THE Bush Telegraph

AN UPDATE FROM THE FITZGERALD BIOSPHERE PROJECT — March 1989

G'DAY

I can remember, not long after coming to Ravensthorpe, reading the ad' for the local pictures that Saturday night. It was very frustrating. I wanted to go to the movies but the ad'.didn't mention where they were held or what time they started.

There was apparently no need to — I mean, everyone knew when and where the movies were held, didn't they?

I can remember a front-page story from the local newspaper of a small town in Victoria. It was about the bushfire that had swept through some farms the week before. The fire had apparently started "at the back of Wilson's". No need to say more; we all knew where Wilson's were — didn't we?

Assuming we've all been intimately involved with an area all our lives is one of the traps of country life. Add to that a few other bad habits and it's called "parochialism".

"Parochial" is something Biosphere Projects should not be . . . yet it seems that we fell into the trap last issue.

A number of people who received a copy, apparently liked what they read; but didn't know the background. Haven't Biospheres been a part of your daily life for the past three years? Weren't you there in 1985 when four of us started talking about it up at Bill's? We all know Bill — don't we?

We do apologise and hope that the article below on the Project's background and the concept in general fills in a few of the gaps.

And if you think you see us slipping into parochialism again . . . do us a favour . . .

Keith

Biosphere Projects

What are they and how do you cook them?

Essentially, the Fitzgerald Biosphere Project is a tool to help the people of the Fitzgerald region get on with what they're already doing.

Things like looking after our region, enjoying our National Park and our farmlands, living full, productive lives and being part of the international movement — that upswelling of enthusiasm and action in caring for our planet.

The term "Biosphere Project" comes from the designation of the Fitzgerald River National Park as an International Biosphere Reserve. There are 280 suoh reserves worldwide and twelve in Australia.

They are part of UNESCO'S Man and Biosphere Programme (MAB) which, as the name suggests, is aimed at developing the links between us and the world around us. A specific link being developed is that between conservation and development. There are over 10,000 scientists working worldwide on MAB projects covering topics such as improving the productivity of semi-arid rangelands, management of tropical forests, and urban ecology.

This work has become increasingly significant as the strains on the global ecosystem increase. Phenomena such as the greenhouse effect, acid rain and mass wildlife extinctions, point to the need for a new balance to be found between man and his environment.

From 1974 onwards, countries have been asked to nominate as Biosphere Reserves areas which can serve as a benchmark of undisturbed nature and are surrounded by zones of different levels of human use.

Biosphere Reserve status is meant to be an action programme involving scientists, managers and local communities. They are distinctly different from conventional reserves, which tend to look inward at their own problems.

Biosphere Reserves are meant to look outward at the needs of surrounding populations and the management of regional landscapes.

The programme is working well in a number of countries. And co-operation is the name of the game, with even sparring partners such as the United States and the Soviet Union conducting joint conferences and research projects since the mid-1970's.

In Australia, there has been a lack of government commitment to resourcing the moral obligations inherent in nominating for Biosphere Reserve status.

In the Fitzgerald, there was consideable enthusiasm for what we saw as the benefits of such status. As the diagram

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THE FITZGERALD BIOSPHERE PROJECT
Co-ordinating resources, research, values and options . . . international action at a local level.

From Page 1

shows, our physical landscape and pattern of settlement fits the concept well.

And a number of community programmes already existed which fit the action obligations. In the Fitzgerald region, the main impetus for biological survey, tree planting, environmental education, and catchment management have come from community-based groups.

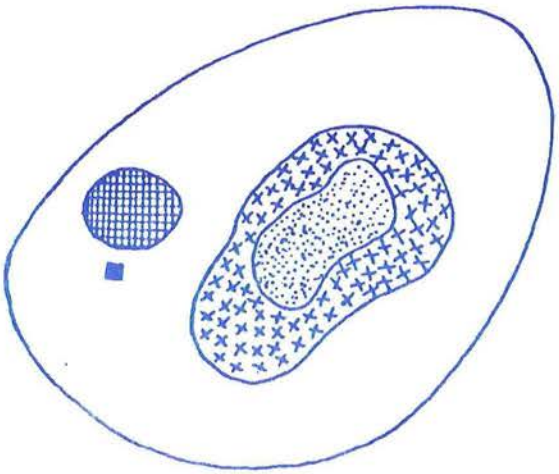
It seemed to make sense to have an "umbrella" body linking the actions already occurring, while stimulating and fostering initiatives.

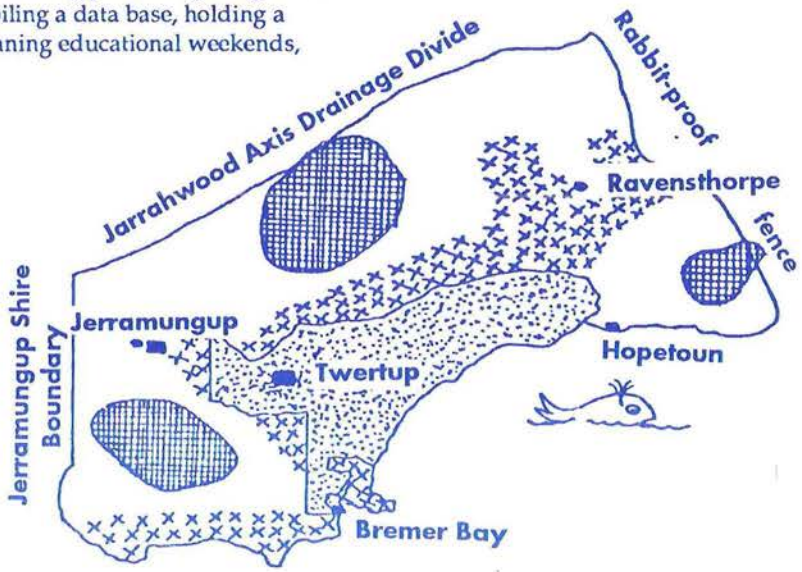
We talked it over as a community and held a seminar at Bremer Bay in March 1986, from which the FBP sprang.

Since then we have assisted in a number of actions, including publishing a regional guide, compiling a data base, holding a seminar, running educational weekends, establishing a Rural Landscape Advisory Service with local farmers, and more.

We have also become recognised as the first Biosphere Reserve to be activated by the local community, as distinct from by government. UNESCO are providing some funding to establish us as a "model" Biosphere Reserve.

THE UNESCO CONCEPT . . .





. . . THE FITZGERALD REALITY

THE INTERNATIONAL BIOSPHERE RESERVE CONCEPT

CORE AREA — Wholly natural and little affected by land activity. In the case of the Fitzgerald, the centre of the park is wilderness, flanked by natural areas with vehicle access for tourists, recreationists and researchers.

