY IN BIRDS (Flinders Room) Chair: I. Rowley (CSIRO, Australia)	DISTRIBUTION AND ABUNDANCE OF BIRDS (Middletons Room) Chair: D. Dow (Consultant, USA)	
1030	Avian adaptations to the deserts of the Northern and Southern Hemispheres: a comparison G. Maclean (University of Natal, South Africa)	Use of the Australian Bird Count to identify important bird areas S. Ambrose (RAOU, Australia)	
1050	Food division in the Arabian Babbler nest: adult choice or nestling competition? R. Ostreicher (Tel-Aviv University, Israel)		
1110	Life history in Australian honeyeaters: influence of phylogeny and ecology H. Ford (University of New England, Australia)	Endemic bird areas in the southern hemisphere and their relevance to conservation A. Stattersfield (BirdLife International, UK)	
1130	The annual cycle of doves from regions with contrasting precipitation patterns in Venezuela C. Bosque, M. Pacheco and S. Garcia (Universidad Simon Bolivar, Venezuela)	The effect of animal and observer movement on line transect density estimates L. Chambers (Deakin University, Australia)	
1150	Breeding behaviour of the semi-nomadic Regent Honeyeater D. Geering (Independent, Australia), D. Oliver (University of New England, Australia) and S. Jessup (Independent, Australia)	An investigation into bird communities of farm windbreaks and related vegetation C. Kinross (Orange Agricultural College and Charles Sturt University, Australia)	
1210	The breeding biology of an Indian Ocean population of Wedge-tailed Shearwaters <i>Puffinus pacificus</i> M. Garkaklis and C. Sims (Murdoch University, Australia)	The distribution of birds in suburban Perth M. Bamford (Consultant, Australia)	



Western Spinebill *Acanthorhynchus superciliosus* (Wells/CALM)



Southern Hemisphere Ornithological Congress

The ecology, conservation and management
of southern hemisphere birds

ALBANY, WESTERN AUSTRALIA
OCTOBER 5-9, 1996

PROGRAM & ABSTRACTS

Hosted by the Royal Australasian
Ornithologists Union



A Table providing details of the five BaSt leg-flag sightings shown in a map presented by JL at the ‘Southern Hemisphere Ornithological Conference’ in Albany, WA, on 07/10/1996. This Table, which was not included in the presentation, indicates that 500 BaSt chicks were flagged and 800 chicks were banded in 1995 (at Lakes Ballard and Marmion). [JL 03/02/2014: These rounded figures were based on material ready to hand at the time and the number flagged now appears to possibly be quite inaccurate, due to uncertainties about the number flagged at Lake Marmion].

LEG FLAG & BAND SIGHTINGS

500 CHICKS FLAGGED & 800 CHICKS BANDED

CHICKS FLEDGED MAY-JULY 1995

<u>DATE</u>	<u>LOCATION</u>	<u>No.</u>	<u>KM</u>	<u>DIR'N</u>	<u>DAYS</u>
24.10.95	L. ARROW	1	110	S	90 - 160
21.1.96	ROTTNEST	1	610	SW	180 - 250
28.2.96	PORT HEDLAND	4*	1075	N	220 - 290
07.3.96	DAMPIER	1	1100	NNW	230 - 300
29.9.96	YARRA YARRA	1	520	W	430 - 500

* 3 flags and 1 band. All other sightings are of flags.

LAKE BALLARD - MAIN COLONY

1995 BREEDING CYCLE

<u>STAGE</u>	<u>DURATION (DAYS)</u>	<u>COMMENT</u>
CYCLONE TRAVEL FROM NW COAST TO BALLARD	4	Cyclone weather reached NW coast on 21/2, Ballard on 25/2.
RAIN ON DRY LAKE	4	Rainfall from 25-28/2 was 0.38m. Water level peaked c. 1/3.
500-1000 km MIGRATION, PAIRING, COPULATION, SITE SELECTION, SCRAPE FORMATION, START LAYING	first birds 14-18 last birds 30-34	c. 14 days from start of rain at Ballard to first egg layed (10/3). (c. 18 days from cyclone reaching NW coast).
LAYING	2 - 4	c. 16 days between first and last birds laying.
INCUBATION	22 - 24	Probably begins with 2nd last egg.
HATCHING	1 - 2	99% of hatching was completed within 11 days (3-14/4).
FLEDGING	44	Chicks leave nest within 1-2 days of hatching. First chicks flying on 17/5. All flying by 6/6.
LAKE FULL -> DRY	c. 200	Lake filled c. 1/3; dried c. 16/9.

TIME REQUIRED FOR MIGRATION & BREEDING

FIRST BIRDS	82 - 86 DAYS
99% OF COLONY	93 - 97 DAYS
LAST BIRDS	< 102 DAYS

THE BANDED STILT
CLADORHYNCHUS LEUCOCEPHALUS
IN
WESTERN AUSTRALIA

OR

“BONKING IN THE BRINY”

Overheads used to give

Bender Still

tells to

Stm. Hm. Am. Congress

7/10/96

at Albany

List of slides (photos) used in Banded Stilt talks given by JL to the SHOC at Albany on 07/10/1996 and the RAOU WA Group in Perth on 25(?) /09/1996. Eleven of these photos were of BaSt leg-banding and leg-flagging activities by JL & ACI on Lake Ballard in late April – early May 1995.

