

National Parks Board of Western Australia

MATILDA BAY RESERVE
HACKETT DRIVE, NEDLANDS, 6009
PHONE 863125



BLUE LESCHENAULTIA
Leschenaultia biloba

Director
Department of Fisheries & Wildlife
108 Adelaide Terrace
PERTH W A 6000

25 February 1975

Our ref: 43/10/1
HRG:ML

Attention: Mr J Lane

FENCING - PELICAN POINT

Further to our conversation, I wish to advise that the National Parks Board agreed in principle at its meeting on 21 February 1975 for the fencing of Pelican Point with 5'- 6' cyclone wire.

I should be grateful if you would help in the preparation of an application to the Australian Government for a grant for this work.


FOR DIRECTOR

Mr Lane: (1) Would you do this please.
(2) Consider "Reds" for labour

CRAWLEY W.A. 6009

January 22, 1975

Dear Dr. Smith,

You will, of course, be aware that Pelican Point is a most important resting site for transequatorial migratory wading birds. Almost inevitably there has been increased disturbance of this area over the years, and I would be most pleased if you would be prepared to allow Jim Lane, a Research Officer of this Department, to talk with you about possible ways and means of reducing this disturbance.

Yours sincerely,

B.K.B.

(B.K. Bowen)
DIRECTOR

Mr Lane.

DIRECTOR

I met with Dr. Smith and Mr. Gorringe this morning. They were in complete agreement with the two most important points of my proposals, namely to construct a fence around the point and to prohibit public access.

Dr. Smith will put the proposals to the N.P.B. next Friday and if approval in principle is granted then Mr. Gorringe and I will prepare a detailed plan for submission to the board and then to the Australian Govt. seeking federal funds. I have in mind here the Australia - Japan migratory birds treaty.

SAZC
14 FEB 75

PELICAN POINT SANCTUARY

Background : 1969/70 Survey of Swan R.

Three Areas Important : feeding, roosting
passage migrants.

Reserve Recommendations : Alford Cove - Point Hopton
Keweenaw Fwy.

Pelican Pt.

Importance : roosting resident & passage migrants
feeding area
banding station for migration studies
educational

Recommendations

- a) Fence - gate for vehicles
- b) Notices - information, laws
prohibited access Sept-Apr?
- c) Purpose of Reserve - change to wild-sanct.
- d) Boundary - excise and extend.
- e) Hide and concealed access path.
- f) Banding Station - Carth. Funds.
Migratory Birds Treaty.

Dr. F. Smith
Director,
National Parks Board,
Hackett Drive,
CRAWLEY W.A. 6009

XXXXXX 25.5988

January 22, 1975

Dear Dr. Smith,

You will, of course, be aware that Pelican Point is a most important resting site for transequatorial migratory wading birds. Almost inevitably there has been increased disturbance of this area over the years, and I would be most pleased if you would be prepared to allow Jim Lane, a Research Officer of this Department, to talk with you about possible ways and means of reducing this disturbance.

Yours sincerely,

BK

(B.K. Bowen)
DIRECTOR

Mr Lane:

| | | | |
|-----------------|---|------------------|--------------|
| Shag started by | - | 70 | 3rd Nov. |
| DA G | | 70 92 | 16 Nov. |
| "Knobs" | | 70 | 11 Nov. |
| G P | | 67 | 6 + 13 K Nov |
| E G P | | 5 | 3rd Nov. |
| SLA | | 4,000 | 3rd Nov |
| C Sp. | | 600 | 3rd Nov. |

Mess Bailey = Sun Nov 3 1974 - 1130 am
 Mongolian Cultural { 4 of them }
 { 2 beer }

SAT 7 SEP 74

While canoeing on the river I saw a feeding flock of 100 ~~feeder~~ Black Cormorant ~~approx~~ 400 yds downstream of the Parris Bridge in the centre of the ~~the~~ channel at 1100 hrs. The flock was disturbed by a powerboat and I was able to count each individual as they flew past.

MON 9 SEP

Checked Pelican Point for waders after work (1730 - 1800) - none seen. None had been seen on a survey of all three wader areas (Pt Weylen, Humane Freeway and Pelican Pt) on last Thursday afternoon.

TUES 10 SEP

Went to Pelican Pt. after work with the Retriever Club's wader group. Saw what appeared to be 2 great knots & 1 knot flying about the point. These were joined by a further 5 knots with black plumage - possibly by Plover

but they were too far away to be sure.
This was the first wader record on the Swan
R. for the 1974/75 season.

WED 11 SEP

Went down to Pelican Pt from 1730-1800 hrs
Saw 2 grey plovers with most of their breeding
plumage. They moved about together.
One of them definitely had a band on its
right leg. The other did not. No
other waders were seen.

Mrs. M. S. Carne
108 Burke Drive
ATTADALE. W.A. 6156.

Dear Mrs. Carne

The following is a list of birds which you are likely to encounter on the tidal flats of Attadale and Alfred Cove during the months, September to April.

1. Red-necked Stint: smallest of the waders - flocks of up to 4,000 birds.
2. Curlew Sandpiper: second most abundant flocks up to 600 birds.
3. Sharp-tailed Sandpiper: once abundant on the Swan River - now only 5 - 10 birds are seen at once.

The above three species form the large mixed flocks of small waders which you have seen.

4. Grey Plover - flocks up to 60 birds.
5. Bar-tailed Godwit - up to 90 birds.
6. & 7. Knot & Great Knot - difficult to separate from flocks of up to 70 birds.
8. Avocet - very distinctive bird - flocks up to 200 birds.
9. Black-winged Stilt - similar to avocet - flocks up to 20 birds.
10. Greenshank - common in Alfred Cove - 10 or so birds.
11. Common Sandpiper - also in Alfred Cove - identified by its "Stiff flight" and its habit of "bobbing" head and tail.
12. Red-capped Dotterel - small parties on the dry sand.

You may also see the occasional:-

13. Eastern Golden Plover
14. Large Sand-Dotterel
15. Whimbrel
16. Black-tailed Godwit.
17. Grey-tailed Tattler

18. Terek Sandpiper

19. Turnstone

The above nineteen species of birds are "waders". With the exception of the Avocet, Black-winged Stilt and Red-capped Dotterel, they all breed in the northern hemisphere, migrating here for our summer. They are, therefore, referred to as "transequatorial migratory waders".

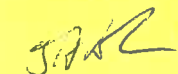
In addition to waders you will also see:-

20. Black Swans
21. Grey Teal - very abundant.
22. Black Duck - few.
23. Mountain Duck - numerous.
24. White faced Heron - occasional
25. White Egret - infrequent
26. Caspian Tern
27. Crested Tern.
28. Fairy Tern
29. Whiskered Tern
30. Silver Gull
31. Pied Cormorant
32. Little Pied Cormorant
33. Black Cormorant
34. Little Black Cormorant
35. Pelican.

The book to use for field identification is "Field Guide to Australian Birds" by Peter Slater. Serventy's "Birds of Western Australia" is also useful to refer to.

Thank you once again for the trouble you went to to report the deaths of those Red-necked Stint.

Kind regards,



J.A.K. LANE,
Research Officer
Fauna Research Branch.

October 16, 1973.

↑
See file entry regarding
of death of Red-necked
by JL at Pelican Pt (Area 2000)
on 29/3/1973


12/8/2014

Mr. J. Smith,
Town Planning Department,
Oakleigh Building
St. George's Terrace
PERTH 6000

14 SEP 73

Dear Mr. Smith,

In reply to your request of ~~the~~
12th September for information on this department's
proposals for ~~the~~ reservation of tidal flats
at Applecross ^{and South Perth}, I enclose a brief report
on the subject. Plans showing the
precise boundaries of the areas to ~~be~~ be
reserved are held by the Department of
Lands and Surveys.

Yours faithfully,

J.A.K. LANE

RESEARCH OFFICER

FARNA RESEARCH BRANCH

WADING BIRDS ON THE SWAN RIVER ESTUARY

The following species of wading birds have been recorded on the tidal flats of the Swan River Estuary. These figures are given. These indicate the number of birds maximum number of birds counted at any one time during the 1972/73 water season.

- ~~Red-kneed Dotterel~~
- ~~Hooded Dotterel~~
- ~~Large Dotterel~~
- ~~Red-capped~~

- 1 Large Dotterel
- 2 Grey Plover (67)
- 3 Eastern Golden Plover (5)
- 4 Eastern Curlew
- 5 Whimbrel
- 6 Black-tailed Godwit
- 7 Grey-tailed Tattler
- 8 Common Sandpiper
- 9 Terek Sandpiper
- 10 Curlew Sandpiper (600)
- 11 Sharp-tailed Sandpiper (70)
- 12 Pectoral Sandpiper
- 13 Greenshank
- 14 Red-necked Stint (4,000)
- 15 Great Knot (60)
- 16 Knot
- 17 Sanderling
- 18 Oriental Pratincole
- 19 Turnstone
- 20 Bar-tailed Godwit (92)

- 21 Red-kneed Dotterel
- 22 Hooded Dotterel
- 23 Red-capped Dotterel
- 24 Black-fronted Dotterel
- 25 Avocet (200)
- 26 Black-winged Stilt
- 27 Banded Stilt
- 28 Australian Pratincole

The first twenty species are summer visitors to Australia known as "trans-equatorial migratory wanderers." They migrate south from their breeding grounds in northern Russia and Alaska each year, arriving on the Swan River during late September and October. They remain on the Swan through the summer months, returning to their breeding grounds in mid-April. To illustrate, a Sharp-tailed Sandpiper banded at Pelican Point on January 5, 1961 was killed in Siberia just north of the Arctic Circle on May 28 of the same year.

Many of these species migrate through Japan and are therefore covered by a Treaty for "The Protection of Migratory Birds and their Environment" which is shortly to be signed by the Japanese and Australian governments. Inter alia this treaty specifies that "each government shall endeavour to establish sanctuaries and other facilities for the protection and management of migratory birds ~~on~~ within its territory." These species are also the subject of a recommendation of the House of Representatives Select Committee ~~off~~ on Wildlife ^{Convention} which reads "that Australia seek unilateral agreements with the governments of Papua New Guinea, New Zealand and Japan to conventions for the protection of all birds species which, in the course of their migration, traverse parts of these countries and Australia."

The remaining eight species ~~of~~ are resident birds. That is, they breed within Australia.

All twenty-eight species of waders are entirely dependent upon the tidal flats (areas between high and low water marks) of Point Haylen, Kwinana Freeway and Pelican Point for their food supply. These three tidal flats are the only areas of the Swan River which harbour the polychaete worms, crustacea and molluscs upon which waders feed. The waders move in large flocks from one area to another depending upon tidal, climatic and other factors which influence food availability. Thus no one area of the Swan River ~~can~~ is able to support the waders at all times of the year. All three areas are therefore essential for the maintenance of present bird numbers.

The tidal flats of the Pt. Haylen area are more important as wader habitat than are those of Pelican Point and ~~Point Haylen~~ ^{Kwinana Freeway}. Although later in the year waders feed on all three tidal flats, in September and early October they are completely dependent upon the Pt. Haylen flats for their food supply. ~~It~~ It is my belief that should the Pt. Haylen flats be destroyed, waders would become almost entirely absent from the Swan River.

Because of the importance of these findings, Mr. B. K. Bowen, Director of the Department of Fisheries and Fauna, and Chairman of the ~~the~~ W.A. Wild Life Authority, has approached the Under Secretary for Lands with a view to reserving the Pt. Haylen and Kunina Freeway tidal flats as fauna sanctuaries. It is of importance to note that the value of the Pt. Haylen tidal flats as a sanctuary for migratory birds becomes more evident as research on this subject is undertaken. There is no doubt that this area should be reserved as part of Western Australia's contribution to the conservation of migratory species of birds.

SPOTLIGHTING

— SWAN RIVER

Tues 20 FEB 73

— with BAB

Start ~~at~~ 2150 hrs : Some ~~amount~~ along
 P. Taylor shoreline first. Saw scattered
~~waterfowl~~ water along shore edge - mainly
C. alexandrina, some saw feeding on
 covered flats - side right in. No
 large flocks of water.
 Also saw one fox.

Komara Jersey - scattered water (*C.*
alexandrina, *C. ruficollis*, *C. (pernigine)*)
 few ducks.

Pelican Pt. - large flocks of water
 resting at point, most appeared to
 be on west side of point.
 Finish 2330 hrs.

Wed. 28 FEBStart. ~~at~~ 2330 hrs : with A. Lynch.

Some along Pelican Pt. only. Very large flocks
 of water collected along north side
 of point. Mainly water & sandpiper
 size. Saw just to see BTG. ~~at~~
 at night.

Also saw 4 rabbits.

234 Burke Drive ,
Alfred Cove ; 6154

18/12/72.

Dear Mr. Lane ,

I haven't acknowledge your interesting letter preferring to wait till I could get a chance of examining the book you mentioned. I've looked round the bookshops unsuccessfully but on Friday I thought I'd take another look at Albert's , and there they had a small pile of them in a prominent position . It only took the briefest glance at the pages to decide that this was the finest bird book I've ever seen. The team who prepared the material ~~are~~ certainly to be congratulated on the new standard they have introduced in bird identification . I bought one of course .

My bird watching I'm afraid hasn't been too successful this season . I don't seem to strike just that level of tidal water which brings the birds close in . On every occasion they are well out . Next time I'll try about 5.a.m when the water is beginning to recede.

Your figures were very helpful . The only bird I might add would be the occasional sanderling I think I've recognised at both Rottnest and Matilda Bay . I'm going on the generally light coloured appearance , size , and particularly its way of moving along , trotting without any flying , throwing its feet out like a trotter . My bird however could be a female red necked dotterel who has isolated itself.

Certain birds I've missed greatly to my regret ; the black winged stilt, the godwitt . Even the ducks are at present notable absentees although I have seen them lately in fair numbers .

I have seen an occational greenshank , and a regular group of avocets . I have been watching a bird smaller than the grey plover and less dumpy less lonely and less serious looking , This perhaps is the golden plover . Fairly long legs and short dark beak ; generally darkish brown colour but lighter round the head which is small in relation to the body .

The little stints are all there but I can't find the curlew sandpiper among them . A small sandpiper about eight inches in comparison to the stint's 6 inches has a shortish beak (certainly not curlew curved) and perhaps this might be the common s.p. or the sharptailed s.p. General colouring is considerably darker than the stint .

The turn stone so conspicuous at Rottnest because it is not a very shy bird I have never seen here .

There are always a few red necked dotterel using both beach and sand What puzzles me is that most appear to be females lacking the red top and the prominent black streak through thr eye .

At Rottnest lately I noted the return of the stilts; I fancy they were a little later in return . They make a magnificent sight assembled in mass standing in Government House Lake . A recent proposition to use that lake for power skis brought from me a terrific protest and I succeeded in a resolution that no power boats of any kind be permitted on the lake system without reference to the conservation authoirty .

I do hope you might find it possible to drop me a note when you have something of special interest .With the fine book at hand I'll be motivated to keep trying.

In the meantime all my best wishes for the Xmas season and especially fo for the new year . May it be full of interesting things for you

Yours sincerely
Tom Sten

| | | | |
|-----------|------------|-----------|-----------------------------------|
| ESTUARY | SLYVA R. | DATE | 13 NOV 72 |
| LOCATION | Pelican Pt | TIME | Start 1403 hrs Finish 1445 hrs |
| PHOTO No. | | GRAPH No. | |

BEHAVIOUR KEY

| | | | |
|----------|----|-------|----------------|
| FEEDING | f | DRY | dy |
| RESTING | r | MOIST | m |
| PREENING | p | EDGE | e |
| FLYING | fl | DEPTH | d ⁿ |

| | | | |
|------|-----------------|-------|--------------------|
| TIDE | quite low | CLOUD | Overcast - drizzle |
| WIND | light N? breeze | TEMP. | mild |

| AREA No. | SPECIES | BEHAVIOUR | TOTAL | COMMENTS |
|----------|--------------------|---|-------|----------|
| | Bar-tailed godwit | | 21 | |
| | Great Knot | | 4.5 | |
| | Grey Plover | | 5 | |
| | Whimbrel | | 9 | |
| | Black-winged Stilt | | 1 | |
| | Red-capped Puffin | | 4 | |
| | Little stint | mixed flock of 2-3 thousand Some flies to Pt Douglas while I was counting. | 9 | |
| | Curlew sp. | | | |
| | Red-necked Plover | | 2 | |
| | Caspian Tern | | 2 | |
| | Crested Tern | | 1 | |
| | Silver Gull | | | |
| | Greenlet | | 1 | in lake. |

| | | | |
|-----------|--------------------------|-----------|--------------|
| ESTUARY | | DATE | |
| LOCATION | Rt. Ingle Alfred Cove | TIME | 1521 1800 |
| PHOTO No. | | GRAPH No. | |

BEHAVIOUR KEY

| | | | |
|----------|----|-------|----------------|
| FEEDING | f | DRY | dy |
| RESTING | r | MOIST | m |
| PREENING | p | EDGE | e |
| FLYING | fl | DEPTH | d ⁿ |

| | | | |
|------|--|-------|--|
| TIDE | | CLOUD | |
| WIND | | TEMP. | |

| AREA No. | SPECIES | BEHAVIOUR | TOTAL | COMMENTS |
|-------------|-------------------|--|-------|------------|
| | Mountain Duck | | 5 | |
| | Grey Teal | | 114 | |
| | Swan | | 3 | |
| | Bronze | | c 190 | |
| | Fairy tern | | 2 | |
| | Red capped Gull | | c 20 | |
| | Bl. Skitt | | 4 | |
| | Green-winged | | 13 | |
| | Grey Plover | | 56 | |
| | Golden Plover | | 2 | |
| | Kingbird sp. | | 4 | |
| | Little bit | | 55' | |
| | Kookoi - | 55' { approx 10 birds } approx 45' ground birds | 55' | |
| | Br. veiled godwit | | 41 | |
| | Shear gulls | | | |
| | Lal | | | |
| | LBC | | | |
| | PC | | | |
| | BC | | | |
| | Petrels | | 2 | |
| Alfred Cove | | didn't look closely agreed to be only 1 | | Common Sp. |

Mr. T. Sten,
234 Burke Drive,
ALFRED COVE. W.A. 6154.

7th November, 1972.

Dear Mr. Sten,

As promised, below is a list of waders which I have positively identified at Pt. Waylen.

I have indicated the number of each species which you are likely to see on an average day at this time of the year.

| | | | |
|-------------------------|---|---------------|--|
| Little Stint | - | 4,000 | |
| Curlew Sandpiper | - | 600 | from mixed flocks. |
| Sharp-tailed Sandpiper- | | 70 | |
| Red-necked Avocet | - | 120 | |
| Grey Plover | - | 30 | |
| Eastern Golden Plover | - | 5 | |
| Black-winged Stilt | - | a few | seen occasionally. |
| Bar-tailed Godwit | - | 15 | |
| Greenshank | - | 10 | |
| Red-capped Dotterell | - | 15 | |
| Common Sandpiper | - | occasionally, | a few are always seen in Alfred Cove. |
| Ruddy Turnstone | - | very | occasional. |
| Banded Stilt | - | very | occasional. |
| Terek Sandpiper | - | rare. | |
| Black-tailed Godwit | - | rare. | |

Kind Regards,

JAK

J.A.K. IANE.
RESEARCH OFFICER.
FAUNA RESEARCH BRANCH.

Mr. Jim Lane.

Mr. B.R.C. Connell,
Planning Officer,
Town Planning Department.

17.4.72.

Dear Brian,

As promised, here is a summary of my observations on the wildlife of the Canning River between the Riverton and Nicholson Rd. bridges.

1. Hydrology and Vegetation

The hydrology and vegetation of this stretch of the Canning River are greatly influenced by the Kent St. Weir.

a) Below the weir the salinity of the river fluctuates in a yearly cycle. Salinity rises steadily during summer due to the tidal movement of salt water into the Swan - Canning River system from the sea. Salinity reaches a peak in late summer. The first heavy rains of winter flush this salt water out of the river, replacing it with freshwater.

The vegetation below the weir is therefore a "salt water-tolerant" plant association. The islands and banks of the river are lined with swamp sheoke (Casuarina glauca), paperbarks (Melaleuca sp.) and saltwater reeds.

There are, however, two noteworthy freshwater swamps situated close to this saltwater influenced section of the river. These are the swamps of Riverton (at the junction of High Road and Riley Road), and Wilson (near Kent Street).

The shoreline of the first has been cleared of much of its vegetation, however the second contains large banks of bulrush (Typha angustifolia).

b) Since the Kent Street Weir prevents the incursion of salt water further upstream during summer, the water of this upper region of the river is fresh all year round. The vegetation is correspondingly of a freshwater variety. The banks are still lined with paperbark trees, however the Casuarina glauca is entirely replaced by the Flooded Gum (Eucalyptus rudis). The saltwater-tolerant reeds are also replaced by the bulrush, a typical freshwater rush.

2. Wildlife

The following species of birds were seen within the study area during two surveys by canoe:

a) Above and below the weir

White Egret

White-faced Heron

Black Duck
Grey Teal
Dusky Moorhen
Coot
Pied Cormorant
Little Pied Cormorant
Little Black Cormorant
Australian Little Grebe
Hoary-headed Grebe
Silver Gull
Whistling Kite

b) Above the weir only

Black Swan
Night Heron
Sacred Kingfisher
Reed Warbler
Australian Darter

c) Below the weir only

Greenshank
Tattler
Perigrine Falcon
Osprey
Caspian Tern
Crested Tern

It is very likely that another 7 species of birds which were not seen during the survey frequent the reeds and rushes of this stretch of the Canning River. These birds are very secretive in their habits and are therefore rarely seen. Generally they feed, roost and nest in large banks of rushes. These species are:

Spotless Crake
Marsh Crake
Spotted Crake
Banded Landrail
Lewin Water Rail
Cormorant
Little Grass-bird

The muddy shallows of the Riverton lake form the only suitable feeding grounds for flocks of wading-birds within the study area. On one visit 35 White-headed Stilt and 56 Red-necked Avocet were seen feeding in the shallows. Other species on this lake were:

Black Swan
Black Duck
Grey Teal

**White-faced Heron
Little Black Cormorant.**

In conclusion, it should be stressed that the carrying capacity (ability to support wildlife) of any area is determined by the amount of natural vegetation present. Any reduction in the area of natural vegetation, therefore, has a corresponding effect on the carrying capacity of the area. The banks of bulrushes in the lake near Kent St., and also along the riverbank upstream from the weir, are particularly important in this regard. It is therefore important that every effort be made to retain these areas in their natural state.

J.A.K. Lane.
Research Officer.
Fauna Research Branch.

Dr. D.L. Serventy,
Wildlife Research,
C.S.I.R.O.
Clayton Road,
HELENA VALLEY. W.A. 6070

Mr. J. Lane.

9.4.72.

Dear Dr. Serventy,

Your book "Birds of Western Australia" shows only two records of the Marsh Sandpiper (Tringa stagnatilis) in the south of this state. These are Lake Jandakot 1950, and Lake Cooloongup 1956.

At 1600 hours last Tuesday (27th March) I saw two birds of this species at Pt Waylen (Swan River). The birds were resting on the shoreline, the tidal flats being well-covered. Identification was positive. I was able to walk within 20 yards of the pair and had 10 by 50 binoculars plus Slater's "Field Guide to Australian Birds" with me at the time. I watched the birds for some 5 minutes before putting them to flight. The following characteristics were used for identification.

- 1) long straight beak - not upturned like the Greenshank.
- 2) plumage and olive colour of legs.
- 3) small size - a Grey Plover was standing with them for comparison.
- 4) white rump and lower back in flight.
- 5) legs extending well beyond tail in flight.
- 6) cry was "tew" instead of characteristic "chew - chew - chew" of Greenshank.

Andrew Burbidge has also asked me to tell you that he and R.F. Dear saw a pair of the Marsh Sandpiper at Kyalina Pool, Hooley River, Hooley Station in September 1969. This is recorded in the Department's report on "Millstream".

I feel sure these observations will be of interest to you.

Kind regards,

J.A.K. Lane.

Research Officer.

Fauna Research Branch.

