

LYNDFIELD PARK



<<looking back< >moving forward>>



A story of two crippling droughts,
the sowing of many seeds and
one farm's transformation

by John Weatherstone



Jan and John Weatherstone

ACKNOWLEDGEMENTS

Special thanks to Sue Streatfield (Greening Australia ACT & SE NSW) who persuaded me to undertake this project and enthusiastically supported it throughout.

Thank you also to:

Land & Water Australia for funding support

Greening Australia ACT & SE NSW for additional funding and support

Toby Jones – Greening Australia ACT & SE NSW

Geoffrey Dabb – Canberra Ornithologists Group, for bird photography

David McDonald – Canberra Ornithologists Group for organizing the bird observations into their correct family groups.

David Salt, Ywords, Canberra, for editing

Tim Fisher, Australian Conservation Foundation, for photographs

Dr John Field – Dept Forestry, ANU, Canberra

Nicki Taws – Greening Australia ACT & SE NSW/ Canberra Ornithologists Group, for bird surveys

Photographs:

Bird photography by Geoffrey Dabb

All other photographs, unless individually acknowledged, by John Weatherstone

Booklet Design & Printing

Worldwide Online Printing Braddon

FOREWORD

This little book tells a classic story.

It is a very personal story full of insight and wisdom. It is also a story of gut-busting hard work, and of the courage of one family's convictions against the tide of prevailing expert opinion.

It is one of a growing number of stories about the maturing of Australian agriculture, about the first steps towards developing a more Australian agriculture, fine tuned to this tired old continent and the extreme vagaries of its climate. Above all, it is a story of achievement, of progress and a practical demonstration of how one family can change a landscape.

I have known John Weatherstone for almost twenty years, initially in his capacity as one of the leaders of the fledgeling Yass River Valley Revegetation Project, and latterly through his efforts on Lyndfield Park. Being so close to Canberra, John and his family have over a number of years hosted more than their share of VIPs, senior civil servants, community leaders and international dignitaries – all of whom have been deeply impressed by John's story of personal learning and landscape transformation.

At Lyndfield Park, it is easy to appreciate the 'before' and 'after', both from John's meticulous records and graphic pictures, but also from simply comparing the land around Lyndfield Park with the Weatherstone's achievements. This is tough country, harder to farm successfully than in much of the wheat-sheep belt that extends in a great arc from southern Queensland around to south-west Western Australia. Its soils are thin, its winters freezing and its summers searing. Much of the landscape is looking very threadbare after decades of applying the conventional agricultural wisdom.

The Lyndfield Park story, told so modestly by John, shows there is another path – a path that can sustain both farming families and the landscape they live in and love so much.

I commend it to you.

Andrew Campbell

Queanbeyan, January 2003

Andrew Campbell has been involved at the cutting edge of natural resource management for 20 years. He is a farmer and author, was Project Manager of the Potter Farmland Plan 1984–1988, was Australia's first National Landcare Facilitator, and has also been National Vice-President of Greening Australia. He is currently Director of Land and Water Australia, a Federal Government Rural Research and Development Corporation.



Lyndfield Park, same scene as cover photos taken in February 2003.



LYNDFIELD PARK LOOKING BACK, MOVING FORWARD

In a time of crisis, it's not uncommon for a farmer to become introspective. We might not say much, but when the land you've been working for so long suddenly dries up and blows away, taking with it your financial security, it makes you think about things.

I'm writing this story during one of the worst droughts we've ever seen, and with the drought has come some of the worst bushfires on record. Many creeks and dams are dry for the first time in living memory.

It's the summer of 2003, and we're praying for rain. Yet, as I look out over Lyndfield Park, I have reason to hope. Most of the property is protected by trees, shrubs and perennial grasses. All of the vegetation is dry, some of it is stressed and some will probably die. However, most of it is still intact and it's protecting that valuable mantle of top soil that is the life blood of our many enterprises. On many properties that precious mantle is being lost to the wind.

Of course, this isn't the first big drought our property has seen (and it's unlikely to be our last). The drought of '82 really knocked us around. Indeed, that drought is an important part of the story I'm telling here. At the time, the drought of '82 was the worst in living memory.



Going into this current drought, however, our property is carrying higher stock numbers than it was in 1982. And yet, although many of our neighbours believe this drought is worse than the '82 drought, the experience for us has been much less traumatic. At the end of '82 many of us thought it might take 10 or maybe even 20 years for our farms to recover from the damage they'd suffered. This time I have no such fears for Lyndfield Park. I'm confident that when the rain comes, whenever that may be, the resilience and health of our farm will enable it to bounce back quickly.

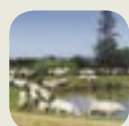
1982 told us that we needed to 'move forward' in a different direction. 'Looking back' in 2003, I think we can say we made a good choice, even though there's still plenty of fine tuning to do.



This scene taken in the 1960's is typical of much of the southern tablelands prior to pasture improvement.



The same scene in 1996. This was one of the first major erosion areas to be tackled. (The small clump of remnant eucalypts appears near the center background of both photos.)



A TYPICAL PROPERTY

Until 1982, Lyndfield Park was a typical grazing property, the kind you would find any where in the southern tablelands of NSW. Until 1982 it was 356 hectares in size (900 acres), which was about average for the area.

At that time, the property had been in our family for three generations. The main enterprise was fine-wool merino sheep, but it also ran a few head of beef cattle and grew some cereal grains.

Average annual rainfall is around 650 mm per year. Temperatures can get down to -10°C in winter with frosts possible in any month of the year (but more common from April-September). Summers can be hot with long baking days in the high 30s.

The land is undulating to hilly, with two main soil types: a sandy volcanic granite soil, overlaying a heavy red clay subsoil (with many granite outcrops), and a much less fertile sedimentary shale, with some ridges being nearly skeletal. Both these soil types are common throughout the southern tablelands.

Lyndfield Park was also fairly typical in terms of the environmental problems it faced: salinity, acid soils, erosion, weeds, lack of shelter for livestock, eucalypt dieback, and declining biodiversity.

