

# FIELD NATTER



## FIELD NATURALISTS ASSOCIATION OF CANBERRA

OBJECTS: To foster an interest in, an awareness and an understanding of nature.

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Meetings are held downstairs in the Division of Zoology and Botany, ANU, on the first Thursday of each month. Meetings commence at 8.00 pm and are followed by refreshments.

## NEWSLETTER - FEBRUARY 2000

**MEETING:** 3rd February. PHASCOGALES. Ann Conley and Bernard Morris of the Parks Service are involved with post graduate studies on phascogales in Namadji National Park. Phascogales belong to a subfamily of the family Dasyuridae and are carnivorous marsupials. Without wishing to insult the phascogales they look a little like mice with brush tails. Come along and be better informed than your editor. 8 pm in the Bozo building. Stay for supper and a pleasant chat afterwards.

### INDIANS IN THE KNOW ABOUT EL NINO Canberra Times January 13, 2000

**F**ARMERS in the high Andes Mountains may have been able to predict El Nino for centuries by observing whether clouds dimmed the light from a cluster of stars called the Pleiades.

A potato farming tradition handed down from one generation to the next teaches that the brightness of stars in the constellation during June roughly predicted the rainfall during the growing season from October to May.

The brighter the stars, the more abundant the rain for a potato crop highly vulnerable to drought. If poor rains are predicted, villagers in the mountains of Peru and Bolivia delay planting for several weeks.

Benjamin Orlove at the University of California and co-workers report in *Nature* that modern meteorology supports the farming tradition.

His study of satellite and weather data suggests that wispy cirrus clouds high in the atmosphere are more prevalent during El Nino, a warming of the Pacific Ocean that occurs roughly every two to seven years.

"What is remarkable is how detailed this cloud data is," Orlove said.

Orlove, who spent a number of years in the Peruvian Andes, said the clouds obscure the dimmest five of the 11 main stars that form the Pleiades. The dimmer stars are on the outer edges of the constellation, so it appears to shrink when viewed with the naked eye, he said.

The changes apparently only can be seen in the clear, dry air of the high Andes, which have a unique weather pattern, Orlove said.

The farming tradition may extend back to the 15th century and the Inca empire, said Alan Kolata, a University of Chicago anthropologist who specialises in the Andes. He said the Incas, who unified the central Andes tribes, had extensive astronomical knowledge even though they lacked a written language.

"I believe it's a quite provocative, interesting work and Ben is certainly on to something," Kolata said.

□ Australia's National Climate Centre reported on Tuesday that the the eastern tropical Pacific Ocean continued to cool during December causing a further intensification of the Pacific La Nina pattern. According to most computer models, this Pacific La Nina pattern is close to maturity and should begin to weaken during the next three months. In the past, this pattern has often, but not always, been associated with above average rainfall in eastern and northern Australia.

The NCC's latest outlook shows that for much of central and northern Queensland there is a 60% to 75% chance that rainfall will be above average during the coming season February-April. Across the bulk of New South Wales, the chances of above average rainfall over this period range between 50% and 55%.

[www.bom.gov.au/climate/ahead/rain\\_ahead.shtml](http://www.bom.gov.au/climate/ahead/rain_ahead.shtml)



FLOODED ROAD



## FROGS

WILL OSBORNE'S TALK AT THE  
NOVEMBER 1999 MEETING  
reported by Rosemary Blemings

Will Osborne's talk on frogs at our November meeting gave us a feast of photos of these appealing amphibians as well as taking many of us back to favourite haunts, habitats and views in the High Country. Will left us several copies of a Bogong article (vol.19, number 3, 1998) in which he and David Hunter give details of recent attempts to explain the decline in frog numbers and outline research, monitoring and breeding projects.

In spite of such projects, field work and a surge of interest groups, answers to the problems of declines remain complex and elusive. Several species have disappeared from the ACT Region. -even some 'large and conspicuous frogs' come into this category- disappearances likely to have been caused by human activity in destroying or "remodelling" habitats. Paradoxically though, Whistling tree frogs are recolonising the Gungahlin area.

