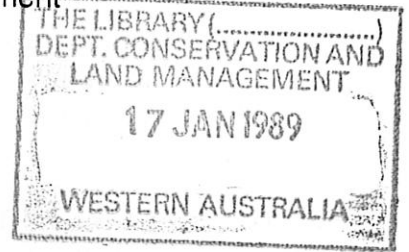


RESEARCH INFORMATION NEWS

Department of Conservation and Land Management

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No: 11/88

Nov/Dec 1988

Editorial

With the year drawing rapidly to an end it is common for many to reflect on their achievements over the past twelve months and start to plan for the new year. The planning process is, in all respects, essential for development - be it in the home or work environment. As part of our series on "Time Management" in this issue we look briefly at "The Importance of Planning".

We have also started an "Opinion" column which we hope will become a regular feature - however, this needs your support. Our first "Opinion" has been submitted by Andrew Burbidge.

With only a few weeks left till the end of the year and of course the "holiday season", this will be the last edition of the "Newsletter" for this year. (There will be no December issue). We plan to start the New Year off with, hopefully, a new title and heaps of interesting articles. Many thanks to all who have contributed articles throughout the last year.

Merry Christmas and a Happy New Year to all.

Ed.



	ISSUE	DEADLINE	DISTRIBUTION
DEADLINE FOR NEXT ISSUE	JANUARY '89	23 JANUARY '89	EARLY FEBRUARY

Information from the Research Division Policy Group Meeting

The meeting was held on the 24 November 1988 at the CALM offices, Busselton.
Information from the meeting

The following positions will be advertised in the near future

- Divisional Administrative Assistant (Woodvale)
- Computer Systems Officer (Manjimup)
- Research Scientist (Karratha)

Two short term FTEs have been approved for the Division. These officers will be appointed for 3 to 4 months to work in the following areas:

- (i) review of environmental weeds
- (ii) typist - Wildlife Research Centre

Research Division Contingency Fund

\$36 000 has been allocated to Programs from this fund. Program Leaders have been advised of projects approved.

Protection of Fire Sensitive Plants

A listing of all species that take in excess of three years to seed will be compiled and circulated to forest region staff.

Technical Staff Matters

Discussions have been held with the Human Resources Branch in an effort to achieve uniform titles for all technical staff in the Division - regardless of Act employed under. A memo has been circulated to all Technical Officers in the Division informing them of the current position regarding titles, criteria progression, etc.

Regional Herbaria

A CALM policy on Regional Herbaria is being developed.

Interstate Travel

The RDPG endorsed an application from Richard Moore to attend the Third Agroforestry Conference in Victoria in April 1989.

Acting Arrangements

Per Christensen will act as Divisional Manager, Research for the period 16 January 1989 to 15 February 1989.

Neil Burrows will act as Principal Research Scientist (Science) during Ian Abbott's period of Long Service Leave (February-April 1989).

Whilst in Busselton the RDPG met with Charlie Broadbent, Acting District Manager. The afternoon was spent visiting various eucalypt agroforestry trials and pine Nutrition experiments. The RDPG extend their appreciation to Richard Moore and the Busselton technical staff for a most informative field trip.

LEADERSHIP AND THE PYGMALION EFFECT

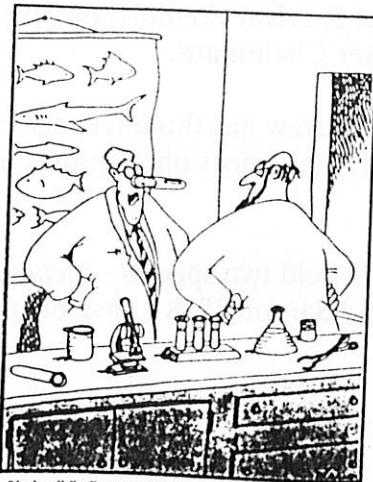
by David Ward

There is an old belief that wherever scientists may roam, they will find that a poet has been there before. Taking the word "poet" in a broad sense to include any sort of creative writer, we may note that George Bernard Shaw wrote a play called "Pygmalion" which delved profoundly into those matters which today's psychologists call "self esteem" and "transactional analysis". The way in which we label ourselves or others, or allow others to label us or others, can have a powerful effect upon human relations. Our expectations of others can affect their behaviour, and their expectations of us affect our behaviour. When people behave as expected, the labelling is re-inforced.

