Private Forestry Engagement Strategy

Softwood plantings on private land in the south west of WA

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Introduction

This **Private Forestry Engagement Strategy** is prepared in response to a request from the South West Timber Hub (SWTH) for a comprehensive set of actions and pathways that will encourage softwood (pine) plantings as private estates on private land within the softwood hubs as defined in the Western Australian Soft Wood Strategy 2016-2020 (FPC 2016).

Background

The rate of take-up of private farm forestry (defined here as landholders investing their own funds to establish softwood planting on their own land) is low. Further, the rate of harvest is outstripping the rate of new plantings. The Forest Products Commission's Annual Report 2018-19 states that 4,807 ha of softwoods were harvested in that year, with only 1,000 ha being planted annually, with very little of that derived from solely private investment. The Engagement Strategy needs to encourage accelerated farm forestry plantings.

Methodology

The Engagement Strategy has been deliberately prepared placing the private and corporate landholders (also 'farmers' or 'landowners') as central to an understanding of the relative interest and likely take-up of farm forestry.

Prior to the development of the Engagement Strategy, a **Situation Analysis** was completed to provide the context for the Engagement Strategy. The Private Forestry Engagement Strategy needs to be read in conjunction with the Situation Analysis.

Consultation with influencers and key stakeholders was directed at those relevant in the Dardanup Hub, and focussed on those people able to bridge the gap between timber industry knowledge and private landholder behaviour, and in particular understand the drivers of decision making on private landholdings, at all size scales.

The background to the Strategy is the information on current barriers and opportunities for farm forestry which have been identified in the Situation Analysis and through the consultation phase.

Issues being addressed

While there are multiple factors taken into account by landholders in the decision to grow softwoods the dominant factor is return on investment. Without clarity and confidence in expected return on investment the other factors are unlikely to have enough weight to convince landholders to grow trees.

Those consulted – existing growers, key stakeholders and influencers – suggested that independent, valid and reliable information on which to base a 30-year investment in pines was hard to obtain, often inconsistent between sources and assumptions, and for some matters just not available. This variability in key metrics makes it difficult for a current or prospective landholder to be confident in a 30-year investment.

Overall, the growers interviewed suggested that market information in WA was 'opaque', with no clear information available – as compared to the situation in eastern Australia and New Zealand.

An assessment of land capability for perennial crops (including trees for timber) suggest an upper limit for the land that could feasibly support farm forestry, being about 600,000 ha in the south west within range of a processing plant. Conversion of up to 50,000 ha (8 per cent) of this area to softwood plantations represents a significant challenge for government and forestry interests.

Clearly there is no such thing as an 'average south west farmer or landholder', which highlights the need for a diversity in marketing approaches to landholders to match the diversity in the south west landholding community.

There does not appear to be any objective data on the appetite for risk amongst south west landholders. A thirty-year investment in pines, with an uncertain end value for the product represents a new type and a new level of risk for many landholders who are used to annual returns for agricultural commodities.

Although participation in the carbon market will lift returns for growers, there is currently no easy way for small-medium growers to secure payment for carbon sequestered.

Private Forestry Engagement Strategy

Stages of decision making and target audiences

The stages of decision making for a landholder considering an investment in farm forestry are defined as the following:

- Awareness – landholder awareness of option of growing pine;
- Understanding – landholder understanding of details of opportunity;
- Confidence – Landholder confidence that opportunity is positive;
- Decision – landholder decision make; and
- Implementation – landholder supported to implement.

Target Audiences

An understanding of the key stakeholders in a position to influence decisions is required to target information is shown in the table below.

Landholders	Advisors	Enablers	Influencers
• Family accumulators • Legacy farmers • Tax sensitive landholders • Tree lovers • Diversifiers • Absentee landholders • Corporates • Superannuation funds	• Farm management advisors • Financial advisors • Real estate agents • Carbon brokers	• Purchasers • Forest Products Commission • Local Governments • Government agencies • Forestry management advisors	• Existing tree farmers • Stakeholder and community groups • Landholder family members • South West Catchments Council

The Engagement Plan is presented in the table below, showing objectives, strategies, timelines and responsibilities. An Evaluation Plan is also presented in the Report.

