

GIPPSLAND AGROFORESTRY NETWORK

Agroforestry is the integration of trees and shrubs into farming landscapes for conservation and profit. It's all about farmers using trees to improve the environmental, social, and economic values of their land.

Four case studies of Gippsland farmers who have experienced Agroforestry



1. Agroforestry case studies: Bob Gray at Tamaroo

About the farm

Bob Gray has been on Tamaroo, an 80-hectare property in the Strzelecki Ranges near Warragul, since 1976. It's wet, hilly country, and when Bob retired from his work as an agricultural scientist and educator in 2011, he decided to scale back the amount of cattle and sheep he was running on his steepest paddocks (on which he'd flipped a motorbike one too many times). The stock was also causing widespread landslips, erosion, and pasture and soil damage during South Gippsland's rainy winters.

With a keen interest in forestry sparked by his love of carpentry and cabinetmaking, a desire to scale back on the physical labour required to run livestock, and a need to "have something energetic and fulfilling to do". Bob planted out 15 hectares of Spotted Gum, Southern Mahogany and Yellow Stringybark, with a view to harvesting the trees as quality, high value saw logs for furniture and architectural use around 2034. The plantations now complement a smaller number of grazing sheep, and a large 70,000-tree revegetation project established in the early 2000s that planted out the steepest gullies and watercourses with native bush for shelter, soil stabilisation and biodiversity.



Plantation management

The tree species Bob chose were planted in areas that suited their characteristics. Hardy Spotted Gums are located on ridge lines, while more delicate mahoganies are in the gullies. Wind and storms have nevertheless taken their toll over the years, with the Spotted Gums struggling on some of the most exposed sites, growing slowly in the first few years and often forming secondary stems. The Mahogany were badly affected by the 2021 storms, and Bob lost 100 trees, though he says the other species held up well.

Bob's experience with the revegetation plantings already established on his property was that without proper care like thinning and pruning, trees would grow slowly, fall on fences, die in patches, and blow over in high winds. He was determined to ensure that didn't happen with his agroforestry plantings, and has fenced, sprayed, planted, fertilised, pruned and thinned his trees on a tight schedule recommended by the forestry consultant he has employed over the course of the project.



He says the work “must be done properly and on time” and that “it comes in lumps. And when you meet one of those lumps, like when I first pruned the trees in the second year, it’s a fair bit of pressure and a lot of work. We only have 15 hectares, but with 17,000 trees, and a minute per tree—you’re looking at 17,000 minutes”.

In the fourth year, Bob thinned out the trees, to ensure they grew up towards light, “straight instead of like broccoli”. Lift pruning followed in Year 5, which removed branches to 5 metres. This process took around 2-3 minutes per tree. “If you don’t do it on time, branches thicken, trees get shaded out and don’t grow as fast”.

In the following years, a second thinning occurred, taking the stock down to 8,000 trees or around 450 stems per hectare. For the final lift pruning, Bob hired a contractor to trim the trees up to 6.5 metres, which took about a week, which Bob estimates might have taken him months.

As the plantation matures and enters its second decade there will be one final thinning—one that may make Bob a small return. He suspects though, that with the high costs of labour, machines and transport on his difficult and remote site, the extracted lumber will only allow him to break even.



The final harvest will occur when Bob is 85. He says that “if he still has his marbles” he will replant. Not only is all the infrastructure in place to support a new plantation, but “a young forest is very attractive—it’s a beautiful landscape, with high aesthetic value. In conjunction with the Landcare plantings, animals and birds increase dramatically”.

The bottom line

Although the biggest financial return is still some years off, Bob has found that his investment has repaid him in other ways many times already. Aside from the improved landscape values and better water quality, the plantations have also provided shelter and feed for his stock, and a long-term research project by the local Catchment Management Authority comparing the soil carbon in his pasture paddocks to his plantation has indicated significant carbon increases under the trees in some areas.

Bob has carefully planned and managed his plantation to ensure a high-value end product, in part to balance the high costs of harvesting. “It’s very expensive, and you need an economy of scale. When we went into this, we decided we needed at least 10 hectares to make it worthwhile, because no-one’s going to want to bring a couple of million dollars of machinery up into the hills, then spend three days setting it up to harvest a dozen trees that are then hauled away hundreds of miles for processing, because there’s no sawmill nearby”. He suggests a coordinated approach, where groups of Agro-foresters in the same area can time their harvests to coincide with each other, might be a good solution, and one that could be implemented by VicForests or local forestry hubs.