(Solo bly)

(79)

(2)

+ sequence

Slides used for Banded Stilt falls
to Sth. Hem. Orn. Congress 7/10/96

(1) Slides used for Banded Stilt falls (45 mins)
to RAOH Perth Monday 25 (?) September 1996

Sequence	Photo ID	Subject		
1	486	Stilts	✓	1
2	"22"	lake Banded stilt (15/3/95)	✓	2
3	"09"	" " " - 2 stilt (15/3/95)	✓	3
4	"06"	" " " 1st colony (15/3/95)	✓	4
5	"21"	helicopter at Kal (15/3)	X	
6	"25"	Camp Island stilt (15/3)	✓	5
7	"34"	helicopter on Camp Island (15/3)	✓	6
8	"37"	GDP carrying camera case (15/3)	X	
9	"05"	GDP + CDIM approaching island (15/3)	✓	7
10	"07"	" " " + Major Rami next to nesting birds (15/3)	X	
11	12 "18"	nesting stilt (4/95)	✓	10
12	"33"	stilt take off ^{nesting} island (15/3)	✓	8
13	"30"	stilt return to nests (15/3)	✓	9
14	"10"	GDP + CDIM photograph nesting birds (15/3)	X	
15	"09"	working / preening / drinking stilt (15/3)	X	
16	"17"	2 stilt ^{back} feathers up, in water (15/3)	✓	11
17	"22"	2 stilt drinking (15/3)	✓	12
18	"25"	2 stilt copulating in water (15/3)	✓	13
19	"26"	" " " " " " "	X	
20	"19"	" " " " " " "	✓	14
21	"29"	" " " " " " "	✓	15
22	"20"	" " " " " " " on land "	✓	16
23	"13"	@ live M + Major Rami mark out quadrats (15/3)	X	
24	"22"	pink taped quadrat of nests + eggs (15/3)	✓	17
25	"31"	eggs (numbered) in nests + peg (15/3)	✓	18
26	4 "04"	Trailer 2 punts + Argo + Grant (4/95) (29/3)	X	
27	1 "36"	composite nest to Crocodile Lake (4/95) (31/3)	X	
28	3 "04"	punts with gear entering Crocodile Lake (31/3)	X	
29	blanks	punts of gear crossing " " (31/3)		
30	3 "05"	loading punt onto trailer (31/3)	X	

Mark Laidler photo X

Sequence (2)	Sequence (1)	Photo ID	Subject
✓ 19	31	3 "08"	Argo putting punt out of Crooner Lake - (31/3) ✓
X	32	3 "23"	" " " between Lakes (31/3) X
✓ 20	33	3 "11"	Argo launching punts into Lake Welland. (31/3)
✓ 21	34	3 "28"	Walking punts of gear into " " (31/3)
X	35	blank	unloaded gear at Camp Island - Mark Lambie photo
X	36	3 "25"	viewing 1st colony from Camp Island (31/3)
X	37	11 "04"	Mark Lambie filming ^{nesting birds} " (4/95)
X	38	11 "32"	Campbell - sound recording (4/95)
X	39	- - -	Mark + Campbell breakfast at fire (4/95)
X	40	12 "04"	Mark sleeping outside tent (4/95)
✓ 22	41	Box 2 "19"	Quadrat NOUT - eggs in nests - (1/4)
X	42	Box 6 "04"	Quadrat 13 14 15 16 - 1 m frame - eggs (4/4) 2nd colony.
X	43	"09"	3 eggs + meadowrips (collected) - (8/4)
X	44	"05"	Chickadees of 3 + 4 eggs (") - (8/4)
✓ 23	45	Box 6 "19"	Quadrat NOUT - eggs in nests - (4/4) - a few ?
✓ 24	46	Box 6 "20"	" " - eggs + chicks closeup (4/4)
X	47	Box 6 "21"	" " - egg " " (4/4)
✓ 25	48	Box 7 "28"	" " - mostly chicks in nests (5/4)
X	49	"04"	Closeup of chicks + eggs in ¹ nest (5.95)
X	50	"09"	" " - 1 chick + 3 eggs " " (5.95)
✓ 26	51	"14"	" " - 3 chicks in 1 nest (5.95)
X	52	Blank	Closeup of Adult + 1 chick in nests (Mark Lambie)
X	53	11 "22"	Adult leading chicks towards shore (4/95)
✓ 27	54	11 "24"	- - - - - " " (4/95)
✓ 28	55	11 "25"	" " depending chicks at shoreline (4/95)
✓ 29	56	11 "19"	" " pushing another chick away " " (4/95)
✓ 30	57	11 "09"	" " leading 2 chicks into water (4/95)
✓ 31	58	9 "01"	2 adults + 7 chicks on water (7/4)
X	59	9 "04"	move " " " " (7/4)
X	60	9 "05"	1 struggling chick behind family on water (7/4)

Sequence (25)	Sequence (P)	Photo ID	Subject
X	61	"01"	crecker of large chicks - Lake Barlee (Bormair)
X	62	"09"	Alcedo standing in point - search for chicks
X	63	"11"	" " speeding in point - " " "
X	64	"25"	" " slow in shallow water " " "
✓ 32	65	"29"	swinging chicks up with plankton net -
✓ 33	66	"32"	" " " " " " " " " " " "
✓ 34	67	"33"	" " " " " " " " " " " "
X	68	"24"	" " into point " " " "
✓ 35	69	"26"	chicks in holding tub in point .
X	70	"06"	me holding / banding chicks (in point) .
X	71	"25"	me banding chicks " " "
✓ 36	72	"21"	Alcedo hand holding flagged/banded chick .
X	73	"01"	cloud cover (5.95)
X	74	"31"	nests washed away (5.95)
X	75	"	"Quiter Island" from air .
X	76	"17"	another nesting island from air (30/3)
X	77	"09"	get " " " " " " (30/3)
X	78	"11"	" " " " " " (30/3)
X	79	"14"	air photo of track on bed of lake .

‘Rough jottings [by JL] made in preparation for talk at the ‘Sthn. Hem. Orn. Congress’ to be held in Albany on 07/10/1996. Includes calculations of numbers of BaSt chicks banded and flagged at Lakes Ballard and Marmion in 1995. Note: scanned over two pages due to length.

These calculations seem to indicate:

490 incoloy leg-bands of size 8 were initially issued by ABBBS and another 200 were subsequently issued. If correct, a total of 690 leg-bands were issued for use at Ballard & Marmion in 1995.