With this concept in mind, it is, in my view, subtly counter-productive to label some people as leaders, and others, by implication, as non-leaders. This practice springs from the naive belief that leadership is a quality possessed by some and lacking in others, and that we can identify it just as we can classify some people as tall and some as short. In my experience it is more productive to regard leadership not as a quality, but as an interaction which occurs between certain people in certain circumstances. We are all capable of leadership in the right situation and in interaction with the right people. In research the most junior member of a research team may be the best leader in a particular set of circumstances.

For this reason I believe that the title "Project Team Leader" should be changed to "Project Team Co-ordinator". The job of the co-ordinator, like that of a good chairman at a meeting, should be to encourage everybody in the team to have a go at leadership, when circumstances are right. Technicians can know more than professionals. By labelling one person as "leader" we are, whether we intend it or not, labelling others as "non-leaders", and those people are likely to perform as we have labelled them. It may also be useful to remember that the term "leader" translates into the German "der Fuehrer" and the Italian "il Duce", which have the strong connotations of "der inflated ego" and "il bombastic windbag".

I think research needs all the leadership it can get, that is, as much productive human interaction as is possible. To achieve this we should draw upon all our human resources regardless of rank. This will call for skilled co-ordination.



"Just pull it off and apologize, Cromwell ... or we'll go out in the hall and establish this pecking order once and for all!"

Who's Who in Research Division

After much enquiring our roving reporter has managed to uncover something of the background of our Divisional Manager. For those of you who wish to know what it takes to reach the top (apart from being an avid table tennis player and a caffeine addict![although he denies this habit!]) here's a bit more information on some of the qualities required to help you make the grade.

Dr Andrew Arnold Burbidge, B.Sc.(Hons) Ph.D Divisional Manager Research

Andrew Burbidge was born under the Aquarius star sign on the Isle of Wight, U.K. on the 2nd February 1942. The watchword of the Aquarius type is INVESTIGATION - an appropriate word for someone who has pursued an interest in science.

At an early age Andrew's family moved to Western Australia and settled in Bunbury. His high school years were spent at Guildford Grammar School where he not only excelled academically - being awarded the Guildford Grammar Scholarship in 1955 - but also represented the school at rifle shooting and rowing. The latter interest was pursued right throughout his University years through his membership of the UWA Boat Club from 1960-66 and the awarding of both a Half Blue and Full Blue for Rowing.

In 1967 Andrew completed his PhD in Zoology - the topic for his thesis being "The Biology of South Western Australian Tortoises". On completion of his PhD he moved with his wife, Merilyn, to take up a post as Assistant Professor of Zoology at the University of Texas, Austin. He returned to Western Australia in late 1968 to take up the position of Research Officer with the Department of Fisheries and Fauna (later Fisheries and Wildlife). In 1971 he was promoted to Senior Research Officer and in 1978 to Chief Research Officer. During 1976 Andrew spent time as a visiting scientist to British Columbia in connection with their Ecological Reserves Program.

In 1985 with the formation of CALM Andrew was appointed to the position of Senior Principal Research Scientist. This was followed by his appointment to his current position of Divisional Manager, Research in June 1987.

Andrew is active on a number of Societies, Boards and Committees both through CALM and personally. He has been a member of the State Executive for ANZAAS since 1987. Amongst other memberships he contributes actively to the World Wildlife Fund Australia, WA Naturalists' Club and the Royal Society of WA. He is active on a number of CONCOM Working Groups including Endangered Fauna and Crocodiles and currently sits on two IUCN - Species Survival Commission Specialist groups on Australian Marsupials and Freshwater Chelonians.

Away from his office at Woodvale, Andrew has three teenage children to occupy his time. He is also a keen squash player and enjoys photography, natural history and reading.