BUFFER AREA — A largely natural area with economic use, Locally, the National Park is flanked by an area of unvested bushland where small-scale mining operations, beekeeping, native flower and seed picking, small-scale forestry and tourism are intermingled.

TRANSITION ZONE — The main economically productive area. In the Fitzgerald area, it is the newly established sheep and cereal farms that dominate. Called the ZONE OF CO-OPERATION, it is where the new agriculture is learning to live and co-operate with an old landscape.

THE EXPERIMENTAL RESEARCH AREA — Where we focus our attempts to learn from the interaction of the elements that make up the Biosphere. There are many of these at Fitzgerald. The National Park and some of the buffer, now have over 60 benchmark sites where flora and fauna have been recorded in detail. Studies of individual species continue. In the zone of co-operation, the major research effort is centred on catchments, striving to develop environmentally sound and economically profitable farming systems for the region.

RESEARCH OR TRAINING FACILITIES — The back-up centres for the study of the Biosphere. At Fitzgerald, the two main centres at present are the Agriculture Department office at Jerramungup and the Twertup Field Studies Centre. Much training and research in the region is conducted by outside, generally Perth-based bodies. The Biosphere Project is working towards more local responsibility for and participation in these activities.

You'll probably be quite relieved to hear that the first issue of "Bush Telegraph" managed to cover its costs, due largely to the generous donations that came with many subscriptions.

Thankyou, from both us and the printers.

It's good to know that so many of you enjoyed it. To keep going, we need —

- ***more subscriptions***
- ***physical help with printing and publishing***
- ***a wealthy patron.***

THE Bush Telegraph

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Seeds to sow . . .

"One swallow doesn't make a summer", goes the old adage.

It doesn't really make sense from the viewpoint of the Fitzgerald.

The swallows live here all year round and we hardly wait with bated breath for the onslaught of summer.

Summer is our harshest season. The time for endurance, when plants and animals hang in there through the heat and the dry. Many of us look forward to Autumn with its crisp nights, misty mornings and, hopefully, the first of the soaking rains that keep the soil moist until summer returns.

Autumn at Fitzgerald is heralded by the first Hakea flowers. It's almost become a tradition with some of us, watching daily for the first flowers to uncurl. Eventually, word gets around that the first "pincushions" are flowering south of Elverton, near Ongerup, or by the Jacup wheatbin.

We'd like to share with you that first harbinger of the gentler seasons.

There should still be a packet of Pincushion Hakea (Hakea laurina) seed stapled here. This was supplied by an old friend of the Fitzy, Peter Luscombe, of Nindethana Seeds.

Peter has worked with the plants of the region for over fifteen years. Nindethana is a working example of how the genetic richness of Australia can be utilised to improve our lives and our environent. A story well worthy of space in a future "Bush Telegraph".

And while we're giving them a plug,

Nindethana is the only supplier we know of, for seed of the Green Salt Mallee, Eucalyptus famelica, which we featured last time.

If you'd like a copy of their extensive catalogue, send a 39c stamp to Nindethana Seed Service, RMB 939, Woogenilup, 6324.

PUBLISHING HELP WANTED

We now have 2000 copies of "Bush Comes to the City" to sell, an illustated manuscript called "Trembling Horizon", from Athol Thomas and Ray Seddon and two other book projects underway.

We lack experience and contacts in the world of publishing. We are also seeking the necessary loan capital, or sponsorship, to publish Athol's book and to finalise the next two.

Publishing provides a way in which we can do our job of communication, reinforce our public identity and make a profit which can be used to support further projects.

With offers of assistance, contact Valerie on 098. 413317.

We've been thesis'd

"I love long drives in the country and I love hearing other people's stories".

Remember Carolyn Switzer's article in the last "Bush Telegraph", well, not only has she finished her thesis on the FBP, but it is as warm and human as Carolyn herself.

Many have admitted that they did not expect a university paper titled, "Case Study of a Locally Based Policy Making Initiative in Enviromental Management" to be such compelling reading.

Some excerpts:

"Professor of Soil Science, Bob Gilkes, also at UWA, brought a group of his postgraduate students to Jerramungup. For many of them, Bob Twigg was the first farmer they had met."

"To make Biosphere Reserves really work, then the following things are necessary: the political will to implement, a suitable administrative structure, responsive bureacrats and grass roots initiative. Thus the scene would be set for a meeting of top-down and bottom-up policy making."

"It could be inferred from these comments that the FBP is a nice pet of which the government will continue to be proud as long as it stays in obedience school."

The overview and perspectives Carolyn brings to our evolution are valuable as we consider our future as an organisation.

Carolyn is prepared to supply a limited number of photocopies of her thesis to interested people for $20. Contact her at: 8/124 Swanbourne St, Fremantle,6160. Ph. 430 5179.

An environmental history . . .

A seminar in September 1987, gave six country people the opportunity to tell the story of their lives and their region.

Encapsulated in those individual stories is much of the environmental and human history of Australia.

January 1989 saw a gathering at the Gairdner Hall to launch the proceedings of that conference. A country luncheon was hosted by the Jerramungup Shire Council and prepared by the Gairdner Progress Association.

Director of the Australian Conservation Foundation, Phillip Toyne, launched the the book by outlining the national conservation perspective that complements and reflects the work underway in the Fitzgerald.

Phillip was in the district as part of a " City Comes to the Bush" tour of soil conservation projects along the South Coast. That tour was, in many ways, one of the fruits of the original seminar.

The warmth of bush communities, the concern for the environment, the bridge building between groups and individuals and the pride in achievement were all there.

This book gives you the chance to read of how Kaye Vaux's sister gave birth during the 1955 flood; how Bob Twigg embarked on his "noble act of production". and Ian Peacock's novel approach to bullying people.

Rex Edmonson admits to burning eighty miles of mallee roots in two hours; Bill Moir talks of the uncertain edge of life and who else but Keith Bradby could be proud of venturing forth into confusion.

"BUSH COMES TO THE CITY" was arranged and printed for us by the EPA as a contribution to the State Conservation Strategy.

"BUSH COMES TO THE CITY", the paperback coffee-table book, is available for $12.00 posted from 1/25 Wattle St, Sth Perth, or 368.1567.

What has Vladimir Smith of the No. 72 bus got to do with tales of the Kimberley or the folk of the Fitzgerald?

Answer — they've all been subject to the prolific typewriter of the man we dubbed our "hired wordslinger", Athol Thomas.