Some uncertainty about the number of chicks that were banded and/or flagged. These calculations were incomplete. Work on these calculations.

- describe breeding
- conservation
- get you looking for leg-1

0 cm on 46/9
14
Wrong!

Banded Sweep samples =
Habitat is -
Distribution is -

First described in 181
Breeding area

chick size
brood size - 2.9, 2.7, 2.6 then 2.4 on water (1-2 days after hatching)
hatching success - 2000 chicks leave = 2 hrs.
fledging success

Individual colour marks

Indefinite wing
490 size 8 wing
banded
Then 200

Banded - [10 (Chick) + ?
200 (Total)]

Leg Flipped - [10 (Chick) + 170
195 + 260 + 20 = 475
↑ 14/6]

Sightings - 1 Little Auklet (24 km off head) 24/10/95 -
1 Rottneet 21/1/96 -
1 Dumpy Suet 7/3/96 -
3 Pine Woodland sultanas 28/2/96 -
1 Yarn Larks 19/96 -

Total 690 (700) birds
500 by flipped? Banded
Maximum

Egg collected - DNA

Predators - Little crow (mostly dead, 2 live)
Wt Eagle (1 live)
Cat (potential)
Not gulls.

Waterfowl on Crows Lake breeding.

ABC film



ROUGH JOTTINGS MADE IN PREPARATION FOR TALK
AT "STHW. ILEM. ORN. CONGRESS", Albany 7/10/96

average rate?

data logger

Water depths: \leftarrow

Selmintrio:

pH: 7.9, 7.8, 8.7

Swamp samples:
gout samples:

estimate 50 cm - on 15/3

"back to max level" on 10/4 (after 70 mm rain)
51 cm on 14/4 (at N side Camp 1)
54 cm on 28/4
44 cm on 4/5
0 cm on 16/9

\uparrow wrong!

chick size

15 quadrats 2.5 x 5 m

brood size - 2.9, 2.7, 2.6 then 2.4 on water (1-2 days after hatching)

hatching success - 2000 chicks leave in 2 hrs.

fluffing success

Individually marked
490 sighted
bands
Then 200

Individual colour marks:

Banded - $\left[\begin{matrix} 10 \text{ (Chick)} \\ 200 \text{ (Total)} \end{matrix} \right] + ?$

Leg Flipped - $\left[\begin{matrix} 10 \text{ (Chick)} + 170 \\ 195 + 260 + 20 = 475 \end{matrix} \right]$

Total 690 (700) birds.
Banded
Marmion
500 leg flipped?
Banded
Marmion

Sightings - 1 Little Heron (24 km N of Kral) 24/10/95
1 Pottwren 21/1/96
1 Dampier Salt 7/3/96
3 Pure Woodland saltwren 28/2/96
1 Yarn Lark 19/96

Egg collected - DNA

Predations - Little crow (mostly dead, 2 live)
Wt Eagle (1 live)
Cat (potential)
Not gulls.

Waterbird on Crosser Lake breeding.

Fax (05/08/1996) from JL to CDTM with draft abstract ('Any changes desired?') for presentation titled 'Banded Stilt Breeding at Lake Ballard, Western Australia' by JL, GBP & CDTM, to be presented by JL at SHOC in Albany, WA, on 07/10/1996. The presentation would include information about BaSt leg-banding and leg-flagging activities at Lake Ballard (and Lake Marmion) by the authors in 1995. Finalised abstract, as submitted, is also here.

1 Page fax

FAXED

**BANDED STILT BREEDING AT LAKE BALLARD,
WESTERN AUSTRALIA**

J.A.K. Lane*, G.B. Pearson and C.D.T. Minton

Banded Stilts *Cladorhynchus leucocephalus* are endemic to Australia and unique among the 214 species of wading bird in the world in that they nest colonially, have white downy chicks and raise their young in creches. Breeding is confined to recently flooded saline lakes of the arid interior. Here the birds nest in the tens of thousands and feed on a super-abundance of brine shrimps *Parartemia*. Because of the considerable difficulty of finding and gaining access to nesting islets, Banded Stilt breeding has been infrequently observed and little studied. In February 1995, Cyclone Bobby dumped 380 mm of rain to the north of Kalgoorlie in four days of continuous downpour. An aerial survey on 12 March revealed a colony of Banded Stilt on an islet in Lake Ballard (60 000 ha). During ensuing months this breeding event was followed by CALM scientific and management staff, Clive Minton of the Australasian Wader Study Group and a film crew from the ABC TV Natural History Unit. Preliminary results of this work will be presented.

Clive Minton

A draft abstract - ?

Any changes desired -

5/8/96

(fax 097 521 432)

25
SPOKEN OR POSTER PAPER
FINAL ABSTRACT

(This is only required if not already submitted to the Organising Committee)

Southern Hemisphere Ornithological Congress
Albany, Western Australia
October 5-9 1996

1. We will be presenting a: ☒ spoken paper ☐ poster paper
2. Complete name and mailing address of the author who will be presenting.
Name: MARK JEM LANE
Organisation: DEPT CONSERVATION & LAND MANAGEMENT
Postal Address: 14 QUEEN STREET
BASSSETON WA 6280
Tel: 097 521 677 Fax: 097 521 433
Email:

3. GUIDELINES FOR LAYOUT OF ABSTRACT

The title, authorship and all of the text must fit inside the lines of the rectangle shown on this form. Place an asterisk after the name of the author presenting the paper.

The text should be a single paragraph which outlines the material that will be presented at the Congress. Your abstract should not contain tables, figures, literature references or acknowledgements.

The type font must not be smaller than 10 point.