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|------|---|------------------------|-----------------|--------------|-----------------|------------|--|------------------|--|
| 3/17/70 | 1420 | AUF COVE | Low. | 20-25 SW breeze | overcast 70° | None | | most of the mud flats exposed, so had to go out all (went from 1/2 day length) | | |
| | 1430 | PT Ueglen | Whole of flats exposed | | | Petrels | 8 | mostly feeding | | 7 on mud. in case |
| | 1530 | down of 1st road to shore + back to Pt Ueglen | | | | LITTLE PIED | 20 | mostly feeding | | |
| | | | | | | LITTLE PLECK | at least 4 | mostly feeding | | |
| | | | | | | ? | 200 | feeding | | |
| | | | | | | Sea Turtles | 7 | feeding | 2' | |
| | | | | | | ? | 120 | feeding | 0-2' | return, white sand beach, no shade |
| | | | | | | | | dark tide, blue water, long (dark water?) | | |
| | | | | | | R.N.A.T. | 56 | feeding | by depth | all birds of the |
| | | | | | | WHS | 7 | feeding | 2'-0" | the birds were scattered right over the area |
| | | | | | | Gray Seal | 17 | feeding | 3 letters | |
| | | | | | | G. Plover | 3 | feeding | edge | |
| | | | | | | Greenback | 6 | " | edge | |
| | | | | | | Little Star | 10 | " | " | |
| | | | | | | Cowbird Sp. | 3 | " | " | |
| | | | | | | Slip Tailed Sp. | | some in flock | | |

middle up (table still mostly in wet mud + above
 floor of
 about 2,000
 Cowbird Sp. in water up to log depth
 as on exposed mud

* + at least 2,000
 Curlew sp, White Sand, Redwing, some Dotterel
 feeding

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|--------|----------------------|-------------------------|----------------|----------|-------------------|---------|--------------------|---------------------------|---|
| 3/12/70 | 1550 | Edge of boat rock | | | | Corry Duck | 140 | feeding + noisy | about 10 depth | |
| 3/12/70 | 1600 | 1st Stop Pebble | High covered | | | Crowded Cappin | 6 1 | noisy " | | in same offshore " |
| | | 2nd | | | | 10 of | | | | |
| | | 3rd | | | | 10 of of | | | | 10 of pebbles outermost edge of flats |
| Today | really | inhabits | inhabits | of | P. Dyer. | Strong | 34 | groups | feeding | on Fresno due to various + breeding water. Hatched hills at off shore beaks + flats are probably upward |
| 3/12/70 | 1745 | Pebb. Pt | High wind covered | 20-30 knots | fine | Pebbles VHS | 75 5 | nest nest | | |
| | | | | | | R.N. Av L.S.L. | 13 6 | Retreat Retreat | 105 depth edge edge | |
| | | | | | | G.P. Av | 2 | 1 1 | | |

234 Burke Drive,
Alfred Cove 61524
1. 4. 70

Dear Mr Lane.

Thanks very much for the bird list. I find I've identified all but the Sharp-tailed Sandpiper. I think you must have inadvertently overlooked the Red-necked Avocet as I see it regularly in bunches up to a dozen. This + the white-headed Stilt are two beautiful birds in their natural habitat.

I've seen an odd sanderling here + at Rottneest.

Two birds here I'm not sure of. One occurs in small numbers well scattered in feeding. Its short bill seems to place it with the Plover-dothrell type + by general markings it seems to answer to the description of the Eastern (Pacific) Golden Plover.

The other has a rather long sharp bill and seems to fit most of the description of the Knot (hesser).

For the past few weeks it has been difficult to see many because tides have been exceptionally high. The migration no doubt is taking place now.

Thanks too for the name of the booklet + waders. By a lucky stroke Allan Ward of Rottneest gave me a copy a couple of years ago. It is an excellent book.

Many thanks again

Tom Sten

(17)

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behavior | Depth of Feeding | Comments |
|------------------|------|--|------|-------------------|------------------|---------------|------|---------------------|-------------------------------|----------|
| Wed. 14/11/90 | 0930 | Lincoln Rd Alfred Cove | in | light Westerly | overcast hazy | G.P. | 1 | inactive feeding | edge of water - on dry mud | |
| | | | | | | Greenstake | 1 | " | " | |
| | | Dept Anakin | " | " | " | Curlew Sp. | 9 | " | " | |
| | | Dept Anakin | " | " | " | Curlew Sp. | 15 | feeding actively | along edge of shore | |
| " | 1000 | Pt Wynne " activity on the shore between Isl. → S.E. | " | " | " | Little St | 50 | " | " up in water depth | |
| | | | | | | Curlew Sp. | 180 | " | water depth | |
| | | | | | | BTC | 2 | " | Water depth | |
| | | | | | | G.P. | 26 | " | edge of shore | |
| | | | | | | WHS | 2 | " | water depth | |
| | | | | | | Rn Av | 2 | " | " | |
| | | on Pelican Is. or Pt Wynne | " | " | " | Great Tern | 9 | resting | | |
| | | | | | | Petrels | 7 | " | | |
| | | | | | | Lesser Pied | c 30 | " | | |
| | | | | | | " Black | c 10 | " | | |
| | | | | | | Black | 3 | " | | |
| | | Pt Wynne on beach/dry sand | " | " | " | LS | 200 | resting | | |
| | | | | | | Red-legged D. | 20 | " | | |
| | | | | | | G.P. | 5 | " | | |
| | 1030 | 100 yds east of Wynne Rd. | " | " | overcast sun | Little St | c 80 | Feeding | water depth → edge | |
| | | | | | | Red-legged | c 30 | " | water depth | |
| | | | | | | WHS | " | " | " | |
| | | | | | | G.P. | 6 | " | " | |

(2)

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|------|-------------------------------|------|-------------------|-------------------|-----------------------|-------|-------------------|------------------|----------|
| 14/1/50 | 1030 | 100 yds east of Hering Rd. | - | light westerly | occasional sun | R. n. Br. | 9 | feeding | water depth | |
| | | | | | | Cr. T. 100 | 130 | " | shallowing depth | |
| " | " | " | " | " | " | Sterna | 7 | resting on bar | | |
| " | " | " | " | " | " | BTG | 1 | feeding | water depth | |
| " | 1045 | " | " | " | " | LS | c 80 | - | edge | |
| " | " | " | " | " | " | GP | 3 | resting | | |
| " | " | Booker St. | " | " | " | G.T. | 13 | - | | |
| " | " | Roberts | " | " | " | Sterna | 9 | feeding | near depth | |
| " | " | " | " | " | " | LS | c 100 | " | edge | |
| " | " | " | " | " | " | G.T. | c 100 | resting + feeding | shallow | |

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|---------|--|---------|-----------------|----------|--------------------|-----|-----------------|------------------|----------------------|
| 12/1/70 | 1830 hr | Alfred Cove sample | well in | still | overcast | White-headed Stilt | 16 | ? | | |
| | | | | | | Grey Plover | 20 | ? | | |
| | | | | | | W.F. Hawk | 1 | feeding | c 4" | |
| | | | | | | Greenshank | 6 | | | |
| 1840 | | Pt Weylan waters edge | - | - | - | Greenshank | 6 | feeding | shore edge | |
| | | | | | | White-headed Stilt | 3 | | feeding depth | |
| | | | | | | Grey Plover | 1 | | edge | |
| 1900 | | on church yard on edge, west of Pt Weylan | | | | Grey Plover | 24 | } perhaps more | | |
| | | | | | | Little Stilt | 50 | | | |
| | | | | | | Greenshank | 1 | feeding | | |
| | | | | | | White-headed Stilt | 50 | " | | |
| | | | | | | Rad-necked Avocet | 100 | " | | |
| | | | | | | Little Stilt | 20 | " | | |
| | | | | | | Grey Plover | 1 | " | | |
| | | | | | | Grey Teal | 300 | nesting | | |
| 1910 | | Duckier St. | | | | Grey Teal | 100 | | | |
| | | | | | | | | | | |
| 1915 | | East of Roberts Rd. | | light breezy | - | Grey Teal | 250 | on edge | | |
| | | | | | | Swans | 30 | feeding - water | | 3 on edge with ducks |

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|-----------------|---------------------------------|----------------------------------|--------------|--------------------------|-------------------|-----|----------------------|------------------|----------|
| 16-2-70 | 1005 | Lantau Rd Alfred Cove | no mud exposed | nil | drizzling wet + overcast | G. Plover | 2 | standing at edge | - | - |
| | | | | | | Greenshank | 4 | " | - | - |
| | 1015 | 2 corners of reed stand | fairly well in but feeding depth | " | - | G Plover | 3 | feeding | edge | |
| | | | | | | Curlew Sp. | 20 | " | 2" | |
| | | | | | | Br Tailed G. | 4 | " | " | |
| | | | | | | Black - - | 7 | feeding | - | |
| | | | | | | White headed Skit | 4 | feeding | 3" | |
| | | | | | | Red necked Avocet | 11 | " | 1/2 depth | |
| | | | | | | Black Cormorant | ? | rest on patch island | - | |
| | | | | | | Pheasant | 1 | on " | - | |
| | 1030 | next stop | " | " | " | Grey Teal | 25 | feeding | dark down | |
| | | | | | | Little skt | 5 | " | edge | |
| | 1030 | next stop | " | " | " | G Plover | 13 | feeding | edge | |
| | | | | | | BTG | 2 | " | edge | |
| | | | | | | Rn Av | 2 | " | feeding depth | |
| | | | | | | Little skt | 9 | " | edge | |
| | | | | | | Curlew Sp | 6 | " | edge | |
| | | | | | | Gr. Teal | 50 | " | dark down | |
| | 1040 | one edge of of Pheasant Skt | " | " | " | Swan | 1 | preening on edge | - | |
| | | | | | | G P | 4 | feeding | edge | |
| | | | | | | Red capped D | 1 | feeding | edge | |
| | | | | | | G Teal | 13 | feeding | dark down depth | |
| | 1050 | next sheet water | " | " | " | Swan | 3 | preening on edge | - | |
| | | | | | | " | 23 | feeding | next depth | |
| | | | | | | G Teal | 30 | " | on edge water | |
| | 1108 | east end of Cabbage at McGee | no mud exposed | " | " | G Teal | 150 | feeding | dark down depth | |
| | | | | | | Rn Av. | 11 | " | feeding depth | |
| | | | | | | WHS | 2 | " | " | |
| | | | | | | Common Sp | 1 | feeding | - | |

Conclusions 1) fence existing along N boundary of Civil section since
right road 2) bays a - clear from edge 3) clean edge
2) marks for observation - clear to plan.

NBS 4) will decide & scan before time enough for land feeding
it so gets edge if you wish but preserve state & wood

5) What to do with edge on down side of fence

plot position of fence & marks on plans

6) need along edge because must be preserved.

| Date | Time | Location | Tide | Wind | Weather | Species | No. | Behaviour | Depth of Feeding | Comments |
|---------|------|---------------------|------|----------------------|-----------------------|-------------------|------|-------------------|---------------------|----------|
| 16-2-90 | 1120 | Foxing 1st Stage | in | light wind SSW | Wet drizzle | Gr Teal | 45 | on edge - feeding | down to line + edge | |
| | | | | | | GP | 3 | feeding | edge | |
| | | | | | | Rufous-tailed Gr. | 2 | " | 3" | |
| | | | | | | WHS | 1 | " | 1" | |
| | | other stages | | | just taken more ducks | | | | | |
| 16-2-90 | 1145 | Pelican P | in | " | " | Gr Teal | 4 | in lake | | |
| | | | | | | Rn Gr. | 2 | feeding | 3" | |
| | | | | | | Gr Plover | 7 | " | edge | |
| | | | | | | Black-tailed G. | 7 | " | edge 3" | |
| | | | | | | Bar-tailed G. | 8 | " | edge - 3" | |
| | | | | | | Canvas Sp. | 23 | " | edge | |
| | | | | | | Little Skuas | 5 | " | edge | |
| | | | | | | Fairy Tern | 12 | on edge | | |
| | | | | | | Long Tern | c 8 | pt | | |
| | | | | | | Crested Tern | c 8 | pt | | |
| | | | | | | Pelican | 2 | pt | | |
| | | | | | | Stags | c 15 | pt | | |

Sed 3rd December.

1320 hrs - Pelham Pt.

29 Red-capped Pottrel, 17¹⁵ Red-necked Plover, ~~15~~ Grey Plover
22 Grey Teal, 7 Crested Tern, 2 Bar-tailed Godwit.

The day was hot, with a light easterly breeze. Only $\frac{2}{3}$ of the normal mud flat was exposed. The birds were not feeding (except the ducks which feed in the weed at the end of the point), presumably because normal feeding areas were too deep.

1400 hrs - Flats extending west of Pt Weylen:

Large numbers of waders & ducks were congregated here, feeding, since large areas of feeding grounds were still exposed. The waders feed over the flats right up till the end of the mud at the beach.

1500 hrs - Freeing:

Due to the higher water level only small islands of the mud flats were present. Numerous birds were collected on these islands, but not so many as usual. Few were feeding.

Conclusions: Pelham Pt flats - only the interior of the flats are suitable for feeding \Rightarrow no feeding unless water is low

Pt Weylen - all areas of the flats are available for feeding whether tide low or moderate

Freeing - easily covered by small tide, leaving islands only & little feeding area.

\Rightarrow Freeing Pt Weylen - more suitable as far as tides go.

Frid 3/12/69

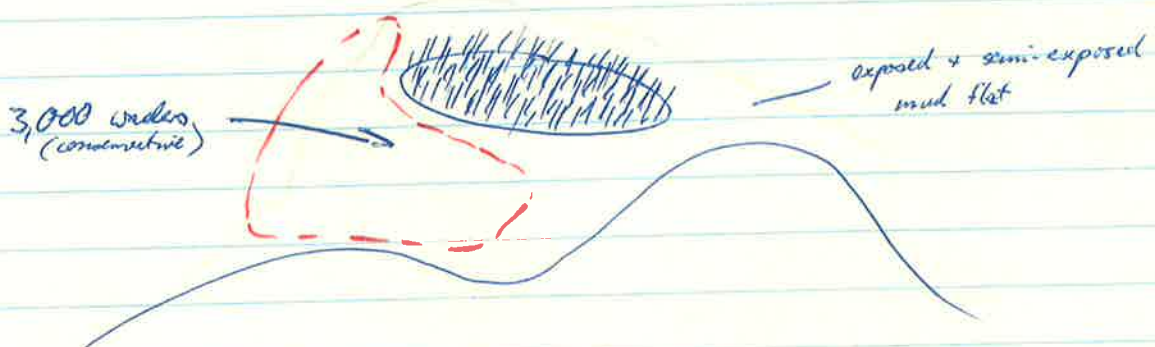
1400 hrs - Alford Cove.

Hot, with south westerly breeze, slight. Tide in partly.
All of the flats were covered with water except for
the bars at the extremities which formed a chain
of islands.

Blades and ducks and 2 swans were feeding along
a 15' wide strip of mud at the shore-edge.
There were none on the submerged flats.

Pt Vaylen → Roberts St.

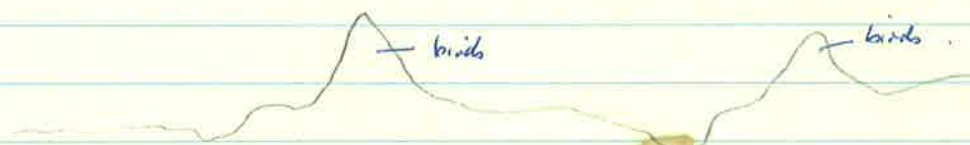
| | |
|-----|------------------------|
| 250 | Grey Teal |
| 2 | Black Duck |
| 20 | Swans (2 on Beach) |
| 16 | Mountain Duck |
| 13 | Pelicans |
| 19 | Bar-tailed Godwit |
| 3 | Grey Plover |
| 3 | Red-capped Dotterel |
| 31 | Red-necked Avocet |
| 12 | White-headed Stilt |
| 21 | Little Stint |
| 6 | Pied Cormorant |
| 11 | Lesser Pied Cormorant |
| 2 | Lesser Black Cormorant |



The 3,000 included Curlew Sandpiper, Grey Plover, Little Stint,
Red-capped Dotterel, Sharp-tailed Sandpiper, Bar-tailed Godwit.

Freeway 1500 hrs - Same conditions as at Pt Llyn, except sea breeze a little stronger. All the flats were covered with water & the birds were collected along the beach and on small peninsulas into the water

There:



- 42 Little Stint
- 31 Curlew Sandpiper
- 360 Grey Teal
- 350 Waders (mainly Curlew Sandpiper and Little Stint)
- 23 Red-necked Avocet
- 2 White-headed Still.
- a few Red-capped Dotterel

These birds (especially the ducks, which took off as soon as I stepped out of the car) were very easily disturbed and flew to new positions along the freeway.

Pelican Pt. 1530 hrs

Same conditions as above, mud flats covered about $\frac{3}{4}$ of the way in. The Curlew Sandpiper and the White-headed Stilt were the only birds feeding (also the Red-necked Avocets on the lake & some of the Grey Teal)

- 55 Grey Teal
- 11 White-headed Stilt (these were feeding on the flats closer to the car park.)
- 100 Red-necked Avocet
- 52 Curlew Sandpiper
- 13 Pelican (on i.l.t.)
- 6 Crested Tern

- 1 Caspian Tern
- 2 Red-capped Petrel
- 3 Grey Plover

Summary: The larger the numbers, the more sensitive the birds seem to be towards disturbance (ie take off earlier). Today's results and Wed 3/12 results tend to suggest that birds from Pelican Pt. and especially from the Sireway, ~~are~~ congregate at Pt. Weylen during sea breezes and/or low tides. If this is correct then the reservation of Pt Weylen as well as the other two areas, would be essential.

NB Ducks extend as far up as Roberts Rd. Also, the Swans & Pelicans feed in the weed at the very edge of the flats and this is where fishermen cast their nets. Fishing should be banned in this area for preservation of the SWAN.

2015 - Pt Weylen - very light S.E. breeze, fine. The flats were still covered with water, and the birds were collected along the shore's edge. They were exceptionally wary and flew off when I approached within about 40 yds. I recognized the calls of Grey teal, Red-necked Avocet, Little stint, Grey Plover.

At this stage there were no prawns. NB I was unable to detect any birds in Alfred Cove itself although Mr Hay said they ~~could~~ attempt to settle there at night but are ~~disturbed~~ prevented by prawns.

2100 hrs There were two parties of prawns, one with two nets, near the intersection of Burke Drive and Page St.; the other with one net ~~at~~ just south of the Pt Weylen bank. The latter caught only 6 prawns in one trawl. One of this group said he has prawned on the point previously.

Summary: Although prawning activity doesn't appear to be great, it should be prohibited due to the sensitivity of the birds at night.

Sunday 7/12/69
1515 ~~7:30~~ Pt Weylen: Strong SW breeze, all of the flats were covered with water. The little stint, grey plover, and bar-tailed godwit which were seen were flying backwards + forwards along the flats - perhaps due to disturbance. The swans were feeding extensively across the flats.

| | | |
|-----------------------|-----|---------------|
| <u>1st Checkpoint</u> | 25 | Swan |
| | 43 | Little Stint |
| | 150 | Grey Teal |
| | 12 | Mountain Duck |
| | 3 | Grey Plover |
| | 3 | Petrels |

NB 10 of the swans and all the mountain ducks were on the usual point. Even after being disturbed by 2 boys + a dog they came back. This is the only place that I have seen swans on the shore. People wandering along the beach disturbed the birds.

4 Red-capped Dotterel
 80 Little Stint
 1 Red-necked Avocet
 1 Bar Tailed Godwit
 1 Casp. Tern
 Pt Weylon { 14 Grey Plover
 115 Red-necked Avocet
 c 16 Pelicans
 c 25 White Headed Stilt.

Pelican Pt. 1630

8 White-headed Stilt
 3 Grey Plover
 150 Red-necked Avocets
 4 Pelicans
 7 Grey Teal
 30 Bar-tailed Godwit
 200 Curlew Sandpiper
 20 Crested Tern
 1 Caspian Tern
 20 Shags
 15 Little Stint.

The mud flats were covered & the birds were on
 the point on the lake (R.N., C.S., L.S., G.P.). The A. dog
 was digging holes in the sand dunes, perhaps
 for the nest of Red-capped Dotterels; there are
 many other burrows.

From a "1969-70" Field Notebook of J. Lane
14/5/2014

Wed 1200 hrs - Pelicans Pt.
14 Stationary in centre of mud
flats. Moved off as I approached & travelled
across the mud flats to the landing ramp
West of P.P.

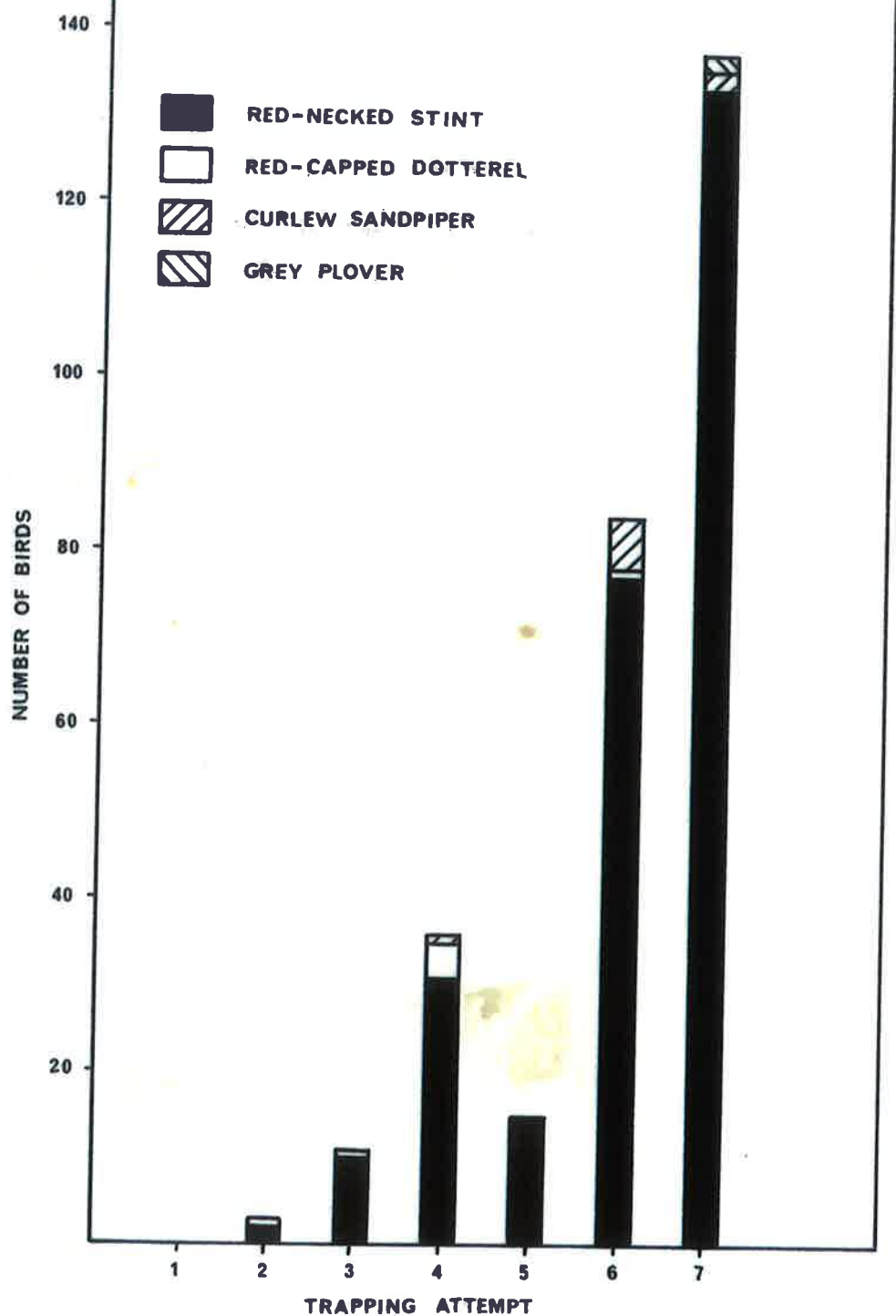
Horseshoe & Raccoon Dyt working on the East
bank of P.P., washing sand off banks into
the water to create sandy beach.
- little disturbance of wildlife
Have been working there 1 week & have
2 weeks to go.

1226 hrs - sparrows & other small
along whole of mud flats - distinct
birds.

