

**PELICAN BAND TYPES, SUPPLY, WEAR,
CORROSION, LOSS, WEIGHTS
& DOUBLE-BANDING**



RESEARCH MATERIALS CONSOLIDATION REPORT

NOT TO BE DISTRIBUTED OR RELEASED

**JAK LANE & GB PEARSON (ret.)
WA Department of Environment and Conservation**

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Cover Image: Hardened aluminium, 'lock-ended' pelican leg band number 170-02640 (originally in one piece), severely worn and corroded after nearly 12 years of use. It was placed on a free-flying Australian Pelican cannon-netted on the Pallinup River on 27/11/1978 and found dead on the Swan River on 06/11/1990 (elapsed time 11y 11m 10d; distance 396km; on bearing of 314 degrees). This bird was single-banded and no wing tags were attached. It was not re-trapped between banding and 'recovery'.

This **Research Materials Consolidation Report** is a preliminary stage in the preparation of a Research Report on 'Pelican Band Types, Supply, Wear, Corrosion, Loss, Weights & Double-Banding'

The purpose of an RMCR is to consolidate the research materials relating to a project. Most of the presented material is in its original form, with little or no reformatting. Images of leg bands were produced by photocopying, including some photo-enlargements. Foolscap sheets have been photo-reduced A4 (81% of original size).

FUTURE WORK

The next steps to be taken in finalising this RMCR and then preparing a final report or publication based on its contents should include:

- Contact ABBBS and try to obtain digital files or printouts of all pelican live recoveries, all dead recoveries and all band types and numbers used under JL's Banding Authority (CSIRO Authority 593). In particular, did JL use stainless steel bands? Point out that they may have recoveries JL is unaware of (if 'Reports to Bander' misplaced) and JL may have recoveries they are unaware of (due to finders sending tags plus bands direct to JL/GP as per instruction on back of tags). Note that JL also has unused bands, both aluminium and stainless steel and ABBBS might like these returned.
- After receiving the above information from ABBBS, use it to identify any aluminium, lock-ended bands they have received but not yet sent to JL/GP for weighing. Then ask ABBBS if they still have those bands and, if so, to send those bands to JL for weighing and (return). If ABBBS don't send JL the requested information, check all 'Reports to Bander' already received from ABBS/ABBBS instead.
- Weigh the 'recovered' (used) aluminium, lock-ended type bands still held by JL as they have not been weighed since recovery (they were weighed prior to use). Do this before or at the same time as weighing any recovered bands that ABBBS might be prepared to send (see proposed request to ABBBS above).
- Precisely measure the un-used dimensions and weight of all four band types that JL/GP used on pelicans.
- Prepare a handy reference sheet listing, in summary form, the band types and band numbers used by JL/GP and identifying which were used for single-banding or double-banding, both of runners and of free-flying birds. These differences must be taken into account in the analysis and interpretation of all recovery data.
- Keep an eye out for a penguin flipper tag to measure, weigh and photo-image. To date (19/10/2012) I have been unable to find any unused or used bands of this type.
- Keep a lookout for band supply schedules, as they would probably assist in clarifying which bands (i.e. band numbers) that were used were of which type.
- Ask ABBBS about the mystery 170-05603 band. Banded by someone else?
- Keep an eye out for missing stainless steel pelican band No. 170-08981.
- Search the scientific literature for significant papers concerning band wear, corrosion, loss and double-banding, particularly involving pelicans (worldwide).

CONTENTS

This Contents section has an unusual structure. It comprises two informative bodies of text (at the beginning, a *Summary of Supplied Bands* and, at the end, a *History of Supply of Pelican Bands*), plus numbered paragraphs in between that describe the scanned materials that follow this Contents section. This has been done partly because that is the way it grew and partly because the *Summary* and *History* are text-searchable if retained in the Contents section but not text-searchable if scanned like the other items.

Summary of Supplied Bands (drawn from other sections below)

- The penguin flipper tags (bands) that were supplied to JL by ABBS at the start of his banding activities were made from monel metal, had a 'tie' arrangement, and all had the band number prefix '180', denoting size 180. JL doesn't have any unused or returned bands of this type.
- Butt-ended, aluminium pelican bands (prefix '170') were also supplied to JL by ABBS at the start of his banding activities. Some of these had been pre-bent and had their letters/numbers blackened, while others were supplied to JL still needing to have one end trimmed and then to be bent. These were considered (by ABBS) unsatisfactory at the outset as some were known to have fallen off. JL still has (Oct 2012) some unused and some recovered bands of this type.
- After long delays, a new type of hardened aluminium, lock-ended pelican band (prefix '170') was designed, manufactured and supplied to JL by ABBS. 1,900 of these (nos. 00901-01700 & 01801-01900) were weighed by JL/GP prior to possible use. JL still has (Oct 2012) some unused and some recovered bands of this type. Bands 01701-01800 were not weighed by JL/GP (see 'weights' section below). They appear to have been retained by ABBS as on 26/05/1983 some in this sequence were supplied to Perth Zoo (see 'Pelicans - All Correspondence with DPurchase' RMCR).
- JL still has (Oct 2012) some unused, but no recovered bands, made of stainless steel. Unlike the previous types of bands, which had a 'Write CSIRO' address, these have an 'Inform ANPWS' address. An ABBS receipt indicates that 20 stainless steel pelican bands (170) 16161-16180 were supplied to GP/JL in March 1991. Were these used? Note that these were not the bands that JL still (26/10/2012) has stocks of.

Details of Unused Bands still held by JL (as at Oct 2012)

1. Three pages of hand-written notes (26/10/2012) by JL recording details (band numbers, aluminium or stainless steel, 'butt-ended' or 'lock-ended', 'Write To' addresses, approximate widths and thicknesses, but not lengths or weights) of unused pelican bands still held by JL as at 19/10/12. Also sketches of the lettering /numbering layout of each band type.
2. Images (x4) of the stainless steel type of pelican leg band.
3. Images (x1) of the remaining stocks of the stainless steel type of pelican leg band, with packaging. Band nos. (170) 08901-08980 and 08982-09000. Note that instruction on the bands changed from 'Write - Wildlife, CSIRO, Canberra, Australia' (on the aluminium bands) to 'Inform Wildlife, GPO Box 8, Canberra 2601, Australia' (on the stainless steel bands). This was because ABBS and the Bat Banding Scheme were moved from CSIRO to ANPWS and merged to become the ABBS (see correspondence between JL and DPurchase of ABBS/CSIRO elsewhere in this RMCR).
4. Images (x3 and x4) of the aluminium, 'lock-ended' type of pelican leg band.
5. Image (x1) of the aluminium, 'lock-ended' type of pelican leg band, on a wire hoop, ready for use. Band nos. (170) 02883-02900.
6. Images (x3) of the aluminium, 'butt-ended', with blackened letters / numbers, type of pelican leg band.
7. Images (x3) of the aluminium, 'butt-ended', without blackened letters / numbers, type of pelican leg band.
8. Images (x1) of remaining stock of the aluminium, 'butt-ended', with and without blackened letters / numbers, types of pelican leg band. Band nos. (blackened) (170) 00612-00650 and 00652-00662. Band nos. (not blackened) (170) 00769-00796 and 00798-00850.
9. Composite photocopy of hand-labelling of sides of cardboard box with unused stainless steel pelican bands in it. Hand-labelling indicates that this box was also used by DEC Wildlife Officer Peter Collins

to return un-used bands to GP. They had been intended for use by PC on pelican chicks at Green Island (Oyster Harbour) (see May 1998 note in that RMCR).

10. Photocopy of side of cardboard box of bands that GP has labelled 'OLD STYLE AL. [ALUMINIUM] PEL BANDS'. Supply sticker indicates 100 Aluminium Bird Rings, Size 17, Nos. (170) 02301-02400. Manufactured by I.O. Mekaniska, 560 23 Bankfryd, SWEDEN. The bands (un-used) currently (19/10/2012) stored in this box are (170) 02883-02900. Note that this sticker and these un-used bands are of the new aluminium style (lock-ended), not the old aluminium style (butt-ended).
11. Photocopy of side of a second cardboard box of bands that GP has labelled 'OLD STYLE AL. [ALUMINIUM] 170 PEL BANDS'. Supply sticker indicates 100 Aluminium Bird Rings, Size 17, Nos. (170) 01901-02000. Manufactured by I.O. Mekaniska, 560 23 Bankfryd, SWEDEN. The bands (un-used) currently (26/10/2012) stored in this box are (blackened) (170) 00650 & 00652-00662 and (not-blackened) (170) 00769-00796, 00798-00800 & 00811-00840.. Note that the sticker refers to the new aluminium style (lock-ended) band, but the contents are old aluminium style (butt-ended) bands.

Details of all Recovered (Live or Dead) Bands still held by JL (as at Oct 2012)

12. Images of all of the recovered bands still held by JL.
 - 170-05603 (aluminium, 'lock-ended' type). Was this band issued to someone else?
 - 170-02695 (aluminium, 'lock-ended' type).
 - 170-02640 (aluminium, 'lock-ended' type).
 - 170-02595 (aluminium, 'lock-ended' type).
 - 170-02501 (aluminium, 'lock-ended' type).
 - 170-02351 (aluminium, 'lock-ended' type).
 - 170-02318 (aluminium, 'lock-ended' type).
 - 170-02246 (aluminium, 'lock-ended' type), still on leg bone.
 - 170-02238 (aluminium, 'lock-ended' type).
 - 170-02220 (aluminium, 'lock-ended' type).
 - 170-02167/68 (aluminium, 'lock-ended' type). Double-banded bird.
 - 170-02043 (aluminium, 'lock-ended' type) and wing tag (R4 Black on Yellow).
 - 170-01611 (aluminium, 'lock-ended' type).
 - 170-00927/28 (aluminium, 'lock-ended' type). Double-banded bird.