Nevertheless, Bob is still looking at a healthy profit, and one that he calculates stacks up well against traditional grazing enterprises. The initial feasibility study he conducted in conjunction with Bass Coast Landcare suggested a return for well managed logs with a high proportion of clear wood was in the order of \$33,000 per hectare or \$1,075 per hectare per year over a 25-year period, compared, for example, to his margin of \$816 per hectare per year for his sheep enterprise in 2016.

Lessons learned

Bob has loved his experience as an Agro forester over the years and has deeply enjoyed watching the forest grow on the bare hills, the birds and animals flocking back to his land, and his days out in the fresh air with the trees, but he has also learned that “you need deep pockets, or to be willing and capable of hard yakka”, and that, “once the trees are in the ground, the real work starts”.

He stresses the importance of groups like the Gippsland Agroforestry Network: “Local expertise is incredibly important. I would never have got into this without that being there”. The field days and Master Tree Grower’s course run by GAN bring together the camaraderie, science, and aesthetics of forestry, and gave Bob the confidence to get started and carry on with his enterprise. But Bob says that these groups need to be better-supported and that many volunteer-run organisations are struggling to survive: “Who’s going to stand up if volunteers run out of puff?”

Bob also reflects that it’s “important to do your homework and know what you’re getting into. It’s a lot



of money to throw at something, and unless that doesn’t matter, you need to know what species to plant, you need to understand economies of scale, and how to manage the trees”. He says that growing a productive commercial plantation can yield big returns but will require establishment funding and management to do it right. “Good planning before you commit and become emotionally invested in your project will lead to a happy ending down the track”.

2. Agroforestry case studies: Jon and Marg Hauser in Glen Alvie

About the farm

When agricultural economist Jon Hauser and his partner Marg were looking for a rural getaway in the Bass Coast area in 2001, they were envisioning a beach shack or a small acreage, rather than a 56-hectare dairy property in the steep hills of Glen Alvie between Loch and Wonthaggi. But the spectacular views and perfect house site emboldened the pair to purchase the land, which was plagued by erosion, overgrazing and weeds. Marg and Jon soon decided that continuing to pasture animals on the steepest parts of the property was unproductive and unsustainable, and fenced off and revegetated 12 hectares for the environment along their streams and gullies with the support of Landcare and the local water authorities.

Searching for a profitable and balanced solution for the remaining steep areas, Jon and Marg took advantage of a government carbon credit subsidy scheme running in the early 2000s to plant out 25 hectares of long rotation



native hardwood forest. The trees include Blue Gum (14.2 ha), Yellow Stringybark (9.2 ha), and Spotted Gum (0.9 ha). The final harvest is set for 25 to 35 years. The Hauser's graze sheep on their remaining open pasture and in the plantation itself, and beef steers were also introduced 12 years after the trees were established. Livestock grazing helps to reduce fire hazards and noxious weed infestations and provides access to beneficial shelter and extra feed in winter and summer.

Plantation management

Jon believes their mix of timber, revegetation and stock is the most commercially viable and environmentally sustainable combination for the property and has been easily manageable in conjunction with his busy career outside the farm as Managing Director of his own farm business software and strategy consultancy, Xcheque, and in managerial roles at Burra Foods, the Organic Dairy Farmers Co-op, and WA's Challenge Dairy, among others. Factoring in a contractor to plant, prune, weed and thin the trees in the early years was key to maintaining this balance, and utilising the sheep to control grass and weed growth among the trees has cut down on costs in later years.

The farm today is the result of extensive planning and careful consideration of the unique aspects of their land—its soil condition and depth, rainfall, wind exposure, fire risk and planning restrictions.

It hasn't all been smooth sailing though. The year after the plantation was sown, there was a rare snowfall in South Gippsland, which affected some of the Yellow Stringybark. Jon reflects that the best thing to do would have been to pull the frost-bitten trees out and start again further down the southern slope, to reduce the impact of cold weather on the seedlings. He also considers that several hectares of Blue Gum were poorly placed—"too high on the hills and exposed to the damaging hot summer northerlies". He says, "You need to plan for the fact that these trees are going to be badly affected by extreme cold and heat and you need to protect them—particularly in the early stages".

Grazing sheep in the plantations has given the Hausers an early return on their investment. The trees provide an ideal environment for their stock in harsh weather, when the microclimate under the trees means that temperatures can be 2-3 degrees warmer in winter and cooler in summer and ideal when the open pasture is too wet and boggy in the cooler months, or the grass has been exhausted in February.

