

Finalised indexes, received
16/2/2014 and printed (+ saved
to c:\)
on 17/2/2014
J.

Grant Pearson's Field Notebooks

(INDEX)

Box 1:

1. 02-10-76
2. 10-76 09-77
3. 02-77 1980
4. 1977
5. 2-11-77 to 17-01-78
6. 01-78 11-78
7. 03-78 09-78
8. 06-78 07-78
9. 10-78 03-79
10. 26-11-78 06-12-78
11. 17-12-78 02-79
12. 03-79
13. 04-79 06-79
14. 07-79 11-79
15. 07-79 04-80
16. 08-79 10-79
17. 09-79
18. 10-79 11-79
19. 12-79
20. 1979
21. 05-80 08-80
22. 09-80 02-81

23. 10-80
24. 06-81 10-94
25. 08-81
26. 10-81 02-83
27. 12-81 1982
28. 1982
29. 03-82 09-84
30. 09-82 10-84

Box 2:

31. 03-83 03-85
32. 09-83
33. 12-83
34. 08-85 11-85
35. 1986 1987
36. 06-86 11-90
37. 1987
38. 06-87 11-91
39. 07-87 06-88
40. 09-87 09-88
41. 10-87 01-88
42. 03-88 02-89

43. 07-88 to 09-88
03-89

44. 06-89 08-89

45. 10-89 01-90

46. 03-90 04-90

47. 08-90 09-92

48. 11-90 01-91

49. 05-91 11-91

50. 11-91 to 11-94

51. 03-92 07-92

52. 11-92

06-93 to 08-93

53. 03-93 04-93

54. 16-09-93 19-09-93

55. 22-09-94 02-06-95

56. 09-06-95

Box3:

57. 15-03-95 11-04-95

58. 24-04-95 to 05-11-95

59. 13-10-95 29-12-95

60. 08-11-95 to 14-02-96

61. 01-12-95 to 30-04-96

62. 16-05-96 to 18-12-96

63. 31-07-96 25-07-97

64. 13-08-96 20-09-96

65. 04-10-96 to 04-11-97

66. 09-04-97

67. 06-97 02-98

68. 08-97 10-97

69. 03-98 06-98

70. 06-98 26-03-99

71. 11-09-98 27-05-99

72. 01-07-99 10-07-99

73. 04-10-99 11-05-00

74. 20-05-00 to 15-06-00

75. 08-00 12-00

76. 09-00 10-00

77. 03-01

78. 03-01 to 11-01

79. 07-01 to 12-01

80. 09-02

81. 03-04 to 06-04

82. 28-04-05 12-05

83. 09-06

09-02

80

9102

80



0900

21/7/02

①

Wembley to Monkey Mia 142057 Start

142000

Reynolds Ford 113.442 13.42 E. 163 km
Gardetto 142.537 27.47 27.5 E. 317 km
OV 142.831 25.01 25.0 292 km

143003 Monkey Mia at 1900

946 kms

ca 80 C.

1883 Per Night for 2

Overnight at Monkey Mia Resort in
a canvas Condo. DBL + 2 x 2 Bunks
ensuite (!?) (Plastic mat on at rear)
Kitchen sink stove Fridge + Crockery/cutlery.
Vests on beach front.

(2)

(3)

Amsterdam 2

Gavin Main

free entry

143177

OV 346/km 30.57 1.03.9 29.36 P

CNVN 273 285 98.9 25 143400

CB. ~~285~~ 143647 kms 143650

= 1584 kms

\$147.00 PL - Coral Bay

70.00 Boat Trip

560.00 Accom

100 fuel

6

7

Kalbarri Beach Resort
99371061

Kalbarri Morrison Lodge
99371096

8

9

143753	Mindy	33-00	312.	356	12m
143909	Conn	12-00	12.	156	
144165	BB	27	25	255	
144371	Kel.			206	

David Armstrong 27 B Davesville Rd

Debbie Saens 190 000 Neg
0408 035 854 Some View at rear
Rural Residential

12 Acres 150000 No View

Ray Weston Term

Lot 1 Sold

Lot 10 185000

Brett Good

0893340333 Alicia

3340397 04114 945 034

2027902 Mark Mesker

Jan Rave 9443 7411

91922596 ~~Phil~~ Phil Fridge

0893852718

White Charger

(12)

Checked 1A 50 North - No change.