Note that all are of the same type. The probable explanation is that all recovered bands were retained by ABBS, except this aluminium, lock-ended type, which JL wanted to re-weigh after use. The above bands were probably meant to be sent to ABBS after re-weighing, but haven't been. As at 25/10/2012, they have not been re-weighed and need to be (see 'Weights of Bands' section of this RMCR).

To repeat, in a different format, the above Band Nos. are (170) 05603, 02695 02640, 02595, 02501, 02351, 02318, 02246, 02238, 02220, 02167/68, 02043, 01611, 00927/28.

Other Research Materials

13. Copy of 'Receipt of Bands Issued To: [JL]'. This receipt indicates that GL received 20 stainless steel pelican bands – numbers (170) 16161-16180) – from ABBBS in March 1991. Were they used? Where are they now?
14. One page of undated jottings by GP which includes reference to 'Band Nos. 170 08901 – 08950 [and] 170 08951 – 0900'. Peter Collins' name is also on this page.
15. Note (30/08/1990) attached to a 'Report of Recovery to Bander' from ANPWS 'Australian Bird and Bat Banding Schemes', GPO Box 8, Canberra 2601, that reads (in relation to band no. 170-02453, placed on a free-flying pelican by JL/GP at Peel Inlet on 06/02/1978; recovered nearby at Falcon on 23/08/1990) 'Jim. The bands [sic] was very worn – I wouldn't expect many records longer than this based on these 'old' aluminium bands. Cheers. [Initials indecipherable]'. This band was weighed un-used on 06/04/1977 by GP and its weight was 6.843 grams. It has not been re-weighed and is not currently (25/10/2012) held by JL, so it should be requested from ABBBS for re-weighing.

16. Some loose, undated papers in JL's and GP's handwriting that are useful here because they indicate that penguin flipper bands had the prefix (size) '180' (whereas pelican bands were all prefixed '170') and that at least some of them were replaced with a 'new style' of pelican band when retrapped. It is also evident from these notes that some pelican bands were later replaced with other pelican bands (both captive and wild birds). An examination of all Species [Banding] Schedules' and 'Live Recovery Schedules' should reveal all the details of which types of bands were used where and when and what replacements occurred. **Alternatively this information might be requested from ABBBS.**
17. Copy of file note (13/12/1976) by GP indicating that bands (17) 01801-01900 had been placed on [wire] hoops for use, and that bands (170) 01695-01700 'remain from previous supply'. Note that only the aluminium. 'lock-ended' pelican bands could be placed on wire hoops as these were the only bands with holes at one end that the wire could pass through.
18. A collection of mainly summary papers of banding activities that refer to the different types of penguin and pelican bands used (during the period/s these papers cover)
19. A small collection of **photographs**, both entire and cropped, that show leg bands applied, and being applied, to Australian Pelicans by JL & GP.
 - The 'Albany, undated' photos (entire & cropped) appear to show an aluminium, lock-ended pelican band being 'locked' by means of pliers.
 - The 'Cohunu, Mar1978' photos show an aluminium, lock-ended pelican band (no. 170-01634) and a coloured plastic band on a captive bird. Coloured bands were only used on a small number of birds, all captive.
 - The 'Gnandaroo I, 26Jun1974' photos show an aluminium, butt-ended pelican band being applied to a 'runner'.
 - The 'Pelican Band, 30Nov1978' photos show an aluminium, lock-ended band on a cannon-netted, adult bird (as indicated by the bluish colour of the skin), at Emu Point, Oyster Harbour..
 - The 'Pelican chick. Green I. 03Aug1987 File 023851F3102.bmp' photos show an aluminium, lock-ended band being applied to a pelican chick on Green Island (Oyster Harbour) by Wildlife Officer Peter Collins (presumably) on 03/08/1987. This photos is a scanned copy of a colour print on departmental file 023851F3102.
 - The 'Pelicans, Serpentine River mouth [2751]' photos show an aluminium, lock-ended band (no. 170-01064) on the leg of a cannon-netted, free-flying bird re-trapped at the Serpentine River on 10Mar1977 (originally double-banded as a 'runner' on the Fortescue Marshes on 12May1976).
 - The 'Pelicans, Serpentine River mouth [2753]' photos also show an aluminium, lock-ended band (no. 170-01686) on the leg of a cannon-netted, free-flying bird (originally banded at The Chimneys, Peel Inlet, on 08Dec1976). The band in this photo looks as though it has only just been attached, so the location for the photo might be incorrect. This bird was not re-trapped after it was banded.
 - The 'Peel Inlet, 1-8Nov1974' photos show a size 180 penguin flipper tag on a 'runner's' leg.

Weights of Bands

20. **Some Pre and All Post-Use weights Excel Table.** An Excel Table, prepared by JL on 25/10/2012, with the same contents as the two hand-written Tables in the point immediately below.
21. **Some Pre and All Post-Use weights** .Various Tables, lists and drafts of lists of 'recovered' (i.e. post-use) bands and their weights. Headings include: Band No., Date Banded, Date of Band Recovery, Months Elapsed, Initial Weight, Weight Loss, % Weight Loss, Location Banded, Date & Place of Death, Wing Tag, Fate of Bird, .. There is also reference to 'bands missing, 'records missing', bands to weigh', 'list of bands returned (weighed, unweighed)', 'Bands sent to us and not CSIRO [ABBS]', Annotations (numbers in green) are probably for AVETECH database (see proposed AVETECH RMCR).
22. **All Pre-Use weights** (grams, to three decimal places) of leg-bands (all with prefix 170) numbered 00901-01032, 01033-01163, 01164-01295, 01296-01300, 01301-01400, 01401-01500, 01501-01600, 01601-01700, 01801-01900, 01901-02000, 02001-02100, 02101-02200, 02201-02300, 02301-02400, 02401-02500, 02501-02600, 02601-02700, 02701-02725, 02726-02800, 02801-02900. One sheet per range. Note that the number sequences are complete, from 00901 to 01700 and 01801 to 02900. The

total number of bands weighed prior to use is therefore 1,900. Some of the sheets have dates (15/06/76, 24/11/76, 08/03/77, 28/03/77, 01/04/77, 05/04/77, 06/04/77, 13/04/77, 14/04/77, 20/04/77) and initials (GBP, AP?) on them. The first four sheets have some 'error' recordings (several milligrams) on them.

All of the weighed bands weighed approx 6.7 - 6.9 grams and the first four sheets are headed 'aluminium bands'. This suggests that all of the weighed bands were aluminium bands and of the same type (design).

Earlier in this RMCR it is recorded that JL still retains (as at 19/10/2012) eighteen un-used, aluminium, 'lock-ended' pelican bands, on a wire hoop, with band nos. (170) 02883-02900. These are the last of the bands that were weighed 'pre-use' above. This indicates that it was this type of band that was weighed pre- and post-use. JL/GP probably didn't see a need to weigh the monel penguin flipper bands or butt-ended aluminium pelican bands (because both types were only to be used for a short period while waiting for lock-ended aluminium pelican bands) or the stainless steel bands (because no or very little corrosion was expected). Did JL/GP only double-band with the lock-ended aluminium pelican band? The answer should be in the 'Species [Banding] Schedules'.

23. Un-dated, typed '**Procedure for Weighing Recovered Bands**' and un-dated, hand-written (GP's hand-writing) 'Procedure for Weighing Bands'.
24. Page (GP's hand-writing), with various notes (19-23 Sept 1977) which record GP's **experimental cleaning** of leg bands to remove extraneous matter and achieve a stable weight. Refers to suggestion (appears to be on 20/09/77) from Government Chemical Laboratories to '[scrub] with 100 Vol or less Hydrogen peroxide but gloves, goggles, & tongs must be used'. Bands experimented with were (all with prefix 170) numbers 00751, 00704, 00741, 00702 (all old-style, butt-ended aluminium bands), 02301-02303 (all new-style, lock-ended bands for which there are pre-use but not post-use weights) and 00905, 01313, 01171, 01570, 01333 (all new-style, lock-ended bands for which there are both pre-use and post-use weights). See the Excel Table above for weights.

Band-Related Correspondence with David Purchase (ABBS/CSIRO, Canberra)

25. Extracts from JL's hard copy file labelled 'Correspondence with David Purchase (Secretary, Australian Bird Banding Scheme, c/o CSIRO Canberra)' – 'Now only Corres. Re Pelicans'¹, regarding the following subjects:
 - **Band types and supplies** (pages² 81-80, 78-76, 73-72, 70-69, 66-62, 60-54, 49-47, 43-29, 27-23, 21-7, 5-1).
 - **Band wear, corrosion & loss** (194-193, 155, 101, 97, 93, 89, 78-76, 71, 55-54, 40-38, 36-34, 25, 13, 11, 7, 5-4).
 - **Double-banding** (78, 71, 60, 55, 43-41).
 - **Strange 'foreign' bands** on Australian Pelicans (182-178, 173-168).

The pages have not been separated according to subject. Instead, they remain in their original, reverse chronological, order (194-1, with gaps). It will be noted that many individual page numbers are listed under more than one of the first three of the above subject headings.

Note, in particular, the several different types of bands were used during the course of the pelican banding project and that the 'Species [Banding] Schedules' record, for each band type, the individual band numbers, where and when they were used, whether on 'pullus' (runner) or 'free-flying' (fledged) birds, and whether or not the bird was double-banded. A first look (19/10/12) at these Schedules indicates that only three different types were identified: 'Penguin flipper tags' (initial code 'P'), 'Old style pelican bands' (initial code 'O') and 'New style pelican bands' (initial code 'N'). JL currently (19/10/12) has leftover stocks of the two different styles of *pelican* band, namely 'aluminium butt-ended and aluminium lock-ended, plus a stock of stainless steel bands (bands 170-08901 to 09000, with only one band, 08981, missing). So were S/S bands received by JL/GP but not used? Ask ABBBS.

¹ See 'Pelicans - All Correspondence with DPurchase' RMCR for a digital copy of the complete contents of this file.