The bottom line

The Hauser's initially planned for a return-on-investment of 6-7% over 25 years, which Jon calculated would out-perform a more traditional grazing enterprise. When they started out in 2003, the value of the 10-year commercial thinning was about \$100,000—which would return a profit of 25-50%. However, a decade after the trees went in the ground, Jon found that because of an increase in contracting prices, freight to mill and road building, the thinning would almost end up costing money, returning little more than \$5,000.

For a few frustrating years, it seemed like the plantation would not be profitable, and Jon remains disappointed with government forestry policy, which often makes it unviable for small-scale tree-growers and farmers to harvest their native hardwood products because of the structure of the market and uncompetitive and unrealistic timber pricing.

He says, "the bigger you are, the better the economies of scale and the better chance you have of getting contractors to come and work and a timber mill to buy up logs. Ten – twenty hectares is perhaps the minimum unless a reasonable number of landholders collect together to grow forests in the same area. An estimate on a reasonable base for a private forestry 'collective' is 200 – 400 hectares under management—and we have a long way to go in Bass Coast Shire to reach that level".

Twelve months ago, the Hausers bit the bullet and invested in a forwarder and a small, non-commercial band sawmill. They have been slowly pulling harvested thinnings up from the plantation by themselves-and stacking and loading the logs in their top paddock, ready for sale as milled timber products and firewood. Jon estimates that they may have 800 tonnes of Yellow Stringybark up to 40 centimetres in diameter by the time he's done. He reckons the trees will now "probably provide about \$100,000 a year income. That's as least as good as a beef property of the same size and probably better".



Lessons learned

Jon says diversified farms such as his are “the right decision for my property and many properties in the area ... Twelve hectares of our place is revegetation and should be. Twenty hectares is forestry and should be. And twenty hectares is for livestock and should be”.

Their revegetation-plantation-livestock mix has provided the Hausers with a lot of joy over the years, as they have watched native birds, animals and plants return to the farm—wallabies, echidnas, sugar gliders, owls, robins, eagles, rare orchids, and tree-ferns now call the once-bare hills and gullies home. Jon says, “the revegetation-plantation mix is quite important for forestry outcomes... and it’s a great alternative to just livestock and revegetation”.

But he recommends clear and deliberate planning before launching into a farm-forestry project. “Think about 25 years of management... What’s right for your property? Will the trees be there in twenty years’ time? What condition will they be in? Do I want them there?”

Decisions need to be based on the exact location of your land and its elevation and direction, the types of soils, and the infrastructure required.

Jon’s credo is “Do it right the first time, rather than doing it again 15 years later.” He also suggests consulting with other local Agroforesters, who can be a fantastic resource for people on all stages of the forestry journey. Jon credits GAN as “a really good network for going and asking questions and providing feedback and learning about things”.

Ultimately, the Hausers credit their forest with giving their farm a future and providing them with a reason to stay on the land. “It’s a thirty-year vision—and we want to see it to the end”.



3. Agroforestry case studies: Peter Devonshire and Woodside

About the farm

Situated at Woodside in the flatlands along the South Gippsland coastline, Peter Devonshire and his wife, Veronica purchased their first pine plantation in 2002 from Bill and Elizabeth Eardly, who had planted out the property in 1980 under a government farm forestry loan scheme operating at the time.



Peter is a career forester, and over the years he has worked for the government, Australian Paper and as a private consultant helping people to negotiate forestry agreements, mostly in the Gippsland area. He began working as Bill and Elizabeth's plantation manager in 1997 after the couple moved to a sheep stud in northern NSW, and when they had to sell the Woodside property a few years later because of changed personal

circumstances, Peter and Veronica agreed to buy the land and their company, Devtree, arranged to purchase the trees on 40 hectares.

Plantation management

In the early 90s, a farm forestry agreement with Australian Paper guaranteed a market for products from the Woodside plantation, and Elizabeth and Bill decided to use the healthy return received from the first thinning in 1994 to fertilise the forest by air. Australian Paper's extensive soil mapping of the area guaranteed that they knew exactly what trace elements to add to ensure good growth.

After Peter and Veronica purchased the Woodside block, they ran Merinos on the 10 hectares of grassland adjacent to the plantation and introduced proper drainage, before overseeing the third thinning in 2004, which saw a net return of \$26,000.

Peter clear-felled the plantation in 2007, then sold the property. The new owners planted Blue Gum the following year, which has now been harvested, and are likely to replant with native hardwood species. Peter reflects, "it's an old wives' tale that you can't grow anything after pines - they just don't poison the ground".