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BANDED STILT BREEDING AT LAKE BALLARD,
WESTERN AUSTRALIA

J.A.K. Lane*, G.B. Pearson and C.D.T. Minton

Banded Stilts *Cladorhynchus leucocephalus* are endemic to Australia and unique among the 214 species of wading bird in the world in that they nest colonially, have white downy chicks and raise their young in creches. Breeding is confined to recently flooded saline lakes of the arid interior. Here the birds nest in the tens of thousands and feed on a super-abundance of brine shrimps *Parartemia*. Because of the considerable difficulty of finding and gaining access to nesting islets, Banded Stilt breeding has been infrequently observed and little studied. In February 1995, Cyclone Bobby dumped 380 mm of rain to the north of Kalgoorlie in four days of continuous downpour. An aerial survey on 12 March revealed a colony of Banded Stilt on an islet in Lake Ballard (60 000 ha). During ensuing months this breeding event was followed by CALM scientific and management staff, Clive Minton of the Australasian Wader Study Group and a film crew from the ABC TV Natural History Unit. Preliminary results of this work will be presented.

Hardcopy (16/05/1996) of document 'Banded Stilt *Cladorhynchus leucocephalus* Seminar' '... compiled [by JL] 14-16 May 1996 in preparation for seminar at Woodvale [CALM's Wildlife Research Centre] on Fri 17 May [1996]. Words and sentences relating to banding and flagging, including numbers banded/flagged, have been highlighted in green (by JL on 29/01/2014). Reference made to '500 flags made by VWSG (Mark Barter)' [actually Mark Barter, since deceased].

This printout appears to be of "STILTSEM"
(Date Modified 16/05/1996 5:12 PM) 10/01/2014

BANDED STILT CLADORHYNCHUS LEUCOCEPHALUS SEMINAR

This material compiled 14-16 May 1996 in preparation for seminar at Woodvale on Fri 17 May.

- Info in this document has been drawn from my BaSt files (Vol 1 gone thru carefully, Vol 2 less so, stopping just before reaching transcript of Clive comments while viewing uncut stilt footage from Ballard), also from the 2 Wingspan articles (Vol 5 Nos. 2&3), also my notebook diary.
- Still need to: redo Vol 2, go thru my notebooks, get data that Grant, Alan and Andy have yet to give me, get water analysis results, do sweep and gut contents, do photos of nest quadrats, data from logger (I think Grant has sent it to me).

The Banded Stilt is: *Cladorhynchus leucocephalus* Slide of stilt
description? only found in Australia, monospecific genus, member of .. family
distribution, numbers

first discovered in 18.. by .. at ..

breeding a mystery until 1930 when recorded at .. by .. colony size ..

since then, breeding recorded at .. (sites, distribution) Only about 20 nesting events ever recorded (3 in SA and rest in WA). Most nesting attempts only found when chicks mobile or breeding over (deserted colonies).

breeding actually witnessed on few occasions, due to difficulty of finding and gaining access to colonies
Chicks on road at Menzies. (1400 walked thru town?, 500 killed on road?)

Grant and I have taken an interest in locating breeding sites since 19.. when he and Phil Fuller found .. at Lake Barlee.

Since then we have:

Barlee in 19.. with Roger Jaensch and found ..

Primary interest is in identifying significant breeding sites and any threats, conservation needs

In Feb 95, Tropical Cyclone Bobby dumped 385 mm of rain to north of Kalgoorlie in 4 days (25-28th) of continuous rain.

Stilts left coastal sites e.g. Creery lagoon.

We planned an air survey of .. for

Clive Minton contacted us. He was passing thru Kalgoorlie on .. and interested in flying with us sharing costs.

Jeremy Hogarth of ABCTV Natural history (who Grant had met on Broome wader expedition) also contacted us to see what we were doing 'cause they wanted to film Banded Stilts nesting (waiting for .. years since meeting Clive?).

Grant flew to Kal on .. to join Clive for flight.

Sun 12 March Air survey

Grant & Clive flew Barlee, Ballard and Marmion Lakes (previous nesting locations) 150-250 km N of Kal on Sunday 12 March, 16 days after 4 days rain started. 4.5 hrs searching.

Marmion: no birds.

Barlee: 20 000, all seemingly paired but no sign of colony. Had the least water of the three lakes.

Ballard: All birds on water were paired. 10 000 birds, half (5000) at colony (1st) of around 2000 nests. At core of colony incubation appeared to have begun.

Not equipped to gain access to colony.

Luck. Found a Jet Ranger helicopter in Kalgoorlie with a spare day. Agreed to share heli cost with Clive 50:50. (Pilot + 3 or 4 + hide; \$695/hr; 1hr each way). Clive rang me to convince of value. On Tues 14th he faxed me a draft research program.

Wed 15 March 1995, Clive Minton, Mari Reni, Grant, me. Helicopter to Lake Ballard

"Photo 6 at the north end of Marmion" between 1004 hrs + 1014 hrs
Photo 8 Flooded station between 1014 + 1018 hrs
Photo 9 East end of Ballard between 1018 + (say) 1025 hrs

I flew to Kalgoorlie from Perth 0615 hrs on Wed 15 March for **helicopter** trip (returned to Perth same evening, (with Grant?)).

Grant, Clive, Marj Reni (VWSG) (staying at Prospector Caravan Park) and I flew to Ballard colony on Wed 15 March 1995.

Perfect island for helicopter adjacent, even shade. We landed 600m away from nesting area without disturbing the birds.

Circled island first for photographs of extent of nest area (see folios 14-16 for map (from my air photos) of nesting area on this day).

Landed, walked, waded to nest island. Found we could sit 10-20m from nesting birds.

Observed plumages, nesting behaviour, eggs, staked out and phot'd (to see how many nests, eggs and eggs/nest) some quadrats to, marked eggs in c250 nests for determination of clutch size, nesting density, hatching success etc .. (We marked every egg in every nest in an area (still laying) outside the quadrats with the number of eggs in that nest), photographed birds.

Colony now 4500 nests (from 2000 in 3 days).

Copulation attempted everywhere, 45 seconds each, up to 20 visible at one time.