² These numbers refer to the hand-written numbers in the top right-hand corner of each page. They are the same page numbers as in the 'Pelicans - All Correspondence with DPurchase' RMCR referred to above.

History of Supply of Pelican Bands

The following history is based on the Band-Related Correspondence with David Purchase material in the section above. This history was prepared by JL in Oct 2012 to assist in understanding what types of bands were supplied, why, when, etc. The order is chronological, from earliest (1973, Oct 25th) to most recent (1977, Feb 18th). Some important questions are posed at the end.

- 1973, Oct 25th. DPurchase (ABBS) sent first bands to JL. These were 27 pre-bent with black paint rubbed into the numbers and 30 flat bands 'as normally supplied'. The flat bands required 12mm cut off one end and then bending. DP wrote 'These bands are not very satisfactory as some almost certainly fall off'. Considering obtaining either bands with a locking device or 1mm thick stainless steel (S/S) bands.
- 1974, June 18th. DP writes 'hope you received the pelican bands alright'. '... only 10 left'. Proposing to have more manufactured from 1mm S/S or incoloy instead of aluminium. Invites JL's comments/suggestions.
- 1974, July 2nd. DP sends JL '500 unshaped penguin flipper bands'. Designed for Royal Penguins 'but have also proved suitable (although not ideal) for use on Pelicans'. DP now plans to 'obtain some decent [pelican] bands which will stay on them'.
- 1974, Aug 21st. JL replies to DP saying would be happy with bands of penguin flipper tag design 'provided they are ... resistant to corrosion'. 'I doubt whether stainless steel, titanium or incoloy would be suitable as these metals are too hard to bend easily' [to lock the ends together]. JL estimates will need 2000-25000 bands for the next five years. Asks DP to confirm that penguin tags are made of monel.
- 1974, Sept 13th. DP replies to JL discussing design and materials problems and saying will 'let things slide for a while until I can look at the [penguin] flipper band ... [on captive pelican] ... to see how it looks'. The penguin flipper tags 'are made from an English monel that I feel might last longer than the American alloy'. 'We will get a clue to [corrosion resistance] when the recoveries start coming into the Banding Office and we can examine the bands'.
- 1974, Oct 11th. DP writes 'One bit of bad news – the flipper band has fallen off the captive pelican'. Will write to manufacturers asking whether they can make 'an aluminium (or possibly light gauge stainless steel) band with a locking device at the rear'. Will ask for samples to test on CSIRO's captive pelicans. Sketch of DP's proposed band design annotated '1.5 mm thick hard aluminium?'. Copy of letter (also 11/10/74) to manufacturer (Mr Ohman of 'Mekaniska', Sweden) attached. Letter suggests '1.5 mm gauge hard aluminium or perhaps a light-gauge (0.7 mm) stainless steel'. Would want to test four sample bands before ordering 5-10,000.
- 1975, Jan 10th. Letter from DP to 'Mekaniska' urging a response to letter of Oct 11th.
- 1975, Jan 25th. Letter from DP to JL expressing disappointment that bands 170-00674 and 170-00691 were pulled off legs (i.e. found in fishing nets) in Leschenault Inlet. Still waiting for response from Mr Ohman of 'Mekaniska'.
- 1975, Jan 30th. Letter from DP to JL saying sample bands have been received from Mekaniska and one sent under separate cover to JL. If fits on CSIRO's captive pelican/s will place an order for more.
- 1975, Feb 10th. Letter from DP to JL with copy of letter (07/02/75) to Mekaniska requesting quote for 1000 bands (to be numbered 170-00901 to 01900) of slightly amended dimensions. New sketch attached.
- 1975, Mar 5th. Letter from DP to JL with copy of quote (22/02/75) from Mekaniska for supply of 1000 'alloyed aluminium' (1.5 mm thickness) pelican bands. DP will have air-freighted 'in view of the urgency'.
- 1975, Jun 13th. Letter from DP to JL saying supply of new bands has been delayed (until October) due to heart attack at Mekaniska (their letter of 04/06/75 attached). DP asks which of the two types of currently-held bands (penguin flipper tags and open-ended pelican bands; both used previously by JL) JL would like to use in the interim and how many. DP has several thousand of the former and 200 of the latter in stock.
- 1975, Jun 24th. JL replies to DP asking him to send 'the 200 size 17 bands you have in stock'. Note that these are the old-style, open-ended, aluminium bands.

- 1975, Jul 25th. DP replies to JL saying 'We have cut, filed and shaped 198 of the old type of pelican bands and have sent them to you by air-freight'.
- 1975, Nov 6th. DP writes to JL saying still no word from Sweden (Mekaniska). Might shortly do a little stirring.
- 1975, Dec 17th. DP writes to Mekaniska asking when new pelican bands can be supplied.
- 1976, Jan 7th. Mekaniska replies to DP saying 'can not promise the exact time of deliver'.
- 1976, Feb 6th. Letter from JL to DP saying do hope new bands can be provided soon as 'The monel metal penguin flipper bands appear to be hopeless'. 'Recently we retrapped two pelicans which had been banded 10 months previously and found that the bands were almost illegible due to heavy corrosion'.
- 1976, Feb 13th. DP writes to JL with copies of letters (also 13/02/76) to Mekaniska saying 'The temporary band which we have been using on Australian Pelicans is beginning to corrode very badly and we are starting to lose a lot of valuable data' and asking when we can expect delivery of 1000 new style bands, and to Mr D Nicolls, Timbertop, Victoria, asking if he could return some old-style pelican bands (from sequences 170- 00361 to 00400, 00405 to 450 and 00612 to 00662) for use by JL while awaiting supply of new bands from [Mekaniska]. Also comments on corrosion rates of the monel Royal Penguin flipper tag.
- 1976, Feb 17th. Letter from JL to DP saying 'When we do start using Oman's [Mekaniska's] bands I wish to double-band every bird. This will enable us to determine (by retrapping with cannon-net) the rate of band loss'.
- 1976, Feb 25th. DP replies saying Mr Nicholls will send some of his unused bands direct to JL and also double-banding at length, including statistical aspects.
- 1976, March 2nd. JL replies to DP outlining double-banding plans and saying Mr Nicolls had sent JL old-style pelican bands 170-00612 to 00650 and 00652 to 00662 (total of 50 bands) for JL to use while waiting for the new style (from Mekaniska).
- 1976, Mar 4th (received by CSIRO on March 8th). Mekaniska sends DP an 'outturn' sample of the new pelican band for final approval.
- 1976, Mar 8th (incorrectly dated Feb 8th). Telegram from DP to Mekaniska confirming order for 1000 bands of new style.
- 1976, Mar 24th. DP writes to JL, agreeing with his proposal that he double-band the first 500 or chicks and then review the situation. Refers to other double-banding projects and studies of rates of band loss.
- 1976, Apr 14th. JL letter to DP thanking him for 'the new style bands' and asking for 'a further 400 fairly soon' as planning to band chicks at NW colonies in 3 weeks time. Ask whether OK to 're-band our captive pelicans with band nos. 170-00901 to 00904' (these were new style band numbers – see confirmation in DP's letter of 24/04/76). 'Also, do you wish me to return the old-style pelican and penguin bands or should I keep them for the time-being for use in emergencies?'
- 1976, Apr 21st. DP sends JL 'a further 400 [new-style] pelican bands' under separate cover 'as requested'. DP says hold onto the old-style pelican bands for emergencies but please return the penguin flipper bands (for possible use on Macaroni Penguins on Macquarie Island).
- 1976, May 28th. JL thanks DP for the extra 400 new-style pelican bands, some of which he has since used. On recent trip to NW banded 220 chicks, all double-banded (with the new-style bands), 'so we now have 356 bands remaining' (this indicates had been supplied with 800 new-style bands to that point in time – four used on captives, see 14/04/76). Suggests may defer further double-banding until Sep 1977 if (as DP has apparently suggested) no more bands are likely to be available before then.
- 1976, Jun 15th. DP replies to JL, asking for feedback on the new-style bands. Suggest it could take 6 months minimum to receive more from Sweden (Mekaniska).
- 1976, Jun 18th. JL replies to DP saying 'The new bands are quite satisfactory. They are easy to apply and seem to fit young birds well'.
- 1976, Aug 12th. JL writes to DP saying 'I have mailed to you today ... 216 penguin flipper tags (Tag Nos. 180-06201 to 06400 and 06453 to 06450). I appear to have misplaced the remaining 50 tags ... When they turn up I will send them on'.

- 1976, Aug 17th. DP send JL a copy of quote (11/08/76) from 'Mekaniska' for supply of 2000 more size 17 pelican bands [new-style] 'of alloyed aluminium'. DP advises that these will be ordered, noting that manufacture will take six months.
- 1976, Nov 15th. JL requests 'a further 100 pelican bands [new style]'. JL writes 'We only have 76 in stock'.
- 1977, Jan 13th. JL thanks DP for the extra 100 pelican bands that he requested (15/11/76) and asks about future supplies.
- 1977, Jan 27th. DP replies that the 2000 new-style pelican bands ordered from Mekaniska 'last July' arrived 'a few weeks ago'. Asks JL if he wants some and how many he is likely to need in 1977 and 1978. Thanks JL for the return of the penguin flipper tags which 'arrived last week'. Says 'So far we have received reports of the recovery of eight of the new pelican bands' (bands 170-00925, 00926, 01139, 01140, 01313, 01333, 01334 and 01369). Encloses six of these bands for weighing and then return to ABBS
- 1977, Feb 11th. JL replies to DP, saying expects to use 1500-2000 bands in 1977 and 1000 in 1978 'with few, if any, birds being double-banded' (in 1978).
- 1977, Feb 18th. DP replies to JL, saying he (DP) has 2000 pelican bands in stock and will order an additional 1000 to be delivered 'early next year'. Also writes "As requested, 1000 of the 2000 pelican bands will be despatched to you during the next week".