(13)

Jondalup	16.81	9.10	20°
Jondalup	44.82	6.91	22°
Chandala	0.97	6.90	16°
Bamzun	2.51	8.40	17.6

Algal bloom less than usual but extensive
Not filtered

Warrnamat 0.97

3cm below bottom of plate (2m at top)

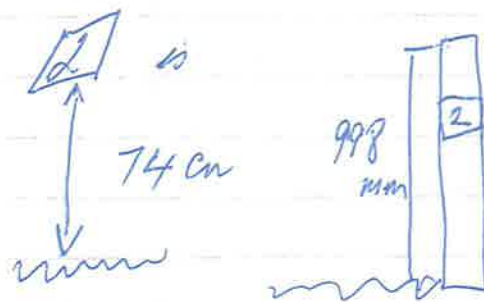
Crackles 1.09 7.91 Some sediment
in the water making filtering difficult.

14

15

Gauges

Gauge missing (off stem)



= 0.26 m.

Seems OK from appearance.

(16)

Refuelled Bi Garra
11-45

44 L. ~~64997~~
64937

Laguer

Collected & Small Sample
very shallow.
lot of birds

(17)

20/9/02
Yarra Yarra

Depth 0.11

Scraped away base salt from
gauge. Measured from surface
water to 0.40 = 29 cm
Calculated Depth = 0.11

Collected small sample for total
fitted

(18)

(19)

Lagoon 20/9/62

Depth on New gg 0.68

Muro gg 32 cm total of water

water surface = 0.68

12 cm water at New gauge.

Evidence of greater depth near
tree stumps

Pool to West gone

(20)

Goorly

Dry

1940 Dalwalum

(21)

21/9/02

At Dalwalum

Called John Cusack

Blue Gum is Dry as a chip

all lakes are dry.

Drove to Hinds

(22)

(23)

Fresh Lake on Kwoyini
South Road

057 2907

646 1684

1140 Noonyong Dry

1340 Ardath Dry at egg
Puddle in middle

473 M. 145°

60 off ~~W. side~~ daken

(24)

(25)

hoonafling 21/9/02

gauge 046 2068
6442 923

0.59

150 Car
151 De Leon

Dobadery 00/9.

154 99-1

155 99-2

26

27

Iron

(low) Ferric Iron

Magnesium sulphate

20% Acid

Oxidation affects acidity

Regional mapping - risk as

Environmental planning policies
Sustainable groundwater resources
Watershed management & use

(28)

(29)

Boring can

Lakes can fund in a few months
Gauging 7 → 3 in 3 months
due to mining

boring the feet can have
a similar impact

Do in impurities
if enough ferric iron it will happen
anyway.

get pyrite material well
below water table

30

31

Cont. Suckel off
Trench symbols

look at other parameters
that can be measured
to provide early warning indicators
of changes in pH.

look at iron.
Aluminum

Slave? DEP
141 St George's Tie Perth

(32)

(33)

Total

f

iron

Mummm

sulfate

chloride

(34)

(35)

26/10/02

Obao AC & on to WLC.

$\frac{2}{3}$ of fauna could disappear due to
salinity

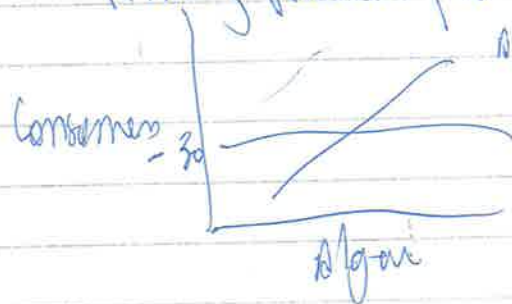
36

24/10/02
Rob Davies

37

Isotopes - see Peter's report
find out algae

Aquatic grazers missing
in SW compared to SE
* Carbon Isotope Signatures
Primary producers / benthic algae
Algal 1:1



38

Salinity defenses in stream
primary prod.

Measurements of ces process
are a useful biomonitoring
tool - early warning

10/Prod mydriac

39

22/10/02

0900 Barry Hat

Consider risk within the landscape

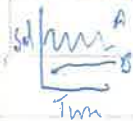
or catchment context

- 1 Problem formulation
- 2 Quantification method
- 3 Ecological consequences
- 4 ?