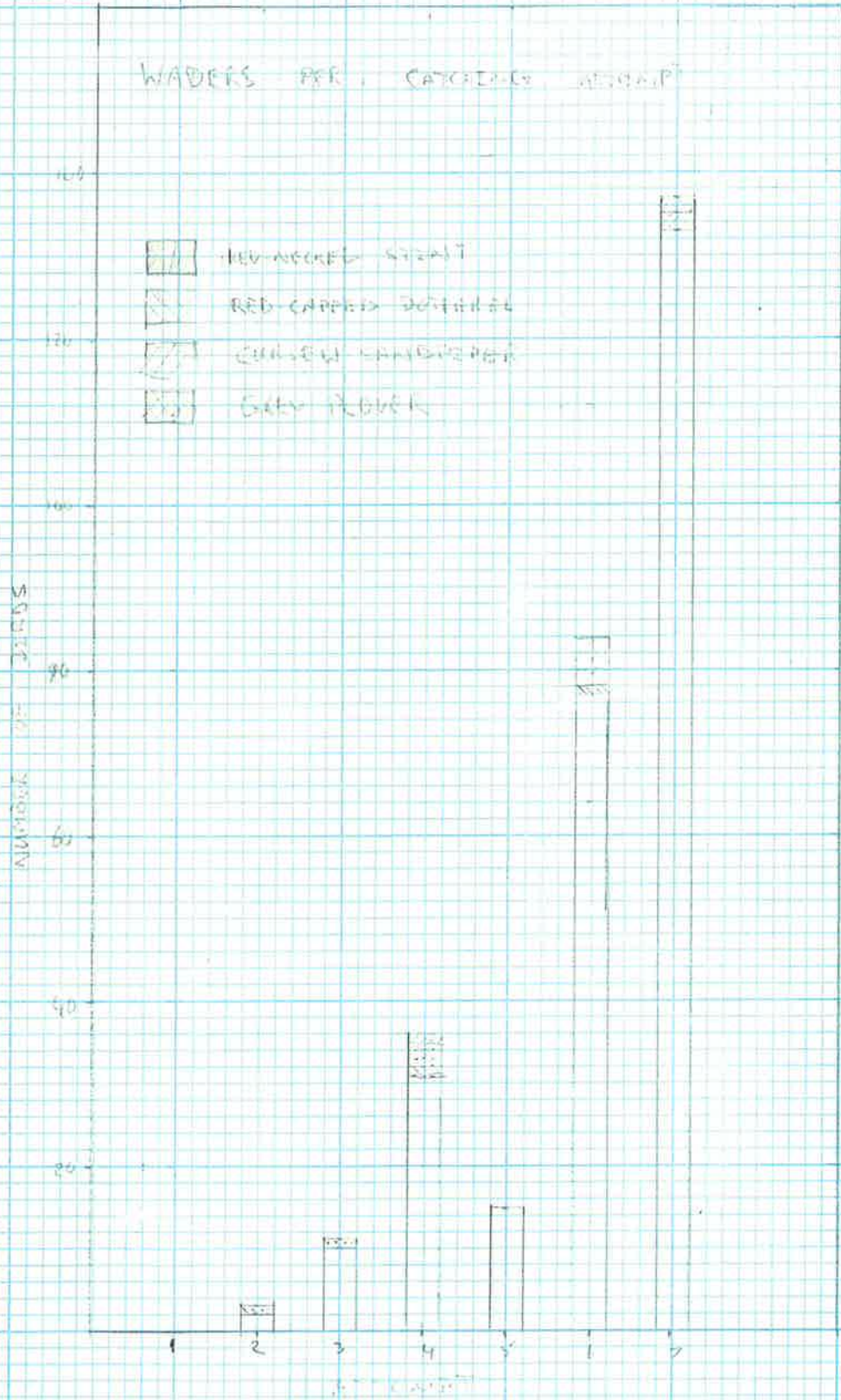
| | | |
|----------|----|---------------------------------|
| 1300 hrs | 17 | Red necked Avocets |
| | 41 | Grey Teal |
| | 7 | immature Grey Plover |
| | 24 | Bird band Cooked |
| | 26 | Crested Tern |
| | 1 | Cook Tern |

On 06/5/2014 I took this notebook (front cover missing)
from my suspension file labelled "Alfred Cove"
and added it to my field notebook collection. 06/5/2014

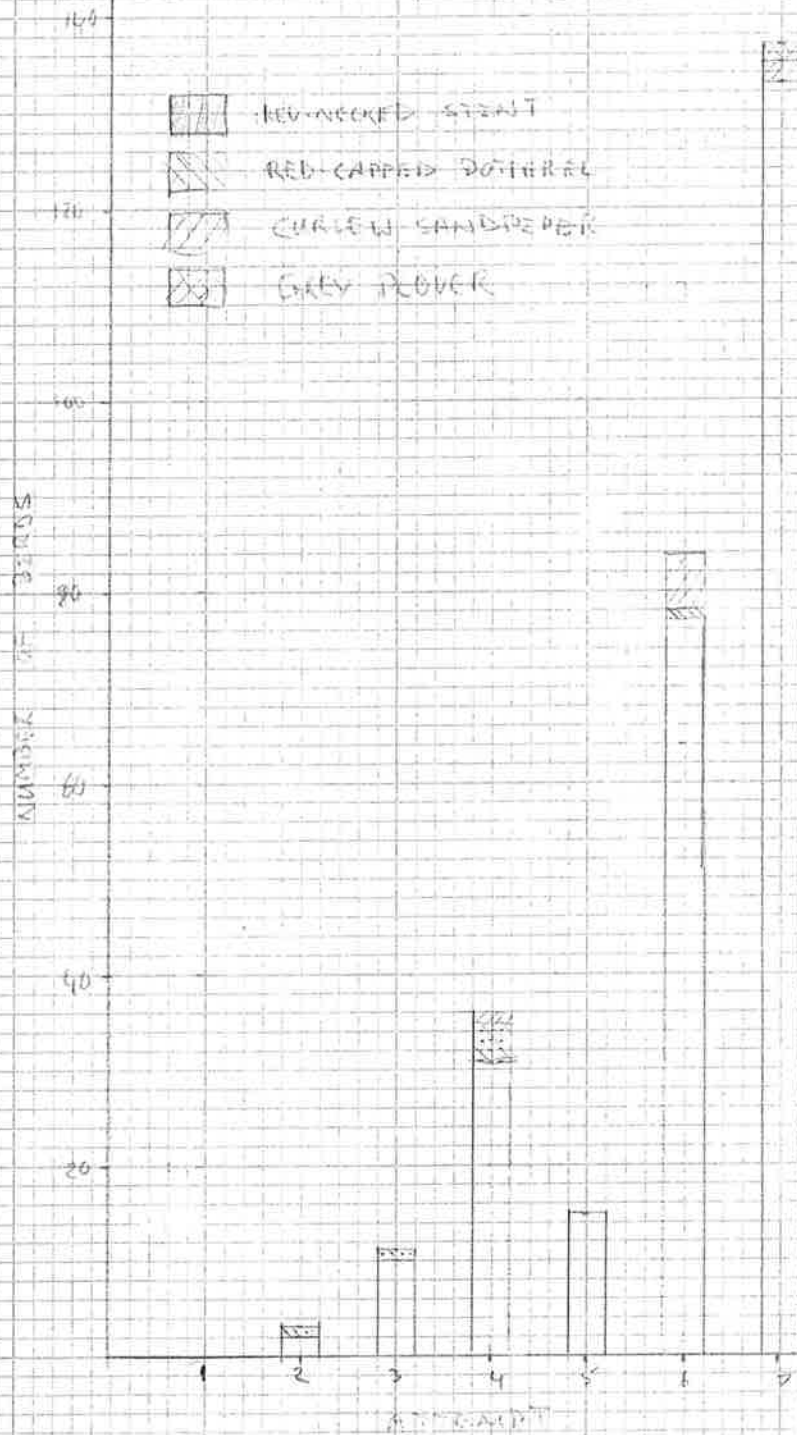
WADER TRAPPING EFFICIENCY



WADERS PER CATEGORY ASSAULT



WADERS PER 1 CARTRIDGE AREA



Jim,
Sorry about the delay
in returning this - hope
you weren't in the middle
of the dramatic chapter and
being waiting in suspense
- Hope the files and
fauna are going
okay

Penny

70
100
106
44
187

507

507
695
839
605
419
557
356
29

3978

110
60
35
55
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74
24

695

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33

839

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605

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27

557

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33
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62

386

L 6th
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51.9

17th 71

8

1 2
64 89

3
199

4
158

5
283
82
303

6
112
75
51
55
50
24
27
43
39
81
65
172

7
100
100
69
100
107
476

8
111

scribbles

64
20
59
158
303
622
476
111
2,022

scribbles

scribbles
12.37
117.35
129.66
1.88
5.00

$$\begin{array}{r} 1 \\ \hline 55 \\ 31 \\ 57 \\ \hline 133 \end{array}$$

$$\begin{array}{r} 2 \\ \hline 49 \\ 37 \\ 38 \\ \hline 124 \end{array}$$

$$\begin{array}{r} 3 \\ \hline 57 \\ 57 \\ 68 \\ 49 \\ 44 \\ \hline 275 \end{array}$$

$$\begin{array}{r} 4 \\ \hline 41 \\ 47 \\ 45 \\ 46 \\ 24 \\ 53 \\ 70 \\ 38 \\ \hline 394 \end{array}$$

$$\begin{array}{r} 5 \\ \hline 78 \\ 42 \\ 29 \\ 42 \\ 37 \\ 25 \\ 57 \\ 35 \\ 49 \\ \hline 398 \end{array}$$

$$\begin{array}{r} 6 \\ \hline 50 \\ 40 \\ 64 \\ 41 \\ 31 \\ 43 \\ 25 \\ 52 \\ \hline 410 \end{array}$$

$$\begin{array}{r} 7 \\ \hline 55 \\ 33 \\ 46 \\ 45 \\ 47 \\ 20 \\ 46 \\ \hline 308 \end{array}$$

$$\begin{array}{r} 8 \\ \hline 59 \\ 28 \\ 25 \\ 31 \\ 19 \\ 35 \\ 21 \\ 23 \\ \hline 339 \end{array}$$

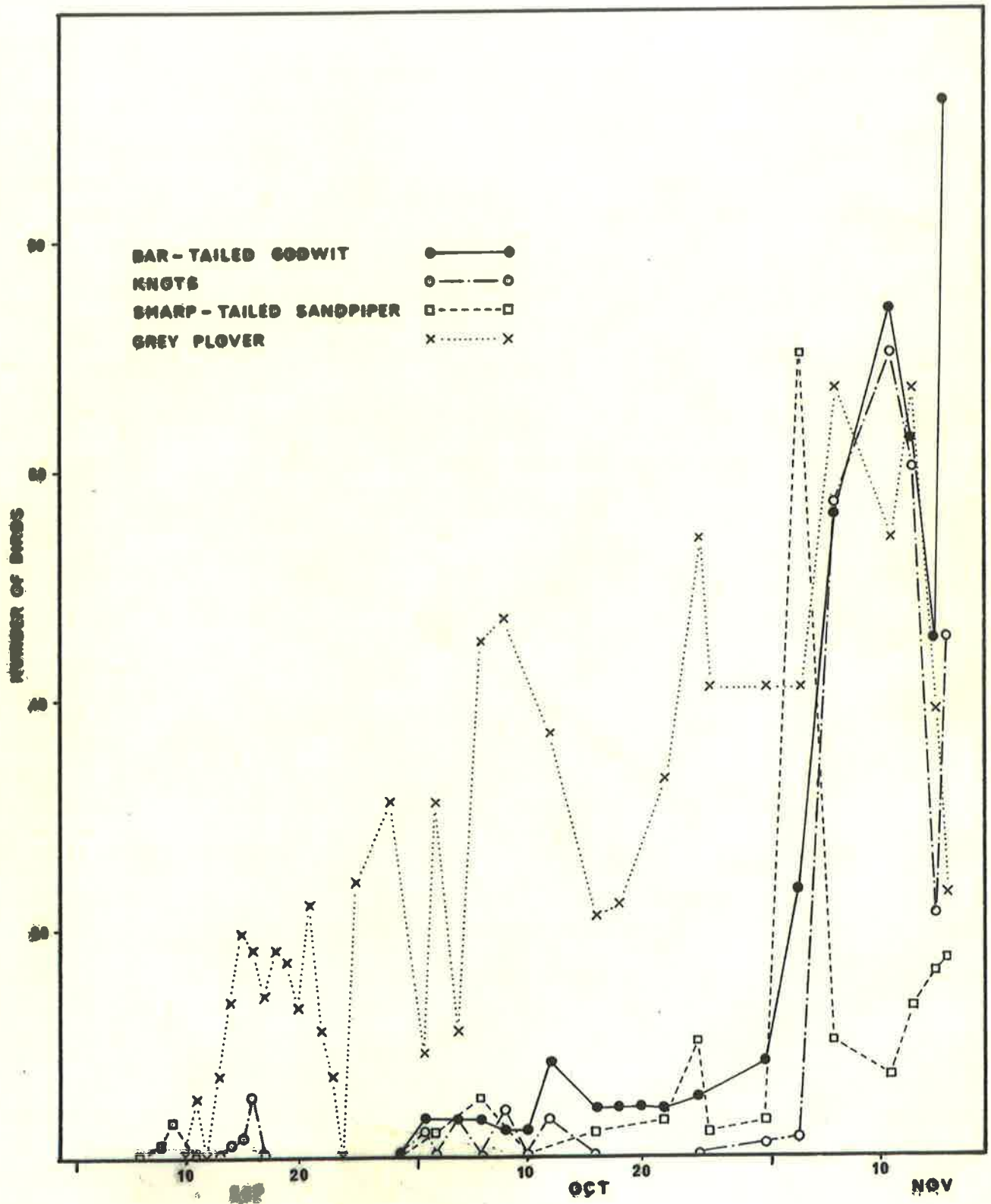
$$\begin{array}{r} 9 \\ \hline 18 \\ 18 \\ 74 \end{array}$$

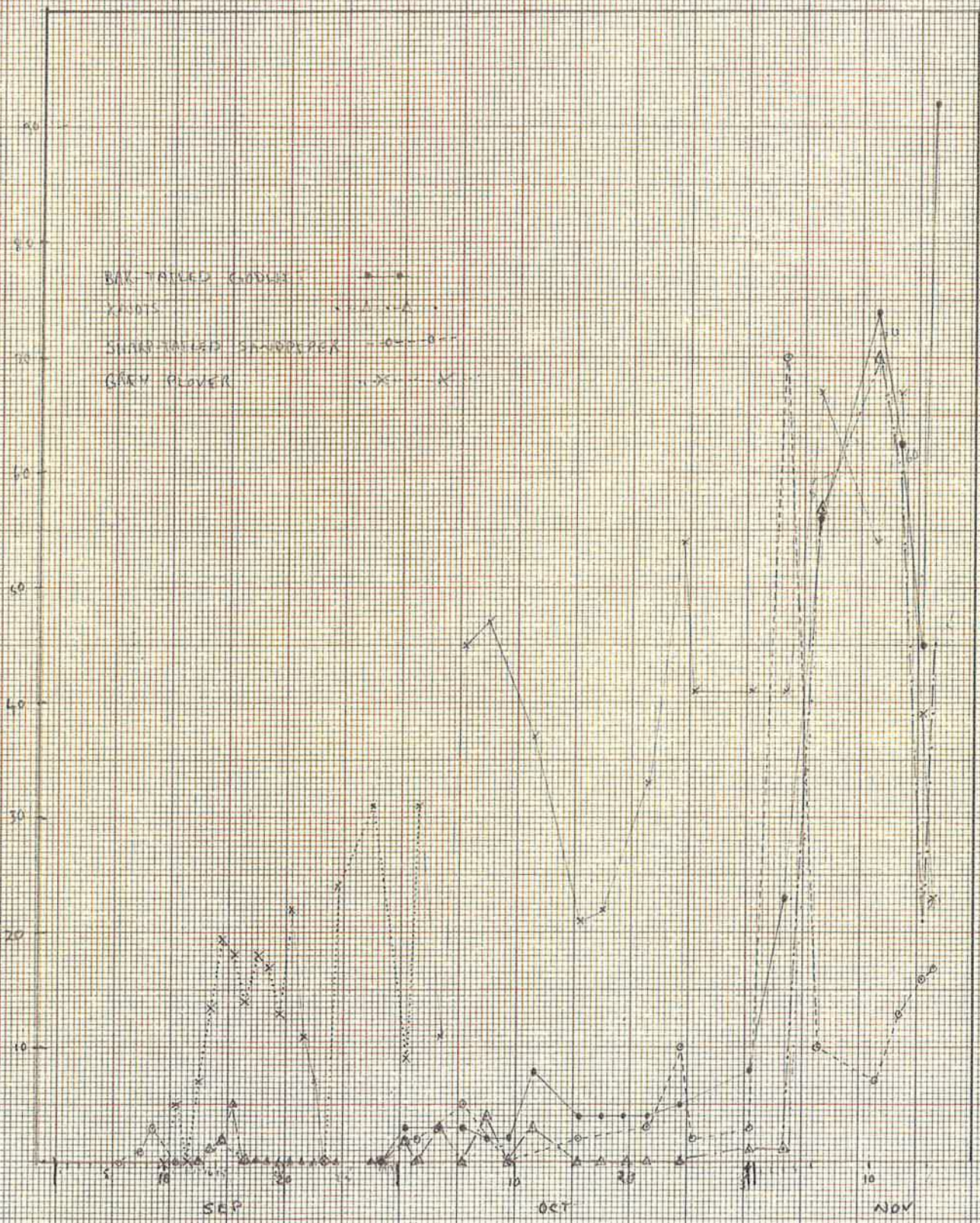
$$\begin{array}{r} 133 \\ 275 \\ 275 \\ 354 \\ 398 \\ 410 \\ 358 \\ 239 \\ 74 \\ \hline 2556 \end{array}$$

$$2556 \times 3 = 7668$$

$$7668$$

2556

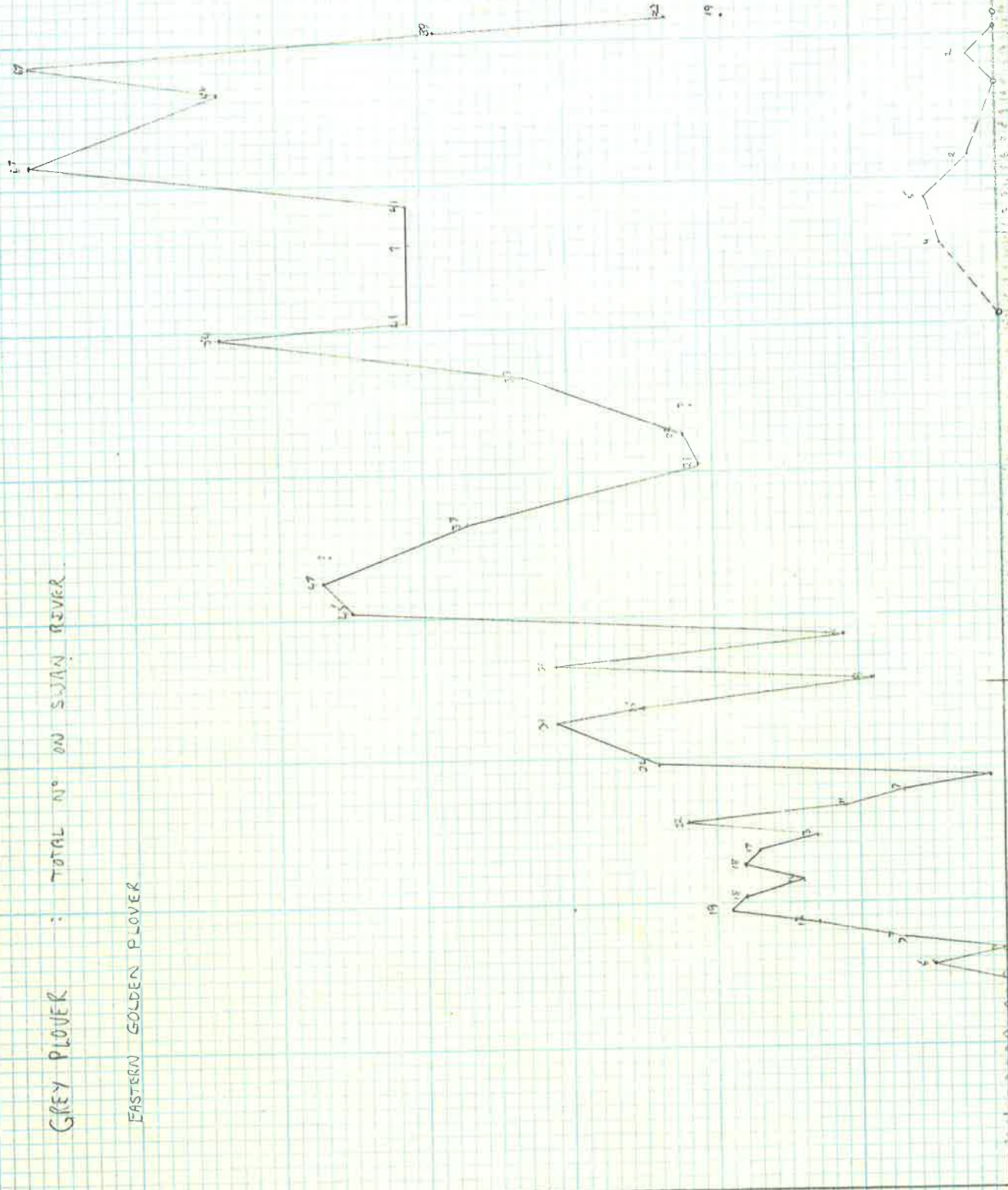




GREY PLOVER : TOTAL NO ON SWAN RIVER

EASTERN GOLDEN PLOVER

70
60
50
40
30
20
10
0

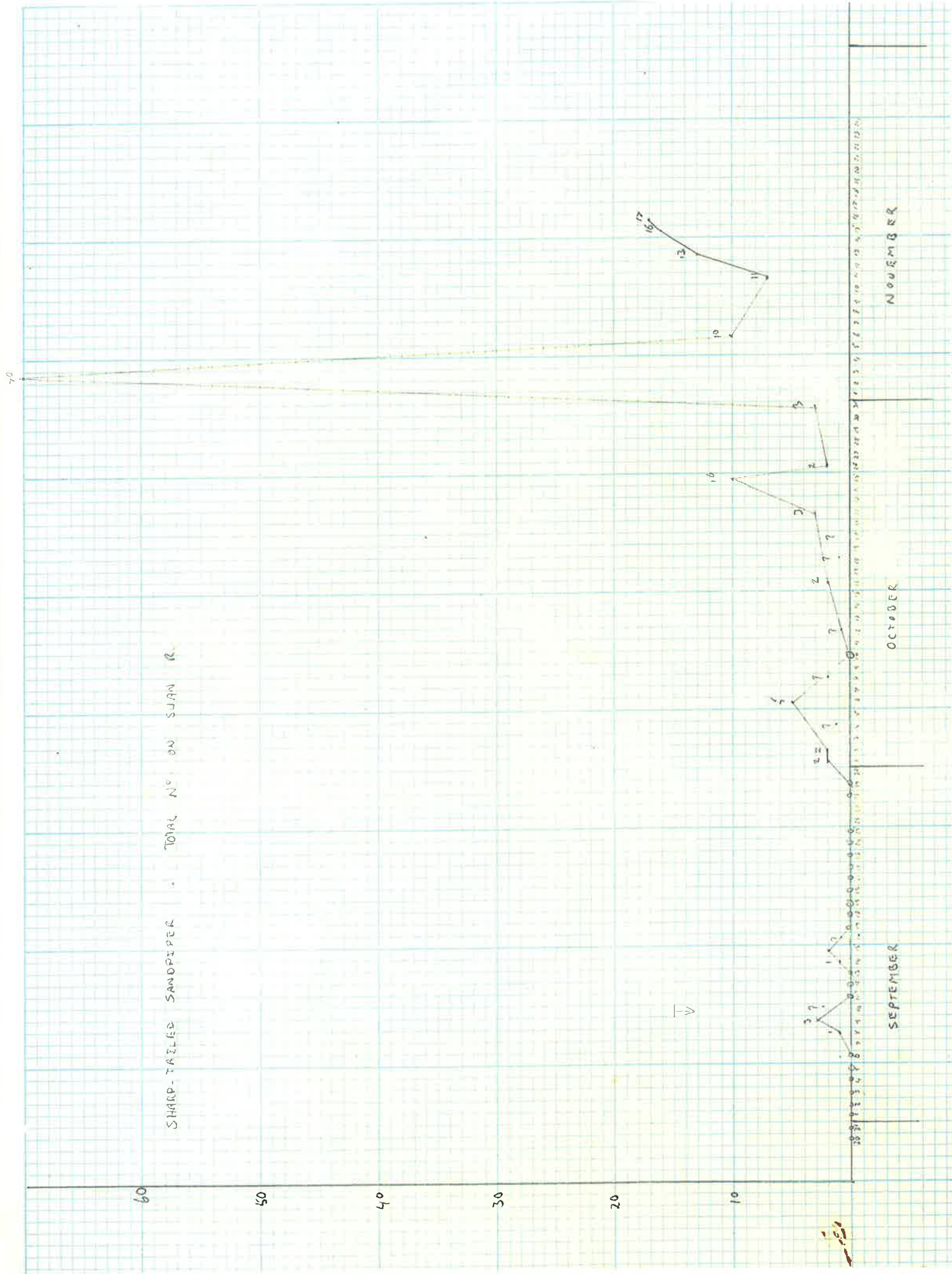


NOVEMBER

OCTOBER

SEPTEMBER

SHARP-TAILED SANDPIPER . TOTAL N° ON SUAN R.