However, Vladimir Smith, the star of Athol's book, "The Snapping of Carrots", was an innocent victim. We brought Athol down upon ourselves. Having raised the money to get a book written on the region, we cast around for a willing writer.

Athol stumbled into our snare and still hasn't found his way out. We were delighted to secure someone of his ability and experience. He started with the "West Australian" in 1951, and has been a well-known journalist and writer in WA since then.

"Bulls and Boabs" was his book on the Kimberley region; "Trembling Horizon" is the Fitzgerald story.

Did he survive the experience?

Reflections on 'Trembling Horizon'

And so the lamb went to the slaughter . . .

Bob Twigg, gentleman farmer of Jerramungup, rang to ask me if I was interested in writing a book about the Fitzgerald Biosphere Project.

"You've heard about it, of course," he said.

"No," I replied.

That should have disqualified me on the spot. But I got the job, despite my ignorance. I still don't know why.

Ignorance is a key word in terms of the environment.

Most people don't know (or don't care) what is happening to the planet. I'm afraid they'll become aware only when their incomes and lifestyles are threatened.

This, in a broad sense, is what has happened down on the Fitzie. You've done something about it. In the suburbs, it's a different story.

We are coddled. The only real traumas are caused by power cuts, beer shortages, strikes by tanker-drivers, and water restrictions. Otherwise she's right, mate.

Politicians don't care much, either. They are bound by party policy and expediency. Generally they'll take up an environmental issue only if it means votes in a marginal electorate.

It may dawn on our leaders eventually that the whole world is in danger of becoming a marginal electorate. Then we may have what is popularly called consensus.

Hats off to the Fitzgerald Biosphere Project committee. It set out to educat people. Probably that's the only way to go, though it's a hard row to hoe.

As far as "Trembling Horizon" is concerned, people are perhaps more likely to buy a glossy magazine telling the breathtaking story of how a pop star has rediscovered his mother.

Nevertheless, the FBP is a trail-blazer. It has set out to educate and — in its area — has introduced schemes that will help protect and restore the land and its plants and creatures. It's putting its heart (there's not much money) where its mouth is

I went into this project as a lamb. I grow native plants, don't tread on ants,tolerate noisy crickets and respect the activities of a daddy-longlegs in the family pantry. But I have emerged as something of a lion.

You have all made me aware that ' s not doing enough.

It was tough stuff writing 20,000 words in no time flat and starting from scratch. You were all beaut, even when you dared to criticise my deathless prose.

Obviously I needed to visit the Fitzie. I found myself at Bill Lullfitz's place before a meeting of the FBP committee. I asked Bill what was on the agenda.

"You," he said mildly.

Frightening.

I then had the temerity to announce at the meeting that the synopsis of the book presented to me earlier was a load of rubbish (or words to that effect). But I listened to what you said and wrote the book.

You tell me you like it. I hope you're dinkum. I hope the readers like it and get off their butts. You may have to keep using cattle prods.

It's as serious as that. Use a cattle prod on me if you think it will help.

Import or improve?

One of the most positive statements on conservation brought to our attention recently was in a letter we received from Bernie Lieff, manager of the Waterton Biosphere Reserve in Canada — an informative note, typed on embossed government stationery. Even the paper looked and felt pleasant, not your standard slippery, glaring white variety.

Down along the bottom was a small printed comment:

"This letter was written on recycled paper".

Now if the government of timber-rich Canada sees merit in such effective conservation, who's "Bush Telegraph" to argue. We would love to be printed on recycled paper. However, it seems that the only place you can buy recycled paper in Australia is from a firm in Victoria which imports it from West Germany. The price is prohibitive.

POOR FELLOW, MY COUNTRY

Footnote: Any information in this regard would be appreciated.

The French connection

By Keith Bradby

Cevannes is a lovely place. It rests on the jumbled hills of the Massif Central, in South Eastern France. A night train from Paris and an hours drive brought me to Florac, a small village near the centre of the Reserve. Here, the Parc National des Cevannes has its headquarters, in a magical building of stone and timber nestled under the towering cliffs of a limestone plateau.

From the base of the limestone, springs gush forth, fed by snowmelt and plentiful rain. The centre of Florac is dominated by the roar of this water. Standing on a bridge in the main street, the man from Fitzgerald gazes in awe at the trout feeding below. "This", he decides, "is a little bit different from the scrub country home".

Despite the obvious differences, I felt very much at home in Cevannes.

To leave the urban crush of Paris and be back in isolated country, with wild, rugged views and warm hospitable people, was good. And to talk with energetic people about how we can halt rural depopulation, foster sustainable rural industries, make the joys of the landscape accessible to more and live lives in harmony with our regions, was very stimulating.

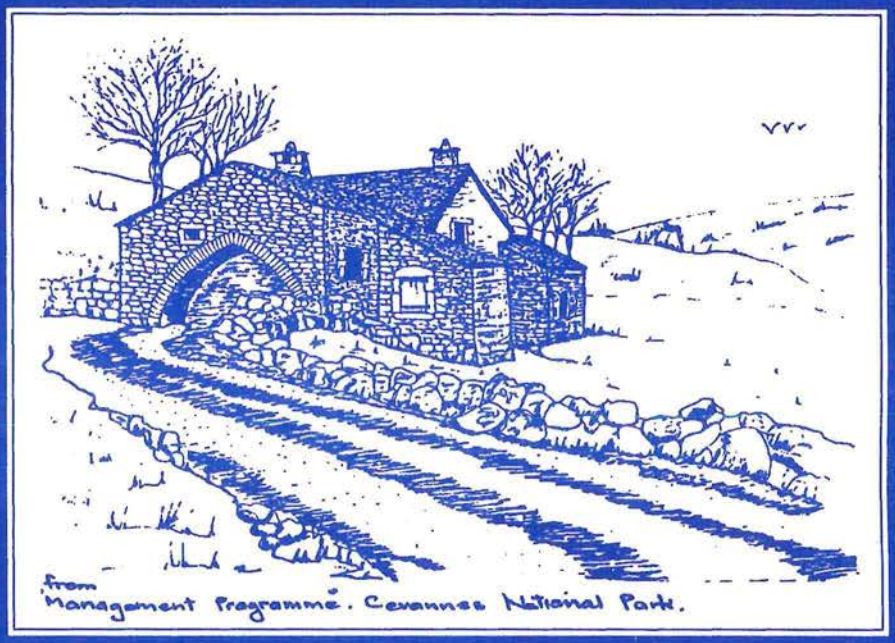
A NATIONAL PARK . . .