Clearly those studying frogs swiftly develop a repertoire of skills that enable them to locate likely habitats, recognise calls, locate individuals by stone-turning and be self-motivated through a passion for their subjects. The sharing of observations, research results and sheer determination must surely lead to solutions to the survival problems faced by frogs both in Australia and overseas. During field work toes are removed, in the cause of science, so each individual's age, genetic make-up and health (in terms of pathogenic and chemical invasions) can be assessed. Such investigations have led to the identification of an unusual form of the Leaf green tree frog in a restricted stretch of the Upper Cotter River and the Goodradigbee River. This form is genetically remote but probably not a separate species. Frogs are pharmaceutical treasure-houses according to research. Knowledge of their chemical make-up has enormous potential for application provided extinction doesn't rob us of the opportunities. Handling frogs can, for example, cause adverse reaction in some humans but Australian frogs have fewer toxins in their body chemistry than frogs elsewhere. These toxins, particularly in South American frogs, serve as a potent deterrent to their predators. The lack of powerful toxins could be a reason for Australian frogs being more cryptic than overseas species where there are

also fewer snakes and wading birds to contend with.

Chemicals, for example wetting agents in pesticides, are likely causes of frog declines in some Australian areas. Pesticide mists may penetrate pristine habitats from places where agricultural regulations are still insensitive. However, according to the water samples which form an integral part of field work, there seems to be no worrying evidence of contamination in Kosciuszko National Park streams. A place like Sponners Lake, despite being artificial and having much vegetative material to be broken down, is a healthy frog habitat.

Pathogens could be a cause of some species declines as one, a fungus, destroys tadpoles' teeth and the keratin in skin as frogs reach adulthood.

There is no doubt that Alpine area frogs now have to contend with factors beyond rarefied air, high solar radiation and seasonal temperature extremes. Increased ultra-violet radiation, the effects of Ozone depletion and reduced precipitation may have occurred too rapidly for species to adapt the complex sequences of their life-cycles and the biology of their skins to change.

The effects of these factors have been studied in captive breeding programs in Melbourne where different filters and water-depths have formed the basis of experiments with eggs, tadpoles and frogs. Field enclosures to house Southern Corroboree frog tadpoles reared in captivity and released back into the wild have been set up to investigate tadpole mortality. One site's water levels were augmented by installing a water tank, using a solar-powered pump and gravity feeding to maintain water supplies to several tadpole pools.

Droughts, particularly those associated with El Nino patterns do affect frog populations. Species confined to Alpine areas are likely to be the first to be affected by increasing global temperatures and consequent reduction in precipitation.

Species which show the brilliant adaptation of over-wintering as eggs or tadpoles are dependant on degrees of snow-cover or, for example, the dampness of mosses into which Southern Corroboree frogs' eggs are laid. Controlled burning in some Alpine areas obviously affects frog movement, the extent of the shelter and cover afforded by vegetation



whilst erosion causes breeding sites to become silted up by sediments.

Some grants had become available from the New South Wales Parks and Wildlife Service and the World Wide Fund for Nature, money which has the effect of supporting the captive breeding program and providing for co-ordination through The Australian Museum.. David Hunter, Gerry, Mike Tyler and Ken Green were among the significant contributors to current research and knowledge which has complemented Will's own studies, observations and field work spanning several decades. Will hopes 'our efforts to experimentally increase the size of local breeding populations will give us the extra time that we need to resolve this important conservation issue'.

## **DAVID HOGG, ENVIRONMENTAL CONSULTANT**

IMPRESSIONS AND COMMENTS ON HIS  
OCT '99 TALK TO FIELD NATS  
reported by Philip Bell

I first learned of David's work about ten years ago when I discovered his detailed orienteering maps of ACT public land - a most valuable community resource. Then early in 1999 a retired ACT planner referred me to David's research reports on ACT rural lands and on horse agistment and horse riding in the ACT. I found these reports to be mines of information, which I needed at that time in order to put together a submission to the recent CSIRO review of horse riding in Canberra Nature Park. More recently I have admired his work on revegetation planning for Mt Painter.

Thirty years of environmental study  
David has been engaged professionally now for about thirty years in studying the environment and ecology of our region. So I was delighted when he accepted an invitation to speak to the Field Nats. I invited him to speak about his environmental work in this part of Australia over the years.