DP's letter of 18th Feb 1977 is page 81 on JL's 'Correspondence with DPurchase Concerning Pelicans' file and is the last page (see list of relevant page numbers above) of correspondence between JL and DP concerning band supplies. It leaves some important questions unanswered. When were JL/GP first supplied with stainless steel pelican leg bands? Did they use any? If yes, why can't JL find any 'Species [Banding] Schedules' referring to these bands? Also if yes, were there any subsequent recoveries? Enquiries need to be made with ABBBS. When doing so It may be useful to recall when David Purchase & CSIRO parted ways with ABBS. DP wrote to all banders on December 10th 1984, notifying them that he would not be transferring with Australian Bird-Banding and Australian Bat-Banding Schemes from CSIRO to ANPWS. Kim Lowe in ANPWS would take on DP's role. After writing the above, JL discovered (on 26/10/2012) an ABBBS receipt in GP's ABBBS papers which indicate that 20 stainless steel pelican bands (170) 16161-16180 were supplied to GP/JL in March 1991. Were these used? These were not the bands that JL still (26/10/2012) has stocks of.

Three pages of hand-written notes (19/10/2012) by JL recording details (band numbers, aluminium or stainless steel, 'butt-ended' or 'lock-ended', 'Write To' addresses, approximate widths and thicknesses, but not lengths or weights) of:

Unused pelican bands still held by JL as at 26/10/12.

Also sketches of the lettering /numbering layout of each band type.

In the smaller box with the "MEKANESKA" slider.

(1) Aluminium, "butt-ended", ~~tags~~ bands.

WRITE - WILDLIFE
 170 - 00810 CSIRO CANBERRA 00810
 AUSTRALIA

Bands:
 00769 - 00796 (28 bands)
 00798 - 00800 (3 bands)
 00801 - 00810 (10 bands)
 00811 - 00840 (30 bands)
 00841 - 00850 (10 bands)

Total: ~~20 bands~~ ← 81 bands.

26/10/12

These do not have black paint in the lettering/numbering.

~~These~~ These bands are approx 14.5 mm wide x approx 1.0 mm thickness
 x ----- length and weight ----- gm.

(2) Aluminium, "butt-ended", bands,

WRITE - WILDLIFE
 170 - 00612 CSIRO CANBERRA 00612
 AUSTRALIA

Bands:
 00612 - 00630 (19 bands)
 00631 - 00639 (9 bands)
 00640 - ~~00649~~ 00650 (11 bands)
 00652 - 00662 (11 bands)

Total: ~~38 bands~~ ← 50 bands

26/10/12

These do have black paint in the lettering/numbering.

The "trailing end" corners of these bands are "sharper" (less rounded) than those of the bands without black paint above (1).

suggesting a different batch (of manufacturing).

These bands are approx 14.5 mm wide by 1.0 mm thickness.

x ----- length and weight ----- gm

19/10/12

In the larger box:

① Aluminium "lock-ended" bands:



Bands: 02883 - 02900 (18 bands)

J
19/10/2012

These bands are approx 14.5 mm wide x approx 1.0 mm thickness
x ---- length and weigh ---- gm.

Also in the larger box

① Stainless Steel, "butt-ended" bands.

INFORM WELDIE
GPO BOX 8 170 08949
CANBERRA 2801 AUSTRALIA

Bands: 08901 - 08950 (50 bands)

08951 - 08960 (10 ")

08961 - 08970 (10 ")

08971 - 08980 (10 ")

08982 - 08990 (9 ")

08991 - 09000 (10 ")

08981
is missing

Total: 99 bands

P. 19/10/2012

These bands are approx 12.5mm wide x approx 0.8mm thickness
x --- length and weigh --- gm.

Images (x4) of the stainless steel type of pelican leg band.

(Nos. 170-08949 — un-used)
and

400x

Stainless Steel



10 08949

INFORM WILDLIFE
GPO BOX 8
CANBERRA 2601 AUSTRALIA

Scale: x4

400%

Stainless Steel



Scale: x4

400%

Scale: x4

Stainless Steel



**Images (x1) of the remaining stocks of the stainless steel type of pelican leg band, with packaging. Band nos:
(170) 08901-08980 & 08982-09000.**

↑ 08981 is missing - used?

Note that instruction on the bands changed from 'Write - Wildlife, CSIRO, Canberra, Australia' (on the aluminium bands) to 'Inform Wildlife, GPO Box 8, Canberra 2601, Australia' (on the stainless steel bands). This was because ABBS and the Bat Banding Scheme were moved from CSIRO to ANPWS and merged to become the ABBBS (see correspondence between JL and DPurchase of ABBS/CSIRO elsewhere in this RMCR).

100%

SS
 SD RINGS
 Size No. 170 ID 22.2 m.m.
 Serial No. 08901 08950
 136



Scale: x1

100%

50 RINGS

SS

Size No. 170 ID 22 m.m.

Serial No. 08901 08950

Inspection No. 136

Scale: x1

100%

SD RINGS SS
Size No. 170 ID 22 m.m.
Serial No. 08957 09000
Inspection No. L36

Scale: x1

Images (x3 and x4) of the aluminium, 'lock-ended' type
of pelican leg band.

(N^{os} 170 - 02900 - un-used)

and - - - -

Aluminium

4087

Scale: x4



170-02900

WRIDE - WILDIFE
CSIRO CANBERRA
AUSTRALIA

3070 ⁰/₁₆

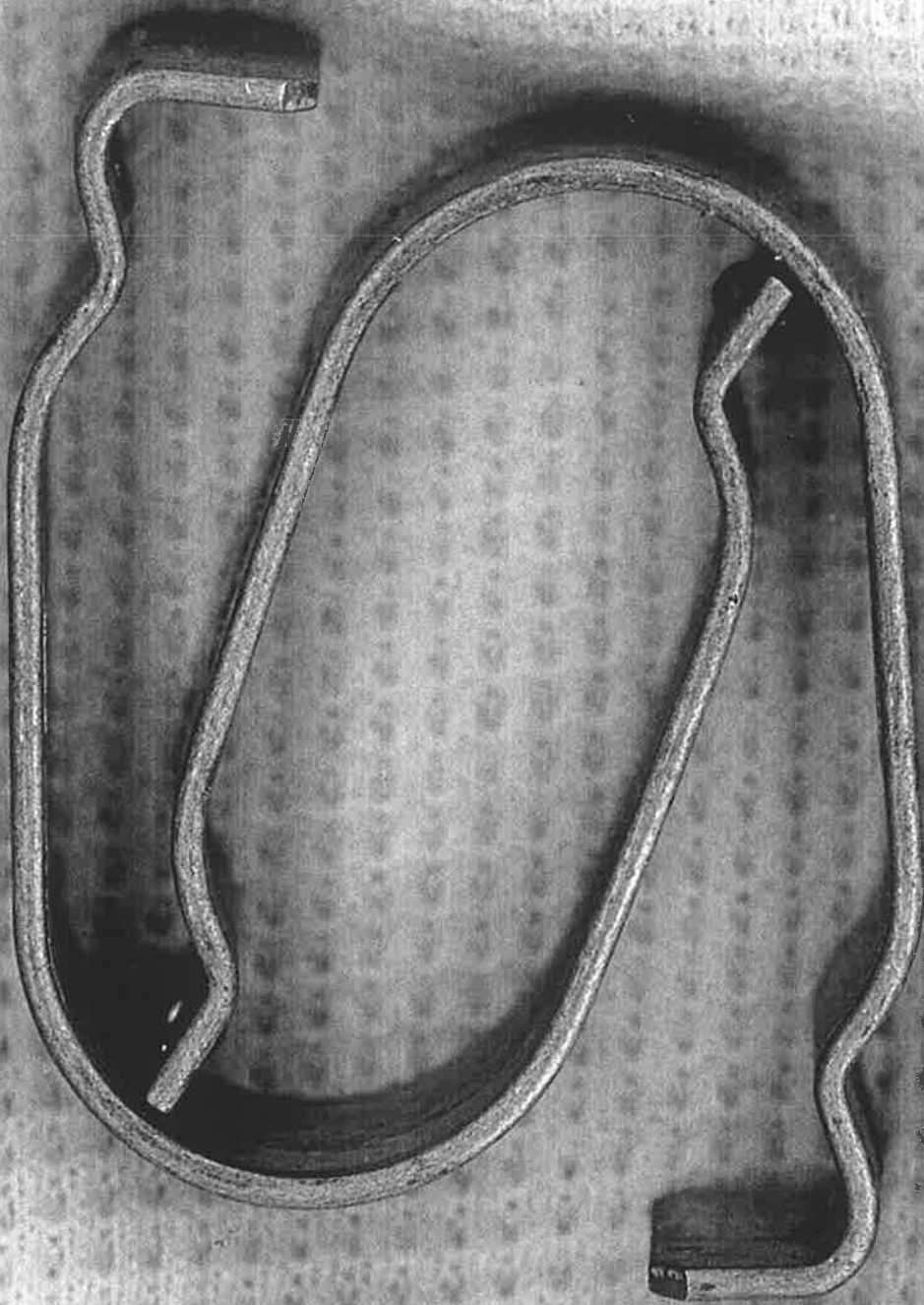
Aluminium

Scale: x3



Aluminium

350°C



Scale : x3

Image (x1) of the aluminium, 'lock-ended' type of pelican leg band, on a wire hoop, ready for use. Band nos. (170) 02883-02900.