Disturbance Ecology

Types of salinity disturbance / $\Rightarrow$ Response
multiple disturbances

Disturbances - A Seasonal pulse little long term
change



B Persistent increase over time

(40)

System subject to multiple stressors

Flow change

Wetland removal

Water & Quality degradation Nutrients & toxicants

How to include consideration of stressors

Wetland / River
Landscapes

Where in the landscape
sensitivity

Refugia Seedling pools

Cramer & Hobbs 2002

(41)

Ecosystem Processes Peter
Hypotheses Davies

More diverse more ecologically
stable

Multiple stressors - max susceptibility
to disturbance

Main Components of Risk

Conspicuous

Highland

Scale

Risk - hazard x exposure

42

43

Prob. formula
Issue / Hazard Assess

Risk Assessment & Ranking
effects / hazard assessment
likelihood assessment

Link
meshback

decision process → Alternatives
Scenarios

Why? Good Planning - Provide focus
Rigorous process to get all issues considered
help with transparency

How? stakeholders with searching support
information / knowledge base
stakeholders

(44)

Setting Stakeholder workshop

Who

Skills

What is to be done first

2 Scope operationally temporary

Values to be protected/priorities
which stakeholders

aquatic systems to be considered

(45)

Identify ecological issues

eg Salinity effects

algal blooms pesticides toxicity
fish kills

Conceptual model for each ecological

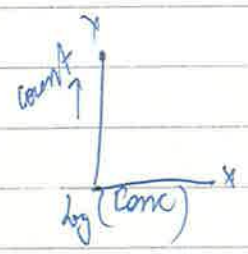
group issue

Identify links between stressors
& issues

46

the salinity sensitivity databases
produced by Bradley & James
list species occurrence with
measured salinities
may supplement with ecotoxicant data

use summary data of species found
to sample from overall salinity database



47

Barry Hart

variability
incertitude

Ecological risk - landscape
catchment

(48)

0945

Darryl Nielsen

Bacteria loss $> 7 \times$

Seeds germinated reduced $> 1 \times$

Drainage decreases rapidly up to 10%
less rapidly over 10%

Most have lower upper limit of 29%

(49)

Alan Lymburg

1100

Soil Salinity
ground water increased then
salinity $\times 16$

Soil Salinity mainly related to
elevation in catchments with total
clay 20-30 m away from stream

Plant sp Composition

* Significant relationship
between soil sal. & sp.
comp. over all catchments

* & within catchments
Significant diff in sp comp among all
catchments

(50)

Less or more water in closed
catchment

Inverse relationship between % cover
of *Perennia* beds over all catchments
in culture catchments

* Consequences

Changes in fauna. very riparian zone

Biomass & no. of of *Perennia*
in small samples is inversely
related to soil salinity

(51)

Salinization of drainage / marsh / streams
→ increased salinity → decreased
structural diversity of riparian vegetation
→ decreased biomass & diversity of
riparian invertebrates??

How should we treat effluent
water from inland fish farms?

(52)

Use flanks to fresh water notes

(53)

22/10/02

Mike Lyons

829 Quadrats @ 250 wetlands

Chaypon 45 quadrats

Saline lakes 445 quadrats

Chaypon flora

321 sp. 76 naturalised taxa

19 sp threatened & priority

Many taxa not present in other fresh wetlands

Naturally saline wetlands - lakes
drainage channels

(54)

Salt Lake Veg. Communities

Salt Lake Flora

690 taxa.

39

threatened or priority

major center for diversity for

Askenew 12/6/57

Chenopodiaceae Test

From Bogly know

Genetic Study for reveg.

(55)

BBQ

At Close

old Fort

Middleton

6:00

6:15

Dolphin Lodge.

Field

0745

0800

56

Keely Ough
Aquatic Plants. of freshwater
response to salinity

No Abstract in Papers

John Freund
Delta biodiversity

57

Tennille Graham
Cost sharing to abate dryland
salinity

Drew Haswell
Conserving Trout
Jensen to Besselke
to structural ecosystems
types

Hydrology
Rainfall low
Water extraction
Fresh water lens reduced

(58)

(59)