As a reflection of his expertise in his field two species - *Ctenopus burbidgei* Storr 1975 and *Petrogale burbidgei* Kitchener and Sanson 1978 - have been named after him.

OPINION....?



It has been suggested that a regular 'Opinion' page be started in the newsletter. The following article "Endangered Species : are they worth saving?" has been submitted by Andrew Burbidge as a first in this series. He was asked to write this for "Australian Geographic".

The success of the column relies heavily on you - the reader - to submit your "Opinion". What we are after is one page articles from staff on subjects relevant to research in CALM.

All worthy "Opinions" will be published so please use this opportunity to express your views.

'Ed'

ENDANGERED SPECIES: ARE THEY WORTH SAVING?

by Andrew A Burbidge

Twenty-five years ago I started research that I hoped would lead to saving Australia's most endangered vertebrate animal - the Western Swamp Tortoise - from extinction. Since then I have been associated with many other projects to protect endangered species. Some of the projects, such as the conservation of the Noisy Scrub-bird, have been highly successful. Others have yet to attain success - there are now fewer than 50 Western Swamp Tortoises and its only hope is captive breeding.

Saving endangered species costs money. Is it worth it? Society makes many demands on Governments, so conservation has to compete for funds with other worthy projects. Are endangered species worth saving, especially if they are of no apparent economic benefit to humans?

I can think of four main arguments for the preservation of species.

The first is that simple compassion demands their preservation. Compassion develops from the view that other species have a right to exist; the needs and desires of humans should not be the only basis for ethical decisions.

The second argument is based on aesthetics. Species should be preserved because of their beauty, symbolic value or intrinsic interest. Most people would feel a loss if banksias, butterflies and honeyeaters (for example), and the wild places in which they live, disappeared.

The third is based on economics. The unique Australian fauna and flora attract tourists. Plants, animals and micro-organisms provide all our food, and almost all our medicines and drugs. They also provide renewable resources such as fuel, building materials, paper and leather. So far we have utilized only a minute proportion of the potential that exists in nature. Many biological resources, including species considered "useless" today, will be found to have new values in the future. Clearly, extinctions reduce our options.

The fourth argument is that other species are vital components of ecosystems that provide us with indispensable free services - the life-support systems of our planet. Other species provide the oxygen we breathe, maintain the quality of the atmosphere, control and ameliorate the climate, regulate freshwater supplies, generate and maintain

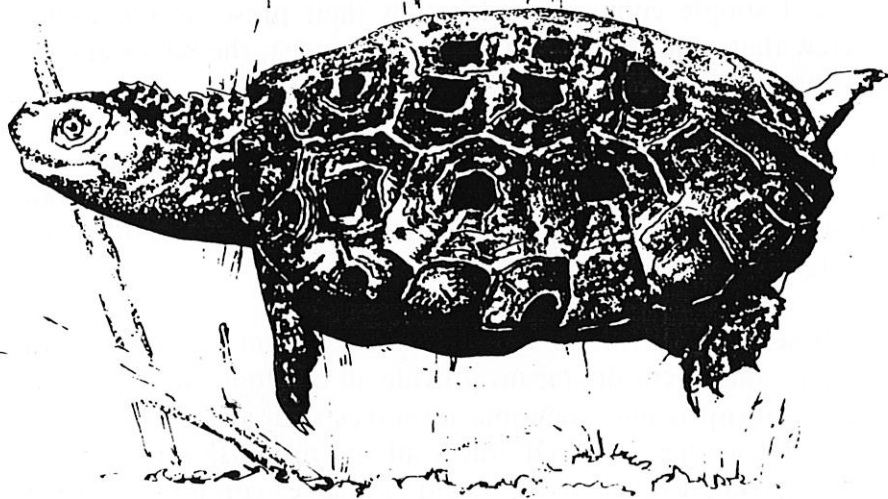
the topsoil, dispose of wastes, generate and recycle nutrients, control pests and diseases, pollinate crops and provide a genetic store from which we can benefit in the future.