(all un-used)

Aluminium

Scale: x1



**Images (x3) of the aluminium, 'butt-ended', with blackened
letters / numbers, type of pelican leg band.**

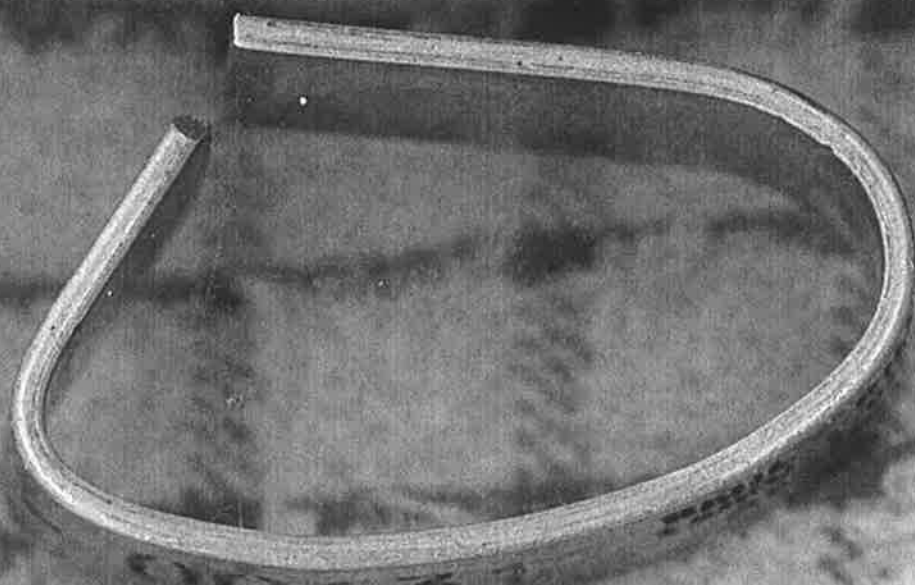
(Band Nos. 170-00632 — un-used)
and 00631 .

Aluminium

Scale: x3

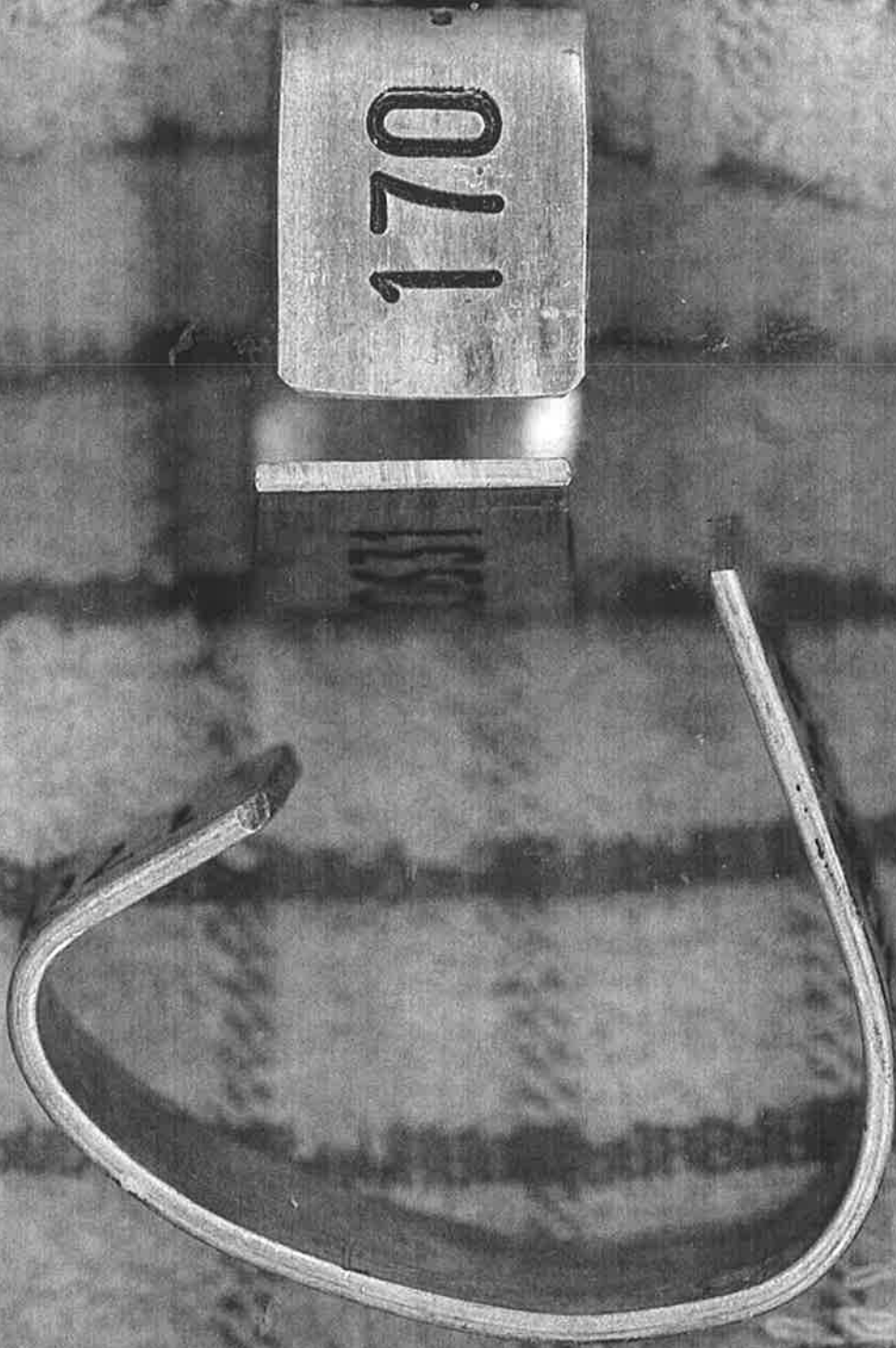
00632

WRITE - WRITE
CSIRO CANBERRA
AUSTRALIA



Aluminium

Scale: x3



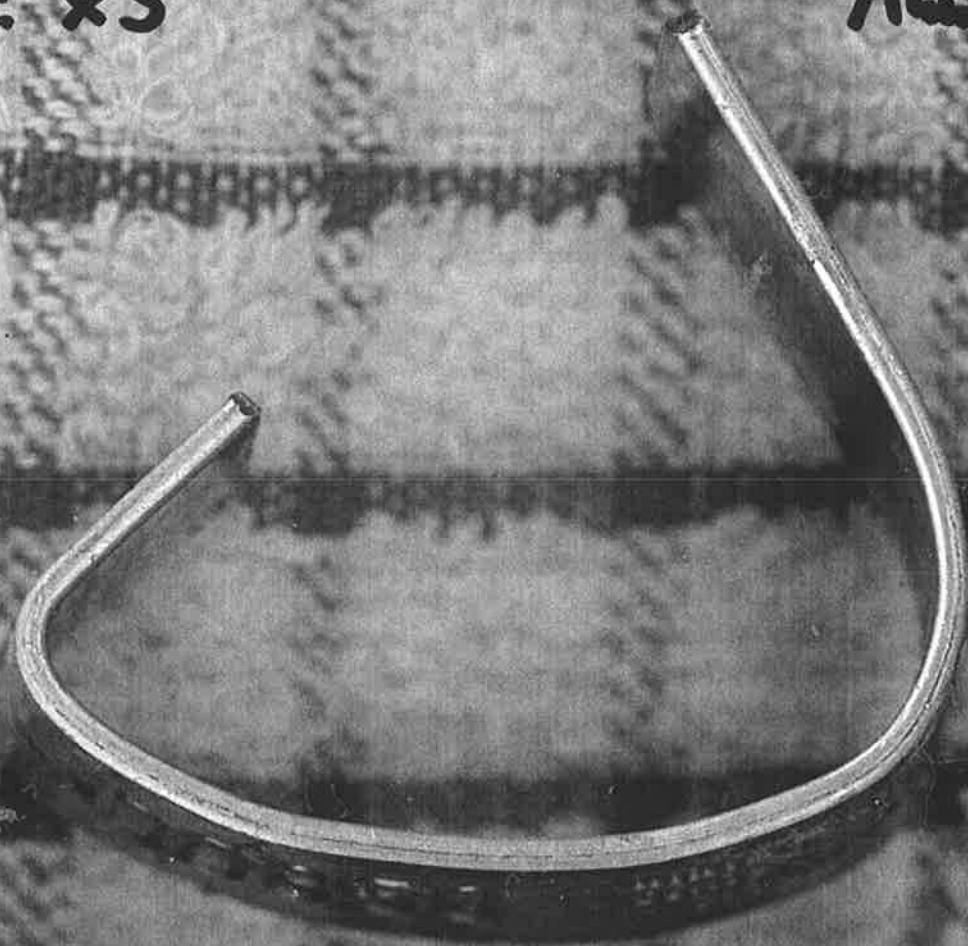
300%

Images (x3) of the aluminium, 'butt-ended', without blackened letters / numbers, type of pelican leg band.