Nests contained 1-5 (mostly ..) eggs, colony still growing. Assuming laying rate of 1 per day, the first eggs (i.e. of the nests containing 5 eggs, and also assuming they were all laid by one bird) were laid around 8 March, 12 days after 4 days rain started and only 8 days after it finished! 3 eggs one bird → 10/3 = 14 days

Frenzied activity - pairing, fighting, copulating.

One third of birds did not have complete plumage. 10% had no band at all. Yet doing everything including copulating (both males and females) and incubating.

Back plumes.

Predators?

Incubating adults dunking belly feathers in water and having drink before returning to nest (hot day).

Spent 8 or 9 hrs (check notebooks) at island then flew back to Kal.

I flew back to Perth at 1940 hrs (with Grant?).

This was the earliest stage at which a nesting colony had been visited by anyone (not true for early scrapes).

Planning

Discussion with Clive and Jeremy. Opportunity for the first time too follow breeding event from go to whoa.

Information on how soon after lake fills does nesting start, clutch size and laying rate, incubation period, how long for chicks to fledge, diet, salinity, role sharing, nesting behaviour, hatching success, fledging success, predators, dispersal. Also band and leg flag for first time - dispersal, movements, survival. I had particular interest in seeing what threats might be, any conservation needs.

ABCTV would join us. We would make logistically possible (Argo, boats, radios, camp, etc) and ABC would pay for air surveys including first and helicopter flight.

Did literature searches with Romeny Lynch's help re colonial nesting studies, DNA, Banded Stilt.

Planned to return on ground on .. (me booked to fly to Kal on evening of 22 March and do air survey 23/3) but delayed 1 week (?) due to ill camera man (bitten in Qld, hospitalised) and need to find replacement.

Sun 26 March - Fri 7 April. Me, Grant (most of time), ABC TV, on Lake Ballard, at Camp Island
Grant and I drove to Kalgoorlie with trailer, 2 punts (10', 12'), outboards, Argo, Argo trailer, etc (SLIDE) on (Sun 26 March, meeting ABCTV Nat Hist crew (Mark Lambie and Campbell ..) at Kal airport around 7.15 pm).

Next day, Grant and Mark (?) did **air survey** of Ballard and Barlee. Found fewer birds and no nesting on Barlee, but now 3-4 (how many seen on flight, only 3 and not including colony 3.5 km west of Camp Island?) nesting colonies on Ballard.

Wed 28/3

After lunch, Grant, I (our vehicle) and ABC team (with hired Toyota personnel carrier) drove to Jeedamy Station (leaseholder/manager is John Finlayson) and then to Crossover Lake. Ferried some gear across Crossover Lake by punt, then camped on N side for the night. Next morning (29/3), ferried rest of gear across lake, then to shore of Ballard (by Argo + Argo trailer) then ferried gear by punts (1 8hp outboard, 1 electric) out to Camp Island. Established camp there (water, fuel, generator, tents, tarps, fridge, 25 watt portable HF radio with sellcall, hand radios. Water .. deep. Camped there for .. days.

Is the following air survey data or ground data?

Now 1st colony grown to 20 000 nests (10 per sq metre).

Second colony of 15 000 found 3.5 km west.

Also two other, smaller colonies (seen by Mark and Grant further west during air survey) on Ballard.

Observed ... numbers in and out of colony, colony size, new quadrats to determine laying rate - photographed these daily. Photographed quadrats established on previous visit daily - most interested in when hatching would occur (incubation period) (from incomplete catches of 15/3 plus knowledge of final clutch size and laying rate and date hatched).. Stopped photographing these when first chicks appeared because of concern about mortality (Mark Lamble had observed aggressive behaviour of adults to chicks on nest. Established 4? new quadrats in area where laying still occurring (nests contained 1 preferably or two eggs) using 20mm PVC pipe and elbows, and phot'd each day to determine laying rate.

Established automatic water level recorder, took water samples for salinity and nutrient (P & N?) analysis, sweep samples (50um or 110um nets?) near camp island for invertebrates. Water and air temps taken. ult feeding areas to collect adults and sweeps for diet analysis.

Hatching began on 3 April (peeping on 2/4?), .. approx .. days after...

Mark and Campbell .. boated off to west and found a second colony of .. pairs, .. km distant. Filmed frenetic behaviour. Reported new nests being formed and eggs laid, so next day I went there and established ten .. quadrats to determine laying rate and subsequently size of colony, hatching success and hopefully incubation period

Predators observed were ..

Banding, colour marking and flagging approved by ANCA on 23/3).

Had bands (initially 490 (issued 23/3), size 8, incoloy) on this trip. Used this trip? by Clive?

I tried catching adults on nest to individually colour mark (20 bands of each colour). Too disturbing.

Then tried individual recognition by plumage. Too time consuming.

I collected 30? eggs of .. clutches (SLIDES or prints?) for DNA testing to see if all laid by same female.

Show also SLIDES of clutches in nest?

Recorded waterfowl breeding at Crossover Lake for comparison.

Ron Johnstone, Phil Stone, Nick Kolichis's air survey on Fri 7 April (and 1 day ground visit on Sat 8th).

They flew (air survey) Barlee (central arm & northern portion), Goongarrie, Marmion, Ballard and Raeside (central) on 7 April (flew over me at 1st colony) and found:

- Marmion: 500-1000 stilt (no colony seen),
- Ballard: 1st colony 3-5000 pairs, 2nd colony 2-3000 pairs, at 29 23'S 120 51'E colony of 500-1000 pairs, western end possibly 500-1000 pair colony
- Barlee: 1000 pair colony (my Guitar I.)