Some 800 people live on the 120,000ha of Parc National des Cevannes. They live in small villages, or on one of the many farms dotted through the park. There has been continual human occupation of the area since around 3,000B.C. and much of the landscape reflects this, from the open pasture lands of the high country to the Sweet Chestnut groves of the valleys.

Maintenance of traditional life styles and landscapes was a prime motivation in the formation of the Parc National in 1973. But not as though Cevannes was a historical museum. As the guidebook states: "It is important not only to preserve, as within a sanctuary, landscapes inherited from a thousand years of history, which are deteriorating under the effects of desertion, but also to bring those inhabitants who linger still, sound reasons for staying".

Park wardens are referred to as "eco-development officers" and their duties have included:

- Reintroducing the rare griffin vulture to the gorges.
- Operating a herd improvement scheme using the locally developed Aubrac cows.
- Organising evening get-togethers for locals and tourists.



Land and People: In Cevannes, the links are clearly visible. Houses reflect the geology of the site. The bare, limestone landscapes of the causse (wide plateau) support houses like this. They are made of limestone with virtually no timber.

In the granite areas, a different architectural style is dictated by different materials

- Management of shooting, fishing and mushroom farming.
- Research in the improvement of degraded pasture.
- Helping locals to establish over 100 farm stay cottages.
- And many more.

. . . AND A BIOSPHERE RESERVE

Following recogition that the Man and Biosphere programme was co,mplementary to these activities, Cevannes and its surrounds were made a Biosphere Reserve in 1985. The Reserve is over 300,000ha in size, with a population of over 8,000.

Cevanne's programme of integrating conservation with development and man with the rest of nature , has been strengthened by its Biosphere status. The international network has been particularly useful and Florac has seen a steady stream of international visitors.

In April 1988 I was one of these. I found a place of beauty and optimism. The Reserve's managers feel they have passed the time when "partition and creation of joint estates were beginning to crush fathers' sons and when youth was tempted by the apparent seductions of the town".

My friends at Cevannes talk of the 1950's and 60's as a time when a whole generation or more of people were lost to the region, through the urban drift that we all know. They also talk of a resurgence in growth, in local pride and respect.

They are prod of their role in fostering this. Cevannes is one of two Biosphere Reserves funded by UNESCO last year as international models. Fitzgerald is the other.

Gerard Collin, manager of the Cevannes Biosphere Reserve, is being invited to visit the Fitzgerald this year. Stay posted.

Parroting on . . .

Ground parrots are smaller than a twenty-eight and quite dark green in colour.

The interesting thing about them is that you don't see them flying around. They spend their day walking around. The only time you see them is when you scare them. If one is feeding alongside the road and is startled, it will fly a hundred metres before dropping to the ground.

There's only been two or three nests found and that was back in the 1920's. During this project, a live one was handled for probably the first time in WA. The early collections were all shot.

There are only two areas where ground parrots now occur in WA — one is Cape Arid National Park, in an area of only 15sq km, because of a recent big fire. In the Fitzy, we are still finding out how widespread they are. We know of one very small population in the Park and in the new addition, we are probably talking in terms of a hundred or two.

A RESEARCH PROGRAMME

Finding out how many birds there are is very difficult because they don't fly or sit in trees. The only way we have found to do it is by listening for the calls. But the birds don't call during the day — only for about 15 — 20 minutes just on dusk and a little bit in the morning. So, the only way we can find out how many there are, is to have a lot of people, spread out at dusk, counting the number of birds they hear calling. If we have only a couple of people, we can only cover a small area and we now know from our radio tracking work that the birds often change position when calling.

What we are trying to do is find out more about the bird; how many we've got, where they live, what they do and what they feed on. Our particular concern is fire — how the birds respond to it and coming up with good management techniques to ensure that fire doesn't present a major problem for them. The only areas we find birds in now are areas that haven't been burnt for at least 15 years and these aren't very common along the south coast.

At present we're radio tracking the birds. This involves catching them in long mist nets and then attaching a small receiver to them which enables us to track with a hand held receiver. By following them during the day, we can locate the areas in which they feed and establish what they do.

We've tracked 13 birds so far. We had problems initially because the transmitters fell off them. After trimming the back feathers, we were glueing transmitters on to the bird's feathers with super glue. In the first trip, we were catching a lot of young birds who were moulting into adult plumage and adult birds that were moulting into new plumage,which they do after breeding.

WHY CONSERVE GROUND PARROTS?

Well, there's two lines of argument. One is that everything is special, which I'll leave to other people as it's too complicated for me. That's a different argument to talking about the actual bird itself.

I'd be surprised to find people who didn't think it was worth saving the noisy scrub bird; it was a good programme. The bird was so rare, that we found it just before they all died out.

Perhaps not many people know what a noisy scrub bird is, they just know the name. However, they now feel comfortable about saving it, because it shows that man doesn't destroy everything.

It's not necessarily the same story with the ground parrot. We've got a bird which isn't quite as rare yet and we don't have to go through an expensive programme to save it.

So, what's so special about them? Nothing, nothing really special at all, except that this bird has got a very low population out there and we are trying to do something to make sure it doesn't die out. If we can just protect the few remaining areas where the bird is now, the native populations should be enough to maintain themselves.

INTERACTIONS

In Asia, we're talking about managing an area in a way which is good for all its present users. The local people survive by fishing and the bird populations may seem unconnected. But if the waterbird's habitats aren't healthy enough for the birds, they also aren't healthy enough for the fish. You can't just care for one member of an ecosystem.

At Fitzgerald, there may seem to be no direct interaction between what's happening on the farms and what's happening on the other side of the road, the bush. But there are impacts. There's fire coming from farmland and that's been a major problem in the past; there's wind erosion causing changes in the vegetation and the

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Doug Watkins and Shapelle McNee live south of Perth at Banjup. They are both graduates of Murdoch University's Enviroment and Life Sciences and have chosen to work with rare species. Shapelle is completing an Honours degree at Murdoch on the ecology of the "Rose of the West", Eucalyptus rodantha, which occurs naturally within the confines of only a few acres, saved during clearing by compassionate farmers.

Doug spent four months this year working with local people throughout Asia on conserving waterbird habitats, particularly those used by birds migrating between Australia and Eastern Russia. For this work, he receives the princely sum of $A20 a day.

He is presently working with the ground parrot on land that has recently been added to the Fitzgerald River National Park. This land and the rare species it contains, was part of a major controversy in the early 1980's when the ground parrot areas were surveyed for release to agriculture.

He spoke recently on this work. The project on ground parrots is administered by CALM and funded by the World Wildlife Fund. Voluntary assistance has been given by members of the Royal Ornithologists Union, the Australian Trust for Conservation Volunteers, and Fitzgerald River National Park Association members. Offers of further assistance can be made to Doug on 09 4172422 or through Mary Hart on 098 355043.