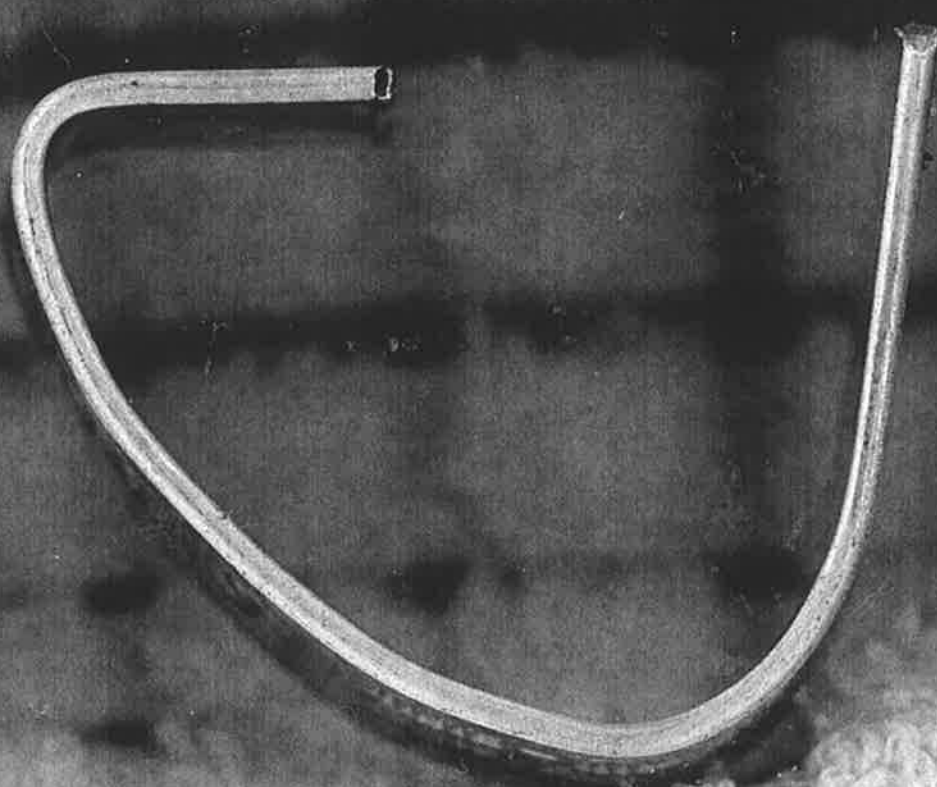
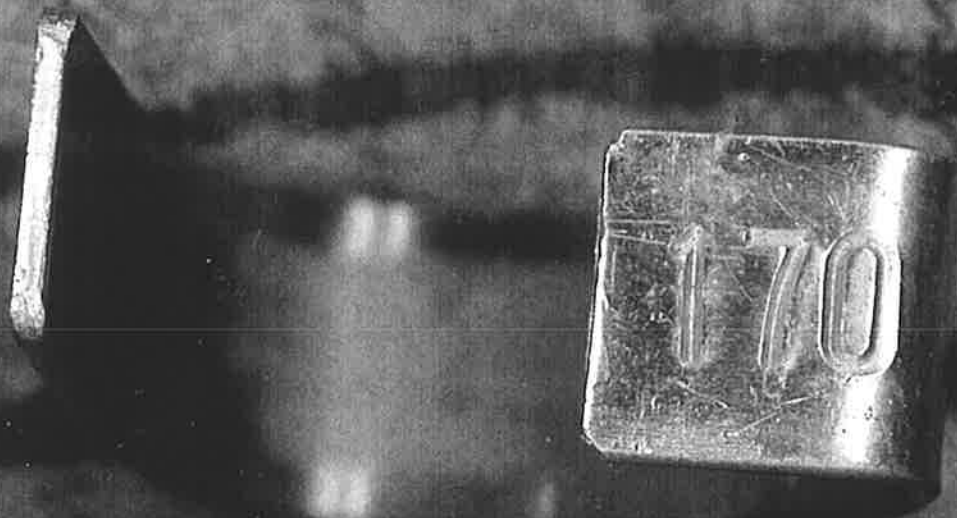
(Band Nos. 170-00849 — un-used)
end - - - .

Scale: x3

Aluminium^{300%}



Aluminium



Scale: x 3

Images (x1) of remaining stock of the aluminium, 'butt-ended', with and without blackened letters / numbers, types of pelican leg band.

Band nos. (blackened) (170) 00612-00650 and 00652-00662.

Band nos. (not blackened) (170) 00769-00796 and 00798-00850.

Aluminium



00640
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00641
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00642
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00643
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00644
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00645
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00646
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00647
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00648
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00649
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

21900
WILD LIFE CSIRO QUEENSLAND AUSTRALIA

21900
WILD LIFE CSIRO QUEENSLAND AUSTRALIA

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00629
WILD LIFE CSIRO QUEENSLAND AUSTRALIA

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00629
WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00631
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00632
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00633
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00634
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00635
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00636
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00637
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00638
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

00639
WRITE - WILD LIFE CSIRO QUEENSLAND AUSTRALIA

Saru: X 1

007611
011

00788
00779
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00840

18

Composite image of some bands from
four different angles.



Aluminium

**Composite photocopy of hand-labelling of sides of cardboard box
with unused stainless steel pelican bands in it.**

**Hand-labelling indicates that this box was also used by DEC Wildlife
Officer Peter Collins to return un-used bands to GP. They had been
intended for use by PC on pelican chicks at Green Island
(Oyster Harbour) (see May 1998 note in that RMCR).**

*Were other stainless
steel birds used here?*

AM

MR GRANT PEARSON

DEC WOODVALE RESEARCH

~~PO Box 51~~ Wildlife Place

~~JANEROO~~ WOODVALE

~~6946~~

From
PLAINS DEC
ALBANY

SA 489887

PELICAN BANDS

**Photocopy of side of cardboard box of bands that GP has labelled 'OLD
STYLE AL. [ALUMINIUM] PEL BANDS'.**

170

**Supply sticker indicates 100 Aluminium Bird Rings, Size 17, Nos. (170)
02301-02400. Manufactured by I.O. Mekaniska, 560 23 Bankfryd,
SWEDEN.**

**The bands (un-used) currently (19/10/2012) stored in this box are:
(170) 02883-02900.**

**Note that this sticker and these un-used bands are of the new aluminium
style (lock-ended), not the old aluminium style (butt-ended).**

OLD STYLE

AL. 170 PEC BANDS

Size 170

Aluminium Bird Rings

Size 170

Nr 170 - 02 301 - 170 - 02 400

Manufactured by
I.O. MEKANISKA
 560 23 BANKERYD SWEDEN

← This sticker actually refers to (describes)

"New Style" Chartered aluminium, lock-ended

Pelican bands. J 25/10/12

100%

Photocopy of side of a second cardboard box of bands that GP has labelled 'OLD STYLE AL. [ALUMINIUM] 170 PEL BANDS'.

Supply sticker indicates 100 Aluminium Bird Rings, Size 17, Nos. (170) 01901-02000. Manufactured by I.O. Mekaniska, 560 23 Bankfryd, SWEDEN.

**The bands (un-used) currently (26/10/2012) stored in this box are:
(blackened) (170) 00650 & 00652-00662 and
(not-blackened) (170) 00769-00796, 00798-00800 & 00811-00840.**

Note that the sticker refers to the new aluminium style (lock-ended) band, but the contents are old aluminium style (butt-ended) bands.

The checker refers
to "new style"
aluminium
bands
sent
26/10/2012

OLD STYLE

AL. 170 REC BANDS

A

- 100

Aluminium Bird Rings

Size 17

Nr 170 - 01 901 - 170 - 02 000

Manufactured by
J. Ö. MEKANISKA
500 23 BANKERYD SWEDEN

These are all aluminium, butt-welded, "old-style"
bands (in this box, today) 26/10/2012

Images of All of the Recovered Bands still held by JL.

- 170-05603 (aluminium, 'lock-ended' type). Was this band issued to someone else?
- 170-02695 (aluminium, 'lock-ended' type).
- 170-02640 (aluminium, 'lock-ended' type).
- 170-02595 (aluminium, 'lock-ended' type).
- 170-02501 (aluminium, 'lock-ended' type).
- 170-02351 (aluminium, 'lock-ended' type).
- 170-02318 (aluminium, 'lock-ended' type).
- 170-02246 (aluminium, 'lock-ended' type), still on leg bone.
- 170-02238 (aluminium, 'lock-ended' type).
- 170-02220 (aluminium, 'lock-ended' type).
- 170-02167/68 (aluminium, 'lock-ended' type). Double-banded bird.
- 170-02043 (aluminium, 'lock-ended' type) and wing tag (R4 Black on Yellow).
- 170-01611 (aluminium, 'lock-ended' type). ← cut off birds leg? by finder?
- 170-00927/28 (aluminium, 'lock-ended' type). Double-banded bird.

Note that all are of the same type. The probable explanation is that all recovered bands were retained by ABBS, except this aluminium, lock-ended type, which JL wanted to re-weigh after use. The above bands were probably meant to be sent to ABBS after re-weighing, but haven't been. **As at 25/10/2012, they have not been re-weighed and need to be** (see 'Weights of Bands' section of this RMCR).

06/5/2012
Pekin Band N°

↓
170 02246

I also found Pekin Band N° 170-05603
loose in this opened envelope
today 06/5/2012 JK.