Objective	Strategies	Timeline	Responsibility
1. Improve information available	1.1 Fund return on investment model development for range of options 1.2 Develop independent Information package on costs and benefits for all uses. 1.3 Demystify carbon model for growers. 1.4 Information on market logistics for saw logs and thinnings 1.5 Develop case studies on successful growers (including video) 1.6 Identify land capable of supporting pines (potentially through GRID)	Year 1	SWTH to contract out information development by independent and credible economic/ financial analysis organisations
2. Improve potential returns	2.1 Develop entry incentive package 2.2 Run reverse auction 2.3 Investigate the timber futures market	Year 2	SWTH Possibly with other Hubs
3. Improve transparency of process and offering	3.1 Clear statement from FPC on what they will and won't do 3.2 Develop and promote a model planning policy for Local Government Authorities 3.3 Secure a clear statement from Wespine on its offering to landholders 3.4 Summary statement of history of farm forestry – debunking the myths	Year 1	FPC SWTH to contract Planning expertise Wespine SWTH
4. Educate advisors	4.1 Develop database of advisors and third parties 4.2 Direct mail information 4.3 Run education sessions for third parties • Farm advisors • Real Estate agents • Advocacy groups 4.4 Offer payment for attendance at education sessions	Year 2	SWTH contract to independent organisation through tender
5. Raise profile of opportunity	5.1 Seek PR opportunities in community newspapers 5.2 Exhibit at field days 5.3 Make presentations to community groups 5.4 Promote via Facebook page (to be developed) and online newsletter 5.5 Publish all information on website	Year 2	SWTH contract to independent organisation with support from PR/marketing firm through tender
6. Promote opportunity to landholders	6.1 Develop database of potential landholders 6.2 Publish a Prospectus 6.3 Publish Wespine offer of share farming 6.4 Direct mail to prospective landholders 6.5 Organise field trips for potential new entrants	Year 2	SWTH contract to independent organisation with support from PR/marketing firm through tender
7. Support potential new entrants	7.1 Package and extend best practice technical information on growing pines 7.2 Form panel of forestry advisors 7.3 Fund farm advisory services for potential new entrants 7.4 Develop and fund peer mentoring 7.5 Support entry to carbon market	Year 2	SWTH
8. Target resource companies	8.1 Seek meetings with resource companies with detailed information	Year 2	SWTH

2 Introduction

This **Private Forestry Engagement Strategy** is prepared in response to a request from the South West Timber Hub (SWTH) for a comprehensive set of actions and pathways that will encourage softwood (pine) plantings as private estates on private land within the softwood hubs as defined in the Western Australian Soft Wood Strategy 2016-2020 (FPC 2016).

The 'South West Timber Hub' is a Federal Government funded program that works with the timber industry in the south west of Western Australia to increase its productivity, efficiency and processing capacity through innovation.

One of the South West Timber Hub objectives is to expand the WA Pine plantation estate within the SW Timber Hub by 50,000 ha over 5-10 years. To help meet this overall objective, the specific ***project aim is to have 10,000 ha planted under a Private Forestry Plan over the next 10 years***.

The Private Forestry Engagement Strategy sets out strategies that focus on developing information sources and incentives as well as messaging to influencing the landholders and respected stakeholders required to encourage plantings of sufficient size (20 ha minimum) on suitable land within private farm holdings in the South West.

2.1 The purpose of the Strategy

The rate of take-up of private farm forestry (defined here as landholders investing their own funds to establish softwood planting on their own land) is low. Currently it is estimated that there is somewhere between 3,000 and 4,800 ha of private pine plantations on private landholdings out of a total of 97,000 ha in 2016 (Indufor 2017), with most of the estate being on state-owned and managed land, tree farms on leased farmland and share-farming arrangements on private land.

The rate of harvest is outstripping the rate of new plantings. The Forest Products Commission's Annual Report 2018-19 states that 4,807 ha of softwoods were harvested in that year, with only 1,000 ha being planted annually, with very little of that derived from solely private investment. If the softwood industry in WA is to be sustainable, the rate of plantings will need to increase substantially, which includes farm forestry plantings. The Engagement Strategy needs to encourage accelerated farm forestry plantings.

2.2 Methodology

2.2.1 The point of departure for the Strategy.

This Engagement Strategy has been deliberately prepared placing the private and corporate landholders ('farmers' or 'landowners') as central to an understanding of the relative interest and likely take-up of farm forestry.