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invasion of weeds; and there are changes in the hydrology of the area. These will have impact on the other fauna, changing the whole system and could eventually affect ground parrots.

But the farmer doesn't have to think, "Oh, my goodness. I've got to look after the ground parrots, I've got to be worried about the little things." The farmer has got to be more directly worried about fire, wind erosion and so on, because they impact on the profitability of the farm. And by farming better, he's indirectly lowering his impact on the bush over the road.

The trouble with the word "profitable" is that it can be interpreted in so many ways; there's profitable in 5 years, profitable in 50.

In the long term, our management has to be really good.

Footnote: The coastal strip between the Fitzgerald and Two People's Bay, near Albany, is home to four bird species recognised as rare. Shapelle McNee has produced preliminary reports on the conservation status of two of these; the Western Bristlebird and the Westerm Whipbird.

QUOTABLE QUOTE:

"Part of your training as a biologist, is to write the weather and time on everything, always; and never use it, ever."

❑❑❑

"We don't isolate ourselves; we're not just biologists working with the natural enviroment. We don't just work for bureacrats, we work for people.

"The only reason we are doing the ground parrot project is to produce information which will help directly with management.

"People have got to be involved with things. We don't see reports as ends in themselves; reports largely just sit on shelves. If you haven't convinced people about what should happen by the time you give them a report, you're not going to get anywhere."

— Doug Watkins

Field Excursion to:

Fitzgerald River NP

If you are interested in finding out about the geology and landforms of one of the most beautiful National Parks in South Western Australia. Why not come along for a week-end of fun and education.

Date: Start; Sat. April 8th at 9.00am. (arrangements for arrival friday night can be made)

Venue: Tarlup Field Study Centre, F.R.N.P. meet Friday Night or Saturday morning at Jerramungup.

Cost: $50 (includes all meals)

What you need to bring: Sleeping bag + torch.

Other requirements: Interest in geology reasonable fitness sense of humour.

Places: A limit of 15 persons per week-end.

If you are interested contact Caitie Brown 098-414844 (day) 098-447933 (evening)

ALL WELCOME

More of the same?

The State Government has announced the establishment of a statewide Rural Landscape Programme, with the aim of improving the quality of rural life and designing more habitable landscapes. Sound familiar?

Heading the programme is Professor George Seddon, who helped launch the Biosphere Project at Bremer Bay in 1986. His assistant is Keith Bradby, Convener of the FBP.

School curricula

Enviromental education is taking off in Australia. So are educational programmes dealing with soil conservation.

It may be that these trends could be strengthened by being linked in with an established Biosphere Reserve, which is trying to integrate all these concerns into a complementary and positive package.

Only an idea at this stage (with four school camps arranged so far) but we would welcome further ideas.

Contact Vicki on 09. 368 1567.

A Perth group?

This has been suggested by some of our members in Perth. How would it operate? Is there a useful role? Who's interested? Is it a "Friends of the Fitzy" group or a WA, Man and the Biosphere organisation?

Comments to Carolyn on 09. 430 5179.

The sediment stops here!

"I therefore commend the valuable work being done by the Soil Conservation Committees to reduce soil loss from the catchments by tree planting and other measures. However, much more still needs to be done to halt degradation of the estuaries and their tributary rivers.

"Clearly an overall approach is needed toward land use in these areas. Sensible catchment and waterway management will only occur when local residents know and care about existing and potential degradation problems.

"In this regard I welcome the interest being shown by local people and local authorities and hope that this report will assist in achieving better planning and management."

With those words the previous State Conservation Minister, Barry Hodge, launched Number Four in a series.of studies.of south coast estuaries. In this study, researchers, Ernest Hodgkin and Ruth Clark, document and discuss Beaufort and Gordon Inlets. The nearby Wellstead Estuary was covered in the first report of the series.

The other inlets in the Biosphere Project area are also being studied by Ernest and Ruth and they hope to see their reports published by the end of 1989.

The present reports provide a fascinating insight into the evolution and present day dynamics of these systems. By discussing the implications of our present catchment management, the reports.also add fuel to the fires of change.

Beaufort Inlet is documented as being seriously eutrophic, stemming from heavy use of superphosphate on farms in the catchment. Sedimentation from present farming practices also seems to have increased markedly in recent years.

Copies of the studies are available from the EPA, 1 Mount St, Perth. The authors would welcome any information relevent to their ongoing research, particularly historical observations on the inlets.

Rural Landscape Advisory Service

In August last year, we approached Ted Lefroy, with the idea of conducting a feasibility study on the operation of a Rural Landscape Advisory Service.

His response was blunt and brutal. "We don't need any more piles of paper; if the idea is as good as it sounds, then let's just do it." He was right.

Ted is a native of Perth. After graduating with an agricultural science degree, he has worked as a departmental adviser in Queensland and Papua New Guinea, as a gardener at the Hobart Botanical Gardens and has operated his own landscaping business in Perth. He has also travelled widely overseas.

Prior to being lured to Hopetoun, Ted spent 12 months with the Martindale Research Institute, planning and establishing, a 5,000ha property north of Perth. This work included establishing over 1200 hectares of fodder shrubs.

By Ted Lefroy

The Fitzgerald Biosphere Project's Rural Landscape Advisory Service began in September last year as a study of a 27,000 ha catchment east of Hopetoun.

The aim was to address problems of land degradation, mainly salinity and water logging, on a scale larger than one paddock or one farm at a time.

The idea was to work with a group of farmers who contributed $500 each towards the project and draw up plans to rehabilitate their land through farming. As a pilot study, it was testing the water to see if farmers, shire councils, government departments and the rural community in general, saw the need for a Rural Landscape Adviser.

THE "MAIN DRAIN"

The boundary of the study was the watershed of an unnamed creek locally referred to as the "main drain".

The project's first task was to put a name back on the creek. A quick search of some old maps showed a large freshwater lake near the middle of the catchment marked variously as Yallabup or Youlabup swamp.

The name Yallabup has been adopted for the whole drainage system and has been put up to the Geographic Names Committee.

The term "main drain" does tell us something of that creek's recent history. Since the early 1960's, 70% of the catchment area has been cleared for farming.

As the runoff from this area has increased with the removal of the original vegetation, the creek has been seen in purely functional terms as a drain to get water away.

For its present purpose it is underbuilt and inadequate.