To that list we unintentionally added a loss of soil structure, low soil organic matter levels, and increasing problems with new pests and diseases. These problems were brought about by practices such as intensive cultivation, stubble burning, heavy fertilizer applications, and intensive grazing. At the time, such practices were not only accepted, but encouraged by scientists and government.



A SHORT HISTORY

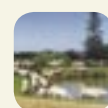
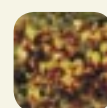
From 1929-1952, Lyndfield Park was run as part of the Eshcol merino stud. After 1952, the main enterprise was a self-replacing fine-wool merino sheep flock, with a few first-cross lambs bred from cast for age ewes.

My parents moved to Lyndfield Park in 1941, and I started work here when I left school in 1959, and became part of a family partnership with my parents in 1966. Jan and I took over as owners in 1977.

During the 1960's, I remember many winters were spent packing and burning the dead trees that had been killed decades earlier, probably in the early 1900's. As we cleared the dead trees we began a major pasture improvement program to lift livestock carrying capacity.

In 1964 Lyndfield Park became part of one of the earliest farm consultancy groups (led by Huon Hassall, founder of Hassall and Associates). This accelerated our program of pasture improvement, and saw significant rises in productivity. By the mid 1970's, stock carrying capacity had more than doubled and quite a deal of cash cropping was also being done. At the time we were unaware of the burdens this would place on the land – costs that we would have to pay over the longer term.

Around this time, with two families living on the farm, we recognized that to remain viable Lyndfield Park would have to either be enlarged or we would need an additional source of income. After several failed attempts to obtain extra land we decided to diversify our activities. A small nursery was established in 1977 to grow native plants for sale to supplement the farm income. We didn't know it at the time but growing trees would become the central pillar of our lives at Lyndfield Park.



THE DAY FROM HELL

Like a number of people who have become highly committed to Landcare and sustainable farming, the turning point for us came out of an experience which at the time seemed highly negative, if not disastrous – the drought of 1982/83.

Like much of eastern Australia, our place became a virtual desert during this time. In three of the five years prior to 1982 we had experienced rainfall deficiencies which had resulted in a significant reduction in the substantial fodder reserves we had in store prior to the main drought.

Because the drought was so widespread throughout eastern Australia, it became virtually impossible to find agistment for stock, or to purchase fodder. Our cattle herd got down to less than 30 head, 19 of which we just managed to keep alive on poor-quality agistment on the coast. We bought one of the last truck loads of oats to come out of Victoria. Even at \$200 a ton it was of lousy quality – full of weevils and nearly useless for stock feed.

We also bought sorghum hay from Queensland which resulted in the introduction of at least three new weeds which took us many years to eradicate, and wheat from another area brought with it Paterson's Curse.

With over 600 ewes due to lamb in April '83, we were facing the horrible prospect of having to kill all the lambs as they were born because there was no way the ewes would be able to rear them, even if they themselves survived. Fortunately, the drought broke just prior to the commencement of lambing and we didn't have to go through that gruesome task.



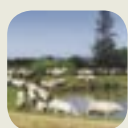
Lyndfield Park 'desert' (Christmas Eve 1982).

By December 1982, Lyndfield Park, like everywhere around us, was a barren dustbowl and we were in trouble. There was just no grass, and the drought winds were blowing away what vestige of organic matter and topsoil was left. One farmer put up a sign on the road near his property with the warning 'Beware – paddocks crossing road'. At least his sense of humour was intact, even if his paddocks weren't.

Christmas eve was a 'day from Hell'! Hot, howling north-westerly winds, dust so thick that it was like a heavy fog. On the Hume Highway, which forms the southern boundary of Lyndfield Park, limbs were breaking from the trees and falling onto the road making it dangerous to drive. Normally on a day with this combination of wind and temperature we would be extremely nervous about bushfires – but there was just nothing to burn and so much dust coating everything that it probably wouldn't have burnt anyway. We certainly were not feeling in a festive mood for Christmas.

In any event, on the afternoon of that bleak day I took my camera and went out to take some pictures. I had never seen anything so desolate, and decided to capture a few images for posterity. Little did I anticipate the impact that taking those few photos was to have on my life and the future of Lyndfield Park.

Lyndfield Park, the same scene as above in February 2003.



While photographing I climbed over the boundary fence along the highway to get a better angle from which to take a photo. On the highway side of the fence the grass had not been grazed. This remaining grass, along with the netting on the boundary fence, had caught soil and organic matter, including clover burr, which had been blown from our paddocks by the drought winds. It was like a huge organic sponge. In some places it was almost knee deep!



The same scene as the two photos on page 5 (September 1996).

This part of the farm consisted of lighter sedimentary soils which were already relatively infertile and low in organic matter. As I stood there looking at the precious fertility that had been stripped from the bare, stony paddocks on our side of the fence, the significance of the disaster really hit home. To see the farm, which we had worked so long and hard to try to make productive and fertile, looking like a barren desert was difficult to accept.

This was the moment I made a solemn commitment that if we survived that drought I would do everything in my power to ensure that Lyndfield Park would never again look like that.

A FORK IN THE ROAD

Throughout my working life, and particularly during our period in the farm consultancy group, we had tried to be up to date with the best knowledge and practices. We had developed a farm plan, improved our pastures and lifted our stocking rates, tried new crops, and looked at alternative enterprises.

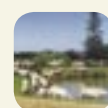
While our relationship with the farm consultancy group was both happy and productive, we eventually left it partly because we were being pushed to increase our stocking rates beyond what we were comfortable with. The rationale for the higher stocking rates being that we had invested so much in improvements that we needed to increase stocking rates to capitalize on the expenditure.

Despite having tapped into the best advice available during the 1960's, 70's and early 80's, we were starting to see evidence of some deep seated environmental problems beginning to emerge. Prior to the drought, however, these problems were either unrecognized or ignored.