### Overview

Matters discussed by David included:

- how he came to change career direction to enter the environment industry. In the early 1970s (David had just completed a PhD in biochemistry) and eventually became an environmental consultant

- the range of concerns an environmental consultant must cover
- how he categorises and ranks the major participants in the environmental process
- his handling of scientific issues
- how reliable he finds endangered species lists
- how he handles conflict of opinion
- what sort of decision-making process favours sound environmental planning.

Towards the end of his talk David spoke about two particular local issues which he had worked on in years gone by. One was the ACT grasslands reserves issue of the mid-1990s. The other was a project he carried out in Kosciuszko National Park.

### Conder grasslands

At the time that the push was on to create a number of reserves to protect remnant grasslands in Gungahlin and West Belconnen, David's firm was engaged to undertake a preliminary ecological survey of areas in Tuggeranong. David said that at that time he thought that a site in Conder was of high conservation value and probably of much greater value than some areas being considered on the northside of Canberra. He recommended further investigation of the Conder site; but this did not take place. There was no community push to conserve the Conder area - Gungahlin was the focus of attention. So Conder fell by the wayside.

### Perisher chairlift

In the early 1990s David was engaged on environmental planning for a new chairlift at Persisher ski resort in Kosciuszko NP. He was called in at an early stage to plan a road into the site. This process began with only start and end points nominated - with an open slate as to what route to take. There was no question of trying to find EIS arguments for a route already chosen on other grounds (economic or engineering). This ensured a proper and open planning process.

### Ranking the participants

At an early stage in his talk David listed five major participants in the environmental process

1. environmental planners
2. environmental assessors
3. eco-bureaucrats
4. greenies
5. nimbies

In what came across to me as a contentious section of the evening's presentation, David



indicated at that time that he had ranked these contributors in order of their contribution to the process. In a subsequent discussion and note, David has clarified to me that his ranking was in order of "professionalism". The meaning of professionalism in this context, David described as "embracing (inter alia):

- a commitment to the concept and principles of Ecologically Sustainable Development
- a holistic view of the environment (biophysical and social), not just some aspects of it
- a commitment to solving problems in ways which achieve everyone's objectives."

#### COMMENT

Vigorous discussion followed the talk. The meeting ran out of time to cover the many questions and comments from members. I also left the meeting with unresolved questions and a feeling of annoyance at the above ranking of participants in the environmental process. From the point of view of the fundamental dynamics of the process I would order the participants very differently. In my view, greenies and nimbies top this list.

Motive force for environmental protection  
Without a push from greenies or nimbies to save areas of high conservation value, nothing happens to protect the environment. Greenies and nimbies motivate community feeling that this or that conservation value is worth saving or fighting for. David's story of the Conder grasslands confirms this view.

Without the passion of greenies and nimbies there would be no motive force to provide funding for environmental planning. Greenies and nimbies push for environmental laws, which eco-bureaucrats are then employed to administer. Without these laws to contend with, there would be no developer clients for the "hired guns" of the industry, the EIS people.

My order of ranking of participants in the environmental/social process would be:

1. greenies (They provide the motive force for the whole process)
2. nimbies (Their vision is partial; but they do play a part in mobilising the process)
3. environmental planners (These people bring an overall vision and balanced input to the social process)
4. eco-bureaucrats (administering environmental laws and processes)
5. environmental assessors (who write the EIS blurbs for development interests).

From more recent discussions with David, I understand that when it comes down to the nitty gritty of environmental planning, as David put it, "the contribution of the green element is minimal." This is only to be expected, as they are mostly volunteers giving of their free time as matter of community interest and unable to contribute to the detail of assessment in the same way as the employed professionals.

What I find of continuing frustration is the context in which these issues are contested. Those with money and special interests to pursue a development agenda are placed in a position to create a momentum for change unsympathetic to conservation. Those concerned with broader long term interests are left on the defensive. We have a situation where long term conservation perspectives may receive scant recognition in the environmental planning of specific developments, unless the "green element" can bring into play political forces which will influence the situation towards greater recognition of conservation issues.