On 8/4 they paddled kayaks out to both colonies (met our team). Phil Stone took "viewCAM". Took photos. Rain, cold squalls. On 2nd colony they did/saw:

- collected 10-12 incubating adults ranging from 0-100% chest band.
- collected 4 chicks
- took stomach samples
- collected small series of eggs
- Saw creches of 50-100 birds
- hoard of crows came off the island

- Wedge-t Eagle

Ron J. also said "John Darnell, Port Hedland 50-60 000 birds, 80% inactive"

Grant returned to Perth on .. for a few days (left vehicle in Kal?) to do Peel-Harvey on 5/4 and for private reasons, but did his back in (so Alan Clarke and Raelene did P-H on 6/4 instead). I left Ballard on Fri 7 April, Cam gave me a lift in ABC vehicle back to Kal for the night. Grant returned (flew) to Kal on Fri 7 April and had late dinner (valium) with me and Cam in Kal. Next morning I flew to Perth and Grant and Cam returned to Ballard, meeting Clive at Jeedamya (he had driven down from Broome) and taking him out too.

I took stilt eggs to John Weatherall at Murdoch Uni on Sat 8 for DNA analysis (what requested?)

Sat 8 April Clive joins, Grant rejoins, ABC TV team on Lake Ballard at Camp Island (I left previous day). Grant and ABC leave .. April, Clive leaves 15 April

Grant had returned to Perth on .. for a few days. He returned (flew) to Kal on Fri 7 April and met (late dinner) me and Cam in Kal. Next morning Grant and Cam returned to Ballard (I flew to Perth), meeting Clive at Jeedamya and taking him out too.

Clive and Grant did the following.

- collected with Grant 3 males and 1 female with chicks

Much rain. Clive's vehicle bogged at Crossover Lake.

Grant and ABC left on .. Gear left in ABC tent and under green tarp on Camp I.

Clive stayed on his own for three days until Sat 15/4, when he left.

Clive did the following.

1st colony

- photo'd the 15 quadrats (on 15/4?)
- counted addled eggs, dead chick, active nests
- guessed 20 000 nests

2nd colony

- measured approx as $80 \times (20 - 5) = 1200 \text{sq m} = 12-15000 \text{ nests}$

General

- 9-10 AM (12/4), incubation changeovers observed. .. PM (9/4) birds left nest, drank etc, returned to unoccupied (except eggs) nests to resume incubation. Unclear how frequently changeover occurs and in what proportion of nests.
- 1 parent with chicks when leave island
- rain added 13cm to Ballard. Water depth 51cm at 4pm on 14/4, four days after rain (at stake on N side of Camp I.)
- didn't band in colony.
- caught broods going to water for measurement purposes. Footprints trap chicks, fill them in.
- by boat & plankton net, Clive (alone) banded, flagged, weighed, measured 10 chicks (4 families) in 2hrs, don't catch all at once.
- expects high survival
- on some mornings Clive saw up to 2000 chicks leaving 1st breeding island in just a couple of hours.
- recorded brood sizes
- families were closely associated on water, but no true creching at this stage at least.
- lack of predation. Compare with Lake Torrens in 1989 where Silver Gulls totally destroyed last part of colony and took many eggs and some chicks throughout the breeding event. No gulls yet (I saw 1 later, not at colony).
- Little Crows mainly took dead chicks, often failed to take live chicks, only succeeded twice.
- Wt Eagle snatched chick from group of adults and chicks crossing island.
- 70mm of rain fell on 10 April, topping up the lake almost back to its maximum level..
- parents don't do distraction displays, unlike other waders.

Incubation period:

- hatching commenced 3 April, 22 days after first air survey of 12 March, therefore incubation at least 23 days (counting 12/3 and 3/4). Note that I said hatching started 3/4, but I actually heard cheeping in 2/4 (check), which gives incubation period of **at least 22 days**.
- 2nd method of calculation [from general area where we marked (on 15/3) eggs of incomplete (1-2 egg) clutches, and Mark Lamble's advice that most here hatched 6, 7, 8th April, i.e. 23 days after 15/3, assuming they became 3-4 egg clutches] gives 21-23 days (counting 12/3 and 7/4) (23-2+1= incubation period of **22 +/- 1 day**)
- 3rd method [Clive's visit on 9/4 to area of eggs marked on 15/3 and observation of a nest with 4 eggs, one of which was marked "1" (i.e. only one egg in this nest on 15/3), with 3 of these chipping on 9/4] (25-3+1=23 days) (includes day of hatching). Also 2 nests with marked eggs, some chipping and 1 or 2 chicks in nest. One is consistent with 23 day max incubation period, the other calculates to 23 day period.
- Most other eggs in marked eggs area visited on 9/4 had hatched (some addled) therefore the above three calculations probably at upper end of range of incubation period, **therefore average incubation period probably 21-23 days**.
- Note that all three methods assume incubation commences after laying of last egg of clutch. It probably commences after 2nd last egg so add 1 day to each of above, gives incubation period of **22-24 days**.

Hatching success

Clive photo'd and counted eggs etc in the 15 quadrats on 14 April at completion of nesting.

Weights

Egg weights: within week of hatching (2 chipping): 28-45gm (average c **37.5gm**). Note that Clive wrote in Wingspan that "clutch of eggs weighs almost as much as female itself". **CHECK CLUTCH SIZES AND WEIGHTS.**

Chicks caught as leaving colony (before reaching water) on 12 April: 22-31gm (average **27.6gm**, n=11)

Chicks banded & flagged c1km west of colony: 23-31gm (average **27.4gm**; n=10)

Chicks (1-2 days after leaving nest) collected 1-2km W of colony on 11/4: 23-28.5gm (average **25.8gm**; n=14; c1/8 of adults).

Adults collected with 1-2 day old broods: 4 male 203, 209, 210, 241gm; 1 fem 197gm. (average **212gm**)

All had active large double brood patches.

<u>Brood sizes</u>	as leaving the colony			on water 1-3km from colony (1-2 days after leaving)	
	<u>9/4</u>	<u>12/4</u>	<u>14/4</u>	<u>11/4</u>	
Average	2.9	2.7	2.6	2.4	
Mode	3	3	3	2	
broods (n)	60	131	153	81	->425

Crossover lake records.