The bottom line

The final harvest in 2007 yielded a stumpage of approximately \$400,000, which went towards completing the purchase of the land and trees, as well as a healthy return for the risk.

The legal grounds allowing different elements of plantations to be owned by different entities emerged after the Kyoto Protocol was ratified in 1993, and new plantings were granted carbon benefits. Victorian laws changed so there can be separate owners of the trees, the land, and the carbon. For Peter, this was the perfect structure to split up the purchase when he did not have the ready cash to purchase an entire plantation. Today, farmers can still go into this style of land lease agreement or tree ownership arrangement. Peter says, "this means you can get many of the benefits of trees without owning them."

The history of the block also presents an interesting contrast on the financial difference between pine and native hardwood plantations.

Pines are a straightforward forestry operation, pruning is unnecessary, and thinning is straightforward, using the same equipment and contractors as industrial operations which leads to a very economical and efficient return. However, pine is a lower value product for the grower. Eucalypts, on the other hand, depend on thinning and pruning in order to get a good product which means they



are much more labour intensive and expensive to maintain. Peter reckons the flipside is “more reliable returns. And you’ve got a lower volume and higher value”.

Lessons learned

A lifetime in forestry has left Peter with a deep understanding of decades of government policy and a mastery of the practical side of growing trees. His advice to budding foresters is to get involved with their local forestry network, like GAN, and talk to people further along the journey about the different aspects of tree-growing, visit their properties on field days, and meet the members, some of whom are forestry consultants, contractors, and sawmill owners.

He also recommends taking a Master Tree Growers’ course, where prospective tree growers can learn about markets and all the aspects of growing profitable trees. The Gippsland Agroforestry Network has run the course several times, and Peter believes that finding funds to keep the program running on a regular basis and subsidising its costs for novice foresters would help to greatly expand the agroforestry industry in Gippsland. He would also love to see funding in place for a mentoring program linking beginners and experts, allowing seasoned farm-foresters to visit properties and provide owners with site-specific advice, an all-important element of successful plantation establishment.

Over the years, Peter has been discouraged with the politics that surround forestry policy, but he is enthusiastic and welcoming of the new Commonwealth Regional Investment Corporation Plantation Loan, a Federal Government initiative, which he believes “is a good move and offers landowners the option of a loan for new plantations on an interest-only basis for 13 years”.

Peter also thinks the timber market should be more transparent, “We all know what a cow costs, and whether it’s price is up or down, but we don’t have the same process for wood prices, that makes it hard to plan with confidence”.

Since he sold Woodside in 2007, Peter has purchased and sold another pine plantation, and now finds himself on a property in Budgeree, where he has planted five hectares of native hardwood for harvest and encouraged a native understory to redevelop as well as covenanting other sections of his land through Trust for Nature. Watching his trees grow and helping his colleagues at GAN and clients achieve their forestry goals make him a happy man.

Having big dreams and long-term vision for the future is something that is important to Peter. “The European idea of forests, and the way they plant trees knowing that they won’t be around 120 years later to see them mature, is something that Australians should really get on board with. It’s a beautiful legacy”.

4. Agroforestry case studies: Raymond Joy of Foster North

About the farm

Twenty kilometers north of Foster, deep in the hilly Strzelecki Ranges, is the Joy family's 55-hectare property. Purchased as a treeless hobby farm in 1971, Raymond Joy's father originally planted out 12 hectares of pines with the financial support of what was then known as the Forest Commission in 1979. Ever since then the family has been planting trees for timber production, weed suppression and biodiversity, with approximately 40% of the property now covered by plantations and revegetation and the remainder used for pasturing steers.



Over the years, with guidance from Heartwood Plantations, the pines were harvested and replanted with Shining Gum, and additional blocks of Yellow Stringybark, Spotted Gum, and Silver Top Ash were created. Heartwood is a provider of professional forestry services for investors, farmers, and organisations across Victoria. Specialising in beautiful, high-value timber investments, the company

manages over 40 plantation sites predominantly located in Gippsland.

It's been a rewarding partnership. Today, having had the benefit of growing up with the trees his dad planted and watching his own kids play among the leaves, Raymond thinks about his forests as more than simply an investment that pays off in 30 years' time. He says they are immensely valuable throughout their life-cycle — as windbreaks and livestock protection, to protect the soil and water, to encourage native insects, birds and animals, and for their innate amenity and beauty.