↑
170-05603

Scale: x1

100%

Returned by CSIRO Dec 12 79 *W.A.P.*

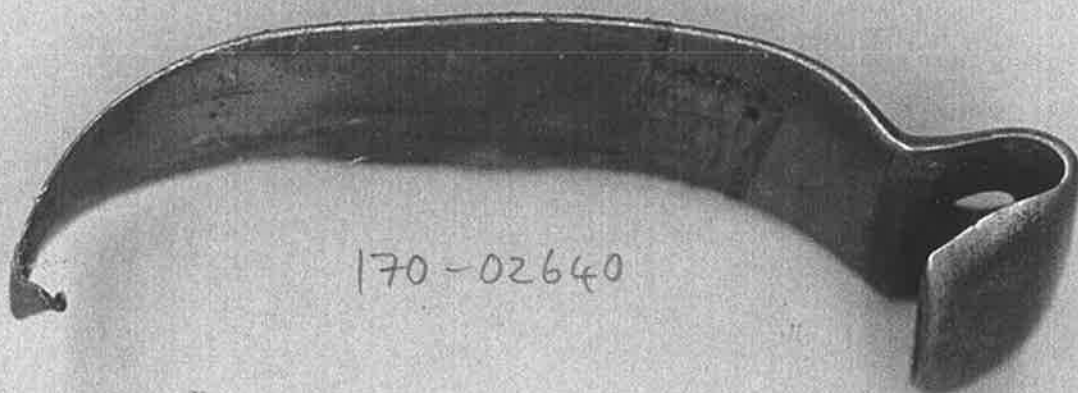


170-02695

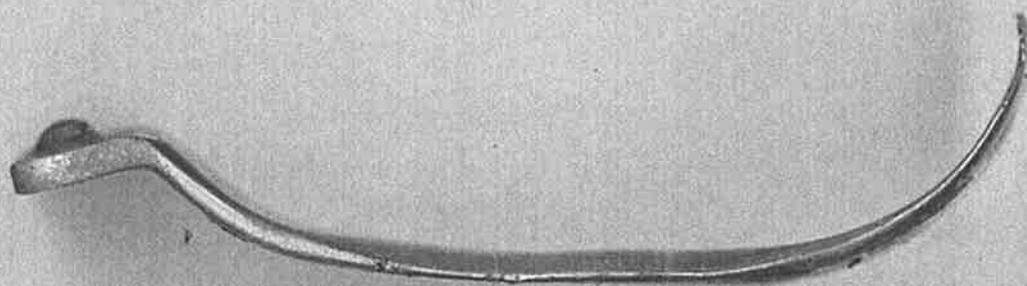
Scale: x 1

300%

Scale: x3



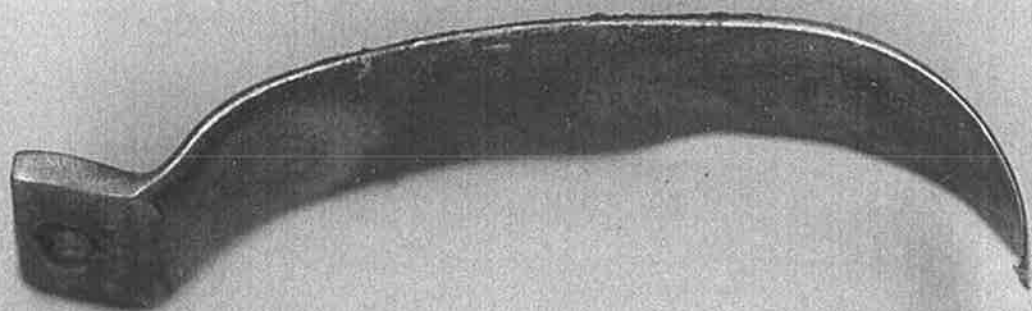
170-02640



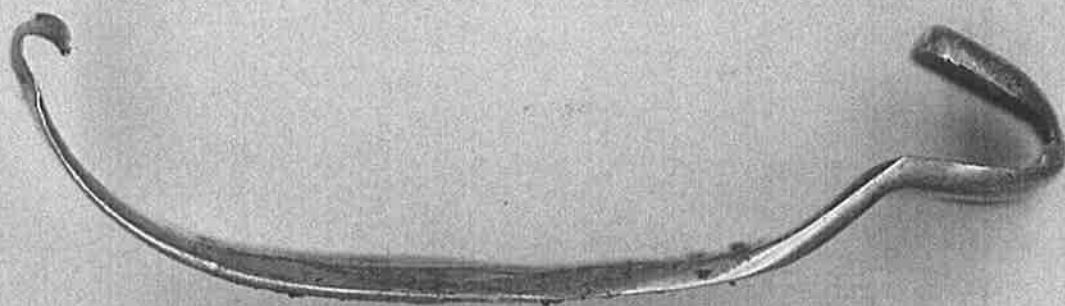
170-02640

300%

Scale: x3

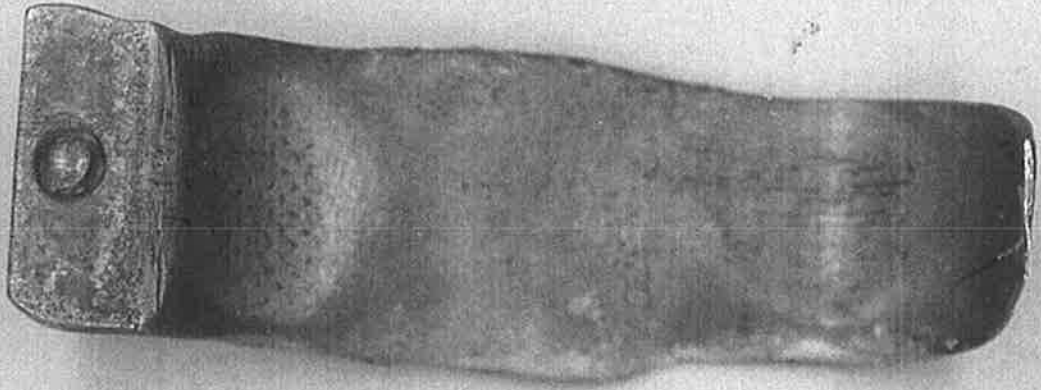


170-02640

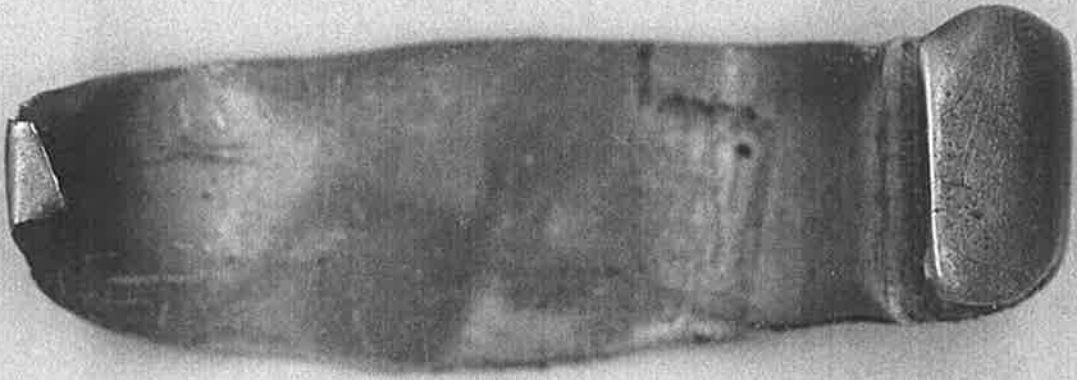


170-02640

Scale: x3



170-02640



170-02640

Scale: x3



170-02640



170-02640

100%

170-02640



Rechen Band N°

10/6/2012

02640

Recovery sheet on JAKKS
Lids.

Scale: x 1

200%

Scale: x2



170-02595

Scale : x2



WRITE - WILDLIFE
CSIRO CANBERRA
AUSTRALIA

170-02595

170-02595

170 02595

Found 5/6/81 Chimneys area.

Bird dead 1 day in 4.6.81.

No signs of cause.

mounting wire 1° + outer 2°

Carcass about 6kg large male mixed
color around head.

CBF
8/6/81



170-02595

Scale: x1

100%

With Compliments from

ZOOLOGICAL GARDENS BOARD

TELEGRAMS: "PERTH ZOO"

20 LABOUCHERE ROAD, SOUTH PERTH,
WESTERN AUSTRALIA 6151

TELEPHONE: 367 7988



DEAD ♀ ADULT
PELICAN
FOUND IN TOP LAKE
BROKEN RIGHT WING
RING NO 170-02501



170-02501

Scale: x 1

100%

170 02351

Bond retrieved from pelican found
dead sth of Stirlings. Finder Robert Millions

RMB 971

lot no 6799

off Chester Pass Rd.



170-02351

Scale: x1

Pelvic Band

Roanoke Bay - Boone Ind.

Liz Edwards

Best - washed specimen - long dead - ~~off~~
- no flesh.

170 - 02318

15. Oct. 81



170 - 02318

Scale: x1

170%

Scale: x1.7

170%
170%
170%

170%
170%
170%



170-02246

- ① Supervising Wildlife Officer
- ② Attention of Mr Jim Lane.

Scale: x1

Please find enclosed a tagged bone of a Pelican, this tag was recovered from a dead Pelican in a "Billabong" at Gifford Creek Station

The station owner Mr John Teaser has asked me if I could give him the details of where & when the bird was banded, the band was found in mid January 1984.

J Wilson
District Wildlife Officer
Barnardson
13.3.84

No. 02246
of 06/5/2012

C. PEARSON

① Mr Lane

Method replaced 10/4/2012



170-02246

400%



-02238

170 - 02238

Scale: x4

200%

Scale: x2

-02238

A

170 - 02238

02238

Bank

Job 5/2012

PARADISE

ROE

7

091-921121.



170-02238



Bond No 02238

06/5/2012

7 ROE, PARADE
EMU POINT

R. BRASS 29. 11. 85

OYSTER HARBOUR

ALBANY

Picked up in mesh net

Scale: x1



DEPARTMENT OF FISHERIES AND WILDLIFE

Your Ref:
Our Ref:
Enquiries:

108 Adelaide Terrace, Perth,
Western Australia 6000
Telephone 325 5988

Telegraphic Address:
Fishfaun, Perth.

Telex: 93832

MR J LANE,
WILDLIFE RESEARCH CENTER,
MULLALOO DRIVE,
WANNEROO. W.A.

? *
0
2
2
2
0

Dear Jim,

Please find attached, tag found by Mr C Tomlinson of 32 Festing Street, Albany.

The Pelican was caught in a net in Princess Royal Harbour. The band broke off while the bird was being released. This occurred on the 16th of December 82.

Date: 16/12/82

Method : 21¹⁸

Status : 33

Locode: 0593A2

Regards,

Ray
Ray Smith,
Wildlife Office,
Albany.

Grant
Would you please advise Ray Smith
and Mr Tomlinson of banding +
movement details.

Done 28/12
ETD

B&B ~~2/11/77~~
4/11/77

Scale: 81%

81%



Tag Details:
170-02220
Frenchmans Bay
on 4/11/77

Tag Type: N
Age: 1+

Ray Smith.

Wildlife Office,
Albany.

200%

Would you please advise Ray Smith
and Mr Tomlinson of bending &
movement details.