Thus, the point of departure for the strategy is focused on how farmers are likely to view their operating environment and prospects as 'enlightened self-interested decision makers', with little or no attention given to the needs of industry for an increased flow of timber from farm forestry. Instead, the need for this increased production is taken as a given. Hence, the methodology commenced with a situation analysis considering the status and performance of the major competing land use in the south west, being broad acre agriculture in its diverse forms.

2.2.2 The Situation Analysis

Prior to the development of the Private Forestry Engagement Strategy, a Situation Analysis was completed to provide the context for the South West Timber Hub's Engagement Strategy.

The Situation Analysis was completed with the status of the existing private and corporate land holders (farmers) being central to an understanding of the relative interest and take-up of farm forestry over the last two decades.

The Situation Analysis was completed using information in the public domain as well as the documents referred to in the project brief (FPC's *Softwood Industry Strategy for Western Australia*, Indufor's *Growing the Software Estate*, FIFWA's *WA Plantations: the missing piece of the Puzzle* and the Commonwealth's *Growing our Future* Policy). An online search of literature sourced for other relevant documents specifically related to the structure and performance of agriculture, and the operation of the carbon market.

Reviews were conducted of several of the many strategies, plans, programs and mechanisms that have been designed, and implemented (but not always) in many jurisdictions (Australia and New Zealand) to encourage the adoption of farm forestry by farmers.

The Private Forestry Engagement Strategy needs to be read in conjunction with the Situation Analysis.

2.2.3 Consultation with stakeholders and influencers

The list of the people and organisations consulted is shown in Section 5.1. Consultation with influencers and key stakeholders was directed at those relevant in the Dardanup Hub. Consultation focussed on those people able to bridge the gap between timber industry knowledge and private landholder behaviour, and in particular understand the drivers of decision making on private landholdings, at all size scales.

SWTH provided an initial list of organisations and people to be consulted, who were sent an email and flier describing the project. As the consultation proceeded additional people were identified, in particular current farm forestry growers.

2.2.4 Development of the Private Forestry Engagement Strategy

The background to the Strategy is the information on current barriers and opportunities for farm forestry which have been identified in the Situation Analysis and through the consultation phase. This material is presented in Section 3.

The Private Farm Forestry Strategy – presented in Section 4 – has been developed with attention being given to actions that:

- addresses the legacy of past programs encouraging private farm forestry and the experiences of private landholders with these programs;
- recognises the diversity of private landholdings within the softwood hubs with that diversity encompassing landholding size, landholder objectives and industry type (e.g. from rural lifestyle >>> small scale horticulture >>>> large scale horticulture >>>> dairy>>>>broad acre grazing);
- recognises the trends in land use and management underway, including the impact of the land use policies of the LGAs in these hubs; and
- identifies the main respected marketing channels or forums available to the SWTH.

From this information, we have developed key messages that need to delivered, the format for the messages, how the messages need to be delivered and who needs to deliver them. We have also considered the organisations and people that the SWTH needs to form strategic alliances with, in the implementation of the strategy, the steps to be taken in implementation (with timeline) and the resources required for implementation. Finally, an Evaluation Plan has been developed for implementation.

2.3 About this Private Forestry Strategy

The Strategy includes the following.

- An abstract of research and key findings based on a review of relevant literature and information available in the public domain. This was delivered to the SWTH as a separate 'Situation Analysis' in August 2020 (See DG Burnside and Associates 2020).
- Identification of the stages of decision making involved in a private landholder electing to plant softwood on his/her landholding in the south west.
- Identification of target audiences, advisers, enablers and influencers, and their roles in encouraging private farm forestry.
- Strategy, key messages & suggested resources for the awareness, interest, evaluation and action phases of decision making.
- Suggested timelines and responsibilities; and
- An evaluation plan.

3 Barriers and opportunities

3.1 Promoting and supporting private forestry – current mechanisms

The history of efforts to encourage farm forestry is not encouraging. The promotional material stresses a wide range of benefits – public (community) and private – from investments in farm forestry. It can be argued that emphasising these wide range of benefits has attracted some, but not many landholders.

3.1.1 Forest Products Commission

Share farming arrangements

There is a large number (800) of relatively small-scale share farming arrangements in place, with landholders normally paid an annuity, which varies according to location and anticipated final wood yield. For future plantings FPC advise that it is currently difficult to support an annuity which will compete with the gross margins achieved by many broadacre agricultural activities.

Further, FPC advise that managing these many, relatively small plantings is complex, and further small-scale arrangements are unlikely to be pursued.