Grant went to PNG from Sun 23 April to .. so unavailable for next Ballard trip.

26 April - 4 May ?, Alan Clarke, Rob Thomas (1 night) and me, joined by Andy Chapman, Lake Ballard, at Camp Island.

Alan and I drove up from Perth in 4Runner with punt and outboard (SLIDE) on Wed 26 April. Now have 2 petrol outboards(.. and 8hp) plus electric.

I did **air survey** of Barlee and Ballard on Th 27 April AM.

- Barlee: Found breeding island (empty), 1 creche of 50 large chicks + 10 adults. W-t Eagle swooping. Also c3000 adults".
- Ballard: Found no stilt on 1st island, but still stilt sitting on 2nd. No other breeding sites found. Many creches (to 50) to west and north of 2nd island. Chicks in 1000s, not 10 000s (underestimate?).

27 April PM, Alan, Rob and I drove (2 vehicles to Jeedamya and then out to Camp Island in the dark on compass bearing).

Next day (Fri 28/4), 1st breeding island already deserted (SLIDES). Counted chicks coming off 2nd island. Rain.

Rob left for Kal that afternoon (Fri), wet track out. Pissed down overnight?

Andy Chapman joined us for 3 days (picked him up at Crossover Lake) on PM of ... (Sun or Mon).

Andy, Alan and I took water samples, measurements, Collected parents and chicks for diet, sexing. Caught (SLIDES), banded .. and leg flagged (SLIDES and EXHIBIT) on tibia (above "knee"). 500 flags made by VWSG (Mike Barter, need to thank) Why yellow?

Flagged 170 chicks. .. by boat (SLIDES), ranging .. km west of 2nd nesting island. We shot, collected, swept.

Brine shrimp abundant.

Was Mark Barter, not Mike. (died 21/11/2011)

Water depth, quality:

28/4: water 0.54m deep at stake next to Camp island (0.89m from top of stake down to water surface), pH 7.9, Temp 19.0 (8.30hrs. am?). (V1, folio 106)

2/5: depths at sites of collection of adults and chicks, 0.47, 0.48, 0.49, 0.33, 0.31m. (V1, folios 108-9).

4/5: 0.44m deep at stake (0.97 down from top of stake), pH 7.8, temp 12.6 (time?)

Measured 1st nesting area on 4 May (when 2nd?) and used triangular tessilation method to compare later.

Alan and I left on 4 May, driving 4Runner back to Perth (Northam).

Crossover Lake records (see Vol 1, folios 107, 109).

8hp outboard taken to Kal for servicing, electric outboard left at the Lake.

9 - 17 May, ABC TV team at Ballard on own, Camp Island then drove to West end of Ballard air survey?

Detailed report at V1 folios 129-33.

Did air survey with Andy Chapman.

All birds had left 2nd island. All creching at W end of Lake.

Mark and Cam left Kal Tues night (9/5) and drove to Crossover Lake. 1-3mm rain o'night.

Wed 10/5 to Camp I. then Mark boated c 15 km W till too shallow. V. strong NW wind flattened tent on Camp I. Rained o'night <5mm.

11/5 looked for tracks to W on mainland.

12/5 filmed Camp I. and 1st deserted colony. 2-3000 adult stilt landed in water near 1st island, then moved up close to it. Attempted copulation on water. Very vocal. Very flighty. They filmed it. The birds left when Wt eagle landed on breeding island.. "over 2.5-3hrs (meaning?).

13-14/5 filmed Camp I. and 2nd deserted colony.

15/5 moved from Camp I. to New Camp.

16/5 filmed chicks on lake.

17/5 filmed chicks, returned to Crossover lake camp.

18/5 returned to Kalgoorlie.

They then drove to west end of lake along N side tracks/fencelines. Camped there. (2 days?). Big sand dune, visibility for c2km. Takes 2hrs towing trailer to drive from Crossover Lake to new camp when have done it once. 60km/hr in good stretch. 3 fences to cross, then camp 500m from lake (good map at V1, folio 129).

Many adults flying back and forth past Camp I while camped there.

Found "hundreds and perhaps thousands of chicks" 30? (not 70) km W of Camp Island. Compare this with statement in Wingspan that Mark reported tens of thousands of well-grown chicks on the western end of Ballard. CHECK.

Fledging on 17 May Mark and Cam saw chicks flying 30-50 cm above water for 10-15 meters. These were the oldest chicks seen. Saw chicks flying only 3 times near New Camp. So if these were the first chicks to hatch, i.e. hatched at 1st island on 3rd April, they fledged at 44 days (6 weeks 2days).

No strict creches, loose groups of 3-20, all different ages, adults interspersed and came and went. Adults acted as sentry/alarm birds and lead chicks away from threat. Didn't appear attached to particular chicks. Birds very very flighty to people (1 km or more away). Used Argo as film platform. Half a km from new camp he (Mark) had birds walking past very close.

One person can round them (chicks) up on hard ground.

Conditions changed day to day (wind).

The birds marched E during day and W at night. Chicks are wading, not swimming.

Very few "artemia" in water near new camp, but v. thick around breeding island (estimated 4x as many as previous visit).

Wingspan article says chicks feeding in very shallow water on minute items too small to be brine shrimp, and adults periodically left chicks to fly to deeper water, presumably to feed on brine shrimps.

Bogged the Argo many times in soft spots in mud. It did not fare well..

No predators except uid raptor.

Mark caught one banded chick on 10/5 at 2pm, 3km NW of Camp I. (among 7 chicks and 3 adults). Didn't get number.

Filmed chicks from Argo. Birds came to accept it and was a great filming platform (said it would also be good catching platform).. Cat came down sand dune and birds ran away.