Problem 1: too much water

Solution 1 : make the creek bigger

However the increased runoff and waterlogging at the bottom end of the catchment is only one aspect of a bigger problem. Of the water that doesn't run off immediately, some is used by crops and pastures and some soaks beyond the reach of their roots. This water often appears lower down in the landscape as a problem — a rising water table carrying with it tens of thousands of years of accumulated salts.

The approach taken by this project has been to try to make use of this water where it falls.

Problem 1: Too much water

Solution 2: Find a way to use it

This picture is complicated by the fact that the area is dotted with naturally saline lakes and swamps

STRAIGHT LINES AND CURVES

Unfortunately all this water moving around above and below the ground has absolutely no regard for straight lines. It moves on regardless of gazetted roads and surveyed property boundaries and usually stops for longer than necessary where it is least wanted. It is for that reason that the catchment approach is being used today.

where the grid of human activity, evident on a map as roads and fences, has been put down with no attention to the shape of the land, conflict arises.

The problems in Yallabup creek catchment have arisen in such a way. when the land was sub-divided for agriculture, two decisions were made that have had considerable impact. One was the orientation of the farm boundaries, the other was the size of the blocks.

The first decision was influenced largely by the most prominent man made structure present at the time — the rabbit proof fence. Built in 1904 it runs from the coast at Starvation Boat Harbour through the catchment on a bearing twenty degrees west of north. Most of the property boundaries were surveyed parallel to this, while the main drainage in the catchment runs from North East to South West.

The second decision was made using the well-accepted but arbitrary parameters of economics which in 1963 said a living area was 2,250 acres per family. The size of that living area has effectively doubled since then as most families in the catchment (18 out of 25) now farm on two or more blocks.

The main reason for this change has been the fact that prices received by farmers for wool and grain have risen at a slower rate than their costs — the infamous cost-price squeeze. A secondary reason was the air of optimism that surrounded the development of the South Coast. Early results right along the sandplain indicated high stocking rates in the first years of a subclover pasture. Kay Vaux describes in her chapter of the "Bush Comes to the City".the early settlers around Needilup warning the newcomers of the War Service Land Settlement Scheme, that those.stocking rates could not be maintained for long.

As farmers have tried to keep in step with market forces, the land has been put under pressure and at the point of tran tion where farm size has increased, families have left the area.

The decreasing population and increasing farm size cannot be attributed simply to "the salt" or "the cost-price squeeze" as these are both a reflection of the unrealistic expectations of the capability of the land and the inflexibility of farming enterprises to date.

All of this is easy to see now with the value of hindsight but it does highlight the challenge — to regenerate the landscape and bring people back. The best guide for that regeneration is the principle of designing with nature rather than against it.

PERENNIALS — A HEDGE AGAINST INFLATION

The problems of land degradation started when the deep-rooted scrub that grew for 12 months of the year was

Cont. Page 9

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replaced with short-lived shallow-rooted crops and pastures.

Whatever else happens to the land, its cover must become deeper-rooted and longer-lived to make full use of the water and hold down the soil. It must also take on another characteristic of the bush — diversity.

Working on the same principle that a moving target is harder to hit, a diversity of plants presents the best protection against the cycles of pests, disease, fire and weather extremes.

In this way the land may stay in one place. Since its "release for agriculture" in the language of the time, much of it has quite literally been released, and is now a kilometre or two down wind of its original position.

It's with these objectives in mind that eight farms in the project area have had landcsape plans drawn up. A variety of perennial plants have been used wherever appropriate, fences moved to fit in with drainage lines or soil types and remaining bush fenced off to prevent its decline.

For these farmers the re-landscaping of their farms is a long-term project and the time-table has been worked out to fit in with their existing wool and grain growing.

In fact this process is presently limited by the assumption that these activities will remain the only significant ones on their farms.

The potential for reversing soil degradation could be accelerated by looking outside the "sheep/wheat" enterprises because just as diversity of plants and animals better protects the farm, so a diversity of enterprises and incomes better protects the farmer.

Most of the commercial perennials being used are exotic — plants like tagasaste and lucerne, pasture grasses like fescue, rye and lovegrass, trees like Pistachio for nuts or blue gums for timber. A huge potential remains untapped amongst the 2,300 or so plants of this area.

Three examples are worth mentioning. Eucalyptus spathulata, the swamp mallet, is well known for its tolerance of water logging and mild salinity. It also happens to have a highly desirable mixture of essential oils — the eucalyptus oils Australia as a nation imports from East Africa among other parts of the world.

So it is exciting that a group of South Coast farmers near Needilup are getting organised to replant this local tree in waterlogged areas and set up a still to extract the eucalyptus oil.

Another example has no takers as yet, but presents a great opportunity to turn liabilities like those at Yallabup Creek into assets.

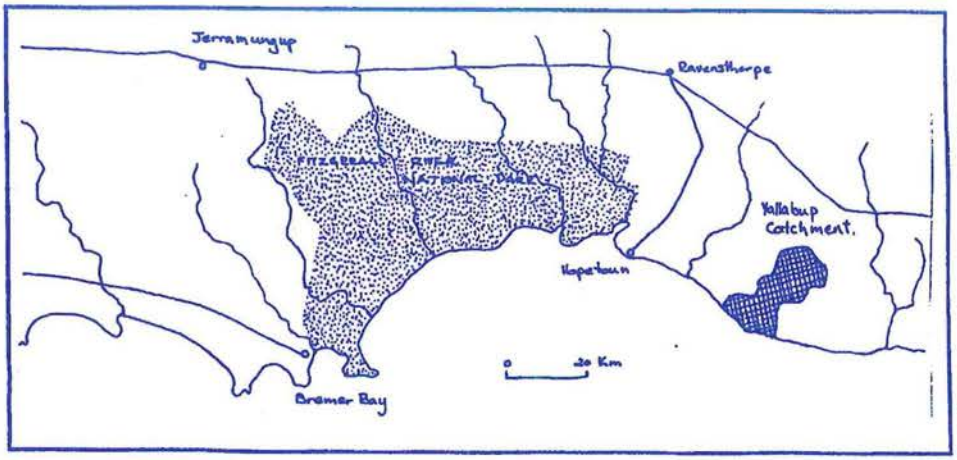
Melaleuca alternifolia is a tea tree native to NSW. The essential oil from this tree has natural anti-fungal properties and is gaining increasing popularity as a medicinal treatment.

One Californian importer, Teaco International, is reported to have wholesaled $100 000 worth per month in 1988. Two of the W.A. pepermint trees, Agonis flexusoa and A. parviceps when recently tested showed similarly .high levels of desirable essential oils.