NOVEMBER

OCTOBER

SEPTEMBER

SHARP-TAILED SANDPIPER : TOTAL N° ON SURF R.

60

50

40

30

20

10

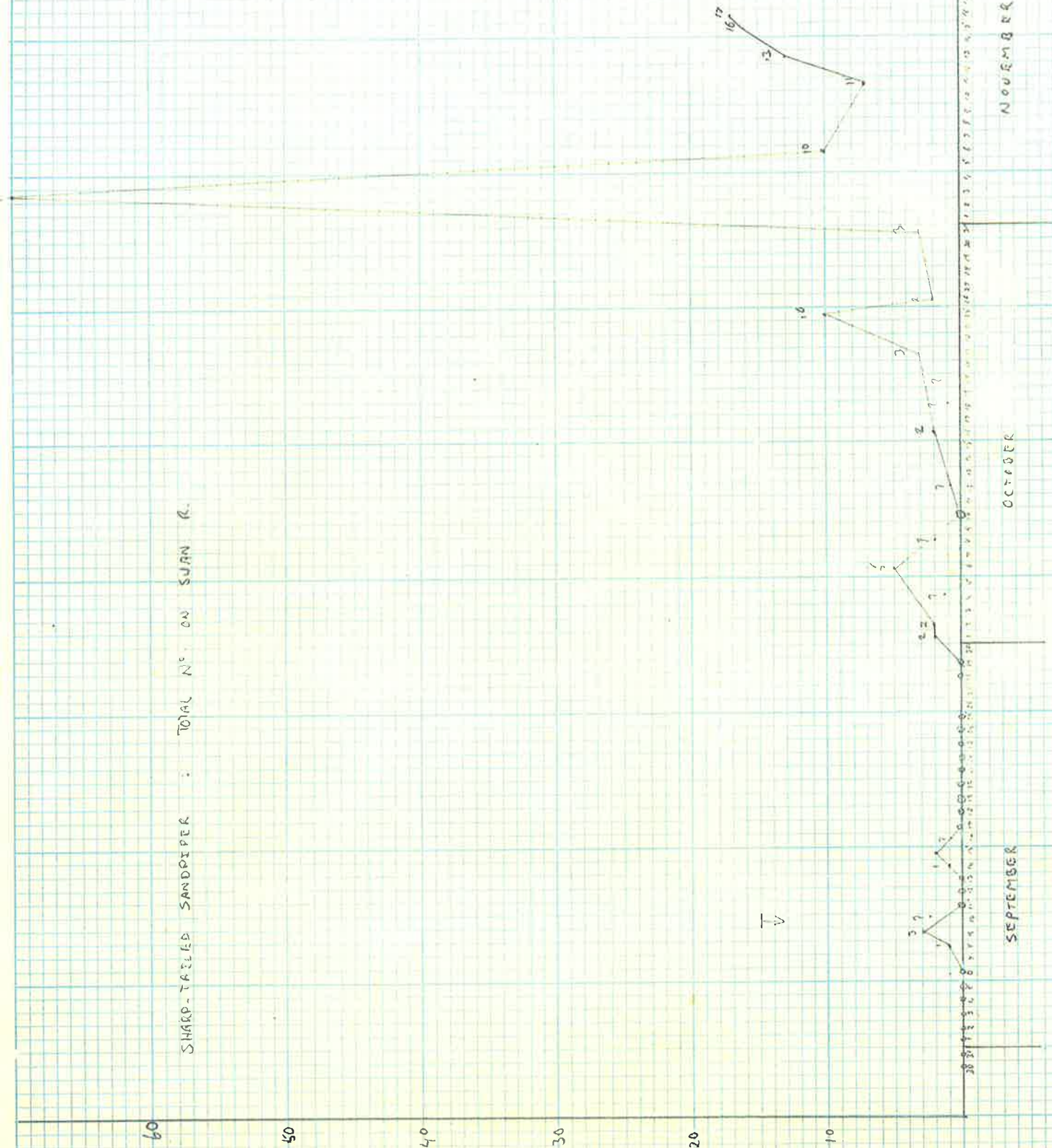
1

SEPTEMBER

SEPTEMBER

OCTOBER

NOVEMBER



SHORT-TAILED GOOSIT : TOTAL NO. SWAN RIVER.

100

50

50

50

50

50

50

50

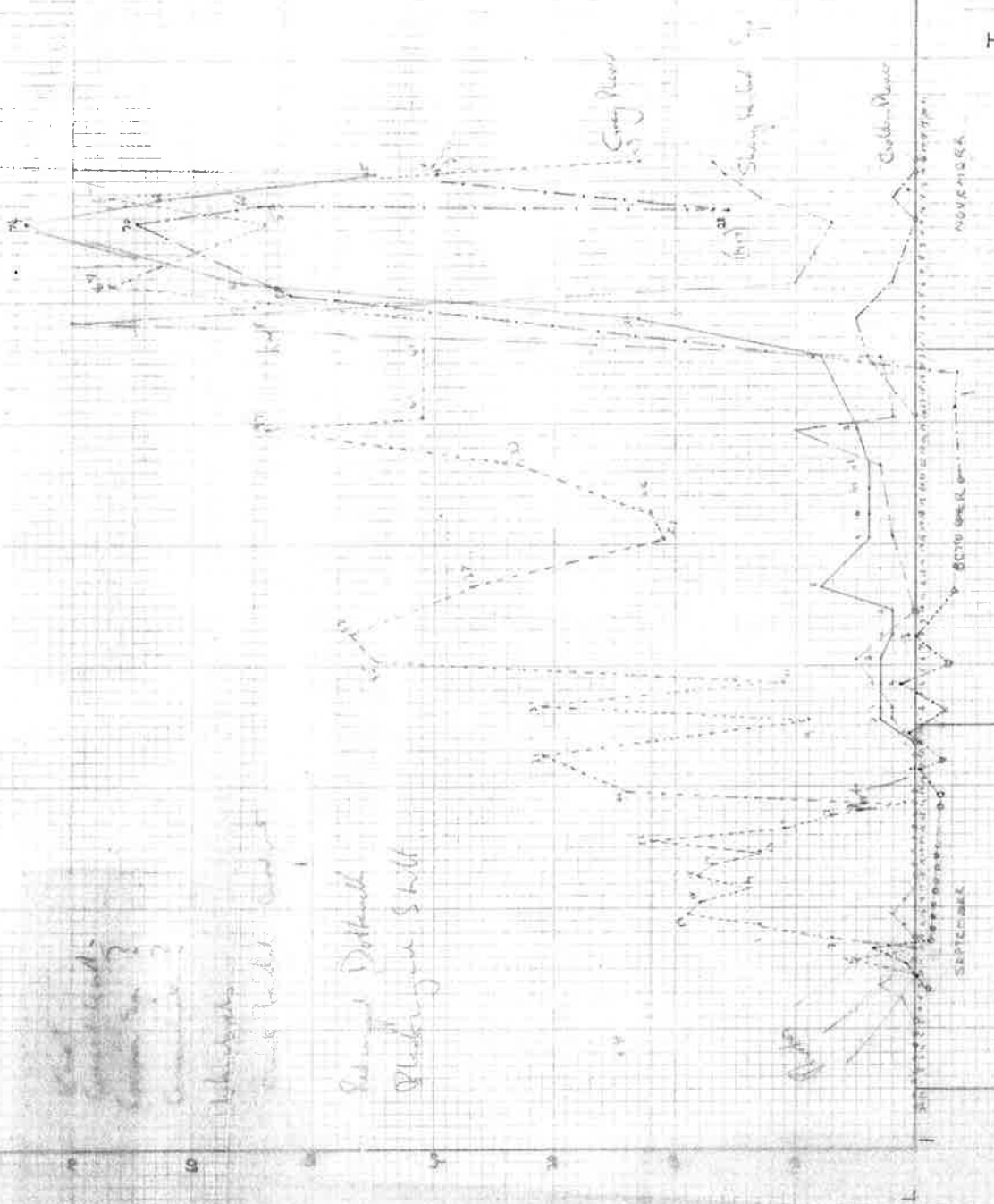
50

50

50

50

BTC



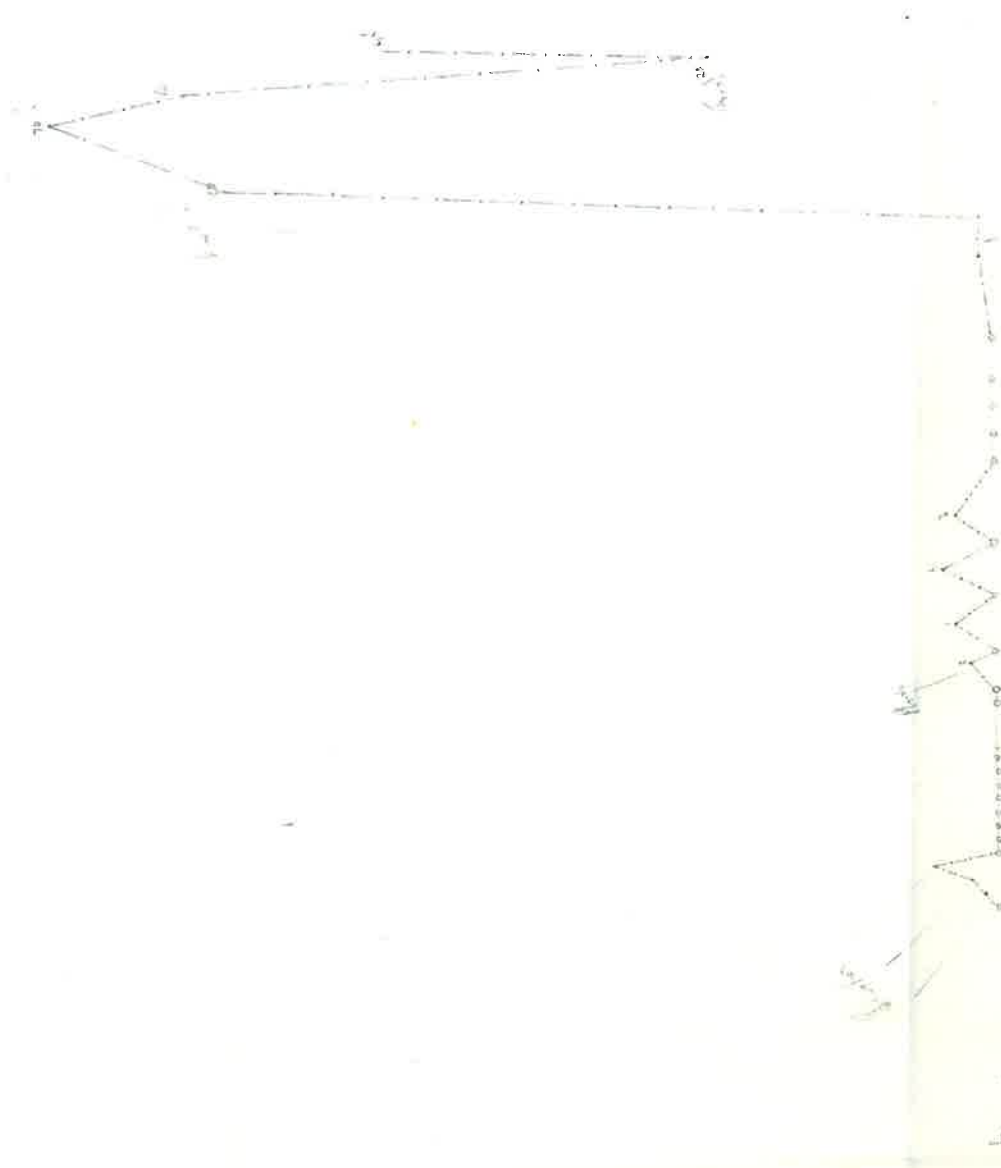
SEPTEMBER

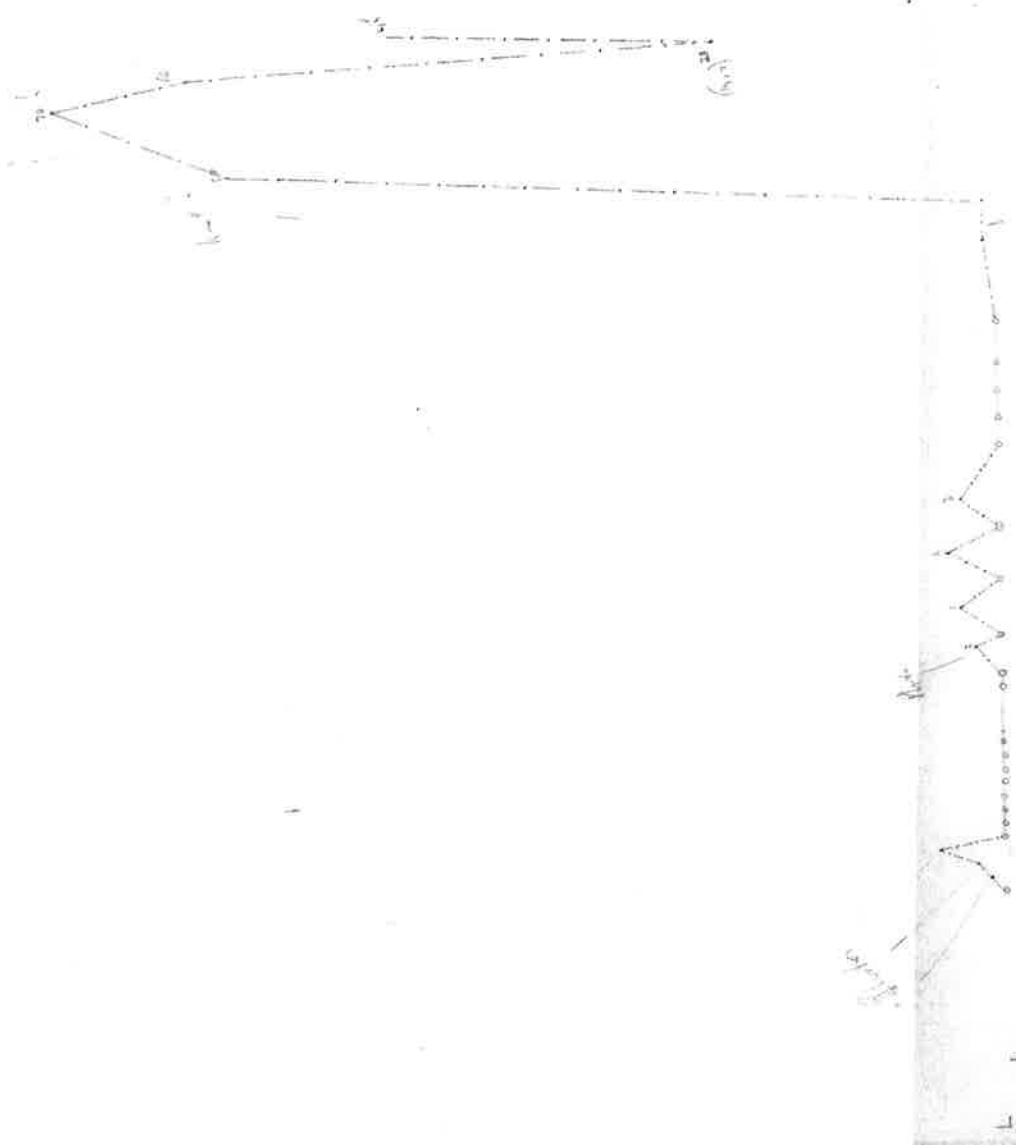
OCTOBER

NOVEMBER

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SHR-TAILED GOOBYIT : TOP-PA N^o. STAIN REVIEW

B5164

Kipoi
Greenest land -
Common Sp. ?
Greenest land ?

Whimbrels
Blue-tailed Gull

Red-tailed Tattler
Plover just still

Green Plover
10/5

Shorebird Sp.

Curlew Plover

100

90

80

70

60

50

40

30

20

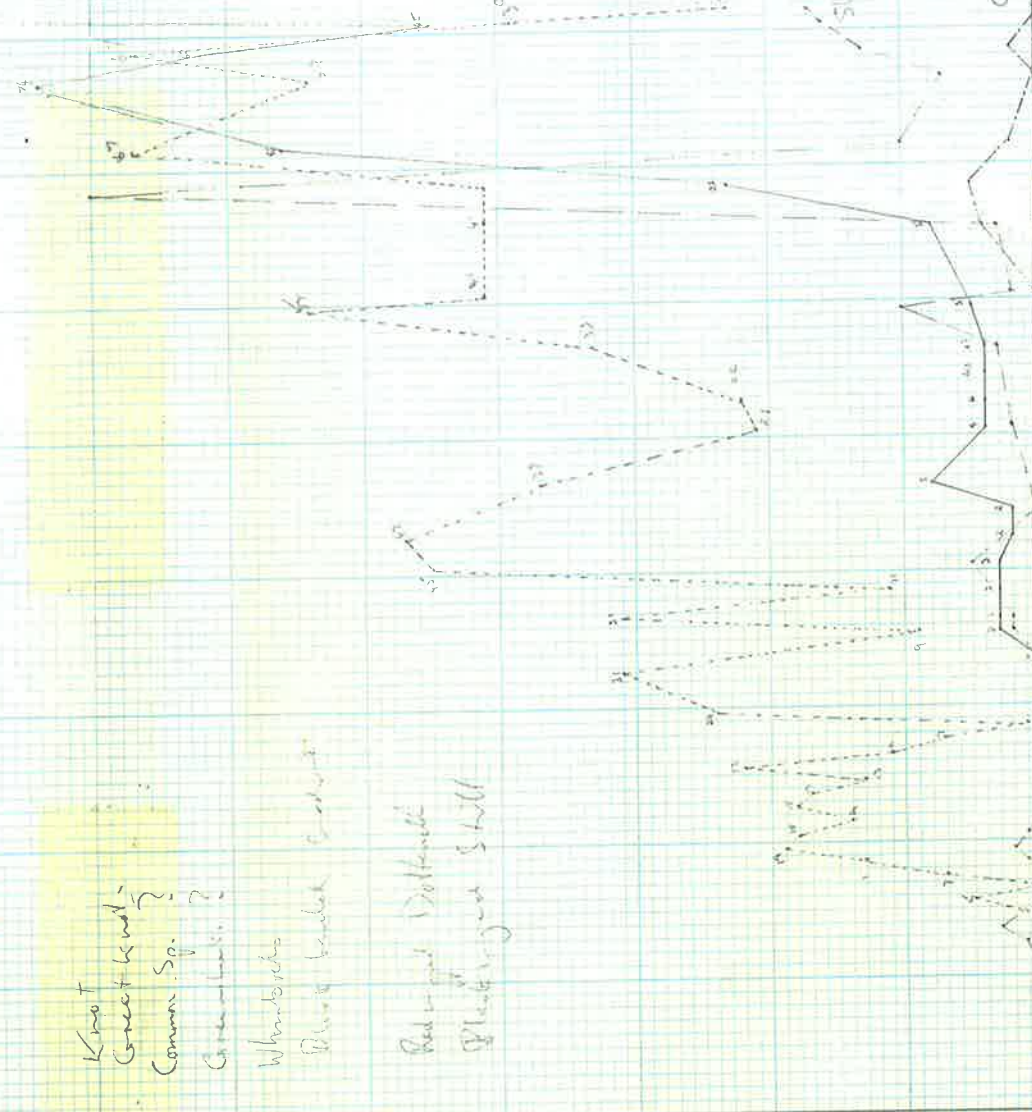
10

0

SEPTEMBER

OCTOBER

NOVEMBER



SAC-TRAILED GODWIT : TOTAL N° SURVIV REAR

BTCG

100

90

80

70

60

50

40

30

20

10

Kinglet

Greenlet

Common Sp.