The prevailing philosophy at that time was along the line of: "If you farmers are going to make money, you need to produce more food and fibre; you need to make your land work harder. There are starving millions in the world waiting to be fed and clothed. There is a huge demand just waiting to be satisfied."

At that time, the whole focus of scientific research and government policy was production oriented. The word 'sustainable', if it was used at all, was only used in an economic context.

"Little did I anticipate the impact that taking those few photos was to have on my life and the future of Lyndfield Park"



During the early 80's, I began to develop a growing uneasiness about some of our farming practices, seeing symptoms such as:

- seriously deteriorating soil structure associated with too much cultivation (particularly where it was accompanied by stubble burning);
- soil erosion resulting from structural decline and low organic matter levels;
- declining response to fertilizers;
- increasing salinity;
- tree decline (we had very few to lose anyway!);
- reduced number and variety of native birds, plants and animals; and
- increasing incidence of new pests and diseases.

And then the crisis of the drought really hit home and I realized that we needed to change the way we were doing things if I was to honestly address these symptoms. Doing more of the same just didn't make sense because many of these problems were caused or being made worse by traditional practices.

STRAYING FROM THE FOLD

The drought broke in the autumn of 1983, and I set about implementing my resolve by planning a change of direction for Lyndfield Park. But it wasn't easy.

This was a time of considerable loneliness for us because, in a sense, we were straying from the fold. We started to reject quite a deal of the conventional thinking of that period. Although not a lot was said to us at that time, we knew we were considered eccentric by many of our neighbours.

Now that our changed practices have been widely accepted in the community, there are some interesting stories coming out about what people were saying

and thinking at that time. For example, a carrier, who picked up a load of cattle we had sold, commented on delivery to the purchaser: "I used to drive past John Weatherstone's place regularly, and when he first started planting all the trees I thought he had rocks in his head. I now know it was me who had rocks in my head for not planting trees."

Our paradigm shift in management also put us at odds with much of the scientific advice that was available then, which only added to our feeling of isolation. However, I was convinced that we needed to make those changes and we pushed on.

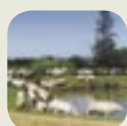
STEPS ON THE JOURNEY

Following the breaking of the drought in '83, we took our first steps towards making fundamental changes to the management of Lyndfield Park. Some of the steps we needed to take were obvious and involved specific actions. Others, in those early days, were somewhat vague. We knew what direction we wanted to go but we weren't exactly sure how to go about it.

The overall thrust of what we were attempting was simple. Traditional farming practices were placing large stresses on the land, and limiting its ability to cope with environmental stresses such as drought.



Peter Garrett, John Weatherstone and Ian Donges at the launch of 'Repairing the Country' at Lyndfield Park, May 2000. Ian Donges said at the time: "This extraordinary farm ... is a showpiece, not just because it is a shining example of what needs to be done on farms all over Australia, but because it represents the vision and determination of one family to redress the course of history." (Photo courtesy of Tim Fisher, Australian Conservation Foundation)



We wanted to reduce the pressure we were placing on the land so that it would become more resilient to stress, while at the same time caring more for the assets of the farm upon which our enterprises were based: the soil, the nutrients it contained, the vegetation that held it in place and the native life that was part of its natural cycle.

Our major changes included:

- reducing the stocking rates to allow the land to heal following the drought;
- managing the level of grazing to increase soil organic matter;
- initiating a tree planting program to protect both livestock and soils;
- reducing the amount of cropping;
- reducing the amount of cultivation during crop and pasture establishment;
- retaining (ie, not burning) crop stubbles and finding ways to incorporate them back into the soil;
- planting a diversity of trees and shrubs to encourage the return of as many native birds as possible;
- reducing the use of toxic chemicals wherever practical;
- continuing to treat existing erosion areas and prevent further erosion;
- increasing the establishment and use of perennial pastures for better water use, soil protection and livestock productivity;
- seeking ways to replace livestock income with income from trees and shrubs;

Not only did we believe that these steps would help make the farm a healthier and more pleasant environment in which to work and live, we also hoped it would improve the long term productivity of the property as well as increase its capital value. I may have looked like a ‘greenie’ to some people but at heart I was still a farmer looking to work the land. I was just working it in a different way.

“our strategies over time have allowed the stocking rate to double over 20 years”

STOCK NUMBERS DOWN, SOIL FERTILITY AND STRUCTURE UP

At the end of the drought our stocking rates were already lower than normal, so to achieve our goal of reduced grazing pressure we only had to avoid returning them to pre-drought levels. The reasons for wanting to maintain lower stocking rates were to enable us to rebuild fodder reserves, to allow soil organic matter levels to rebuild and to improve the fertility and health of the soil.

The amount of organic matter and biota in a soil has a major bearing on the fertility and properties of that soil. Organic matter improves the structure of soil, lifting its ability to absorb and hold moisture and reducing the risk of erosion. It also raises the cation-exchange capacity of the soil and hence its ability to provide available nutrients to plants.



Mowing a two metre high crop of phalaris for hay.

As a result of our previous cropping and grazing management, accelerated by the effects of drought, our soils had become very low in organic matter. The creation of smaller paddocks and use of perennial pastures, rotational grazing, reduced cropping, and no stubble burning, has enabled us to allow surplus grass to be returned to the soil on a periodic basis without loss of grazing value (over the longer term).



Another important step of our changed management was to minimize the ploughing of the soil to protect its structure. As a young farmer, my favourite occupation was sitting on a tractor ploughing or cultivating paddocks, so this was no small sacrifice for me. In the pre-1982 period, every time there was a shower of rain I would be out greasing the tractor, ready to plough or cultivate another paddock. We experimented with almost every new crop that came along. We grew lucerne, barley, oats, wheat, triticale, ryecorn, turnips, crimson clover, and summer crops. However, by the early 1980's the soil structure in some of our paddocks could only be described as a mess.