Rone, 29/12

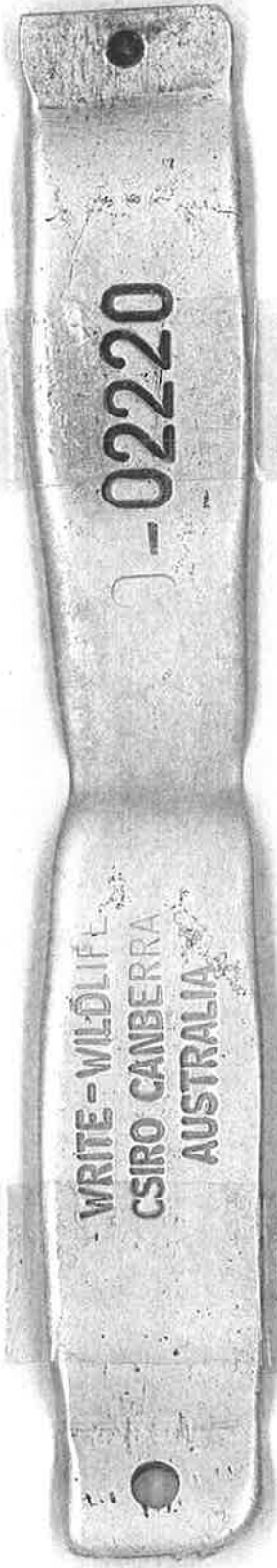
GRB

BSB

~~BSB~~

4/11/77

Scale: x2



Tag Details:

170-02220

Frenchmans Bay

Tag Type: N

Age: 1+

200%



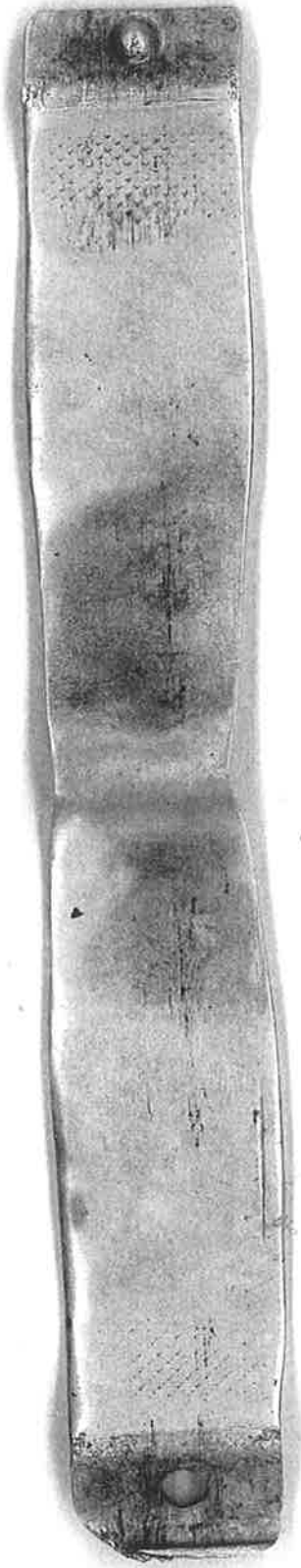
Scale: x2

2007



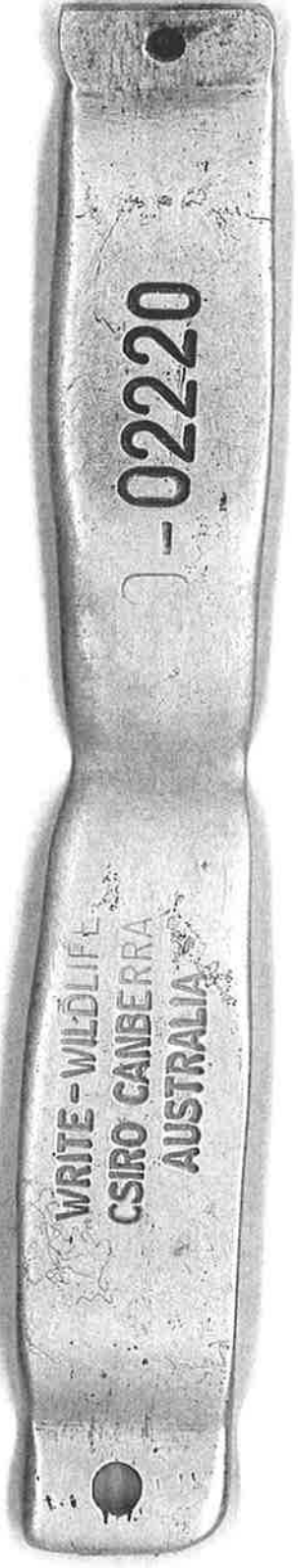
Scale: x 2

200%



Scale: x2

200%



WRITE - WILDLIFE
CSIRO CANBERRA
AUSTRALIA

J - 022220

Scale: x2

200%

170-02167



170-02168



Scale: X 2

170-02167



WRITE-WILDLIFE
CSIRO CANBERRA
AUSTRALIA

170-02167

170-02168



WRITE-WILDLIFE
CSIRO CANBERRA
AUSTRALIA

170-02168

Scale: x2

band no

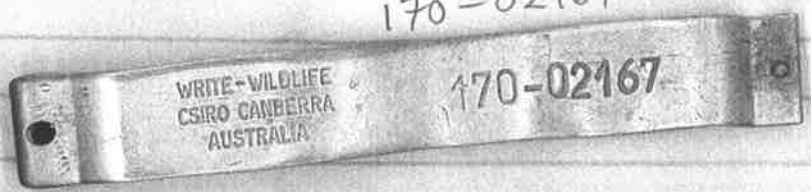
170 Od167

170 Od168

Removed from Pelican on 14th Feb 80
Bird was recovered from Kings Park Beard
& died following day. Carcass is held at
North Sea Works.

CHIT. no 00636 Room no 19

170-02167



170-02168



170-02168

Scale: x1

Scale: x2



WRITE-WILDLIFE
CSIRO GANBERRA
AUSTRALIA

170-02043

170 - 02043

200%



R4 v. 170 02043

returned by Harvey Shue
29.10.79

no details on death or date

found at km east of R. bridge



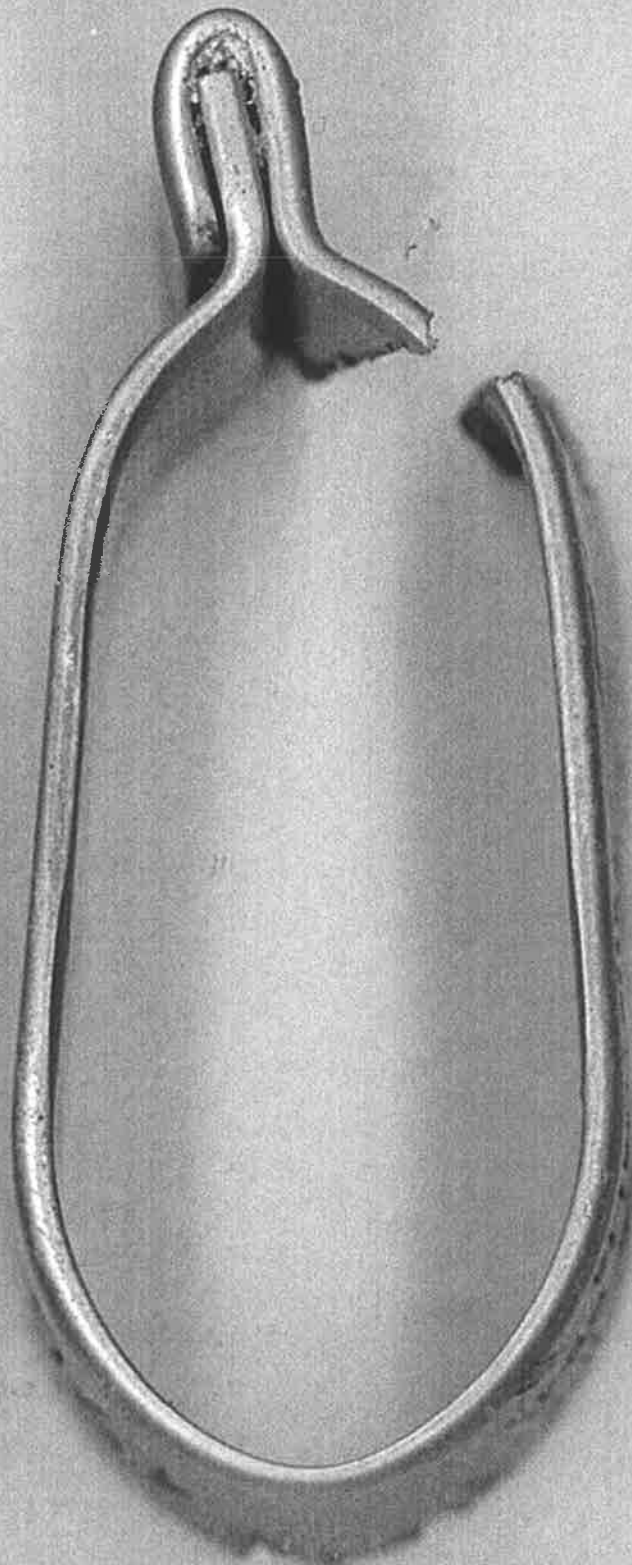
Scale: x1

170-02043

100%

400%

Scale: x 4



170-01611

Scale: x4

400%



170-01611

WRITE-WILDLIFE
CSIRO CANBERRA
AUSTRALIA

Scale: x4

170-01611

100%

100%

Scale: x 1

170-01611 of 18/10/12

returned by Mickhans-

Bird found dead 21.5.74
no wing tag.



170-01611

100%

Scale: x1

170-01611 of 18/10/12

returned by P. Hutchinson

Rail found about 21.5.74
we using Tag.



170-01611

Scale: x2

170 - 00927



170 - 00928

170-00927

If possible, we would like to examine the band, which will be returned on request. Please open your band, attach



with sticky tape, and return in the envelope provided. Thank you.

Name:

Address:

If possible, we would like to examine the band, which will be returned on request. Please open your band, attach



with sticky tape, and return in the envelope provided. Thank you.

Name:

Address:

170-00928

Scale : x1