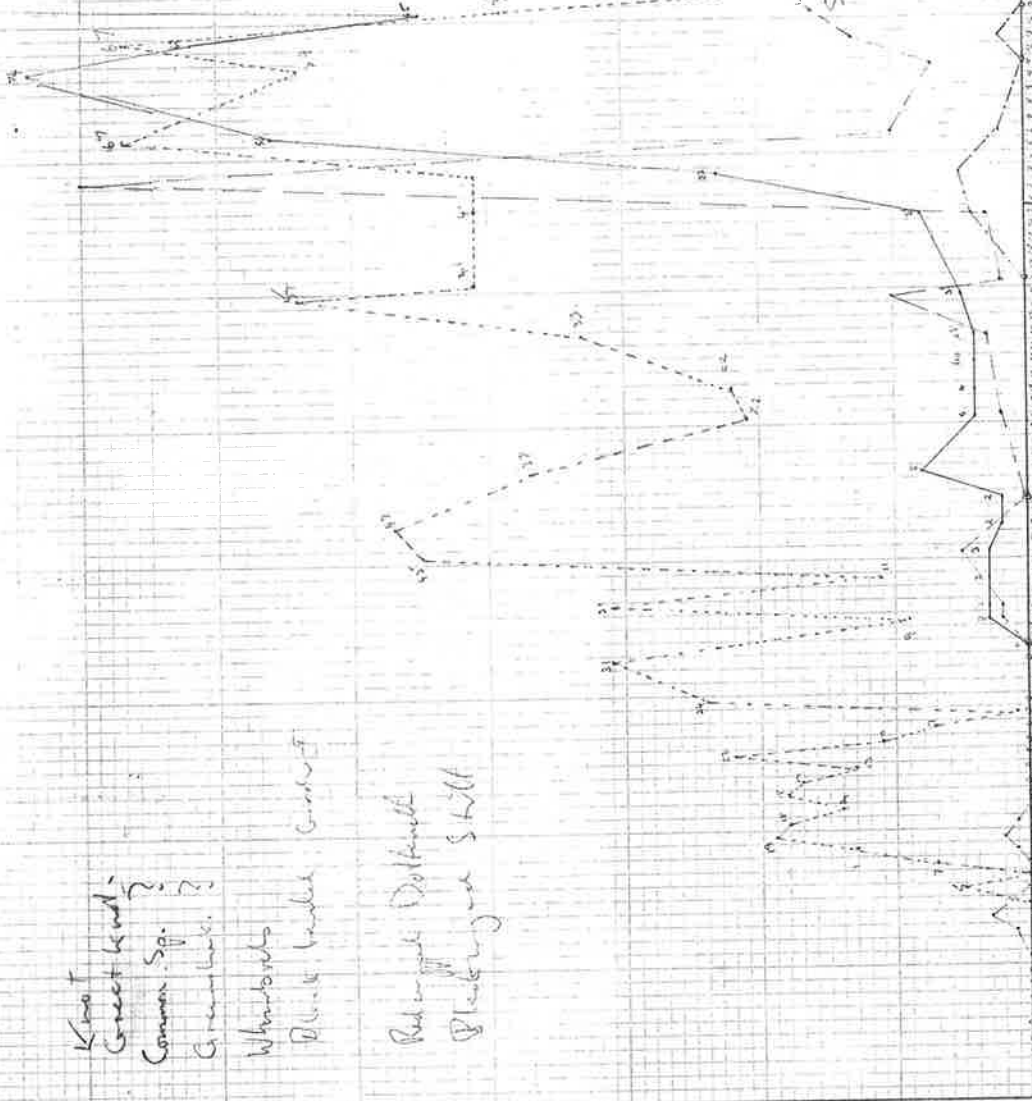
Greenlet

Whimbrel

Black-billed Gull

Red-winged Blackbird

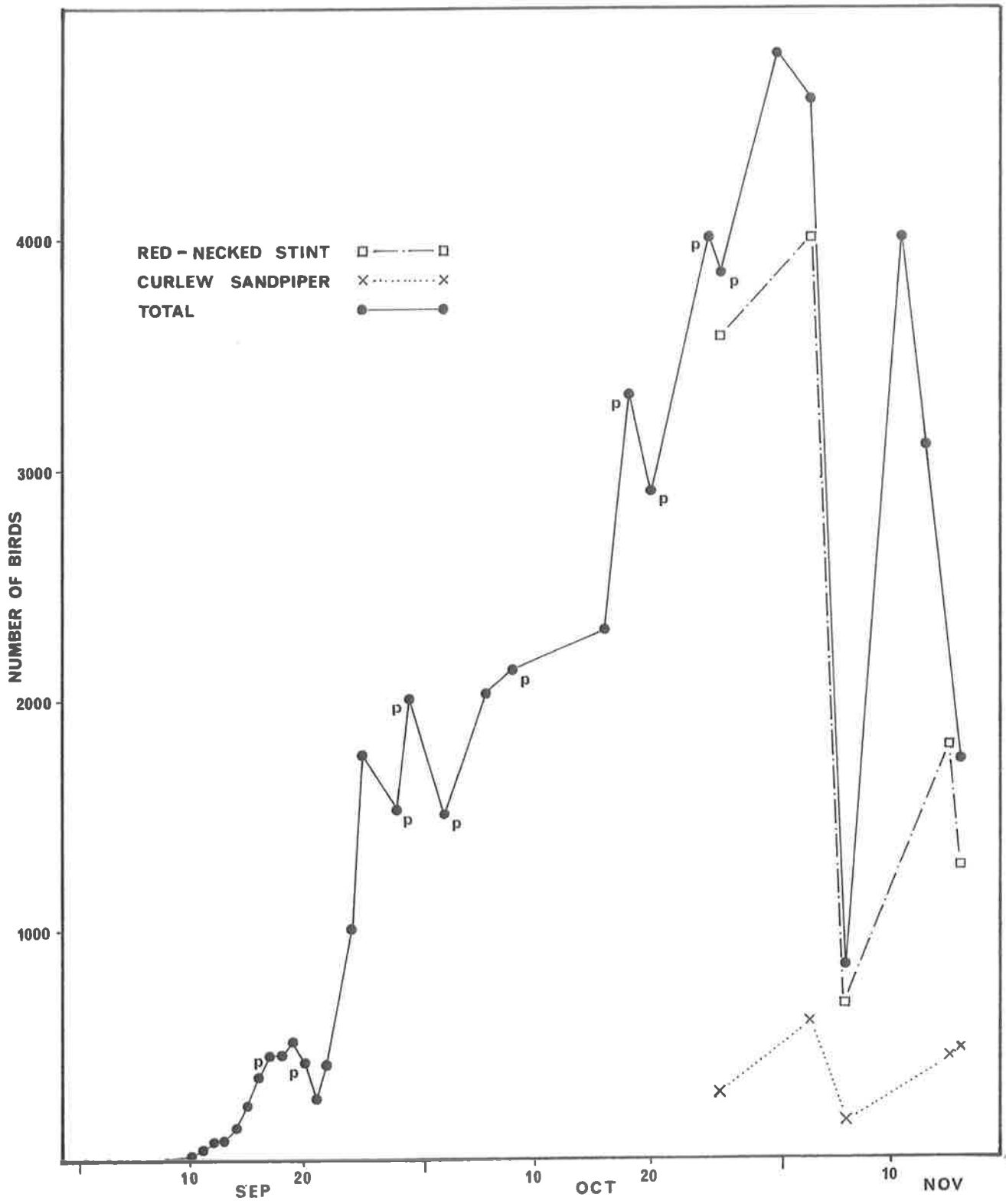
Black-billed Gull



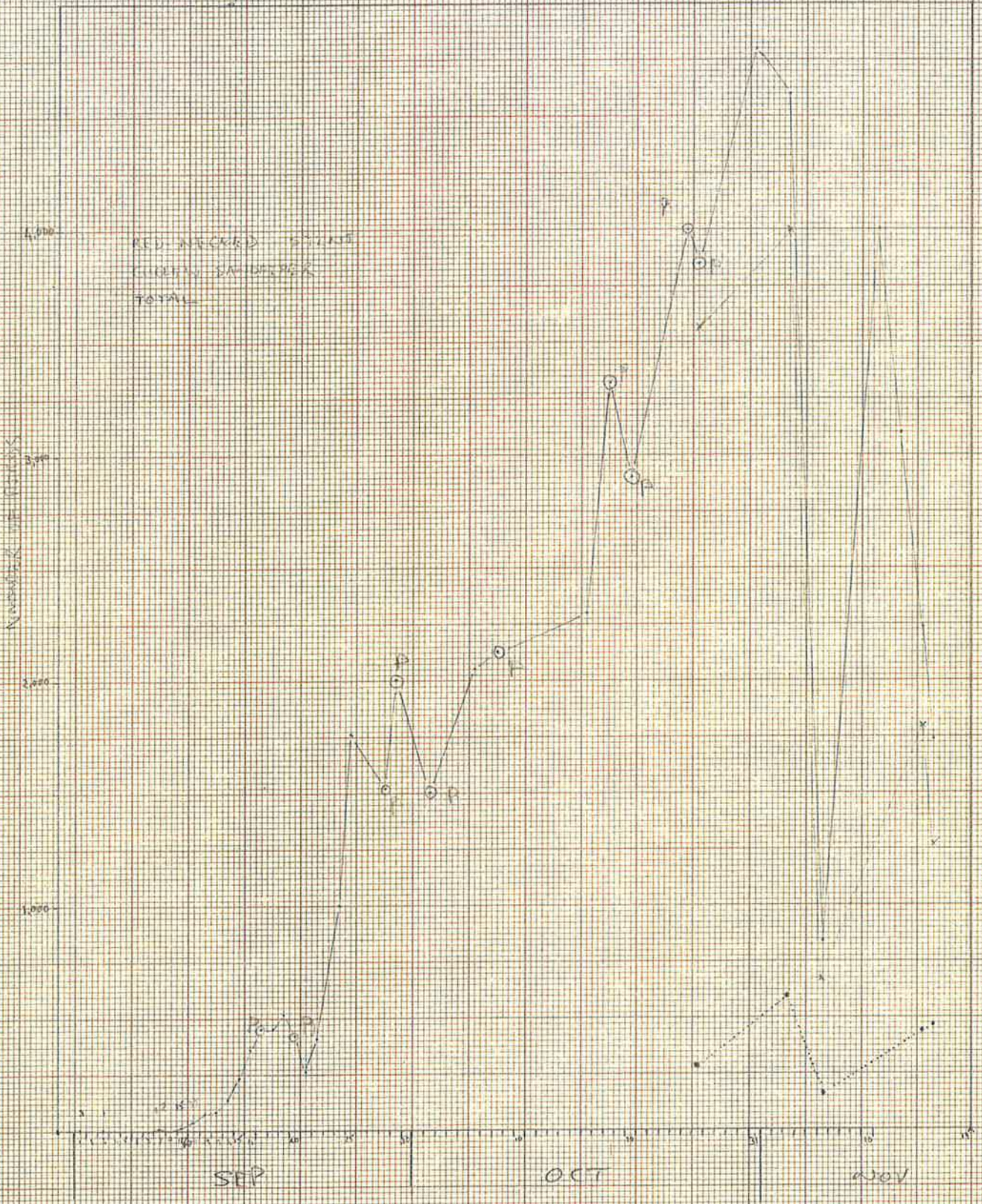
NOVEMBER

OCTOBER

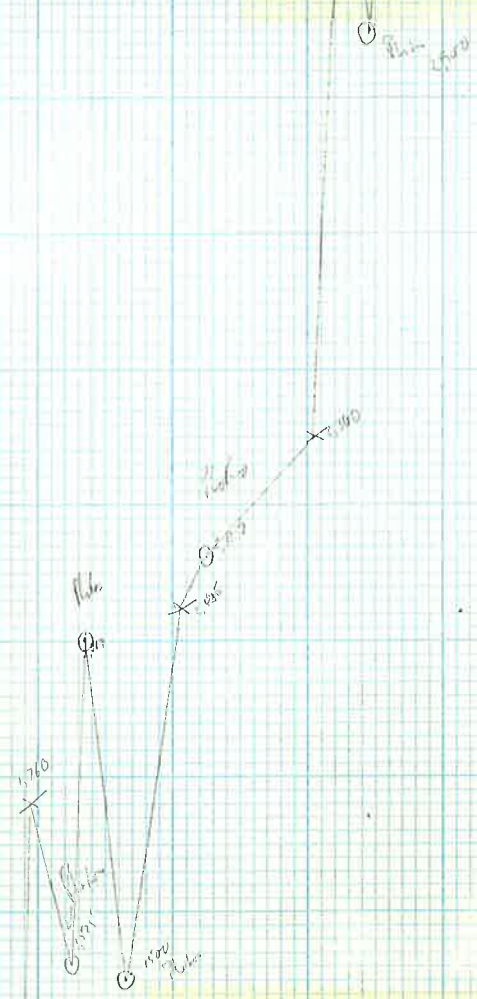
SEPTEMBER



14



400
300
200
1000
1500
2000



1000
800
600
400
200

Little Stream
Current Sampler

2 1
 2 9
 8 2 2
 24 11 15

Till 400 (mm)

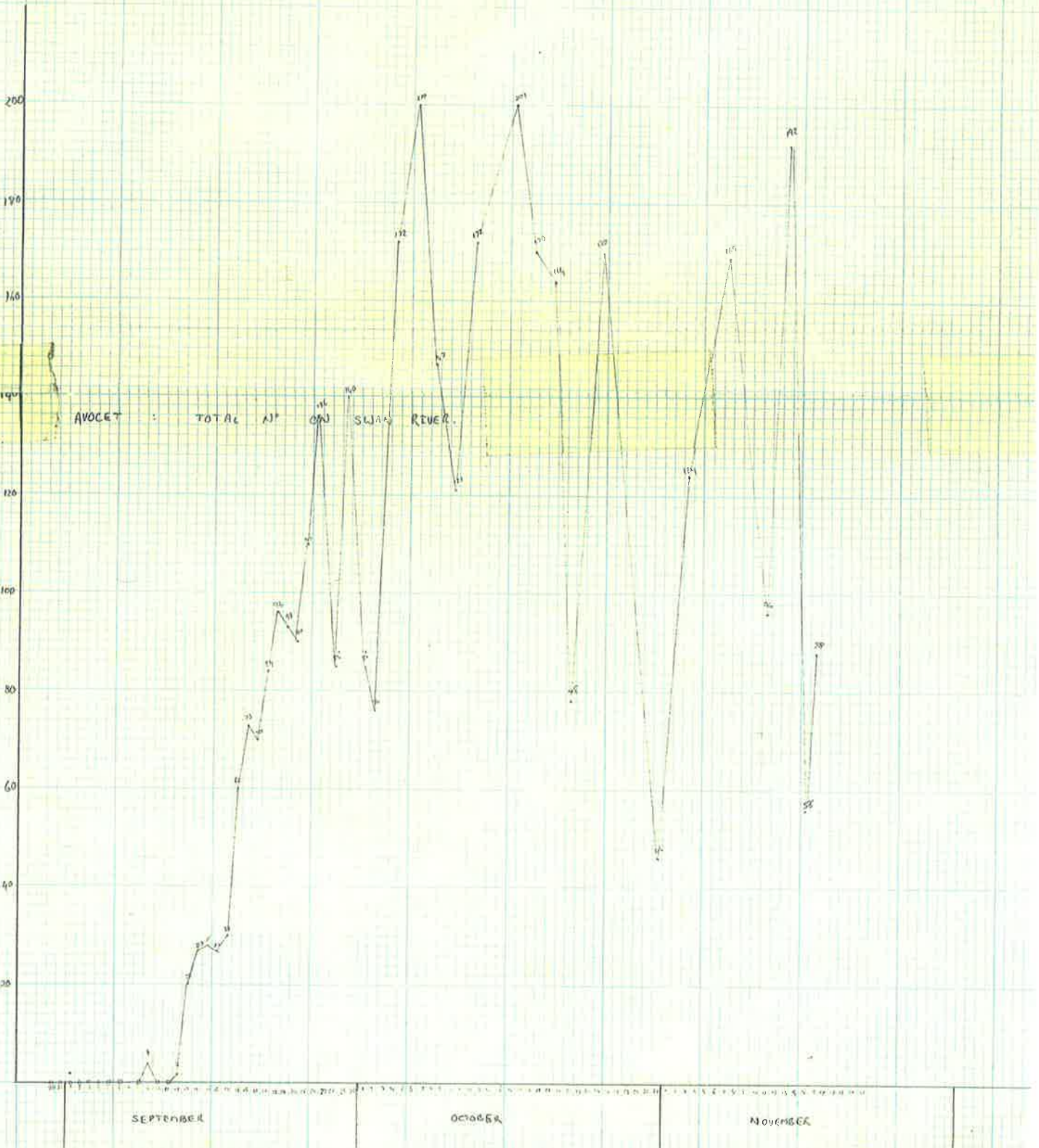
SEPTEMBER

OCTOBER

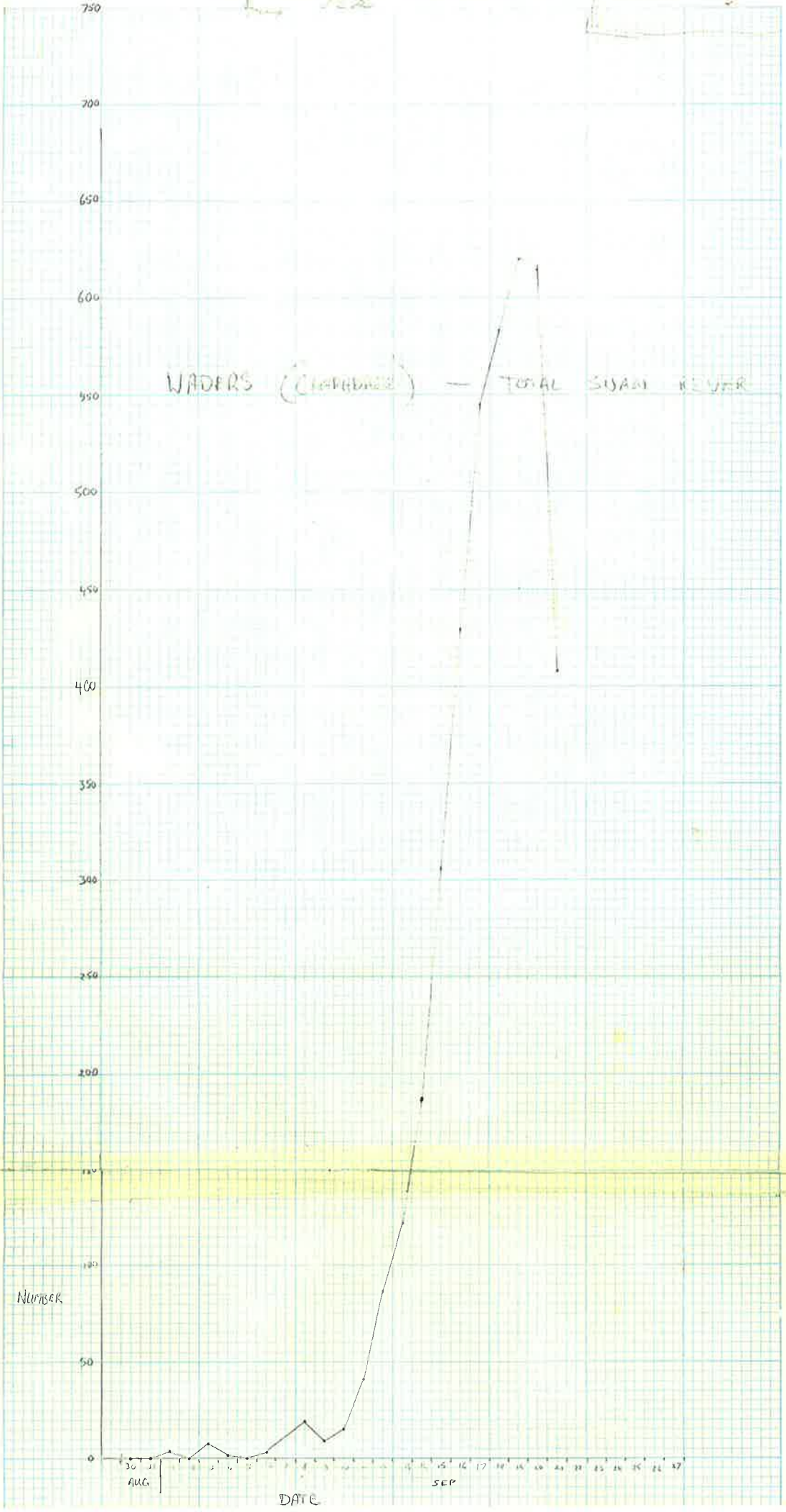
NOVEMBER

Pittman



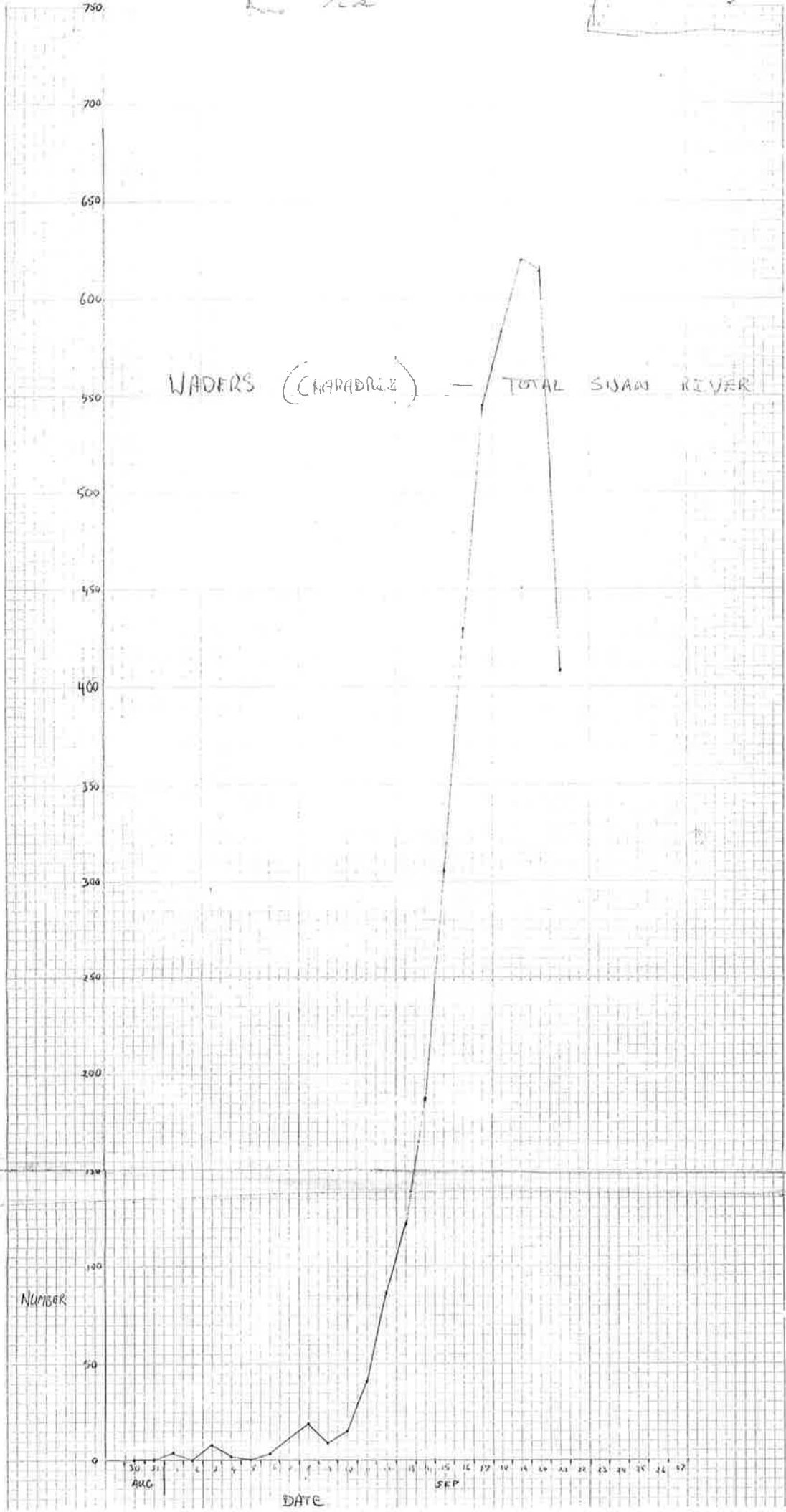


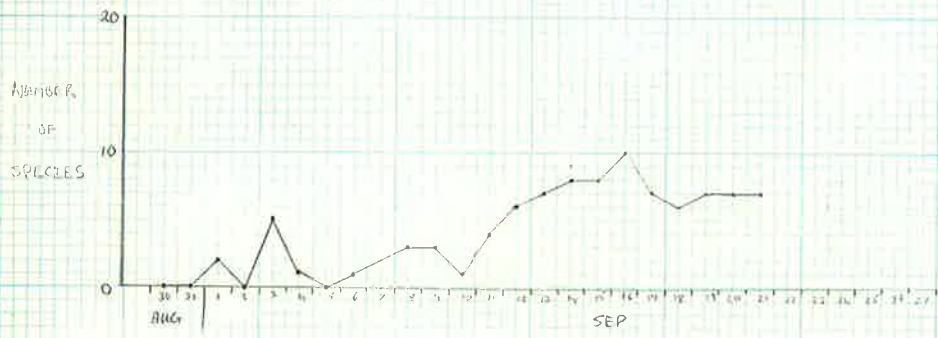
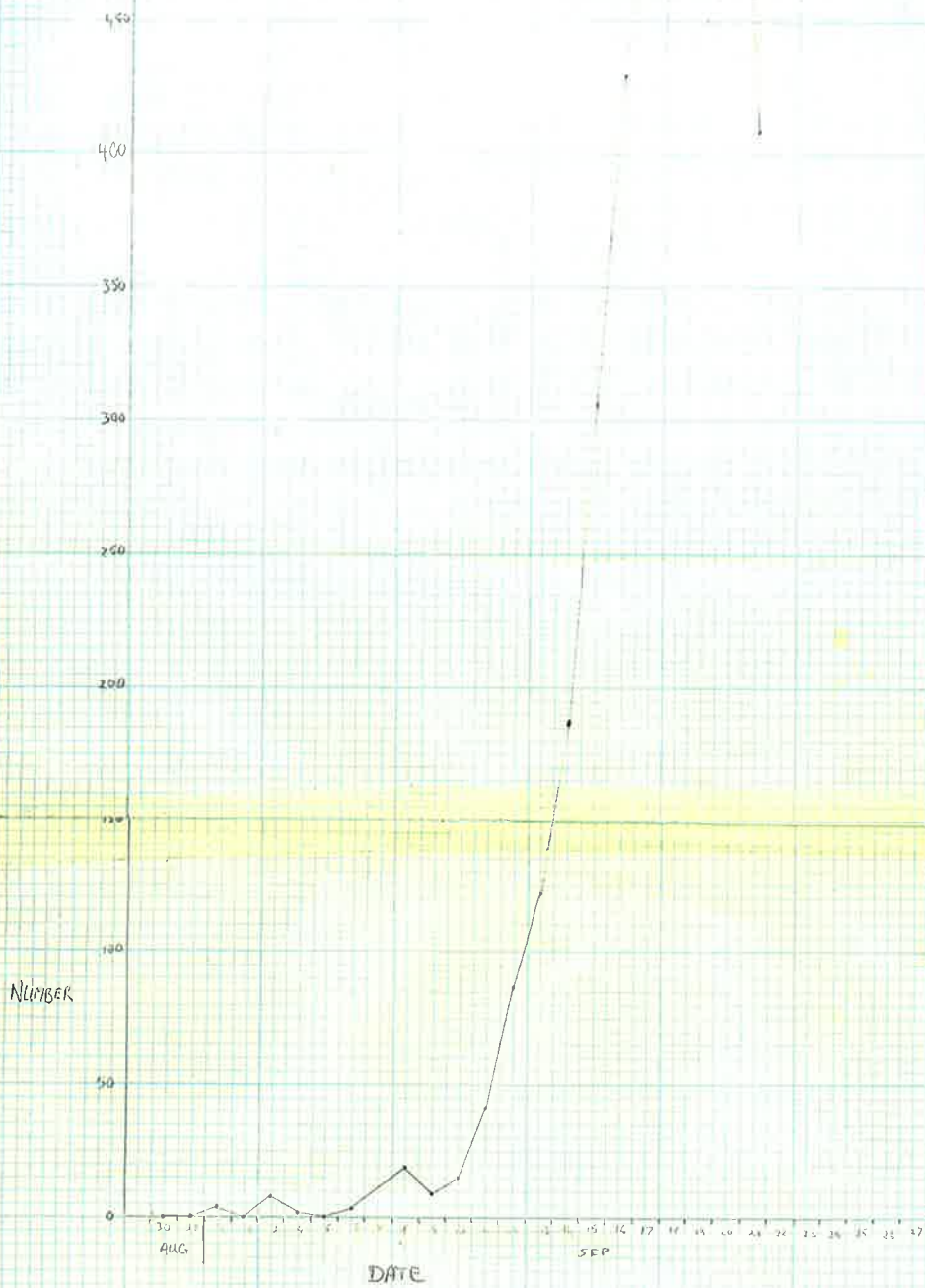
Final 1930