But do the rarer species contribute to the provision of life-support systems? Some biologists argue that conservation action should be aimed at the "keystone" species, species which, if removed, will lead to the collapse or partial collapse of an ecosystem. Sometimes rare species are also keystone species. Another of their values is that they allow ecosystems to recover from disturbances - today's rare components may be tomorrow's keystone species as conditions change, and change in the near future is likely to be rapid. Therefore, the loss of species that are rare today may have significant detrimental effects in the future.

Increasing rates of extinction world-wide are part of a larger problem - we are getting out of balance with our environment. Humans have tended to regard the environment as limitless and for 99% of our history that view was justifiable. Now, increasing human population and improving technologies mean that we assail the environment in ways that it cannot sustain.

I believe that our attitude to endangered species reflects our attitude to the environment as a whole. If we continue to allow other species to disappear then we will probably allow the world environment to degrade until it can no longer sustain us. Endangered species are like the coalminer's canary.

Once the challenge was to conquer and subdue the environment. Now the challenge is to learn to live in harmony with it. This will require both a change in attitude and the development of special skills. It is not too late - the signs of change are all around us - but the battle is far from won.



Selection of a Site for a Single Metropolitan Research Centre

Acoustic Environment Consideration

Regular readers will recall an article in the October issue by Ian Abbott under the above heading. Ian (along with Allan Burbidge) had compiled a listing of bird species recorded at Como and Woodvale.

In response to this, staff at Dwellingup Research have compiled a list of bird species recorded in the jarrah forest within 10 km radius of Dwellingup Research Centre

Regularly Recorded

Brown Goshawk
Collared Sparrowhawk
Port Lincoln Ringneck
Red-capped Parrot
Western rosella
Red-tailed black cockatoo
Pallid cuckoo
Fan-tailed cuckoo
Shining bronze cuckoo
Scarlet robin
Western yellow robin
White breasted robin
Golden whistler
Grey shrike-thrush
Grey fantail
Western gerygone
Western thornbill
White browed Scrub-wren
Inland thornbill
Varied sittella
Rufous treecreeper
Spotted pardalote
Striated pardalote
Silvereye
Brown honeyeater
White naped honeyeater
New Holland honeyeater
Western spinebill
Little wattlebird
Red wattlebird
Grey currawong
Australian Raven
Dusky Woodswallow
Australian Magpie

Regular Visitors

Emu
Little Grebe
Great Cormorant
Little Black Cormorant
Little pied cormorant
White faced heron
Straw necked ibis
Black swan
Mountain duck
Black duck
Grey teal
Wood duck
Square-tailed kite
Whistling Kite
Brown Goshawk
Australian little eagle
Wedge tailed eagle
Little falcon
Spotless crane
Swamp hen
Common Bronzewing
Brush Bronzewing
Purple-crowned Lorikeet
White tailed black cockatoo
Boobook owl
Sacred kingfisher
Splendid Fairy-wren
Redwinged Fairy-wren
Red capped robin
Willy wagtail
Restless flycatcher
Rufous whistler
Magpie-lark

Occasional Visitors

Black Shouldered-kite
Swamp Harrier
Peregrine Falcon
Brown quail
Spur-winged plover
Regent parrot
Horsfield's Bronze-Cuckoo
Mistletoe bird
Barn owl
Tawny frogmouth
Owlet-nightjar
Fork-tailed swift
Rainbow bee-eater
Welcome swallow
White-fronted chat
Brown headed Honeyeater
Black faced Wood-swallow
Grey butcherbird

Total
34

33

18

Pallid Cuckoo

Cuculus pallidus



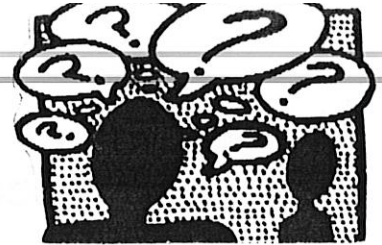
If quality of the acoustic environment was considered an essential element for location of the centre of research then Dwellingup would undoubtedly have a strong argument! However it is not in the Metropolitan area!

Thanks to all at Dwellingup for this contribution.