As part of our changed approach, we discontinued cash cropping altogether and grew only enough cereal crops to have sufficient grain for our own use. We gradually moved from intensive cultivation to minimum-till, and then to mainly direct drilling. We'd only cultivate the soil for special requirements such as for the incorporation of lime. In the early 1990's, I traded our disc plough on a seed drill designed for direct seeding, the only cultivating implements now on the farm being a chisel plough and harrows (and they don't get a lot of use either). This reduced cultivation, coupled with higher organic matter levels through grazing management and no stubble burning, is making a major change to the quality of our soil structure.

And this in turn is making a significant impact on our productivity; since the '82 drought we have adopted a much more conservative stocking policy that has placed less pressure on the land and allowed us a greater margin of safety in times of stress. The benefits of all our strategies over time, however, has been a significant lifting in the carrying capacity of the land. Indeed, our stocking rate is now nearly double what it was 20 years ago!

Of course, in the short term, grazing fewer stock and reducing cropping can have a negative impact on your margins, so it's possible you'll need to diversify your enterprise to create new income streams to make up for the shortfall. In our case, we were becoming growers of trees, shrubs and seeds. Not only did this bring in new sources of income, it allowed us to develop skills and experience that have literally transformed our farm and our lives.

PLANTING TREES

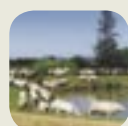
The tree planting program has been the most highly visible aspect of our changed management. What's more, being situated beside one of Australia's busiest highways, our activities have attracted a lot of attention. Since 1982 we have established more than 80,000 trees and shrubs.

Our first tree plantings were primarily aimed at protecting livestock, which is not surprising considering the farm was mainly a sheep enterprise. However, with time, the establishment of trees and shrubs has taken on more importance for soil protection, reducing the impact of salinity, habitat enhancement, controlling the incursion of weed seeds, producing livestock fodder, fire hazard reduction, slowing soil acidity and recycling nutrients, improving the view and producing fuel wood, commercial timber products and seed.

Our philosophy is to use native species wherever practicable, and over 90% of our plantings are natives. However, if there isn't an appropriate native species to fill the role required, we have no guilt about using exotic trees or shrubs. Also, when planning and selecting species, we always try to build multiple



A major tree planting project under way in 2000.



functions and benefits into all our plantings in order to optimize our return. This is important when you consider the high costs involved in establishing trees.

One of the best examples of this is a planting of honey locusts (*Gleditsia triacanthos*). These trees were planted as part of the bushfire risk reduction component of our farm plan. They were planted in a wide-spaced pattern to allow lucerne to be inter planted and cut for hay (and fire protection) during the establishment phase when stock could not be grazed in the paddock.

These trees are deciduous and deep rooted and have multiple benefits:

- serve as a fire retardant;
- produce nutritious pods for stock fodder (up to 100 kg per mature tree per season. These pods have a nutritive value equal to oats grain or quality pasture and are produced with no extra costs once the trees are established.);
- produce foliage which is also palatable to stock;
- reduce the amount of water reaching the water table (thereby helps fight dryland salinity);
- provide good shade which allows the pasture to stay greener for longer;



Cows and calves grazing pasture in the honey locust plantation. These trees were planted in 1985. The lucerne originally sown has died out but the paddock is grazed heavily in spring to reduce fire risk to nearby buildings.

Honey locust pods nearing maturity.



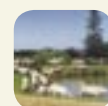
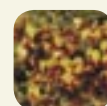
- recycle nutrients (which had leached below the root zone of pasture plants, these are recycled back onto the soil surface through the foliage and pods);
- slow the increase in soil acidity;
- produce timber (a dense hardwood with a number of uses);
- produce excellent honey;
- enhance our view (it's an attractive tree that is green in summer, turning gold in autumn).

As with most things, there are a few negatives. In favourable climates, honey locusts can become a weed. Also, because the trees are mainly either male or female flowering, and are grown from seed, there is no control over the sex of the seedlings, and hence the number of pod-bearing trees. The other problem is that the most common form has very large thorns which could pose a hazard to animals or vehicle tyres. (There are some thorn-less cultivars now available.)

STRENGTH IN DIVERSITY

When we first began planting trees we were really only thinking about establishing big, tall trees. The idea that there was value in other types of vegetation was still foreign to us. In time, however, we came to recognize the importance of shrubs and understory plants as well. Indeed, it has become clear to us that the key principle in a healthy ecosystem is diversity. We believe that this is the most critical factor in attracting a wide range of native fauna, particularly native birds.

We've been most keen to attract birds back to our land. Partly it's because we believe that they have a right to persist in the landscape, partly because we enjoy

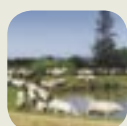


having them around and feel some satisfaction that our efforts to heal the land are having some effect. However, there's also a practical side to our efforts because many species of bird provide ecosystem services in the form of natural pest control on the farm. As well as the birds, there are also a number of beneficial insects which aid in pest control. Native animals and insects are also important pollinators that help with growth and establishment of native plants, as well as improving our seed harvest.



The foreground area is part of the 40 acre habitat planting. Substantial quantities of seed are also harvested from this block.

Diversity is the key. Variety in plant species, and variety in plant shapes and sizes. Variety in what's available through the year. One of the factors we have employed to assist birds and other animals to use the farm is to have a variety of plants flowering at all times of the year. Because many of the birds and insects rely on nectar as part of their diet, it's important to have a source of nectar available all year round. We now have at least one or two species of wattle flowering in every month of the year, as well as a range of other flowering trees and shrubs. Another important factor is to have some prickly shrubs in many areas, as these plants provide secure nesting sites for birds and a safe haven from predators.



Pink flowering *Hakea sericea*, one of the prickly shrubs planted for bird habitat (and aesthetic value).

Unfortunately, we can't meet the needs of some species. Probably our greatest habitat deficiency is the lack of trees with hollows. Regretfully, we removed most of them long before we recognized their value, and can do little, in the short term, to rectify that.