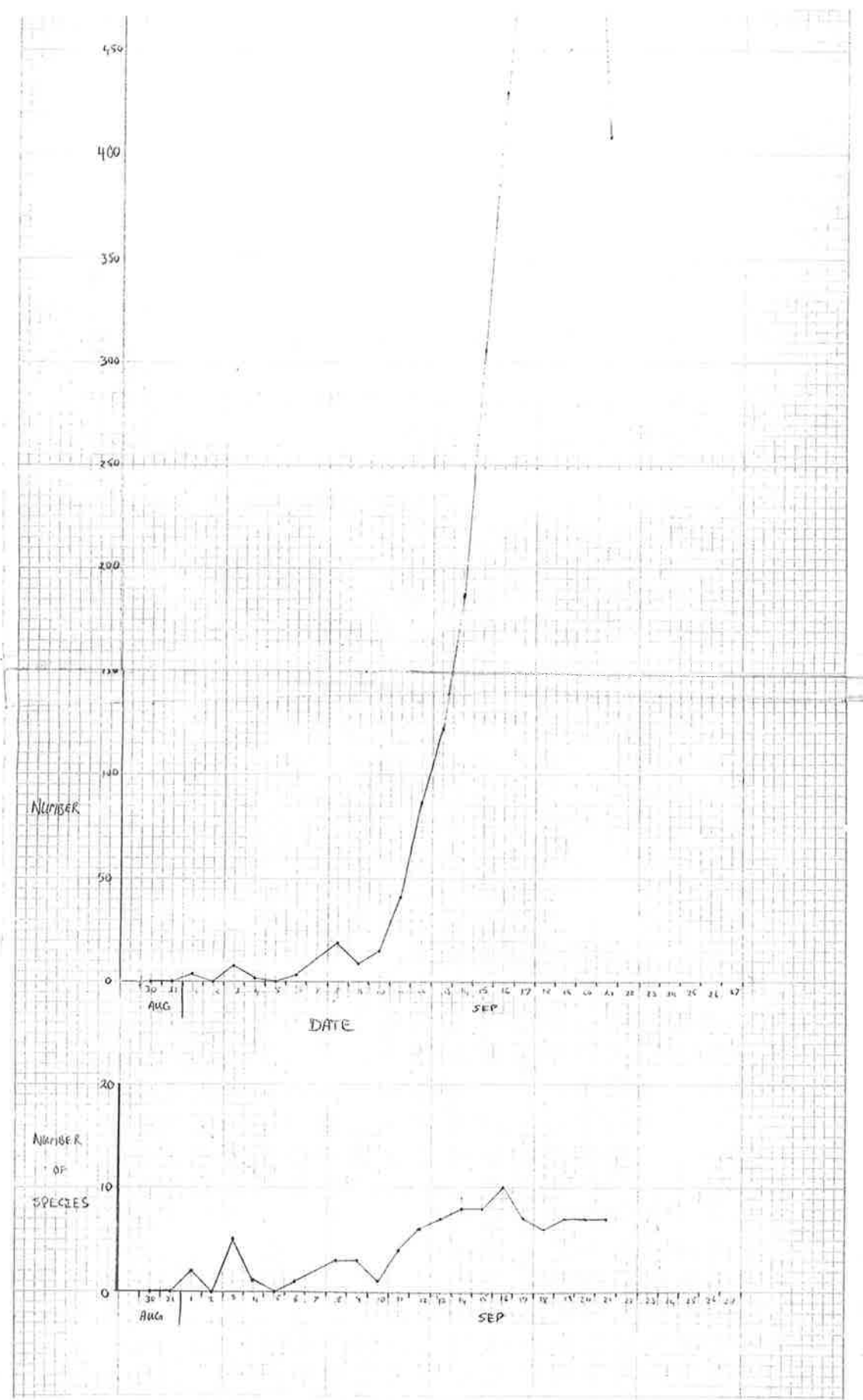


Waders
 The lower river

Field Number
 0930







BLACK DUCK

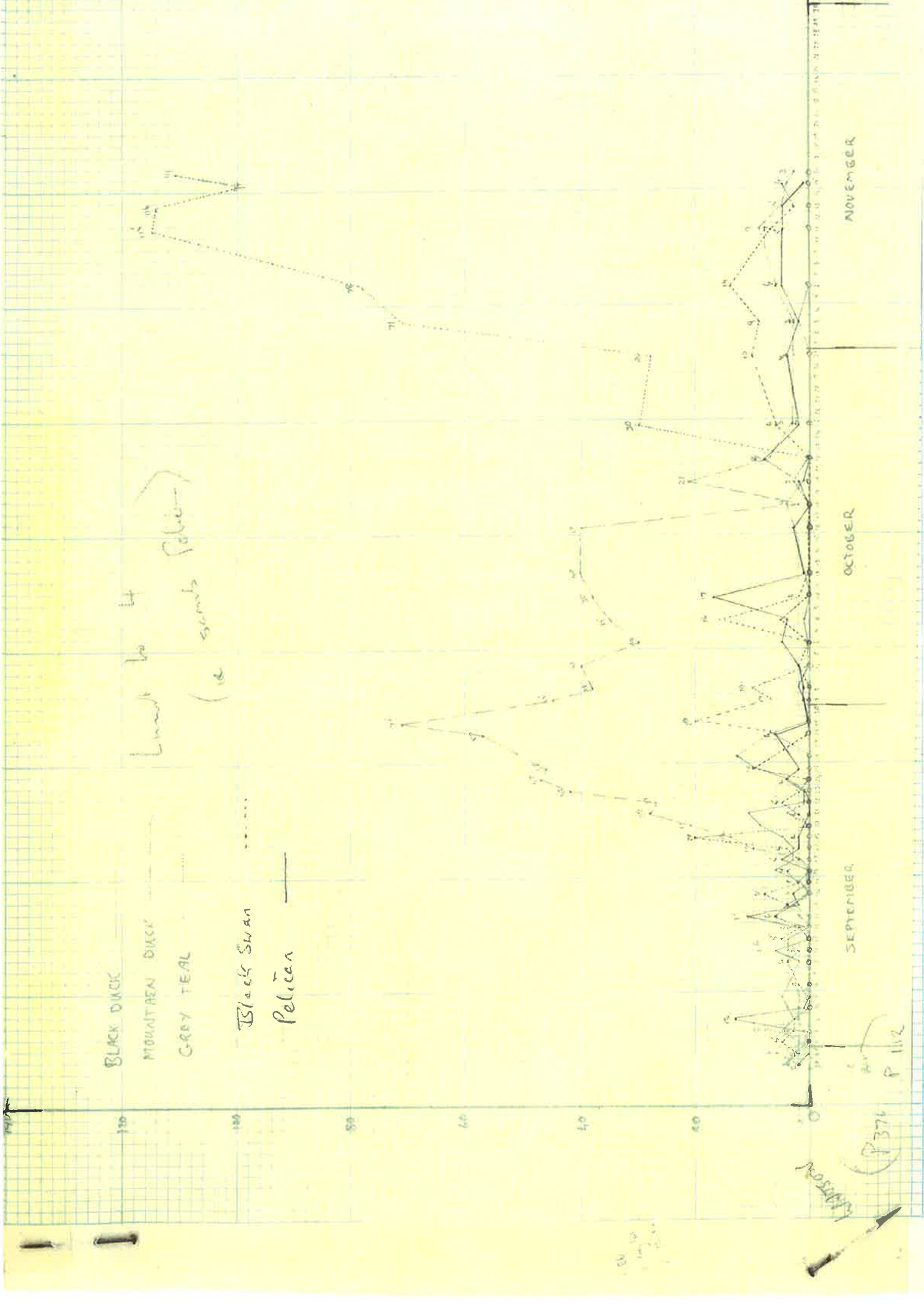
MOUNTAIN DUCK

GREY TEAL

Black Swan

Pelican

Limit to 4
(is sounds Pelican)



NOVEMBER

OCTOBER

SEPTEMBER

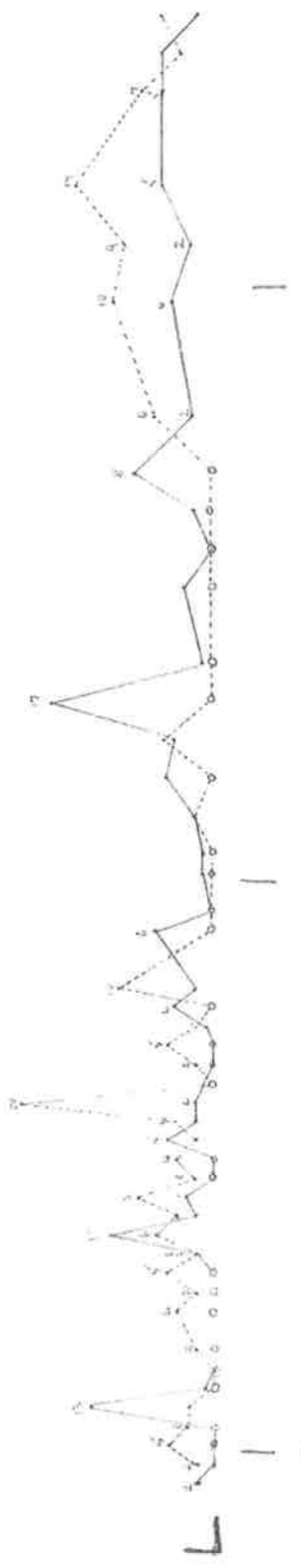
P 376 P 112

PROBATION



Lined to be
for several (Petersen)

Black Swan -----
Pelican -----



(MAYSON)
(P376 P 112)



| |
|-------------|
| L.P.C. |
| RAAD |
| WHS |
| BUFH |
| SIAMS |
| GREY PUMPER |

GREY TOTAL

| | |
|-------|--------|
| GRIN | CREW |
| CHAND | TRAL |
| PP | WF PW |
| | 15 MAY |





| |
|---------------|
| L.P.C. |
| RAAO |
| WAS |
| WATH |
| SUN |
| GREY PUNER |

GREY TEAL

| | | |
|--------------|--------------|----|
| PP | WF | PW |
| GREY TEAM | GREY TEAL | |

15 MAY



These graphs found 4 June 2003.

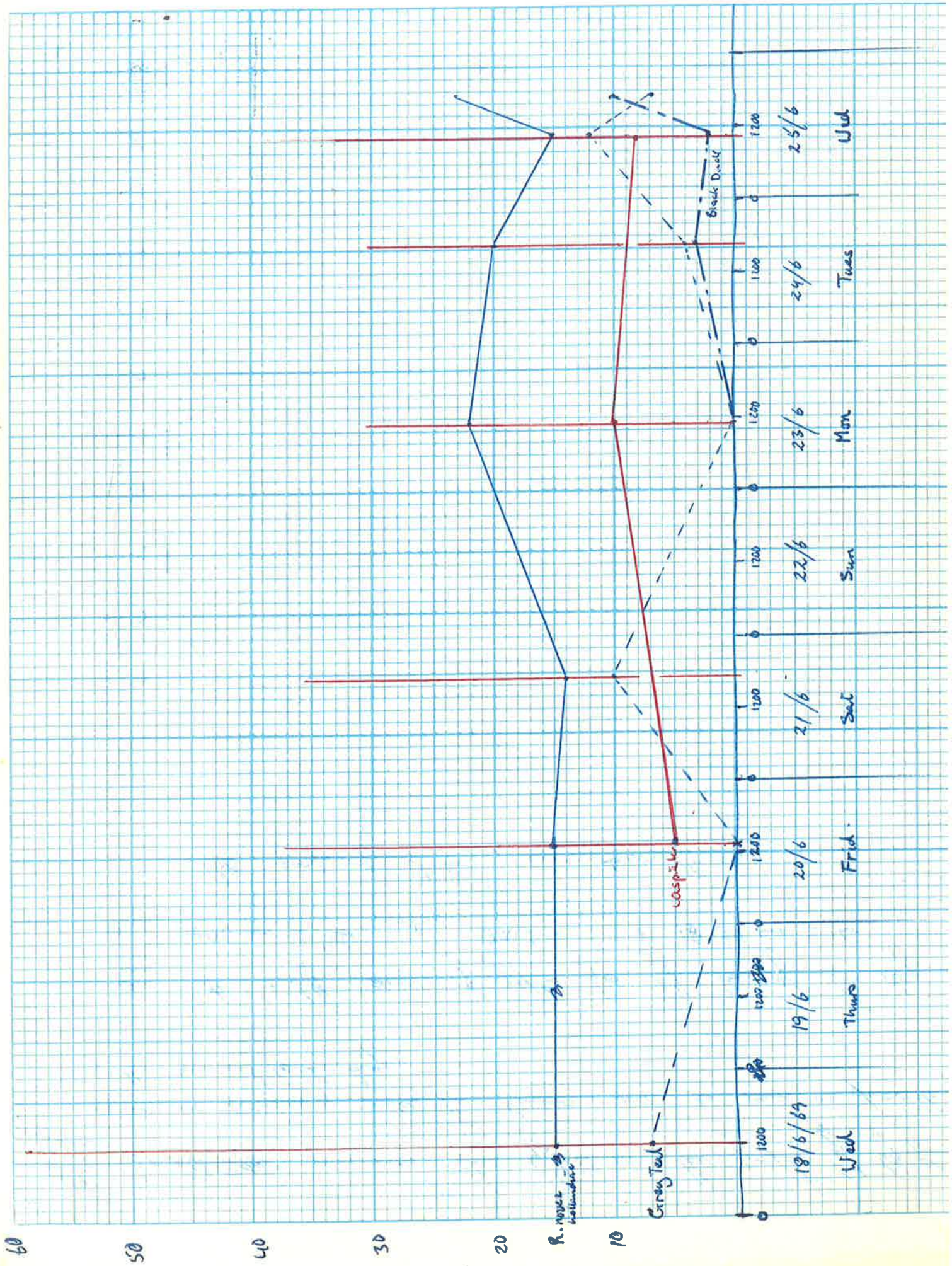
My guess is the data came from
counts of waterbirds at Nelson Point (Swan
by me (JAKL)).

Need to study these more carefully to work
out what I was trying to do and
look for field records (early waterbirds?)

J. J. J.
4/6/03

June + July 1969
(and possibly some other months)

J. J. J.
16/8/2014



60

50

40

30

20

10

R. noise

Grey Tail

Wasp

Black Duck

18/6/69

19/6

20/6

21/6

22/6

23/6

24/6

25/6

Wed

Thurs

Frid

Sat

Sun

Mon

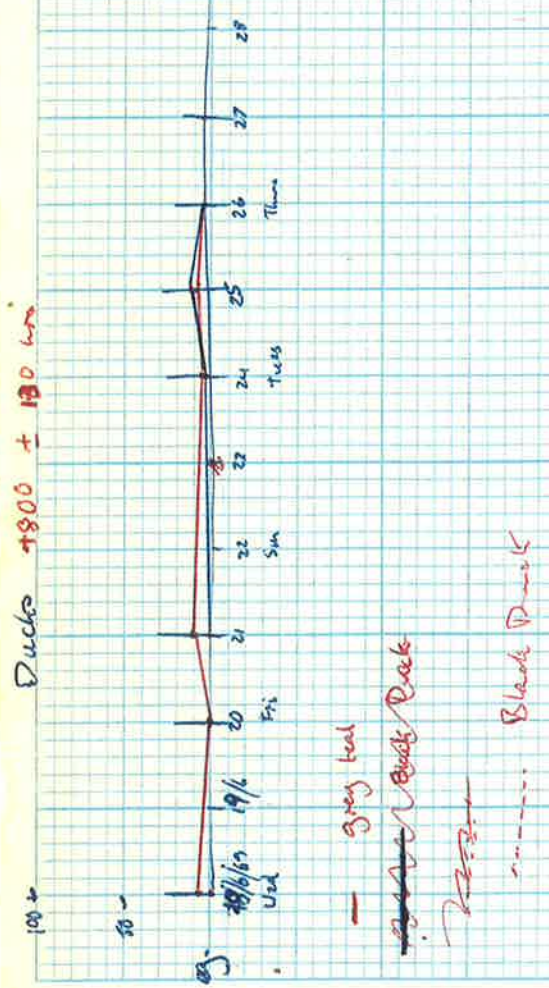
Tues

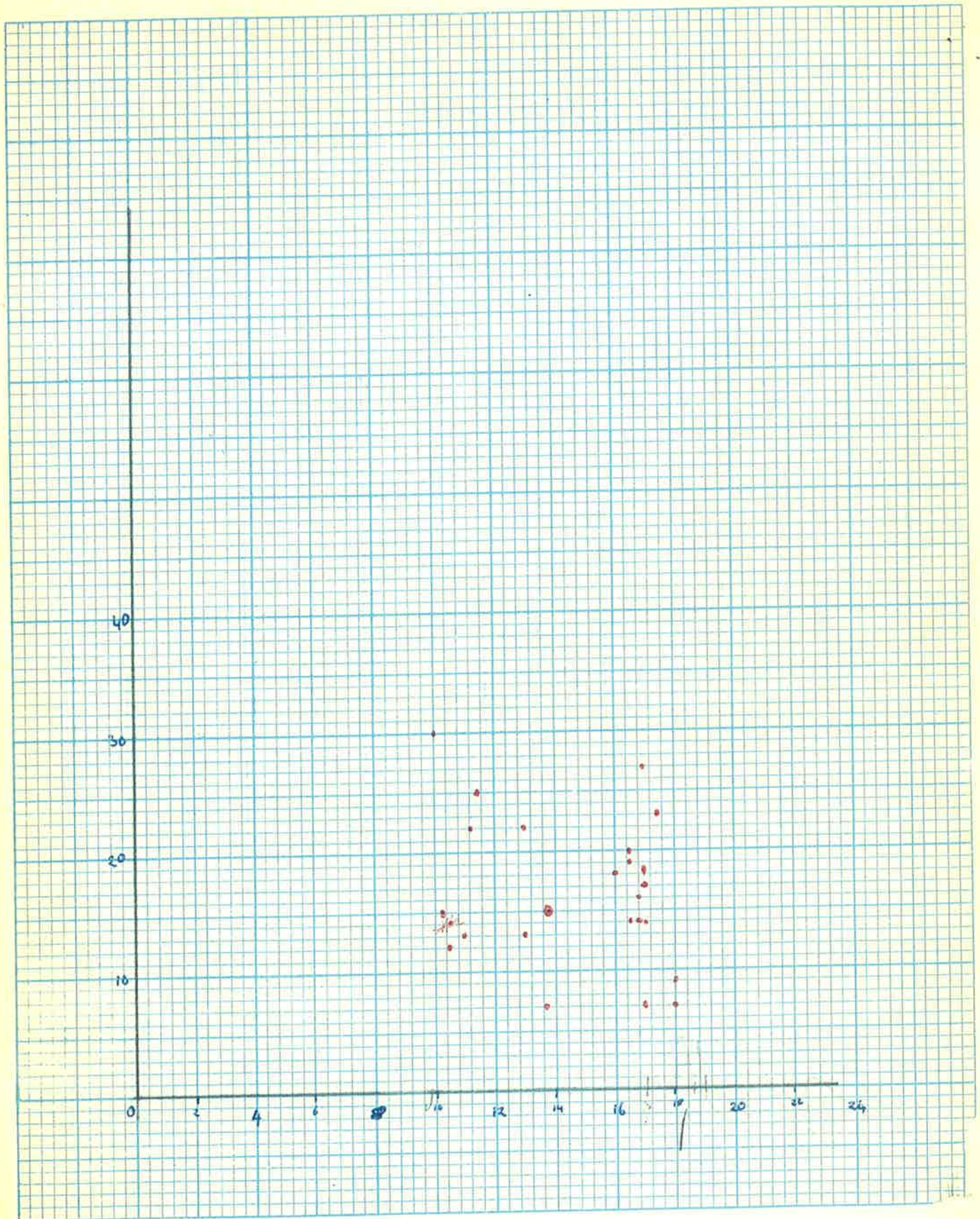
Wed

NB To ~~minimize~~ minimize the effect on the graph of ~~any~~ errors in counting, make the numbers scale as small as possible + the time scale fairly large.

Also do a diff series of graphs for diff times of the day
 i.e. 10.00 hrs \pm 1hr, 13.00 \pm 1hr + 18.00 hrs \pm 1hr