Thirdly a plant that is so far known only from three properties within the catchment area, the green salt mallee tentatively named Eucalyptus "famelica" naturally occurs on the margins of saline swamps. It has potential for use in rehabilitating saline areas throughout Australia, in the same way that another local salt tolerant tree, the Swamp Yate, (Eucalyptus occidentalis) has become widely used.

The concept of the Rural Landscape Adviser has been taken up by a catchment group at Jerramungup and will begin there in April in conjunction with the Shire of Jerramungup and the Department of Agriculture.

Acknowledgements: This project has been funded by UNESCO, the State Soil Conservation Committee, the Department of Conservation and Land Management and the farmers involved. Office facilities are provided by the Rural Innovation Centre



Business potential seen for farm advisory service

Our pilot projects,with their emphasis on farm planning, have been so successful that they've been adopted by Land Conservation District Committees.

We are now left with other exciting aspects to develop. We need to develop further the whole landscape design phase.

One possible step would be for us to establish the service as a business. Our present Rural Landscape Advisor, Ted Lefroy, has had talks with people in similar businesses operating in the Eastern States.

They offer to co-ordinate all stages of farm planning, from initial design to tree planting and fencing. A number of people, involved in or known to the FBP, already work in related areas.

We need start up capital, business advice and skilled persons wanting to be involved.

Contact Keith on 09. 368 I567.

FBP can help initiate farm training programmes

The need for people with the skills necessary to help farmers draw up their farm plans and to implement them, is becoming critical in WA. The need for these skills internationally is also well recognised.

The FBP has a lot to offer in the equipping of such people. At this stage, we would like to assist interested individuals and institutions to come together and initiate training programmes.

The Fitzgerald area with the operation of the RLAS could be a useful training area.

There is a chance of some UNESCO funding for this.

We need some open-minded academics and involved professionals to give some of their time to this important aspect.

Contact Keith 09. 368 I567.

The three F's – Fun, Farms and the Future

The pilot Rural Landscape Advisory Service is working well, with some of the farmers involved already implementing parts of their farm plans. Fences are being changed and trees have been ordered.

To see an idea flower into actions is exciting. That's what it was like the day we joined with the Jerdacuttup Primary School on a tour of the Yellabup Creek Catchment.

The day was primarily organised by the Ravensthorpe District Soil Conservation Committee. We all enjoyed ourselves and the distance between what is learnt at school and what is outside the window was narrowed considerably.

With the enthusiastic co-operation of teacher, Greg Brice, the kids were well prepared for the day and followed it up with experiments and essays. He sent us this example of their work.

Field Trip Excursion 9th Nov 88:

On the 9th Nov. '88, we the Senior class were introduced to Mr Lefroy and Mr Bradbury. First Mr. Lefroy talked about what we were going to be talking about for most of the day. The main topic was going to be salt. Firstly Secondly he told us and drew a diagram about the water cycle and how it had been interrupted by farmers. Before the

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Secondly, he told us and drew a diagram about the water cycle and how it had been interrupted by farmers.

Before the pioneers of this district came, the native mallees used up most of the water table, which stopped the salt table rising. So it is obvious that when the farmers cleared the land and planted annual* grasses and pastures, the water table rose, resulting in serious salt scalding in paddocks.

After he explained that, we were introduced to Mr Bradby. He explained to us the Greenhouse Effect. Following that short explanation, we left on the bus for Mr Hughes property. There, we could see almost all of the catchment area. We looked for salt scalds through the binoculars then found them on the aerial photo Mr Lefroy had brought along.

After that, we drove to a salt area on Mr Golding's property and collected some soil, water and plant samples to use in experiments to be carried out later at school. Following this, we travelled to Mr Warren's property on Middle Road. Here, we had a look at and talked about a bore. Then we walked into Mr Warren's paddock and collected some soil and plant samples. After that, we walked back to the bore and measured the water level with a measuring tape and Mr Warren recorded the results.

We then talked to Mr Warren and asked some questions. Shortly after this, we hopped on the bus and drove to Mr McDougall's farm and looked at an unnamed tree. It was a hybrid**. After talking about that and collecting some leaf samples, we drove into Mr McDougall's property and looked at a tree that only grew in Jerdacuttup. We talked about that tree, then had lunch.

Following lunch. we collected some soil and plant samples, then Mr Lefroy showed us a soil map of the catchment area. Shortly after, we were at Mr Crane's on Fence Road. We saw where he had grown an area of tagasaste.trees. We talked about them and their uses then travelled back to school.

* Alive for only four months of the year

** A cross between two types of trees.

Francis Demdem
(aged 12)

Hope for the environment

"Environmental hope is the belief that you can do something about the environment. It is not just wishful thinking, where you believe everything will be O.K., but is based on the reality of change."

So states Peter Newman in his introduction to a book just released under the State Conservation Strategy.

"Case Studies in Environmental Hope" is a collection of eighteen responses to our environment, ranging from "The Bureacracy's Environmental Responses" to "The Bush Anarchists of Fitzgerald". Strange bedfellows indeed, but reflecting the diversity of strategies that are complementing each other.

The Fitzgerald is directly considered in three chapters and hovers around the edge of a few others. Other stories have themes that we are also trying to develop.

For example, Basil Schur's story of a positive plan for the Denmark Catchment, Penny Hussey and Brett Lonie on roadside conservation, David Bennett with a photo essay on WA's tree planters and Ernesto Sirolli on local development and responsive bureacracy at Esperance.

As Peter concludes his introduction:

"Every community in the state has it's case studies in environmental hope, where ordinary people choose to hope and continue making that choice. This book sets out a few of those cases, in the belief that the hope they express can be infectious".

"Case Studies in Environmental Hope" is edited by Peter Newman, Simon Neville and Louise Duxbury. It can be purchased from the EPA, 1 Mount St, Perth, for $6, or from local outlets at slightly higher prices. Proceeds from sales will go to the voluntary conservation movement, through the State Conservation Strategy.

Salt-tolerant acacias of the South Coast region

Gil Craig is an old friend of the Fitzgerald region, having worked on local coastal management plans and as a guide for overseas visitors. She frequently stays on a farm south of Ravensthorpe and has bushwalked through much of the Park.

Previous botanical work has included an intensive study on hybridisation in coastal spinifex and writing a guide to the flora of the Pilbara coast.

Her work combines the joy of scientific discovery with providing practical benefits. The rich and diverse plant life of the Fitzgerald region has much to offer local farmers and Gil's work outlines some of those values.

Gil is currently based in Perth,where she is in the final throes of completing the thesis outlined below.

Along the south coast, to the east of Bremer Bay, there are many creeks and rivers which are naturally saline.