White-fronted Chat

Ephthianura albifrons





The Importance of Planning

Our behaviour pattern has been developed over a long period of time. We tend to take these habits for granted, however, once we have identified the undesirable habits that cause most of the problems, we must question why they exist and why we maintain them.

Because habit change is difficult, it is probably best to concentrate on only one change at a time. Many people fail because they try to do too much at once. If we do try to do too much at once, we may well become overwhelmed and frustrated.

The key to being effective is to do the right thing at the right time to achieve the right results. Time pressure is usually a symptom of inadequate planning, always plan before you act and review afterward. We often get so bogged down in the day-to-day problems, that we feel that we don't have time to plan. However, this will just increase the number of problems we have.

Planning is important because:

- It forces us to set priorities
- It forces us to be specific
- It defines reality from wishful thinking
- It gives us a track to run on
- It forces us to assume responsibility
- It establishes performance standards
- It establishes the organization's system of values
- It is the first positive step to success

Most of us accept that goal setting is important in principle but internally we fight against goal setting. Perhaps because of these reasons:

- Fear of change
- Conditioning
- Hoping for miracles
- Fear of losing
- Fear of winning

To get a real perspective of the need for goal setting and planning, some of the comments made by management people have been detailed as follows.

Reasons for not planning:

- It's difficult
- It takes time
- I don't know how to plan
- It takes away from 'doing' work
- It's not enjoyable
- It prevents change and flexibility
- It doesn't allow creativity
- It makes weaknesses obvious
- It makes work too mechanical
- It doesn't pay off immediately
- 'Doing' work is more satisfying than planning
- I enjoy 'fighting fires'
- Planning requires co-operation

These reasons really do not make sense because planning is essential for development. It reduces the time taken to do work by a great deal more than the time actually taken spent planning.

RESEARCH DIVISION FIVE YEAR PLAN

The second edition of the Five Year Plan has now been published and circulated to all permanent Research Division staff, a number of other CALM personnel and numerous outside (both inter and intra State) organizations.

Research Division staff are asked to be familiar with Part 10 - Aims and Primary Objective of Research Division (page 35) and also the aims and goals of the program(s) to which they belong.

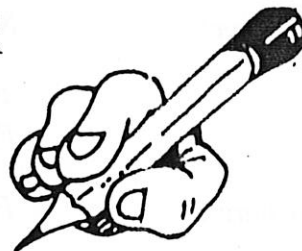
Mistakes, Omissions, Suggestions

Jeanette Gilmour at Woodvale should be advised of any mistakes/omissions in the plan. These will be rectified in next year's plan.

Please also forward any suggestions for items for inclusion in the next edition of the Plan to Jeanette.

Ian Abbott

A WORD FROM THE SCIENTIFIC EDITOR



Is it right or is it alright?

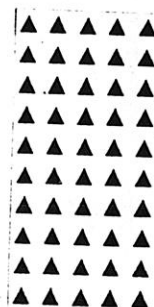
All right must always be written as two separate words: there are no such forms as all-right or allright, and alright, although it is described by the Oxford English Dictionary as a frequent spelling of all right, it is still regarded as a vulgarism and not accepted as good English, therefore to be avoided. Alright is unacceptable not only in those cases where the two words are obviously completely independent, as in The two interpretations, although different, are all right, but also where they may be regarded as forming a fixed phrase, eg Jack's article was all right (ie all is right). She's all right; the accident did not harm her, I'm quite all right.

If you have any doubts, remember that the opposite of alright must logically be alwrong, which is all wrong.

All right?!