Also groups of ducks, time staggered etc



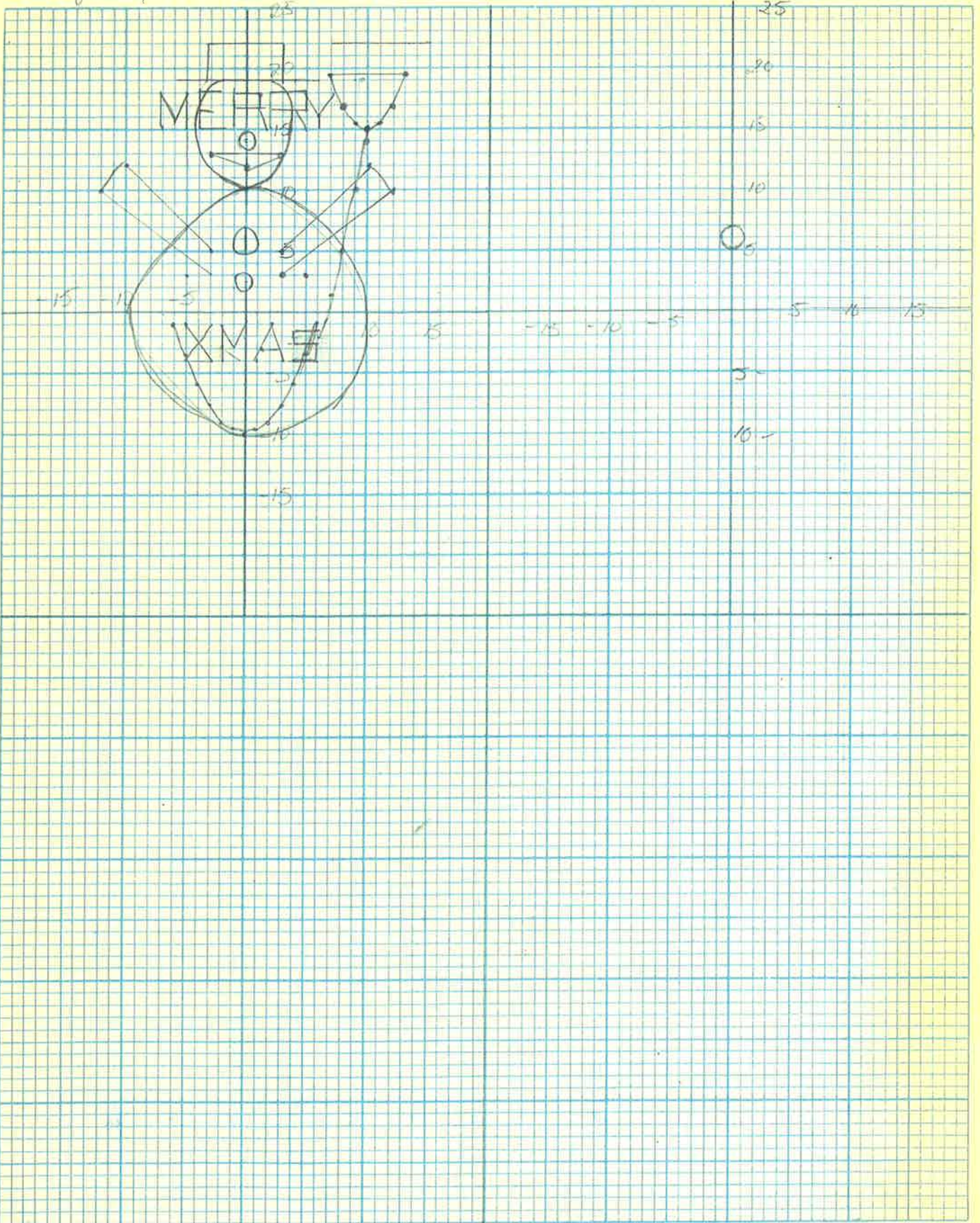


$$y^2 = \frac{x^2}{4} - 11$$

→ EFF OR

$$x^2 + (y-b)^2 = 1$$

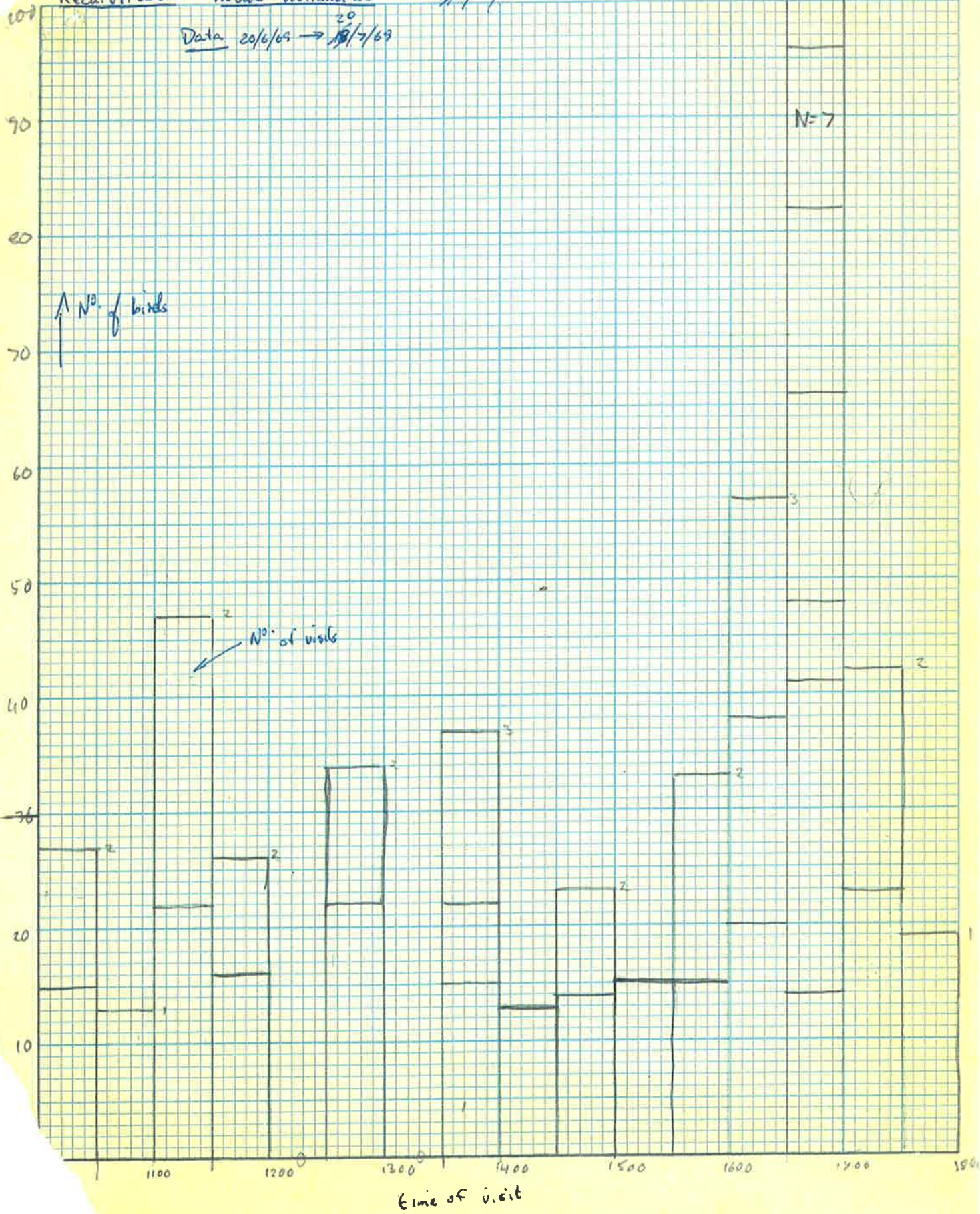
x₁



Recurvirostra novae-hollandiae

17
~~18~~/7/69

Data 20/6/69 → 20/7/69

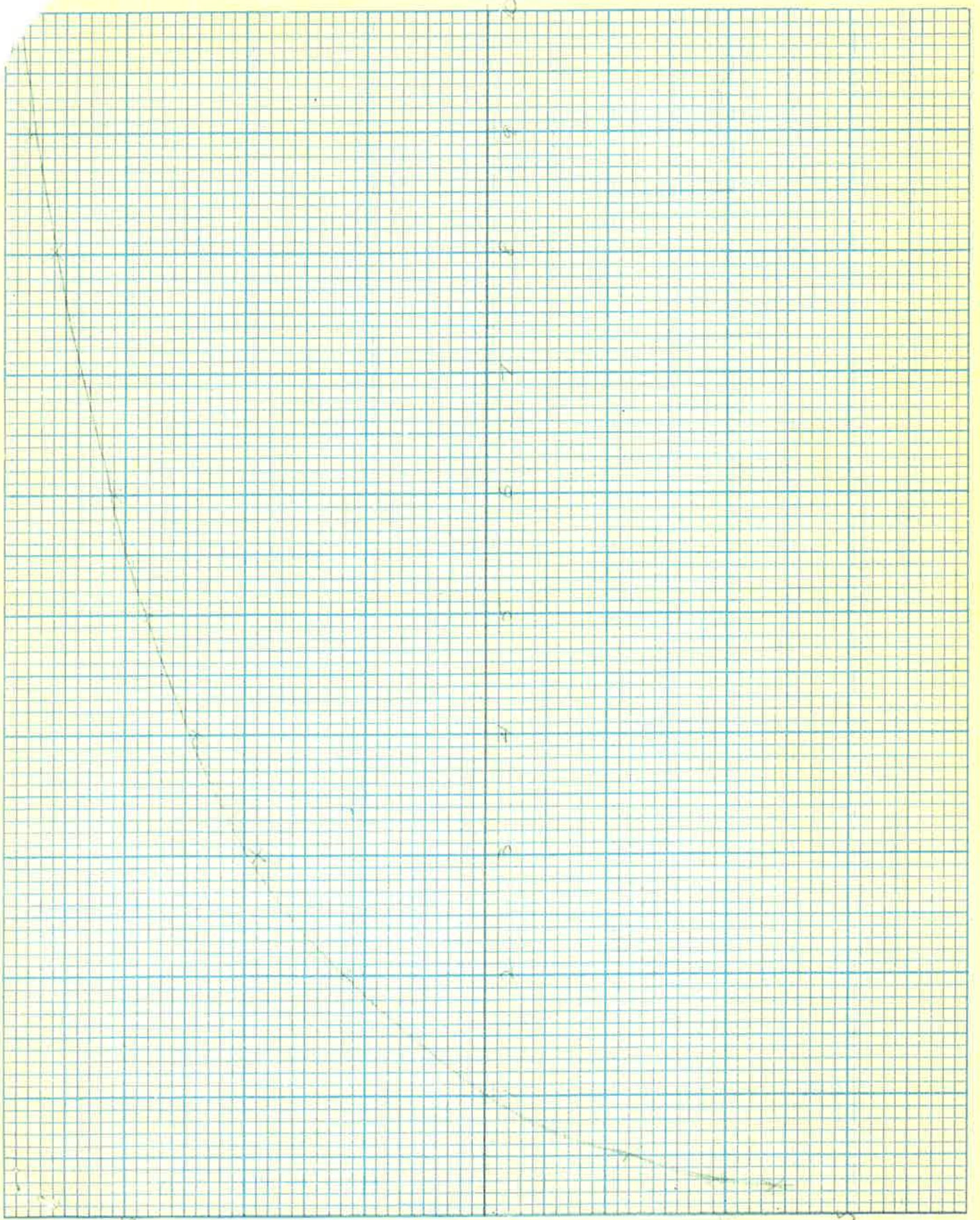


N=7

7113

LOG 5

NO. 5



0.75

0.5

0

0.25

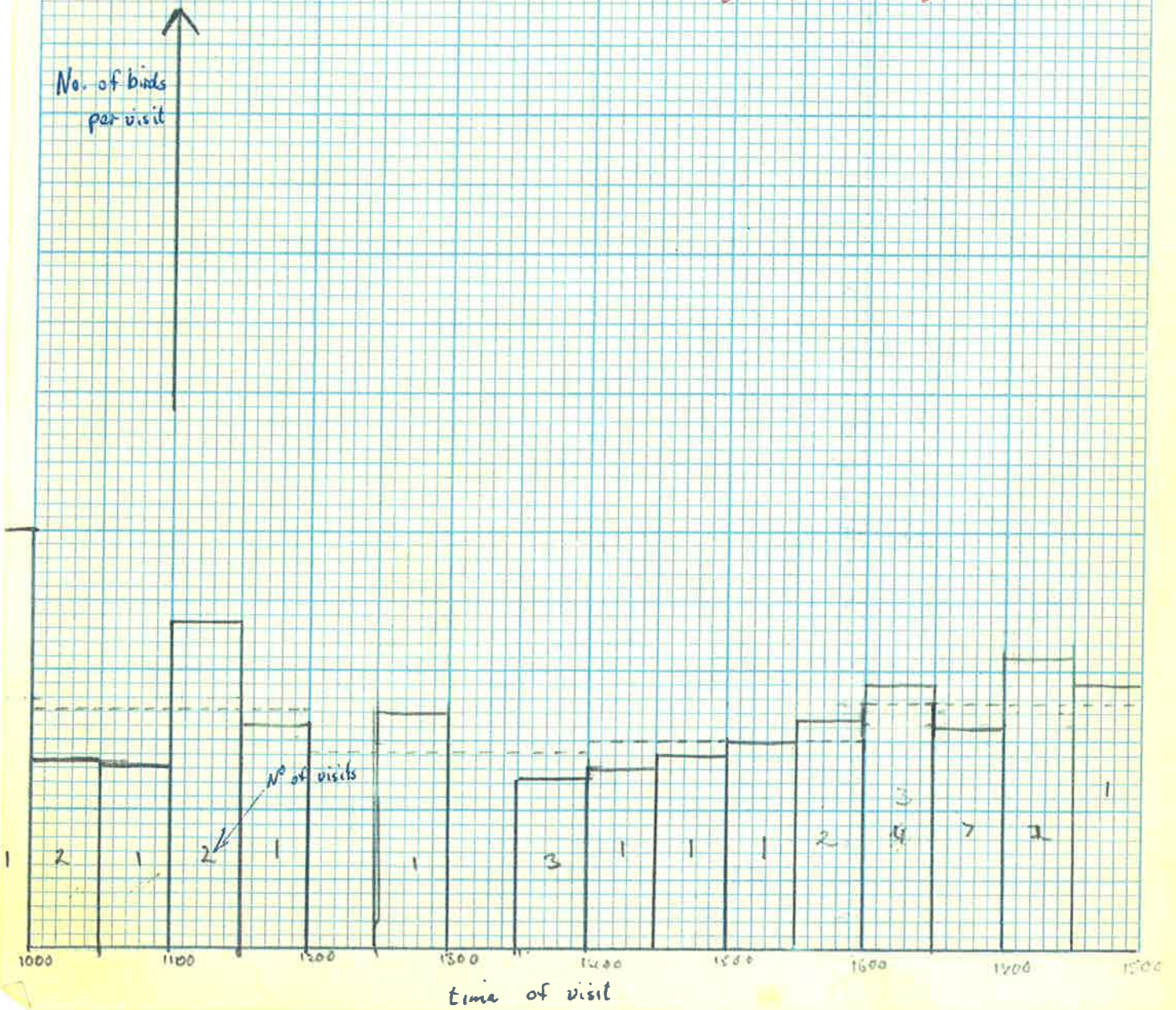
0.5

0.75

1.0

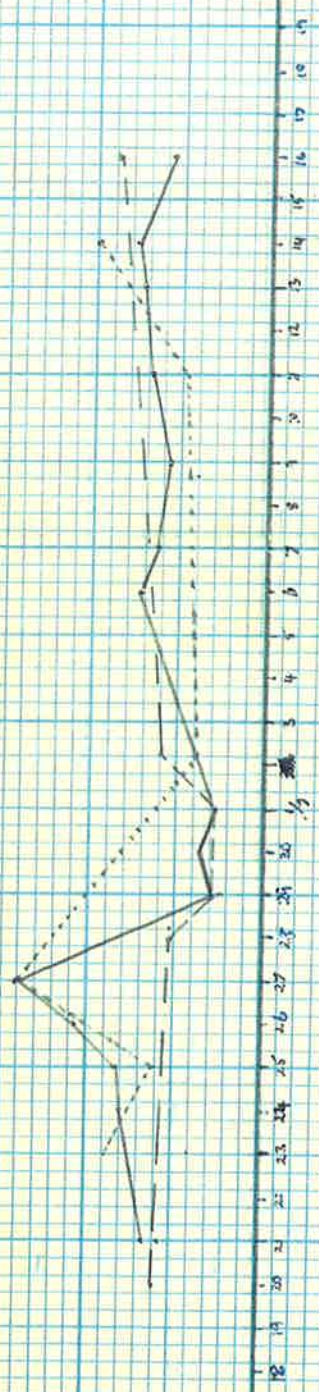
10/7/69 data up to today

1 hour intervals instead of $\frac{1}{2}$ hour may be better?

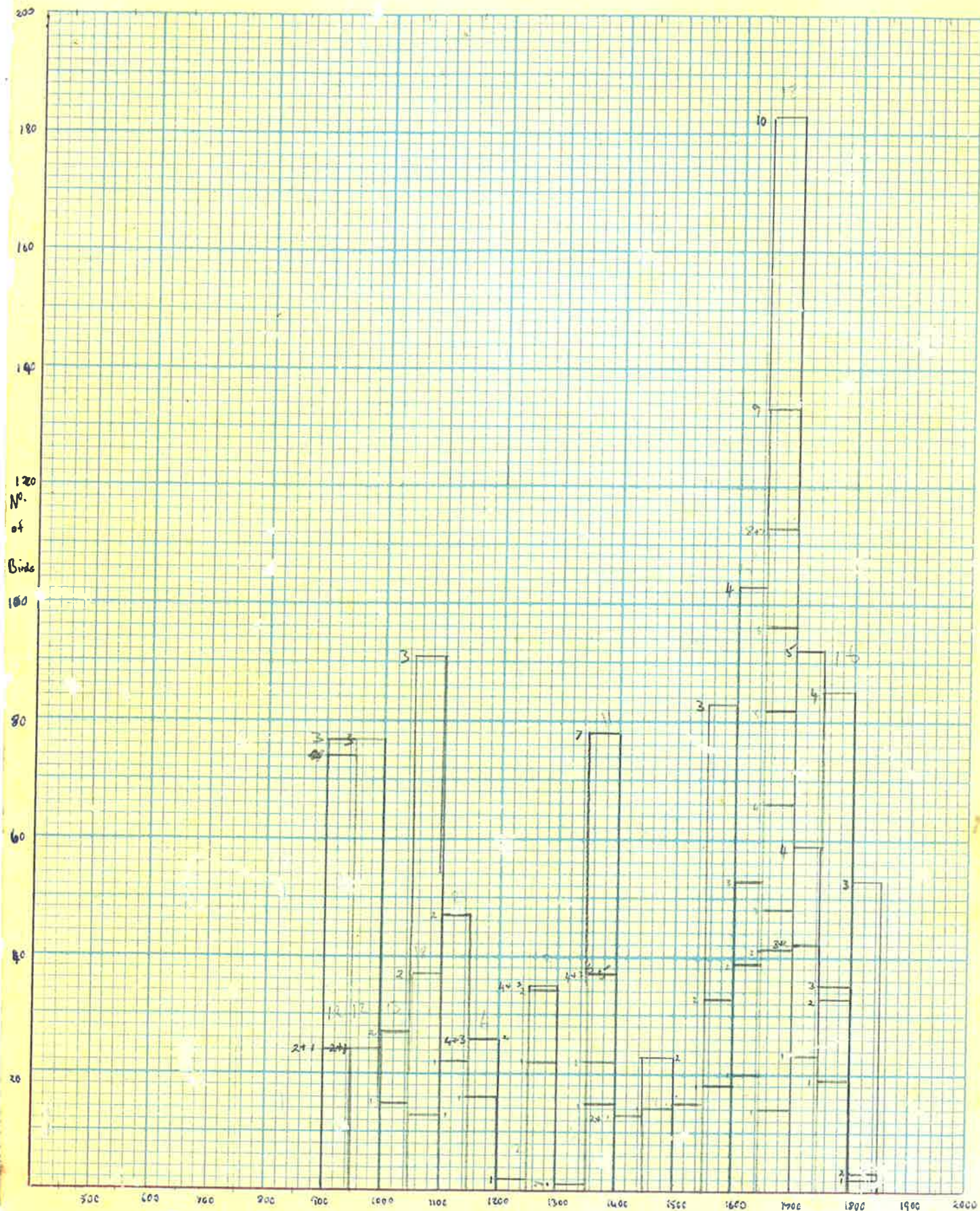


Avocets

18.00 ± 1.80
 12.00 ±
 10.00 ±



NS. Had more dips in other 3 recordings made in order to check theory that NS smelted throughout day.

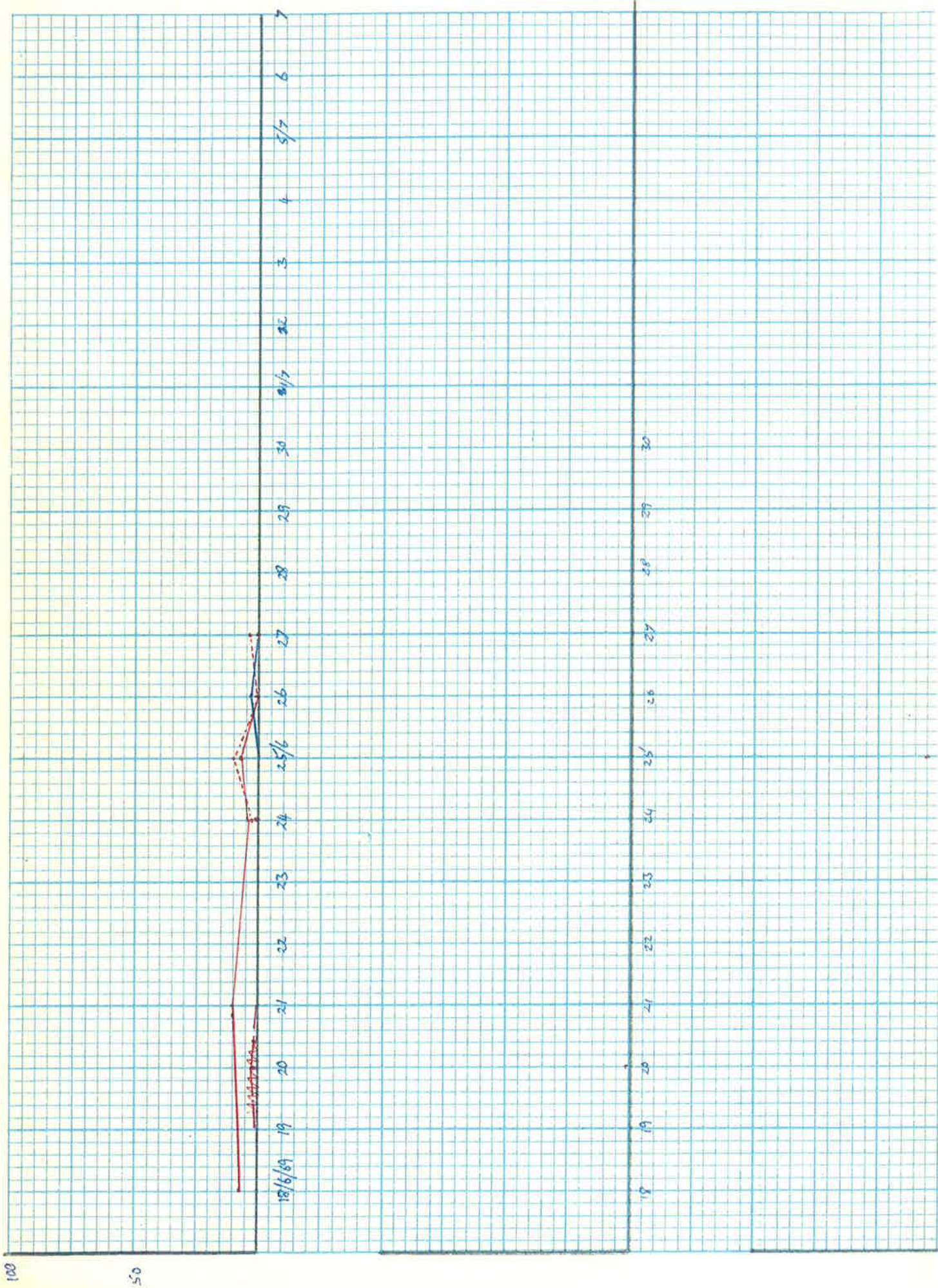


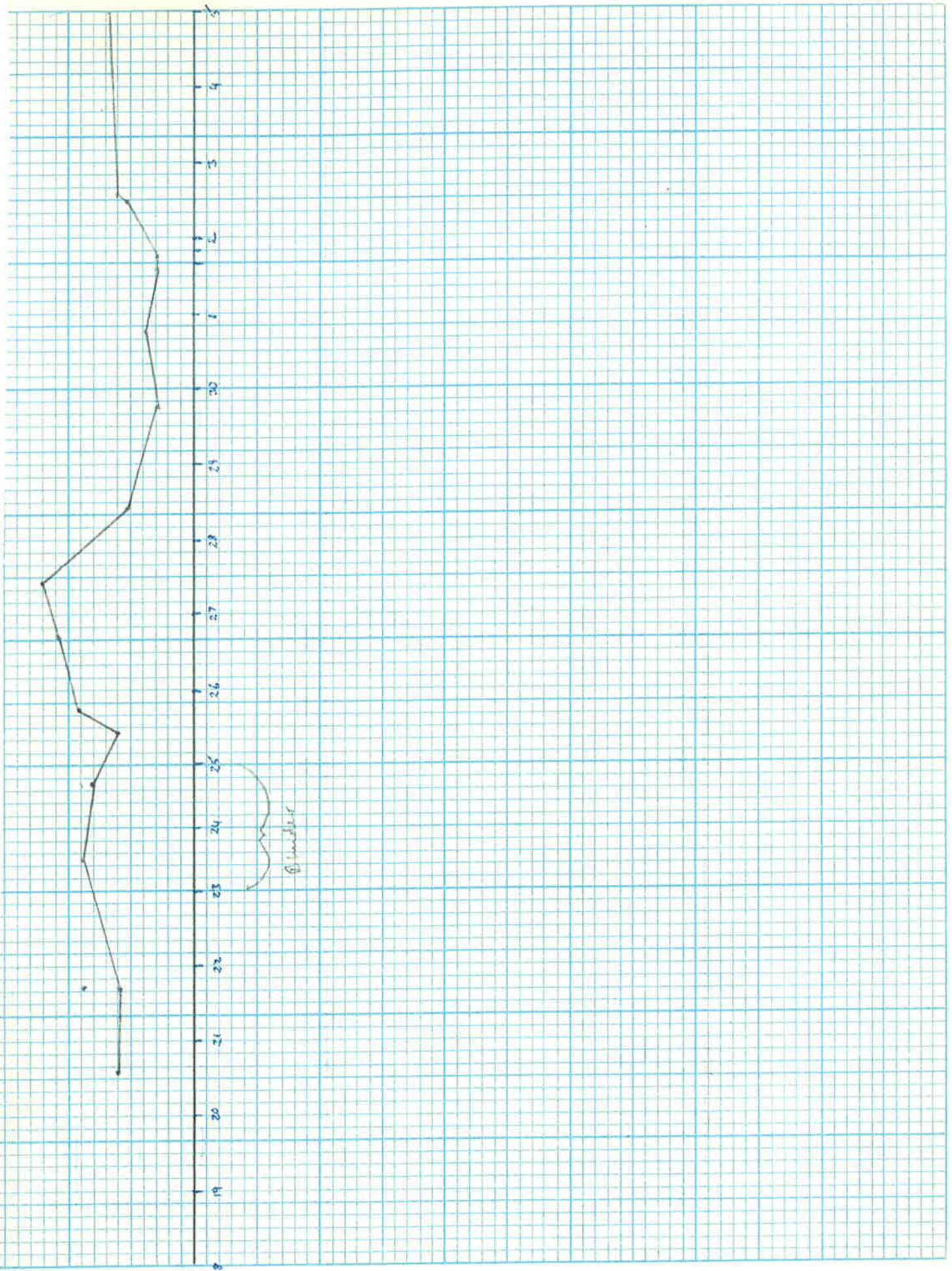
Time (half hour intervals)