Our major habitat planting is over 40 acres (15 hectares) of light, shale country. We set it aside as a habitat area in 1988. It's roughly in the middle of the farm and had a carrying capacity of only 50 DSE (Dry Sheep Equivalents). At that time, it had only about 20 natural trees, some native grass, and very few native shrubs. Two thirds of it was progressively planted between 1988 and 1992, with only small scale plantings since. A wide mix of native trees and shrubs were planted, though less than 20% of the species are originally local to this area.

This is one area where I go against popular 'wisdom' on native revegetation: that local natives will always perform better. Because the original ecosystem of our area has been so radically altered, the fact that a plant grew in this area a century ago is now often irrelevant. Our experience is that the vast majority of our successes have come from non-local native plants. In fact, I would go so far as to say that we would have achieved less than a quarter of the environmental gains that we have, if we had restricted ourselves to only using plants of local origin.



Another section of the habitat block. The xanthorrhoeas (grass trees) in foreground have been grown from seed.



Willie Wagtails feeding young.

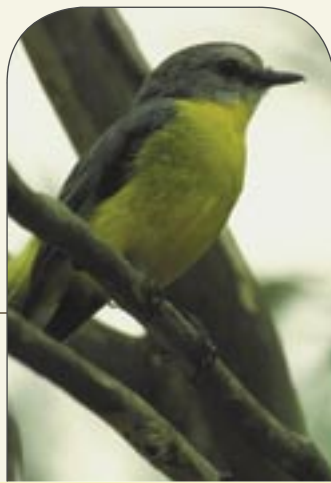
BRINGING BACK THE BIRDS

So, what has been the result? Independent evidence clearly indicates that our habitat planting has been highly successful in bringing native birds back. During the last two years this block was included in a quarterly bird survey conducted by Greening Australia ACT & SE NSW (with help from the Canberra Ornithologists Group). This survey examined 130 revegetation and control sites around the NSW southern tablelands. Its aim was to monitor and try to assess whether native birds were using revegetation, and whether the age or the size of a patch of revegetation were important to the return of different species of bird.

During this survey, 51 species of native birds were identified in our site, making it one of the best sites in the survey. This is in spite of the fact that this site is quite isolated from any major area of natural habitat, with no direct linkages, which indicates that if adequate habitat is provided, many birds will move over open country to occupy an area. Lyndfield Park is 8-10 kilometres from the nearest major area of natural bushland.

Another pleasing aspect of our bird observations is that more than half of the species listed as 'declining' in the general area, have either been stable or are increasing in numbers on Lyndfield Park during the last five years. Since 1996 just on 120 species of native birds have been identified on Lyndfield Park. Some of these species have not been seen before, others had disappeared during the previous few decades.

Eastern Yellow Robin.



Reducing grazing pressure, caring for the soil and planting trees are probably the main areas where we've turned things around at Lyndfield Park, however there are several other areas where we've changed our practices.

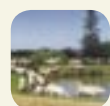


Ringtailed possum's drey (nest). This drey is over 5 feet (1.5m) across and fresh material is added to it regularly. It is one of several used by a family group which arrived here about 8 years ago. We are not aware of any others in the area, and without corridors for them to travel, it raises an interesting question as to how they got here! A small marsupial, believed to be an Eastern Pygmy Possum was also seen recently.

TOXIC CHEMICALS, EROSION AND PERENNIAL PASTURES

No one chooses to use a toxic chemical if there is a practical alternative. As part of our philosophy of working with nature wherever possible, we attempt to minimize our use of chemicals and encourage natural pest control. Living in an area that has been very heavily cleared of original vegetation, and altered in many ways, there are many things which are out of balance and further intervention seems inevitable. For example, we have enormous problems with insect predation on our eucalypts, and trying to re-establish them can be a very disheartening experience at times.

Despite this, our aim is to establish a system that will eventually be sustainable with minimal chemical intervention. We keep observing and adjusting to try to reach that goal. Ironically, by far our major use of chemicals these days is herbicide for tree establishment. Because we're planting mainly into improved pasture paddocks, weed control is one of our biggest challenges. Some years ago we needed to use a lot of chemicals for control of weeds such as briars and thistles. With vigilance, we're now on top of these weeds to such an extent that we can control most of



them with a mattock. (Our former district agronomist once defined a person with a mattock as ‘the world’s most effective biological weed control.’)

Controlling erosion is another area requiring hard work and persistence. Having originally had a number of serious erosion problems, we’ve dealt with them as we’ve been able: one at a time, over a number of years. The last remaining problem area was treated and stabilized in 2001 (with the help of some funding from the Natural Heritage Trust). Our method has been to use earthworks to repair and stabilize the affected area, then fence it off and sow either perennial grasses or trees and shrubs for permanent stabilization.

Some erosion areas have been dug out and turned into water storage, others have been rehabilitated and put back to grazing. With the tree seed business we have large amounts of residue material left from the seed-cleaning process. We often use this to spread over erosion areas as mulch. This results in numerous tree and shrub seedlings spontaneously establishing on these sites. And the risk of erosion reoccurring has been greatly minimized through the use of stock management and healthy pastures.

In my experience, perennial grasses and legumes are the key to healthy pastures, and they are a vital part of our overall farm plan. Perennials are superior in a number of areas. They’re more productive for livestock; their crown and root systems protects the soil better from wind and water erosion and from animal hoofs; and they’re also much more efficient users of rainfall, reducing the amount of water going into the water table (thereby further limiting the salinity problem). Research suggests that a combination of perennial pastures and deep rooted trees and shrubs is the most effective way to combat dryland salinity in many situations.

CHANGING THE BALANCE

None of the changes I’ve outlined above are earth-shattering steps. A lot of it is simply common sense and applied in different degrees by many farmers. However, when done altogether it begins to alter the farm landscape and the way you do business. Trees (and shrubs) have slowly but surely begun to take over, and we’re richer in a variety of ways for it.