Marianne Lewis

5
YEAR
PLAN



JULY

1988

JUNE

1993

RESEARCH PROJECT PLANS

The following Research Project Plans have been approved this month

- No: 23/88
Title: *Describing fuel structure and biomass in hummock grasslands*
Officer-in-Charge: Neil Burrows
- No: 24/88
Title: *Historical Weather Data - Giles*
Officer-in-Charge: Neil Burrows
- No: 31/88
Title: *Fire studies in shrubland at Stirling Range National Park. Part 3. Effects of fire on small vertebrates*
Officer-in-Charge: Gordon Friend
- No: 34/88
Title: *Impact of Fire on Desert Reptiles - Effect of Patch Size*
Officer-in-Charge: David Pearson
- No: 47/88
Title: *Fire behaviour in hummock grasslands*
Officer-in-Charge: Neil Burrows
- No: 49/88
Title: *Processing - Stability of regrowth jarrah panels constructed from boards of differing moisture content*
Officer-in-Charge: Peter Newby
- No: 50/88
Title: *Processing - Stability of regrowth jarrah panels under differing equilibrium moisture contents (EMC)*
Officer-in-Charge: Peter Newby
- No: 51/88
Title: *Processing - Compare W.U.R.C. grade rules to the U.S. rules and specifications, using dry dressed regrowth jarrah boards*
Officer-in-Charge: Peter Newby
- No: 52/88
Title: *Processing - Edge and face jointing regrowth jarrah boards into panels*
Officer-in-Charge: Peter Newby



- No: 53/88 & 54/88
 Title: *Eucalyptus muellerana* family provenance trial
 Officer-in-Charge: Richard Mazanec
- No: 55/88
 Title: Identification of eucalypt conker fungi
 Officer-in-Charge: Elaine Davison
- No: 56/88
 Title: Water relations and growth of jarrah on high, moderate and low impact dieback (*Pytophthora cinnamomi*) sites.
 Officer-in-Charge: Stuart Crombie
- No: 57/88
 Title: Water Relations of jarrah ground coppice, stump coppice and trees
 Officer-in-Charge: Stuart Crombie
- No: 58/88
 Title: Windbreak Studies in the South Coast Sandplain; Young *Pinus radiata* windbreak growth and management monitoring
 Officer-in-Charge: David Bicknell
- No: 59/88
 Title: Coppicing mature *Eucalyptus cladocalyx* (Sugar Gums) and *Eucalyptus gomphocephala* (Tuart) in windbreaks on the Esperance Sandplain
 Officer-in-Charge: David Bicknell
- No: 60/88
 Title: Windbreak Studies on the south coast sandplain; young *Pinus radiata* windbreak affect on annual crop growth and yeild
 Officer-in-Charge: David Bicknell
- No: 61/88
 Title: Fire Studies in shrubland at Stirling Range National Park. Part 1 - Fire Behaviour
 Officer-in-Charge: Lachlan McCaw
- No: 62/88
 Title: Fire Studies in shrubland at Stirling Range National Park Part 2. Vegetation response to fire
 Officer-in-Charge: Lachlan McCaw

SCIENTIFIC AND TECHNICAL PUBLICATIONS

The following have been approved for submission for publication this month:

- Author(s):* G J Keighery
Title: A new species of *Patersonia* (Iridaceae) from south Western Australia
For Submission to: Nuytsia
- Author(s):* G J Keighery
Title: Taxonomy of the *Grevillea brachystylis* species complex (Proteaceae)
For Submission to: Nuytsia
- Author(s):* N Burrows and G Van Didden
Title: Aerial patch burning in the Gibson Desert Nature Reserve
For Submission to: Landscape
- Author(s):* A A Burbidge and N L McKenzie
Title: Patterns in the modern decline of Western Australia's vertebrate fauna: causes and conservation implications
For Submission to: Biological Conservation
- Author(s):* N S Lander
Title: The Tasmanian plant collecting localities of Ronald Gunn and Joseph Milligan - additional records
For Submission to: Australian Systematic Botany Newsletter
- Author(s):* G J Keighery
Title: Pollination of *Hibbertia conspicua* (Dilleniaceae)
For Submission to: W.A. Naturalist
- Author(s):* A A Burbidge & G T Smith
Title: Noisy Scrub-bird
For Submission to: RAOU list of Rare, Endangered & Extinct Birds
- Author(s):* N S Lander
Title: *Apostates*, a new genus of Asteraceae (Astereae) from the south eastern Polynesian island of Rapa
For Submission to: Australian Journal of Systematic Botany
- Author(s):* J A Friend
Title: Saving the Numbat
For Submission to: Wildlife Australia