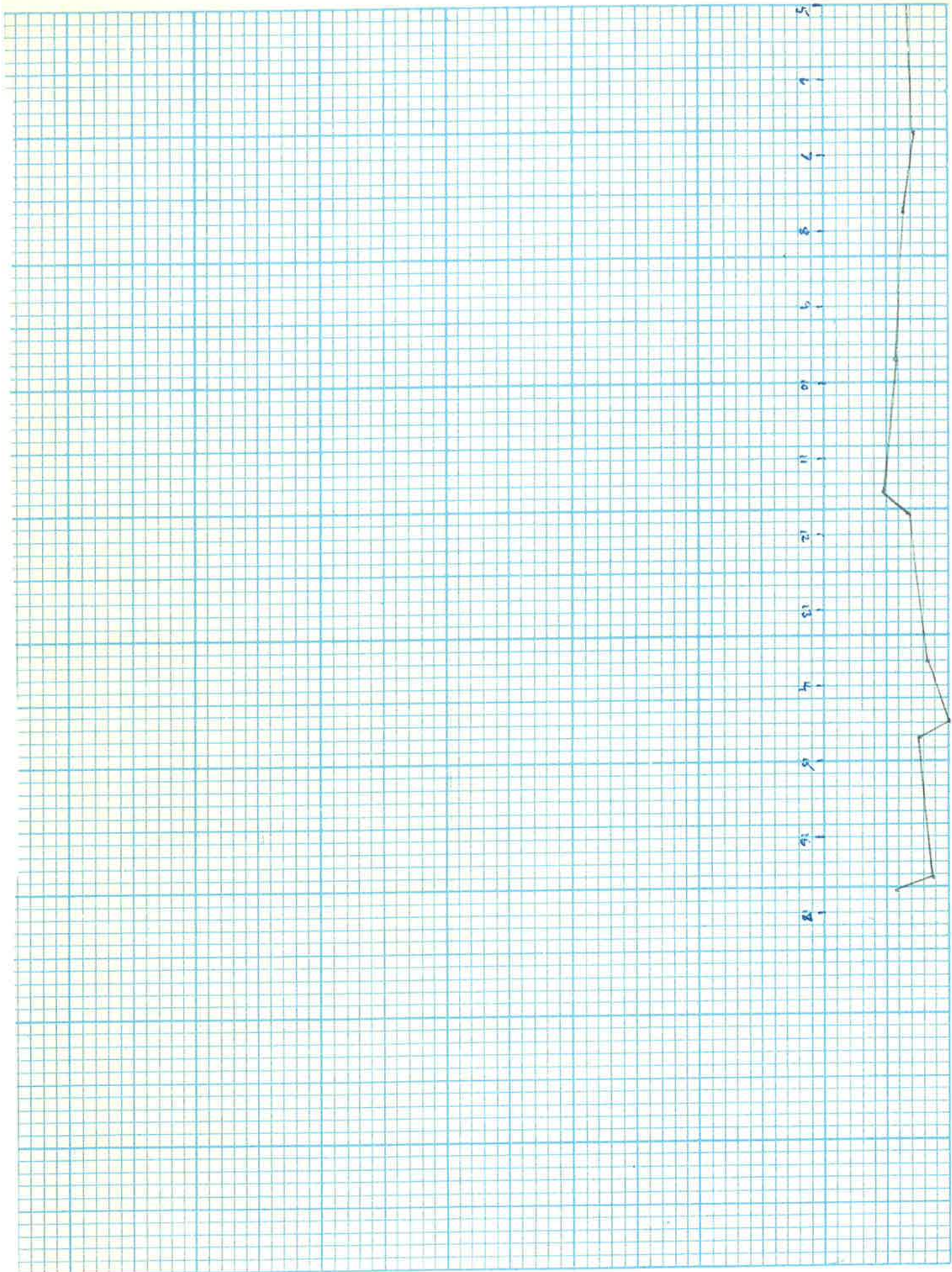
Recurvirostra nova-hollandiae

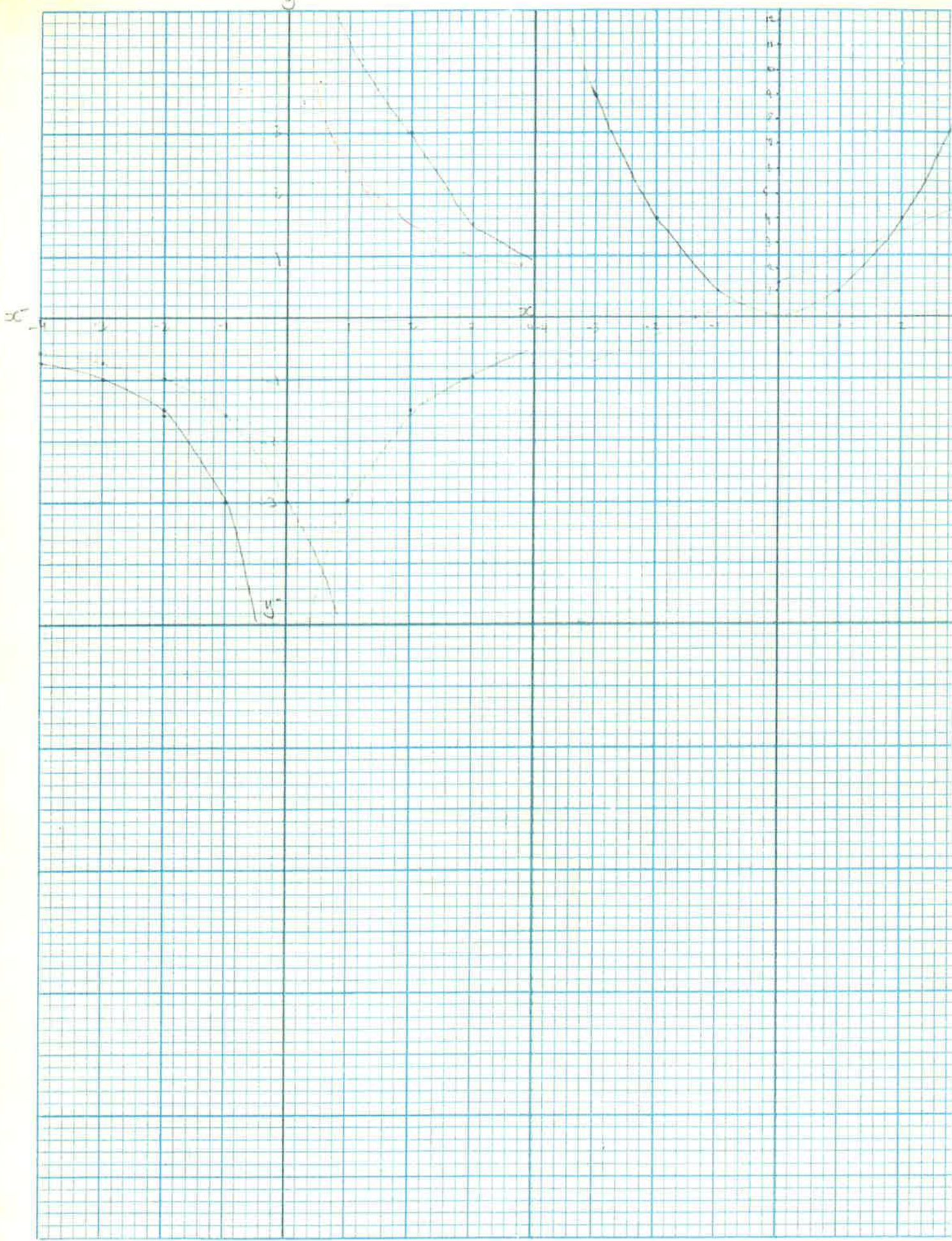
DUCKS

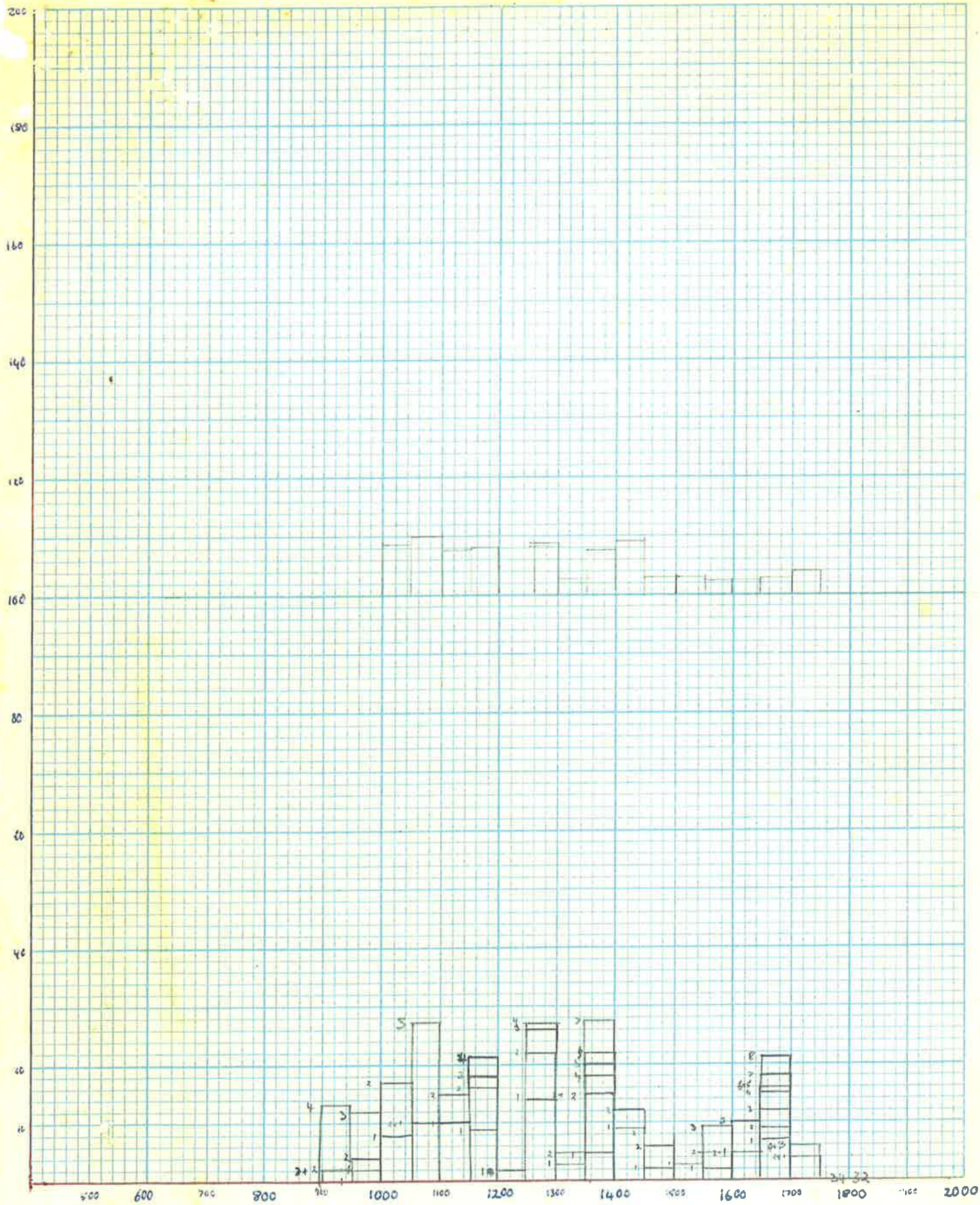
1800 ± 1.30 hrs





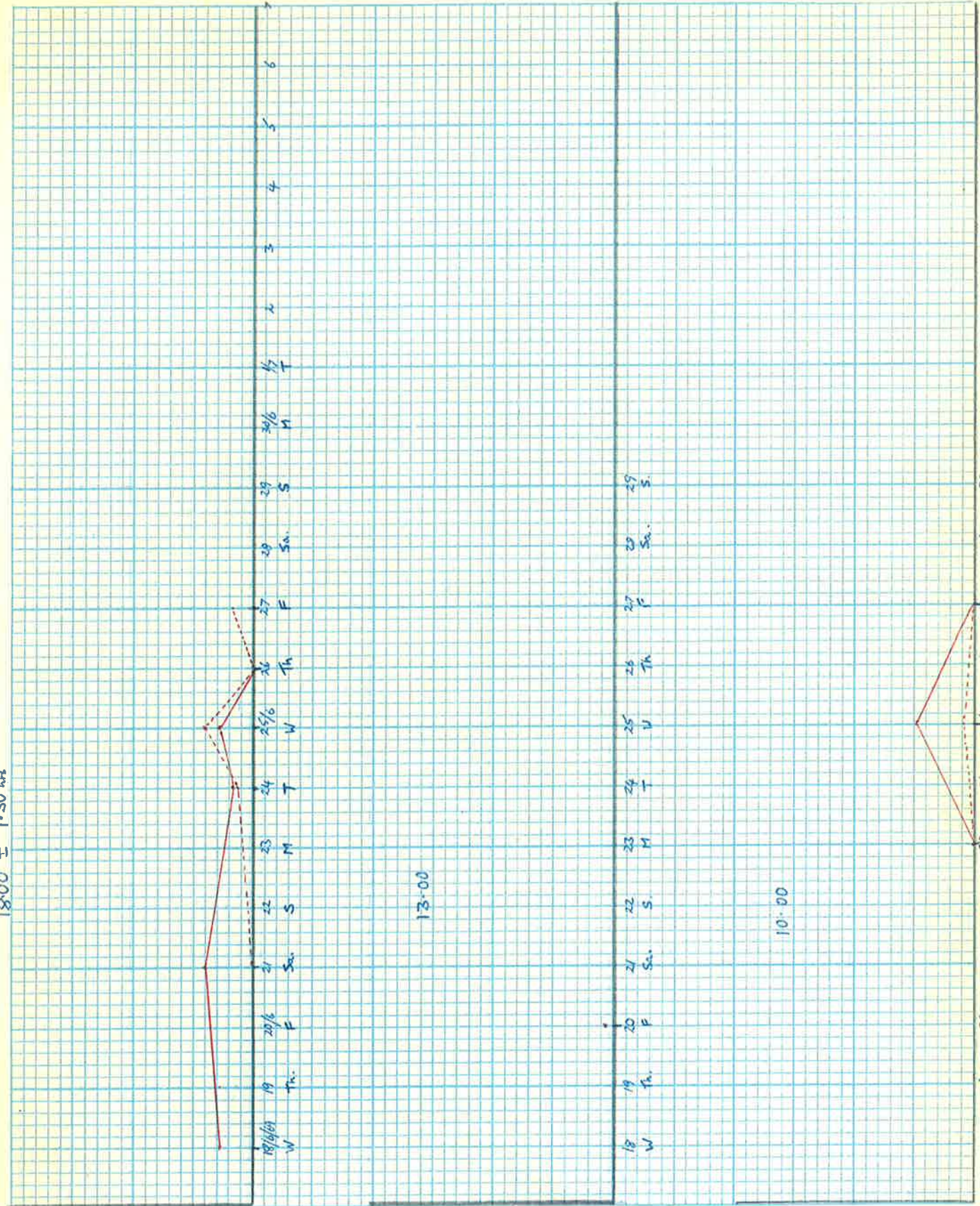






Hydroprogne caspia

18:00 ± 1:30 hrs



13:00

10:00

50

25

50

25

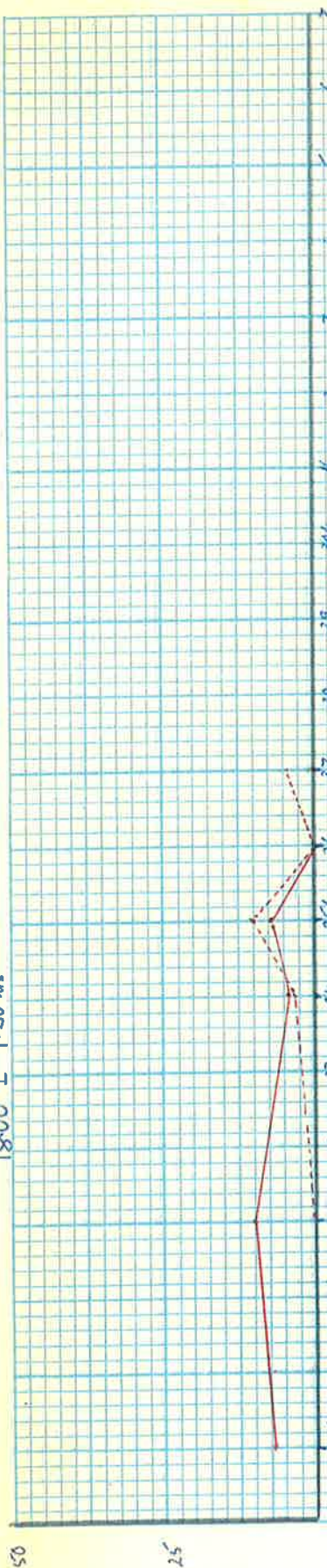
50

25

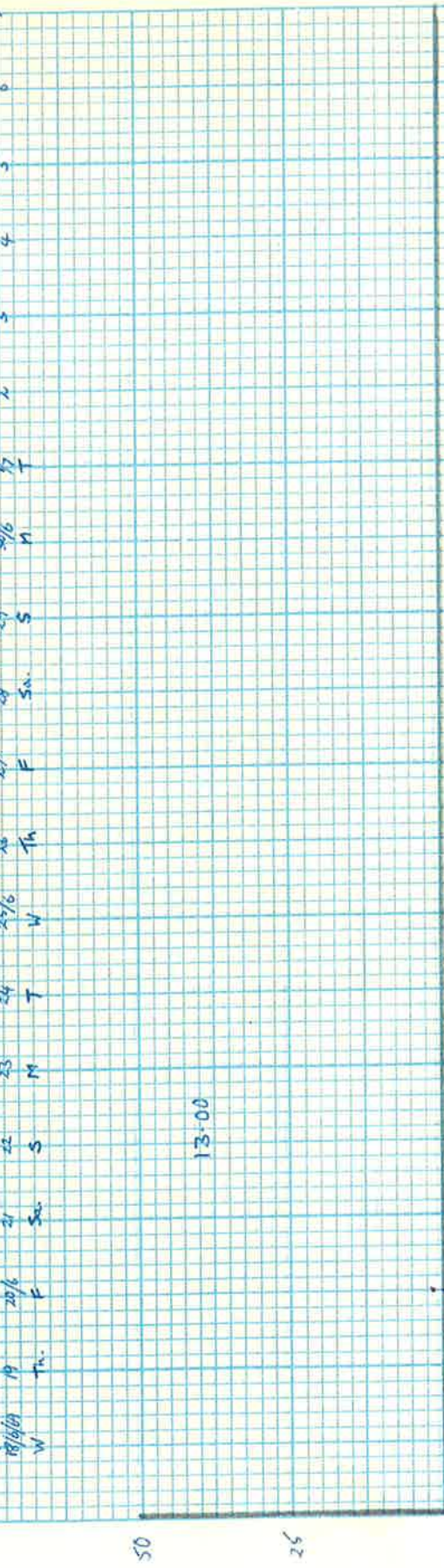
50

25

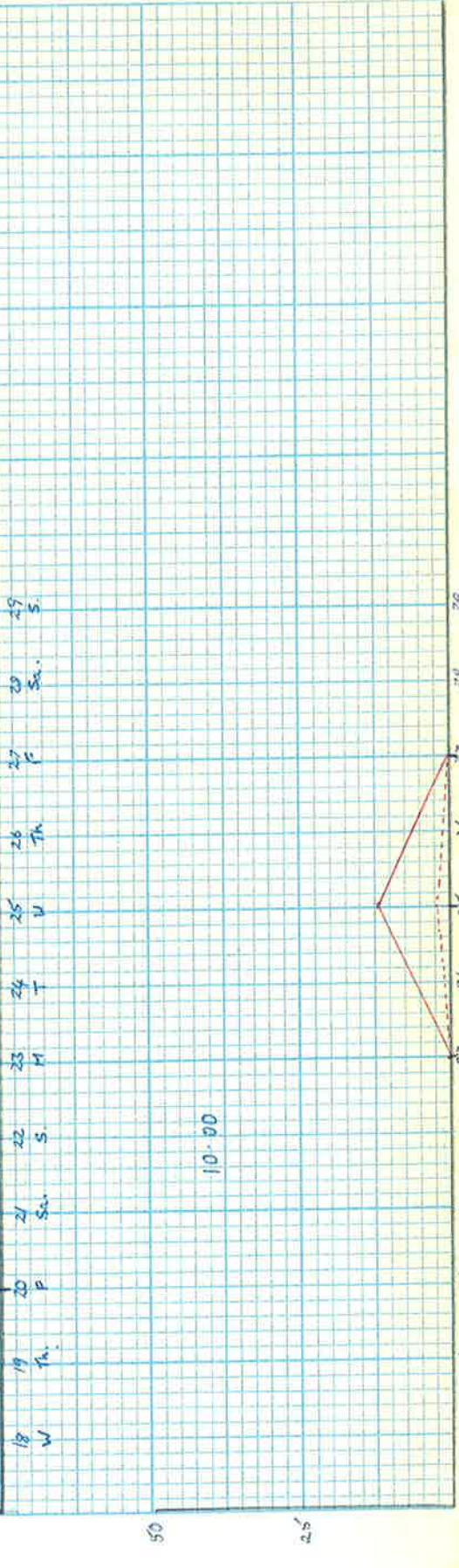
1800 ± 1.30 hrs

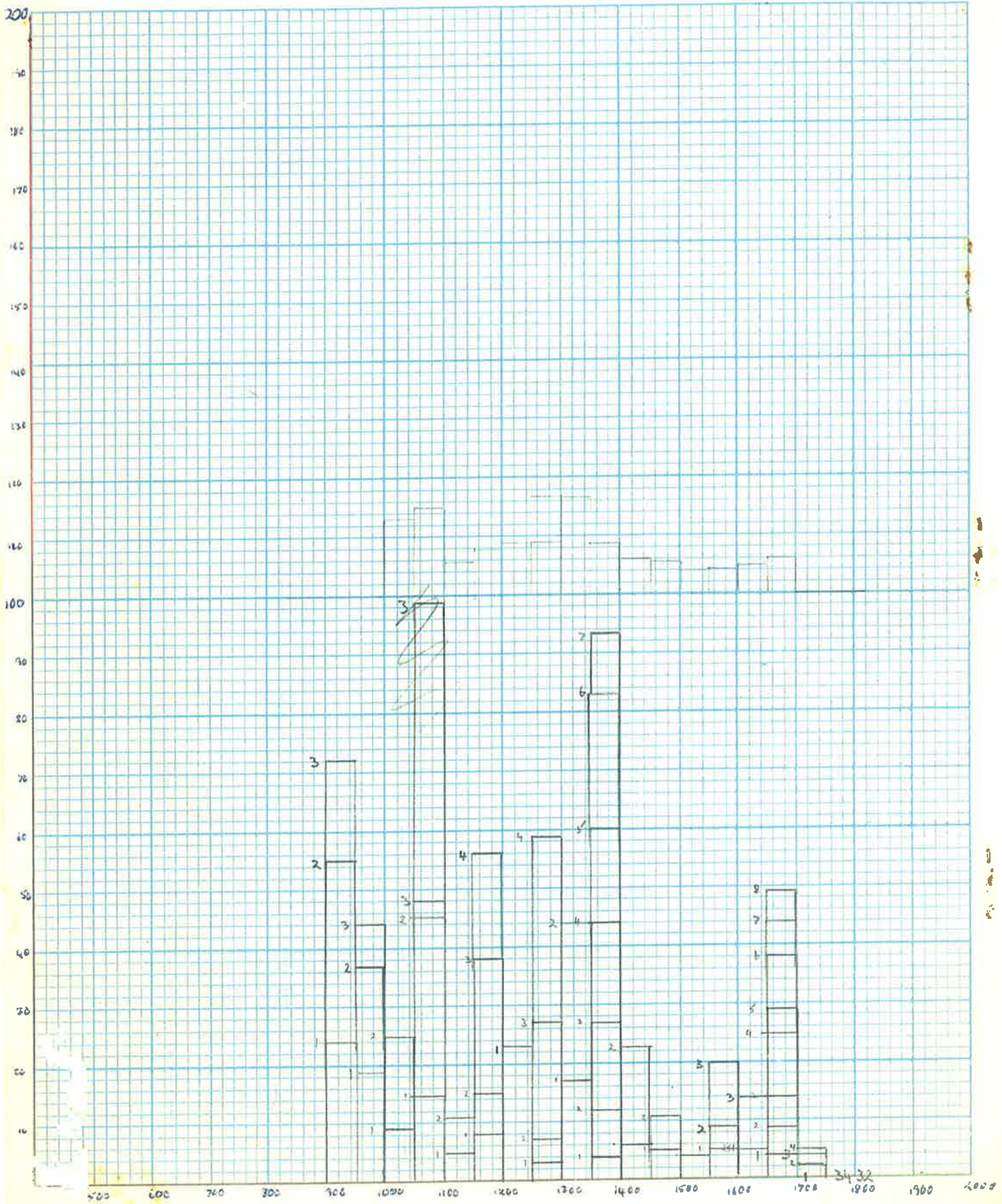


13-00



10-00





Stwierdzenie