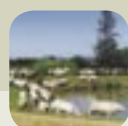
For some years now, our goal has been to find ways to generate income from trees as an alternative to depending solely on livestock. Over 25 years ago we decided to start growing native plants commercially as a means of supplementing our farm income. As that enterprise grew and required more time, we gradually cut back on sheep numbers and began replacing them with beef cattle, because they required less time to manage. By 1996 we had reduced sheep from a peak of 1700 animals down to 600. By this stage, we were also marketing tree and shrub seed. So we were operating four separate but inter-related enterprises: sheep, cattle, native plants, as well as tree and shrub seed. Each of these, at that stage, generated approximately equal income.

At this point, the whole operation was getting too complicated, and as 600 sheep were no longer a viable enterprise, I decided to get rid of them altogether. Given the history of my family with sheep, this was a radical decision, but one which we had worked up to over a number of years. With hindsight, I now regard this as one of the best business decisions I ever made.

The last major erosion area to be treated. This gully was up to 4m deep.



The same area after the completion of earthworks.





The same scene from the previous page.
Photo taken 15 months after the earthworks.

The former shearing shed has been modified and is now in use 12 months of the year as a seed drying shed, and as a venue for classes and groups who visit the farm. So Lyndfield Park, for so long a sheep property, now had no sheep.

Our work with trees and shrubs is now developing around two main enterprises: seed orchards for seed production; and farm forestry working mainly with native species.

SEED ORCHARDS

When we first started seed collecting we were harvesting from mixed plantings on our own property and from native trees on other farms in the area (because at that time there were very few natives on Lyndfield Park from which to collect).

With experience, we've realized that the most efficient way for us to run our seed business is to have control over as much of the parent material as possible. To this end we're planting as many seed orchards on our farm as we can. There are several reasons for this. First, many of the species we collect from shed their seed over short time frames and it's impossible to time collection accurately without traveling frequently to monitor when it's about to shed. Monitoring is costly in time and fuel when the seed plants are spread over a wide geographical area.

Second, by growing our own plants we can select and improve the genetics of the plants from which we're collecting. This is particularly important for species intended for farm forestry where the quality of the stock being established is paramount.

FARM FORESTRY

Because of the combination of generally light soils, relatively low rainfall, and long cold winters, this area has not been considered to have high potential for commercial timber production, especially with native species. Despite this, there has been considerable interest in farm forestry, both as an alternative source of income and as a form of environmental remediation.

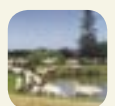


One of the steeper hillsides, ripped and mounded ready for planting with farm forestry trees and habitat plants. We try to include habitat plantings with, or adjacent to, all our commercial plantings in order to encourage biodiversity and natural pest control.

The Southern Tablelands Farm Forestry Network, for example, currently has over 650 members and in a recent survey by that organisation, 40% of respondents indicated that they were interested in native hardwoods for farm forestry.

At Lyndfield Park, we've done a lot of research and experimentation with native species over the last 15 years, and out of that we've picked the species that seem to hold the most potential for this area. Here's some of what we've trialed:

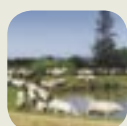
Casuarina cunninghamiana plantation, planted October 1997. The mounds were put in on the contour which allowed them to be furrow irrigated a couple of times in the first two summers to aid establishment. Trees in the background are the honey locust plantation.



- A small plantation of river she oak (*Casuarina cunninghamiana*), planted in October 1997, is showing very good growth and acceptable form. Further plantings of that species are planned.
- Black wattle (*Acacia mearnsii*), green wattle (*Acacia decurrens*) and hickory wattle (*Acacia falciformis*) all perform quite well on appropriate sites. We've obtained seed from superior-formed natural trees of black wattle and hickory wattle, and have planted seed orchards of these two species for further selection and seed production.
- Red box (*Eucalyptus polyanthemos*) is another local tree which we believe has good potential and we're doing further work with it. Others of interest are yellow box (*Eucalyptus melliodora*), red stringybark (*Eucalyptus macrorhyncha*), red ironbark (*Eucalyptus sideroxylon*), drooping she oak (*Allocasuarina verticillata*), black oak (*Allocasuarina littoralis*) and lightwood (*Acacia implexa*).
- One non-local eucalypt which has shown surprising survival and growth is a cold tolerant provenance of Sydney bluegum (*Eucalyptus saligna*).

Because this area is not well suited to high growth and good turn-over, we're not looking at large volume sawlog production from our farm forestry. Rather, the aim is for low volume, high value, furniture and specialty timber. As well as the traditional products from trees and shrubs we're also cooperating with a botanical company to explore some possibilities in the area of pharmaceutical and cosmetic products that might be extracted from a range of native plants.

Casurina plantation at 17 months of age in May 1999. In the background are honey locusts in autumn colour.



Heifer weaners grazing casuarina plantation, May 2002 (trees 4 1/2 years old).

HEALTHIER, PLEASANT AND WORTH MORE

When you live and work in the same place, you spend a large proportion of your life there so it's important to make that environment as healthy and pleasant as possible. Because Lyndfield Park is alongside the Hume Highway, one of Australia's busiest highways, many people observe the changes that have taken place over time, and the comments made to us by people who travel the highway, are a clear indication that the changes we've implemented have made the farm much more attractive to other people.

As mentioned at the beginning of this story, we're now well into a drought that compares with the drought of 1982/83. In fact, many places are worse than they were in that drought.

Over the last few months, my elderly mother, who still lives on the farm, has said to us on many occasions how grateful she is for all the trees we have established because they greatly reduce the visual impact of the drought for her, and as she sees the bareness of paddocks around the district she is glad to come home to the green of the trees.

In these times when we all face many stresses, having a home and work environment that fosters a positive feeling of achievement and wellbeing, can be a worthwhile antidote in helping to counteract those stresses. Having a feeling of achieving something of lasting benefit, and not just 'paying the bills', has certainly made a huge difference to my level of job satisfaction in the last twenty years.

"a feeling of achieving something of lasting benefit, and not just paying the bills"



Another part of habitat area in the foreground, other plantings in background.