- Author(s)* R Moore & R Russell
Title: The "Three Norths" Forest Protection System - China
For Submission to: Agroforestry Systems
- Author(s):* N D Burrows & W L McCaw
Title: Fire Studies in Banksia Low Woodlands in Western Australia. Fuel Characteristics
For Submission to: Journal of Environmental Management
- Author(s);* P H Walsh & N D Burrows
Title: Firebase: A computer system for storing, retrieving and manipulating forest wildfire
- Author(s):* A A Burbidge & J A Friend
Title: Back from Extinction
For Submission to: "Case Studies in Environmental Hope" - Edited by Peter Newman, Murdoch University (Book)
- Author(s):* N D Burrows & R J Sneeuwjagt
Title: McArthur's Forest Fire Danger Meter and the Forest Fire Behaviour Tables for Western Australia : Derivation, Applications and Limitation
For Submission to: National Fire Danger Rating System - Workshop Proceedings (Canberra)

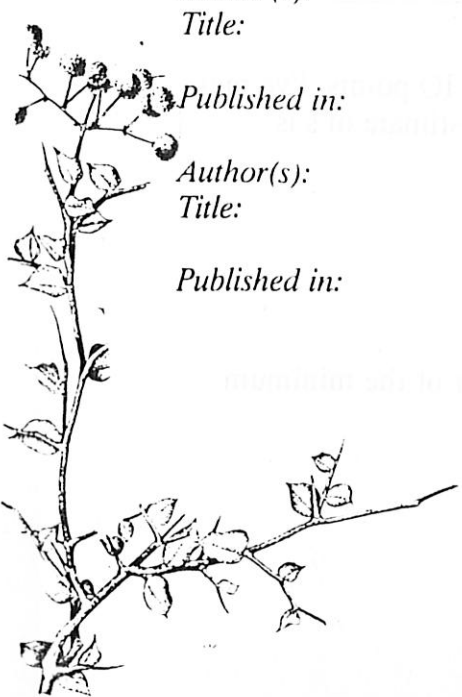
The following papers have recently been published

Author(s): G W Anderson, R W Moore and P J Jenkins
Title: The Integration of pasture, livestock and widely-spaced pine in south west Western Australia
Published in: Agroforestry Systems 6 : 195-211(1988)

Author(s): B R Maslin and L Pedley
Title: Patterns of distribution of *Acacia* in Australia
Published in: Aust. J. Bot., 1988, 36, 385-93

Author(s): R J Hnatiuk & B R Maslin
Title: Phytogeography of *Acacia* in Australia in relation to climate and species-richness
Published in: Aust. J. Bot., 1988, 36, 361-83

Author(s): A A Burbidge, K A Johnson, P J Fuller & R I Southgate
Title: Aboriginal Knowledge of the Mammals of the Central Deserts of Australia
Published in: Aust. Wildl. Res., 1988, 15, 9-39.



Estimating required sample size

Matthew Williams

Occasions arise when we wish to estimate the mean of a particular attribute in a population. Clearly we want our estimate to be a "good" or accurate estimation of the population mean, so how large a sample should we take?

The required sample size, N , depends on two factors : the accuracy or tolerance allowable in our estimate, and the variability of the population (measured by s , the standard deviation). Stated simply:

$$N = \left(\frac{t_{\alpha} s}{\text{tolerance}} \right)^2$$

t_{α} is the value of Student's t , at the α probability level. Normally we would choose $\alpha = 0.05$ $t_{\alpha} \cong 2$ for $N > 30$

so,

$$N = 4 \left(\frac{s}{\text{tolerance}} \right)^2 \quad \text{for } N > 30$$

the question of tolerance is a subjective decision for the researcher.