Along the banks of these water courses, and around salt pans and salt lakes further inland, are many native plants which are tolerant to salt. A three-year study at the University of Western Australia's Department of Botany looked at acacias (more commonly known as"wattles") which were found growing in this region, to see whether they would be suitable for growing in agricultural areas which had become salty.

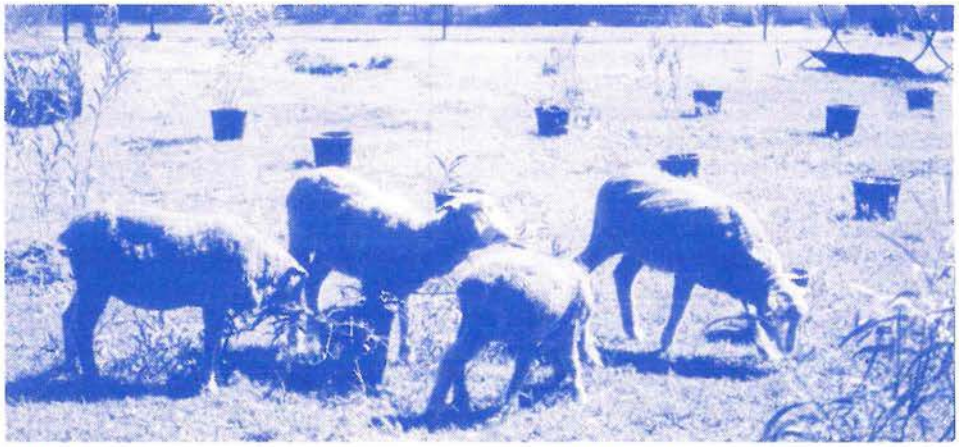
Seed was picked from ten Acacia species which appeared to be growing healthily in salty soil. The soil was sampled at the time of seed collection (Nov— Dec) and again in Spring and Autumn.of subsequent years to measure the salinity levels.of the soils and.to characterise the soil type.

The ten species were then tested in glasshouse experiments for salt and waterlogging tolerance. The acacias were found to be sensitive to prolonged surface waterlogging (greater than two weeks) with saline water but were able to tolerate waterlogging with fresh water.

In drained soil, all species tested were found to be extremely tolerant of salt, resisting concentrations two times that of seawater. Most outstanding performances are achieved by Acacia cyclops , A. redolens (vanilla bush), A. patagiata * and A. mutabilis ssp mutabilis * . The seeds which had been picked from sites with . the highest soil salinity gave the best plant performance, whereas those from less-saline sites gave poorer growth when exposed to the very high salt concentrations. This indicates that the site of seed collection is important when choosing plants for. growing in very salty soil.

Acacias, like clovers and lupins, are legumes and have nodules which are formed by bacteria infecting..their roots. Legumes benefit from this association as the bacteria convert nitrogen in the atmosphere into a form which can readily be used by the plant. The finding of a large nodule mass (8cm diameter) which must have been growing for a few years on A. redolens, which was in a very salty area, started a new line of investigation.

The Rhizobium bacteria, which infect the acacias to form the nodules, were isolated and grown as a free-living culture. It was found that the bacteria could easily tolerate salt concentrations equal to that of seawater.



Different Rhizobium strains were then tested on A. redolens and A. cyclops and it was found that some strains produced more nodules and fixed more nitrogen than others. Some strains were ineffective on the host plant when salt was present in moderate amounts, while others were unaffected by salt. This tells us that it is not only important to have a host plant which is tolerant to salt, but a Rhizobium strain which can infect the host and produce effective nodules.

Without a good Acacia-Rhizobium association, the plant could become deficient in nitrogen and therefore cause poor plant growth. To have healthy acacias in salty soils, good root nodulation is necessary, otherwise fertiliser would need to be added.

These studies were carried out to see what potential Acacia species have for revegetating secondary salinised agricultural areas. It was felt that plants with a good fodder value would also be desirable, so all the species were analysed for protein content and digestibility for sheep.

Plants grown in pots were fed to sheep to see which species were desirable to them. A. cyclops was found to have. the best fodder potential. Other species which the sheep found desirable.were A. brumalis*, A. ixiophylla and A. mutabilis ssp. mutabilis*. The high fibre content of A. redolens and A. patagiata* made them less suitable as foddder shrubs, although were still browsed by the sheep.

It was therefore found that Acacia species, when selected from areas of very high soil salinity, such as around salt pans and along salty creeks, have excellent potential for revegetating salt scalds and hillside seeps.

Being legumes, they would have limited fertiliser requirements and would provide green supplementary fodder in Autumn for sheep. As well, some species, such as A. cyclops, form large shrubs (3—4 metres high) and could provide shade and shelter to stock.

* Indicates a new species

Greenhouse '88

A personal perspective

By Keith Bradby

One of the highlights of 1988, for me at least, was seeing the health of the planet become a regular news issue.

It now seems widely accepted that global climatic change has been accelerated greatly by our lifestyles and the industrial processes that support them. The global warming, ozone depletion and associated events which have been predicted for many years are happening. The debate is now on the speed of those changes and of course on how we will cope with them.

In November, the WA Government, hosted "Greenhouse '88", part of a national conference co-ordinated by the Melbourne-based Commission for the Future. I attended as Convener of the FBP.

A lot of valuable information was presented and worthy opinions were voiced.

But for me personally, it was something of a failure. It started by bogging down in complexities and only extricated itself by adopting the standard bland responses; set up a committee, do more research and educate the public.

I felt the conference concentrated on centralised and rigid solutions to a situation, the effects of which are decentralised and requiring great flexibility at all levels.

There is a terrific concern in the general community at the range of matters destroying our enviromental quality of life. The enviromental success stories of recent years have largely occurred as the result of immense public pressure.

Why is it that conferences and committees still automatically assume that centralised government structures should be calling the shots, receiving the funds and establishing strategies which may have spaoes for "the public" to fit into.

It is the far-flung local communities of WA who will have to cope with coastal flooding, more droughts, more bushfires and more crop failures. All these communities will be having to cope with these changes at the same time, which will require a level of flexibility and prompt response that centralised structures can't provide. The Greenhouse Effect represents a major opportunity to combine the enviromental concerns and community spirit of the people of WA. into a positive and effective force. It's a force we now need more than ever.

The detailed material flowing from the conference is obtainable from the EPA, and is well worth reading.

From "Greenhouse 88."

bi-o-sphere *n.* 1. the part of the world in which life can exist, 2. living beings together with their environment.

PROBLEM: **What is a "Jerdacuttup pencil case"?**

ANSWER: **The lunch esky, which on a hot day keeps chinagraph pencils from melting.**