1400 N Mc Kays

807 SD

304 Quadrats

Lycosidae showed
increase with Salinity

7/9 Non Salinized

3800 7.39 in Salt affected

(60)
11/30

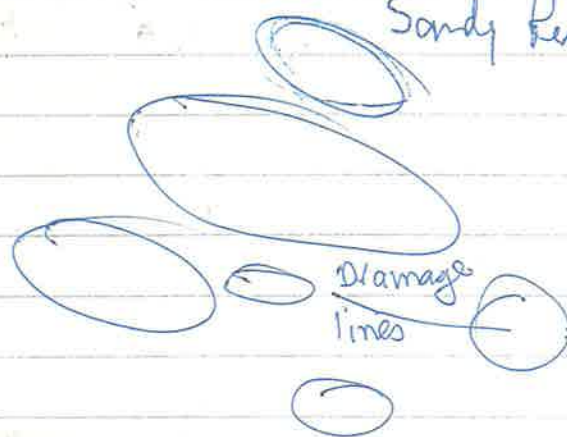
Brenton Green
5th Aug.

Ecosystem response to
drainage - Coplong

Vicki Cramer

(61)

Sandy Rise



Restore or Reveg with
new sp ?

Propagule ??

62

63

Kel. Baldeck.

(64)

(65)

Michelle Carey

Changes to Yaks due to
changes in glandular

Looking along creek lies
at Gardner River

Losses

Mel Culiculus

hamulus

Gahnia

Euc

Lomandra

(66)

Shannon diversity index

Site diversity change at all zones

Soil Chloride / Folate health
Elevation (above ground water)

0.5 No Fols

0.5 - 1 m Poor adult health

> 1 m Adult health > 50%

(67)

Elevation

< 0.5 m

0.5 - 1

gwh < 0.3 m

< 1.5 m > 80% d.m.

1 < 30% d.m.

Samplings + Met

cl < 1.5%

stressed Fols

1°

Current stressed sp + diversity
will not persist in 2° Saline
environments

Look at wakeby duration cl
+ Soil type

(48)

Branca River

Seed Bank (59)
Seed Store

Anne Cochran

12000 plant sp 50% of nat total

20% threatened

Southwest = 12% of WA

90% of pop'n

8000 plant sp

75% endemism

65% cleared

Wheatbelt 3-4000

60% endemism

93% cleared

1500 sp occur in lowlands

+ these are threatened by salinity

70

Posters

22/10/02

71

Brett Ward,

Naomi Arrowsmith

Lyn Slade

Community change in
catchment of Kent?

Manji War

Community Education

Valuing biodiversity of the
West Midlands

(75)

(76)

4/11/02

0630 At WRC email, load
0915 to Yealoring - bought food email

(77)

(78)

5/11/02

0700 B'fash & on to Warden

0800 Warden 1090 8.48

Calm down 4 cm exposed

Munro 10 cm exposed

Gauge reads 1090 Telescope

1000 Big NE winds

ESP 26965 (3)

0005 4.38 PM

Feldspar? Crystals on lake
beds

Wk Legrande 1011 m.

(79)

5/11/02

Station Ldk 0.68

Swan 150

Gull 600

• Best 100 feeding on surface

Coot

(80)

5/11/02

Wheatfield ~~SW~~

Plastic gauges need backing

Gore
1.05 m

Gore 1.05 m.

(81)

(82)

6/11/02

Also Blast & Load. On to Mordyngup
talked to Brian White re
water sample analysis
Calibrated p/meter at 7 & 10.

New. 76 cm Star Picket exposed
Alarms 43 cm Fence dropper exposed
PH 8.98 up from 8.51 for Sep 02.

0920 Coomalbidg. up
measured down from bottom of 3m
gauge to obtain a figure of 106m

SIP installed 33m north of 3m
gauge at 700 mm exposed

(83)

6/11/02

ESP1 26410 0064 44 8.55

WPT ESP1 at water edge near

Droppers (35 cm) exposed

ESP1 G2 gauge 2 on flat.

Read

by 14

Fred 1

Aug 15

Pa 00

Chert.

(84)

Bemell's

2 m - 9 = 1.91

SIP near tree 56 exp

Munro Datum 2

11 cm exposed

1 m gauge

9 cm exposed = 1.91

By 14

Dry

LiBL

10/10

Pa 00

(85)

6/11/02
Yaalup

0.98 m.

Not filtered

7.98

6/11/02



6/11/02

(86)

6/11/02
Altham

Dry

(LSE
0.03)



(89)

(90)

14/11/02

Boo Bear Bibby

1252 3.63

1930 5.57

15/11

1419 5.15

2034 6.18

16/11

0850 6.25

1502 2.61

17/11

0926 6.83

1537 2.13

18/11

0957 7.29

1608 1.72