The standard deviation could be obtained from a pilot study, or from knowledge of a similar study. If limited data are available, the following table from Snedecor (1956) may be useful:

If n is near	Then s is approximated by dividing range by
5	2
10	3
25	4
100	5

Example

I wish to establish the mean IQ of research scientists, to within 5 IQ points. I've met about 10 RS's, and think their IQ's range from 70 to 110 (ie an estimate of s is $(110-70)/3 = 13.3$)

Using the formula,

$$N = 4 \left(\frac{13.3}{5} \right)^2 = 28$$

ie I should take a sample of at least **28** research scientists

It is probably a good idea to use this "guesstimate" as an indicator of the minimum sample size that will be needed to achieve the required accuracy.

SEMINAR

Thursday 15 December 1988

BIOLOGICAL SURVEY OF YANCHEP NATIONAL PARK: HOW IS IT USEFUL?

Presented by Allan Burbidge

Major aims of this survey were to:

- 1) enable the conservation values of Yanchep National Park and the adjoining Ridges area to be placed in a regional context;
- 2) allow an assessment of management problems and priorities concerning the conservation values of the Park; and
- 3) provide as "benchmark" data for monitoring purposes.

Vegetation in the Park is fairly diverse in terms of structure and floristics, providing a good representation of the plant communities and species of the Swan Coastal Plain as well as including a number of rare species and unusual occurrences, but also including many weed species, due to past disturbance.

A number of bird and mammal species are now rare or locally extinct in the Park, but the reptile fauna appears intact.

Some difficulties were experienced in making an objective assessment of the regional importance of the Park, but these will be lessened as comparable data becomes available for other areas. Some difficulties will also be encountered in utilizing the available data set for monitoring purposes. Careful thought will be required from both managers and researchers in order to adequately assess priorities and success within our management programs.

Venue: Training Centre
CALM SOHQ
50 Hayman Road
Como

Time: 3.00pm

Philosophy Corner

Research Malady No. 3 Omphalopsychosis

As all members of Research Division are aware, 1988 saw the most comprehensive review of research programs ever. However hard-gazing and subsequent re-organization is by no means a new and modern trend. Pretronus wrote in 65 AD :

"We trained hard ... but it seemed that every time we were beginning to form up into teams we would be reorganized....I was to learn later in life that we tend to meet any new situation by reorganizing; and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralization".

.....Some Guidance for the RDPG...

Parkinson's Laws (Cyril Northcote Parkinson B.1909)

First law: Work expands to fill the time available.

Second Law: Expenditure rises to meet income.

Third Law: Expansion means complexity, and complexity decay.

The Law of Triviality: the time spent on any item of the agenda will be in inverse proportion to the sum involved.

...Suggestions for a research motto...

Plurimi pertransibunt, et multiplex erit scientia...

Daniel xii 4

(Many shall run to and fro, and knowledge shall be increased)

Via ovicipitum dura est...

David xi 88

(the way of the egg-head is hard)

"The more intelligent the question you put to Mother Nature, the more intelligible will be her reply."

Eminent Physiologist - Sir Charles Sherrington

Research Division welcomes.....

Margaret Langley: Margaret has recently joined the team at Woodvale where she is working on fire flora ecology with Judith Brown and Angas Hopkins. Margaret comes to us from Metro Region where she spent three months assisting with the Interim Guidelines for Necessary Operations for Carnac Island. Prior to that she was employed by the Environmental Science section at Murdoch University where she was investigating the effects of air pollution on plants. Margaret has a B.Sc. In her spare time she enjoys photography.

Jenny Monck: Jenny has recently been appointed to the position of Administrative Assistant at the Herbarium. She comes to CALM from the Department of Occupational Health, Safety and Welfare. Jenny is currently pursuing studies towards a Bachelor of Business degree. Jenny has the unenviable task of setting up a variety of administrative systems at the Herbarium.

and says goodbye to.....

Stan Bellgard: Stan, a Technical Officer at the Dwellingup Research Centre, will be leaving on 23 December 1988. Stan has been offered a PhD scholarship from the University of Wollongong. Staff at Dwellingup and the rest of the Division wish him well in his studies.

Have you Heard...

Graeme Siemon will be taking over the role of Research Centre Manager at the Como Research Centre from John McGrath. Graeme takes over these duties from 19 December 1988.