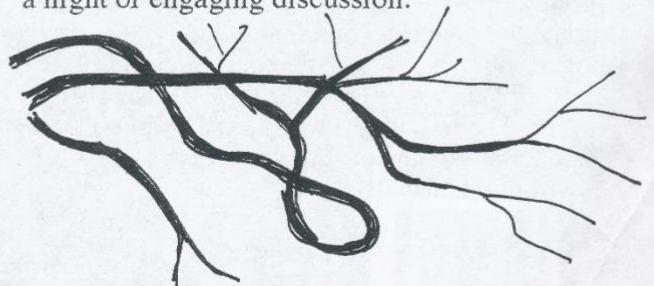
My memory teems with examples of this in recent Australian experience; for example:

- the moves to save wilderness areas in Tasmania and Queensland
- the moves to stop logging of old growth forests in eastern Australia
- the moves to save the Barrier Reef from problems caused by coastal development
- the impotence of our environmental assessment and control framework to put a halt to the wholesale clearing of remnant brigalow woodland in Queensland.

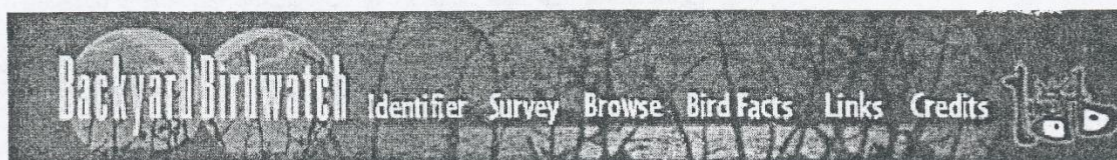
Just how little progress has been made in recent decades in transforming this decision-making context towards conservation values is evidenced in the recent contretemps with the RFA assessment process for old growth forests in Western Australia.

Thank you

David's talk produced much feedback from members on the night and since. Many members obviously found the talk stimulating, not to say challenging. Thank you to David for a night of engaging discussion.







## Bird Links

**Birds Australia** (also known as the Royal Australasian Ornithologists Union) is one of this nation's oldest conservation organisations. BA is dedicated to the understanding, conservation and enjoyment of Australia's wild, native birds.

**SNAG** the Southern NSW and ACT group of Birds Australia, the premier bird conservation group in Australia. A collective of scientists and bird enthusiasts who are devoted to the conservation of birds and bird habitat with a focus on NSW and ACT problems.

**Canberra Birds**, home of the Canberra Ornithologists Group.

**Birds of Western Australia**. Birds and birding in Western Australia are the focus of this site.

**The Atlas Project in the Top End** is organised by a group of local volunteers consisting of a Birds Australia Regional Organiser and a committee of about six experienced birdos. The group is closely associated with the NT Field Naturalists Club with whom joint field trips and seminars are arranged.

**Birdwatching Australia**, a directory of Australian birdwatching tours, birdclubs, freelance-guides, bird-orientated accommodation and reference information.

## Other sites

**Birds Of Australia CD**. This Australian made CD is the one bird watchers have been waiting for. Based on Simpson & Day's book Birds of Australia, (Penguin Books Australia) - Birds of Australia CD adds bird sounds, videos, and maps.

**The Birds Australia Parrot Association** was established in 1996 to promote conservation, research and management of wild parrots and cockatoos in Australasia.

**Australian Bird Articles**. This collection of articles written by Mike Owen focus on birds commonly kept as pets. His interests and expertise particularly covers the breeding and care of Australian parrots and finches, and as a pet shop proprietor is also well used to answering the myriad of questions that the pet owner has about their birds.

**The Online Australian Bird Guide** with John Young. An on-line birdwatching safari.

**Australia Outback** with "Oldzac" has a section on Australian birds with many useful illustrations.



# FIELD NATURALISTS ASSOCIATION OF CANBERRA Incorporated

The Field Naturalists Association of Canberra was formed in 1981. The aim of the club is to stimulate interest in the natural history of the ACT through regular meetings and field outings. Meetings are usually held on the first Thursday of each month. Field outings are also planned each month and range from day outings to long weekends and camping. The emphasis is on informality and fun. New members are always welcome, especially family groups and young people. Information on activities is circulated in the monthly newsletter. If you wish to join FNAC, please complete the form below and send it with the appropriate subscription to:

The Treasurer, FNAC, GPO Box 249, Canberra ACT 2601

FAMILY NAME: ..... FIRST NAME: .....

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How did you hear about FNAC? FRIEND  OTHER

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