But the value we have derived from the changes we have made go far beyond day to day aesthetics and higher farm productivity. We've also added considerable worth to our land. Living where we do, we are now in an area where the highest land values are paid for land suitable for 'lifestyle farming' (hobby farming). If and when the time comes that no one in the family wishes to continue with Lyndfield Park as a farming enterprise, the greatest value will probably be achieved by selling it for 'lifestyle farming'.

At a Landcare seminar discussing 'Landcare and property values' a local real estate agent said: "I would love the opportunity to put our 'For sale' sign alongside the highway, on Lyndfield Park." Although he was reluctant to put a figure on it, as there have been no similar properties sold in the area, he believes that it could realistically make 25-50% more at auction as a result of the tree planting and other Landcare activities we've undertaken.



An "island" planting of native trees and shrubs in a rocky knob.

Although we didn't undertake our changes because we thought we could sell the property at a higher price, it is nice to know that our efforts to care for the land, to improve things for ourselves and our children, are also being rewarded through a substantial increase in capital value.

"I may have looked like a 'greenie' to some people but at heart I was still a farmer looking to work the land"

LYNDFIELD PARK TODAY

So, where do we stand today? What's the yield of 20 years of moving away from traditional practice onto a pathway that is now often described as sustainable farming?

Lyndfield Park was once a sheep farm. Now it's a native plant and seed farm with a beef cattle enterprise.

Our current cattle herd consists of 200 Murray Grey breeders. These have been bred up over a number of years to near-stud standard. At one stage we developed a good local market for commercial bulls, but as the nursery grew and demanded all our available time we discontinued that operation.

In 2002 the nursery produced 120,000 native seedlings for farm and Landcare purposes, including farm forestry. Over the past five years we've done no advertising but there's always been a greater demand than we can supply. Unfortunately, a combination of business pressures and government regulations will force us to scale down the plant growing operation once existing commitments are met in 2003.

Despite an almost unblemished safety record in employing people for over 40 years on the farm and over 20 years in the nursery, we were targeted last year by NSW Workcover, who made a long list of demands, mainly in relation to farm machinery, power tools, tractors and farm dams. When we considered the costs of implementing all these demands, along with the other pressures of running a multi enterprise business, we decided our best option was to reduce



Lucerne paddock with line of round bales. Robinia and Gleditsia plantations in centre.



our operation to a size that we could manage without employing other people. (Interestingly, the inspector who visited us volunteered the comment that he had previously owned his own business but didn't think that he could survive in private enterprise these days. We understand why!)

The tree and shrub seed enterprise currently turns over 400+ kgs of seed per year. The majority of this goes to direct seeding projects through Greening Australia and Landcare groups, with lesser amounts being used by nurseries and individuals. We are also linked to a major seed company, selling bulk seed to them and acting as their retail agent in the ACT and southern NSW. This arrangement allows us to supply the maximum amount of locally collected seed, while at the same time, enabling us to supply a range of seeds which we cannot collect ourselves.

AND THE FUTURE

Our current plans include the establishment of further seed orchards, and more experimental plantings of native species for farm forestry. The more promising species are being planted out in larger numbers. We continue to monitor the changes in native fauna and flora, and it's our belief that we can achieve an even healthier balance in this area. We are constantly experimenting with various forms of fertilizer, trying to find a balance between productivity and sustainability.

All our activities and enterprises are constantly evaluated, with adjustments being made as needed. This evaluation process is enhanced by the many students, scientists and other visitors who come to the farm, and who question, challenge and contribute to our ideas and activities. They often bring with them new perspectives and experiences of their own. This interaction with many people over the last two decades, has been a vital part of our progress towards a sustainable future.



Cattle in the honey locust paddock.

I don't know when the current drought will break. The word is that we can expect higher than average rainfall this coming year, but nothing is certain. I don't know how long it will be till the next big drought comes along, or what new hurdles may arise over the coming years.

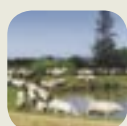
However, I am confident that the changes we've made at Lyndfield Park since the last big drought of 82/83 have gone a long way to protecting us from stresses that go hand in hand with farming. Our land is worth more, my work is happier and healthier, and my family has a more secure future.

The key has been to listen to the land, respond to its needs, be prepared to continually change your approach and to constantly try new things.

In a time of crisis, it's not uncommon for a person to question the way things are. On a bleak, drought-blasted day back in 1982, that's how it was for me. It was possibly the worst and best day of my working life.



Section of the farm nursery (Photo: Jan Weatherstone).

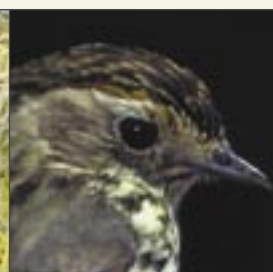


“doing more of the same just didn't make sense”

LYNDFIELD PARK BIRDS

KEY

C: Common U: Unusual R: Rare



Young Kookaburra peering from nest cut into side of round bale in hayshed. A pair of kookaburras have nested there for several years. If the bale is taken away between seasons, they just cut a new nest in another bale.

Speckled Warbler. This bird has fairly defined habitat requirements but is one of the 'declining species' which has moved to Lyndfield Park in recent years.

Flame Robin.