Plantation management

As a weekender, Raymond jokes that "Agroforestry on a medium scale is not for the faint of heart... It's hard work, even when the ground has been well prepared, ripped and the weeds suppressed... On a hobby farm, slipping around the wet hills, trying to get 1,500-2,000 trees planted before you head back home on Sunday arvo is challenging!"

He loves it once the trees get going: "It's a beautiful thing. It's lovely to see the new shoots emerging and the landscape changing. But, in no time at all, you suddenly have a lot of trees to prune or thin and it's time for a more pragmatic approach".

Fortunately, Raymond has a passion for taking care of trees, and provides tree lopping and pruning services to his neighbours in Melbourne to offset the costs of machinery and equipment required for his own forest in South Gippsland, where he does most of the tree management himself.

Raymond urges people considering farm forestry who aren't going to engage contractors to plan for the intensity of this work. "Pruning on sloping ground, in the rain, with lots of understorey is hard. I have done it for over 20 years. Like most hard work it is rewarding, but you must do it safely".

He describes the first lift pruning as “taxing on your time and brain but less gear intensive. The second lift taxes your arms, and as there are less trees to choose from it should be easier on the brain, but you need more specialised gear. The third lift (over six metres) is grunt work—it should be safety first, with modified ladders, special loppers and saws, and harnesses”. Raymond has also pruned 23 of his trees up to 12 metres, with a hired cherry picker — “wobbling around at 12 metres is a little unnerving at first!”

Raymond’s farm is surrounded by conservation reserves and public forest, and he has struggled at times to protect his seedlings from grazing deer and wallabies. “It is frustrating to lose so many seedlings to browsing... By the time the next planting season was available, the competing weeds were established, and Year One seedlings were also on their way. Most seedlings replanted into the gaps suffered 80%+ losses



to browsing and weed competition. It was a waste of time and money”. He says that feral deer can also be trouble for established trees as well, as they rub their antlers against the trunks — “Fifteen years ago deer weren’t a problem. Now they’re very bad, you could get wiped out”.

The bottom line

The farm in Foster North doesn’t need to pay its way, which Raymond says is lucky, given the risk and long return period on the trees. “It is small scale harvesting, and lots of unpaid labour to get that perfect A-grade log”. He also notes that up in the wet South Gippsland hills, factors like the scale and site of the plantation make it unattractive to harvesters when they’re such a long way from a sawmill.

He does believe that farm forestry is a very worthwhile investment though and purchased an additional block of land in Woodside in 2005. The location of this block improved stump-to-mill expenses considerably compared to Foster North, and Raymond was also fortunate enough to receive a government grant to assist in the establishment of a 40-hectare Yellow Stringybark, Spotted Gum and Southern Mahogany plantation through a ‘Sawlogs for Salinity’ project that was running at the time.

Raymond believes that incentives like that can be very beneficial to the small-scale farmer and investor, but that they need to be available for long enough stretches of time — longer than one financial year budget — to allow individuals to apply for the assistance, plan their plantation, purchase seedlings, and prepare the land for planting. He believes they were only successful in receiving the grant because Heartwood Plantations, who they had engaged to manage the plantation, had the time and know-how to present a professional tender—something that is often out of reach for the small-scale farmer.

The estimated return on Raymond’s Woodside block is 7-8%, although the market for the second thinning was cost neutral. But as he says, “You still have the block of land, and you can hold the trees for as long as you want to (or can afford to)”.

Lessons learned

Over the years, Raymond has picked up a lot of good tips for the burgeoning forest farmer. He says that if you can start young enough and have the muscle power to manage a forestry project, you don't need that much money, but that equally, "You don't want to become a slave to your passion, or a slave to your hobby. It's tough to get everything done, easy to put it off, and sometimes a lot of work all at once."

He lists setting reasonable objectives and conservative time and financial budgets as key. "The last thing you want is to have is a failed forestry project that provides no benefits. Better to have a farm forest plan that rewards you because of what it becomes, rather than ruining the experience".



Ultimately, Raymond sees his forests as part of his lasting legacy. "We've reintroduced biodiversity – lyrebirds and koalas are there now that weren't there before – and you feel like you're doing your bit". He says caring for tomorrow and planting trees that you won't see to fruition is a feel-good thing: "No-one loves your trees as much as you do — and you need to find a way to think beyond the value of the stump".

If you require further details regarding Farming trees on your property please contact Bob Gray, GAN Treasurer. bobmgray49@gmail.com