7-14? June 1995. Grant, Alan and Andy Chapman at Ballard, then Marmion Lake

Air survey by Andy Chapman and Ian Kealley in Cessna 210 on Tuesday 6 June of Ballard and Marmion with objectives of .. (V1, folio 123). Not paid for by ABC (agreed). Strong NW wind. (full report at V1 folios 139-40). (Also see V2, folio yy for another full report COMPARE!!)

- Ballard 22 000 stilt. No flightless chicks left. Not one! Therefore all fledged Check against date at which last chicks came off 2nd island. No new nesting activity. GyTI in thousands, Shel in hundreds.
- Marmion: c1500 adults and c600 chicks (about same age as Ballard at beginning of May, i.e. some not long out of nest) in lee of one island. Also another c700 adults Water too shallow for outboard. Din not find nest site but thought could find on ground. GyTI & Shel.. Note that Wingspan article says colony on Marmion was "5000 pairs, with at least 2000 chicks seen in June" and "nesting success probably lower than Ballard due to regular presence of Wt Eagle and a Peregrine Falcon..

My Diary says "advise Grant of Marmion location" (ticked).

Grant and Alan then drove to Kalgoorlie (see full report of this trip at V1 folios 150-154).

Initially they went to Ballard?

Water depth and quality: depth 775 mm (??), pH 8.7. Samples taken, sweeps done. Nesting area of 1st island precisely measured. Depth datalogger downloaded, logger left in place.

All gear withdrawn from Camp Island and Crossover lake campsite.

Crossover Lake records:

Grant, Alan and Andy moved from Ballard (Camp Island) to Lake Marmion on Sat 10 June access via V. Tonkin's station. Have "magic" campsite.

Marmion

Installed staff gauge. Measured water quality., samples, pH 7.4.

Found 10-15 000 adults and 1000 chicks.

On 11/6, banded 200 chicks (all that were issued) on left tibia. Flagged 195 chicks on right tibia. Worked from Argo, towing 3m punt. (Note that extra 20 were flagged but flags removed because thought on wrong leg).

Collected 1 family. Chicks weighed 32, 33, 34, 39, 42 gm. All had large yolk sacs. Adult was male, 221 gm.

Salinity 46 ppt on 11/6 (Andy Chapman), pH was 7.9..

Ostracods and Parartemia.

Depth mainly 10-20cm, too shallow for boat, used Argo.

Capture chicks by driving to creches, chase 20-30, catch, take back to boat, release, adults come back.

Oldest chicks have well developed flight and body feathers, will fly within week. Also chicks 2-4 days old..

Andy left at 0700hrs on 12/6 and flew air "survey" of Marmion (and..?) on Mon 12 June to find nesting site and direct Grant that way (also to Grant via radio in PM).

Banded and flagged chicks. Total flagged = $195 + 260 + 20 = 475$.

Collected more families. Detailed measurements taken.

On 13/6 Grant and Alan visited Marmion nest site (SLIDES??).

Water depth up to 52 cm.

Detailed observations made at colony.

Measurements. Size of colony. Peregrine Falcon and Wt Eagle. Photos & veg samples taken.

Totals of chicks banded and flagged.

Argo and trailer left at Marmion.

Grant and Alan returned to Perth on ..

Air survey by Andy Chapman on Fri 14 July.

(See V2, folio yy for full report)

Ballard: 4 passes over lake. 6-7000 Stilt all flying, no further nesting

Marmion: 20-25 000, include. 10% chicks not flying but "coloured up". He reported gear (trailer + Argo) was OK at Marmion.

Other bird observations made (see V2 folio xx)

Flight was 3hrs, Piper Warrior, \$630 in toto.

Air survey of Ballard and Marmion Andy Chapman and .. on Tues 22 August 1995

Piper Warrior. (See V2, folio yy for full report)

Ballard: 4 traverses of lake. Western end dry. c11 500 stilt "all adults wading and flying"..

Marmion: 7500 stilt, c20 incapable of flight.

10 August 1995 Andy and .. collected Argo and trailer from Marmion

Depth 5cm at sample point near camp. Salinity 63 ppt. Of c200 stilt observed from shore only 5-6% had bands on chests.

.....Sep? , Grant diverted from SW lakes survey (9-17/9) to Ballard to collect water level recorder.

Drove up from Esperance.

Retrieved Water level recorder from Ballard. Observations?

Brought gear back from Marmion (observations?) and Kal?

Tag publicity and sightings

Publicity for tags - Wingspan? WA Bird Notes (see my Vol 1, folio 113), Direct approaches, Mike Bamford. "Tattler"? Clive will do SA and Vic.

Subsequent sightings, by, on, where, implications,

Mike Bamford reported 10 000 Banded Stilt at Port Hedland prior to Cyclone Bobby and none one week later.

Andy reported that on 24 October 1995, 1 stilt in flock of 300 in 2cm water at Lake Arrow 24km of Kalgoorlie was leg flagged (yellow). He is going to S coast over Xmas - observations??

Letter of late Nov 1995 from Mike Bamford.

Terri Llyod at Dumbleyung.

1 yellow flagged Stilt observed at Rotto on 21 Jan 1996.

Cargill Salt, Port Hedland, stilts began arriving 13 Feb 1996.

One yellow flagged stilt at Dampier Salt on 7 March 1996. Steve vL said BaSt have only begun arriving in past 2 weeks.

Grant saw 3 leg flagged and one banded Banded Stilt at Port Hedland Saltworks on 28 (check) Feb 1996.

ABC film

half our program "Bobby and the Banded Stilt"

Film in final stages. 1st draft of narration. ... of film. Jeremy Hogarth to TVNZ.

Working on data with Clive as time permits for publication in Emu. Popular articles in Wingspan.

No plans for further work at this stage, snowed under.

Andy Chapman

Found nesting on Marmion (why looked? for renesting?).

Finished

Travel claims, diaries (checked mine 15/5/96), vehicle logs,

Granr, Alan and Andy slides?

No renesting as at Lake Torrens (Wingspan)