Common name	Frequency
Phasianidae: Quail & Pheasants	
Stubble Quail	C
Brown Quail	U
Anatidae: Ducks	
Black Swan	U
Australian Shelduck	R
Australian Wood Duck	C+
Pacific Black Duck	C+
Grey Teal	C
Hardhead	C-
Podicipedidae: Grebes	
Australasian Grebe	C
Phalacrocoracidae Cormorants	
Little Pied Cormorant	C
Little Black Cormorant	U
Great Cormorant	U
Ardeidae: Herons	
White-faced Heron	C
Little Egret	R
White-necked Heron	C-
Great Egret	R
Nankeen Night-Heron	R
Threskionithidae: Ibis & Spoonbills	
Australian White Ibis	C
Straw-necked Ibis	C
Royal Spoonbill	U
Yellow-billed Spoonbill	U
Accipitridae: Hawks & Eagles	
Brown Goshawk	C-
Collared Sparrowhawk	C-
Wedge-tailed Eagle	U
Falconidae: Falcons	
Brown Falcon	U
Australian Hobby	U
Black Falcon	R
Rallidae: Rails	
Spotless Crake	R
Purple Swamphen	U
Dusky Moorhen	C-
Eurasian Coot	C-
Scolopacidae: Snipes, etc.	
Latham's Snipe	R
Recurvirostridae: Stilts & Avocets	
Black-winged Stilt	R

Charadriidae: Plovers

Black-fronted Dotterel	C-
Banded Lapwing	C

Laridae: Gulls

Silver Gull	R
-------------	---

Columbidae: Pigeons

Common Bronzewing	U
Crested Pigeon	C
Peaceful Dove	R

Cacatuidae: Cockatoos

Galah	C+
Sulphur-crested Cockatoo	C
Cockatiel	R

Psittacidae: Parrots

Crimson Rosella	C+
Eastern Rosella	C
Red-rumped Parrot	C

Cuculidae: Old World Cuckoos

Pallid Cuckoo	C
Fan-tailed Cuckoo	R
Horsfield's Bronze-cuckoo	C

Strigidae: Typical Owls

Southern Boobook	U
------------------	---

Tytonidae: Barn Owls

Barn Owl	U
----------	---

Podargidae: Australian Frogmouths

Apodidae: Swifts & Swiftlets

Swift sp.	U
-----------	---

Halcyonidae: Halcyonid Kingfishers

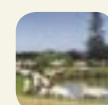
Laughing Kookaburra	C
Sacred Kingfisher	U

Meropidae: Bee-eaters

Rainbow Bee-eater	C-
-------------------	----

Coraciidae: Rollers

Dollarbird	U
------------	---



Climacteridae: Australian Treecreepers	
White-throated Treecreeper	R
Superb Fairy-wren	C+
Pardalotidae: Pardalotes & allies	
Striated Pardalote	C-
White-browed Scrubwren	C
Speckled Warbler	U
White-throated Gerygone	U
Brown Thornbill	C-
Buff-rumped Thornbill	C-
Yellow-rumped Thornbill	C+
Yellow Thornbill	C
Striated Thornbill	U
Meliphagidae: Honeyeaters	
Red Wattlebird	C
Noisy Friarbird	C-
Yellow-faced Honeyeater	U
White-eared Honeyeater	R
Fuscous Honeyeater	R
White-plumed Honeyeater	C+
Brown-headed Honeyeater	U
White-naped Honeyeater	U
Eastern Spinebill	U
White-fronted Chat	U
Petroicidae: Australo-Papuan Robins	
Jacky Winter	U
Scarlet Robin	C-
Red-capped Robin	U
Flame Robin	C-
Rose Robin	R
Hooded Robin	R
Eastern Yellow Robin	R
Pachycephalidae: Whistlers	
Crested Shrike-tit	U
Golden Whistler	U
Rufous Whistler	C
Grey Shrike-thrush	C
Dicruridae: Flycatchers, etc.	
Leaden Flycatcher	R
Restless Flycatcher	U
Magpie-lark	C
Rufous Fantail	R
Grey Fantail	C+
Willie Wagtail	C+
Campephagidae: Cuckoo-shrikes	
Black-faced Cuckoo-shrike	C
White-winged Triller	U
Oriolidae: Orioles	
Olive-backed Oriole	R

Artamidae: Woodswallows, Butcherbirds, Magpies, Currawongs	
White-browed Woodswallow	C
Grey Butcherbird	R
Australian Magpie	C+
Pied Currawong	C
Corvidae: Crows	
Australian Raven	C+
Little Raven	C
Corcoracidae: Mud-nesters	
White-winged Chough	R
Motacillidae: Wagtails & Pipits	
Richard's Pipit	C+
Common Skylark	U
Passeridae: Sparrows	
House Sparrow	C+
Double-barred Finch	C-
Red-browed Finch	C+
Diamond Firetail	U
Fringillidae: Finches, etc.	
European Goldfinch	C+

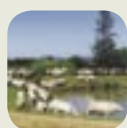


A pair of Willie Wagtails feeding their young.



Red Capped Robin. Another of the 'declining species' which has moved in during recent times.

Dicaeidae: Flowerpeckers	
Mistletoebird	R
Hirundinidae: Swallows	
Welcome Swallow	C+
Tree Martin	C-
Fairy Martin	C-
Sylviidae: Old World Warblers	
Clamorous Reed-Warbler	C
Rufous Songlark	C
Brown Songlark	C
Golden-headed Cisticola	C-
Zosteropidae: White-eyes	
Silvereye	C
Muscicapidae: Thrushes	
Common Blackbird	C
Sturnidae: Starlings & Mynas	
Common Starling	C+
Common Myna	U



LYNDFIELD PARK

<<looking back<
>moving forward>>



As John Weatherstone looked out over his drought-ravaged property on a grim Christmas eve back in 1982, he realized the way he managed his land needed to change. And so it was that Lyndfield Park, a typical sheep farm in the NSW southern tablelands, began a long and sometimes lonely path towards a more sustainable future – a future based on trees and native vegetation, healthy soil and biodiversity.

Lyndfield Park no longer grazes sheep but it's still a commercial farm in every sense of the word. However, because John has invested in the natural health of the property, Lyndfield Park is now more productive, better protected from climatic extremes, a nicer place to live and work, and worth considerably more as an asset.

And the improvements are now being widely recognized. Lyndfield Park has been awarded a NSW Landcare title, a NSW Ibis award (for successfully combining nature conservation with commercial farming) and is a regular venue for school, TAFE and university classes. It is also visited by overseas government delegations looking at a range of environmental and farming issues.

This story is one of a growing number now emerging which demonstrate the multiple benefits of sustainable farming.