The Commission is open to large scale share-farming contracts, particularly those holdings held by or to be acquired by corporate investors such as superannuation funds. However, acquiring land requires investors to compete with other land users, as explained in Section 3.3.

Prices for timber from share farm and private plantations

FPC publish the stumpage prices paid for product from share farmed plantations, which are varied according to:

- Distance to processing facility (km);
- Mode of transport (road train or semi);
- Topography (steep or flat);
- Thinnings (first or second);
- Type of product;
  - Biomass;
  - Industrial wood;
  - Woodchip;
  - Small sawlog
  - Poles
  - Sawlog (autoscan) 251-300.99, 301-400.99, 401+, discount, 3rd grade, oversize.

  (https://www.fpc.wa.gov.au/forest-management/forests-timber-production/plantations/pine-plantations, downloaded 6 September 2020)

The prices offered by FPC and by Wespine are seen by current growers and others in the south west as being insufficient to support investment in private pine plantings, and alternate price information (national, international) are not always clear. The matter of market information and access is addressed elsewhere in this report.

Farm Forestry Assist

Farm Forestry Assist is a grant provided by the WA Government for private landholders to plant radiata or maritime pine trees on their land in 2020. The grant is available to landholders who are interested in establishing new pine plantations to support the State's softwood industry. Successful grant recipients receive free, high-quality radiata or pinaster pine seedlings from the Forest Products Commission's (FPC) nursery in Manjimup. The annual amount of investment by the Government in this program is $100,000.

In 2018-19, $103,000 contributed to the allocation of sufficient seedlings for an estimated 180 ha of pines planted as farm forestry plantings. In 2019-2020, $30,524 has been granted which will be sufficient for about 50 ha of farm forestry pines to be established.

3.1.2 Other promotional and supporting activities

Several of those consulted suggested that current growers and potential growers are not well served by information providers. The following examples were given.

- The South West Agroforestry Network (SWAN) is currently merging with the Institute of Foresters (WA) to form the Australian Forest Growers. However, people suggested that the new organisation may not have the resources to provide the quality of advice required by current and potential growers.
- Other growers are an important source of advice, but as mentioned previously there are differences of opinion about some of the critical metrics related to pine growing. This does not help establish confidence in the information.
- Professional forestry services were mentioned by only one of those consulted, although others complained about a lack of services.
- Real Estate agencies are said to be negative about pines on land for sale, with a further suggestion that 'treed land' does not appreciate as fast as so-called agricultural land.
- Local Governments have special planning requirements for pine growing, which vary between shires, and add some inconvenience for growers. Trees are considered as 'different' to other agricultural land uses.

Overall, the impression gained from most of those consulted was that the softwood industry is generally 'talked down' which again does not put out good signals to people interested in growing pines. Addressing this negativity, and providing clear, independent, valid and reliable information is needed (see Section 3.2 and Section 4).

3.2 Information availability, reliability and consistency

3.2.1 Information availability

Those consulted – existing growers and influencers – suggested that independent, valid and reliable information on which to base a 30-year investment in pines was hard to obtain, often inconsistent between sources and assumptions, and for some matters just not available.

Examples follow …

- Two farm management consultants, who have clients throughout the south west had little or no knowledge of softwood silviculture, and likely production costs and returns involved. Further, one consultant suggested that those of his clients who had bluegums (either planted, or 'inherited') had no intention of further tree plantings. The need to include these important influencers in the Private Forestry Engagement Strategy is considered in Section 4.
- Other important organisations in the south west who were consulted also had limited knowledge about the softwood industry, declaring that it was 'not something on their list of interests'. These organisations included one resource company, a Regional Natural Resource Management Organisation, and local governments.
- Those in the industry (either as growers, service providers or processors) offered varying costs of establishment of pines, which of course has a disproportionate impact on annualised Returns on Investment (ROI) over a 30-year planting, (see below) and the ease of marketing thinnings. These points are considered in the sections below.
- Some of those consulted suggested that Government has withdrawn from the provision of good quality information, and the private sector is yet to meet that need properly. In contrast, some growers have been able to access information that they have confidence in from private sector forestry consultancies. Overall however, improving potential growers' ability to access to independent, consistent, valid and reliable information was seen by many of those consulted as being an important need – which is considered in the design of the Private Forestry Engagement Strategy in Section 4.

3.2.2 Rates of return on investment from pines

Those consulted provided different estimates of some of the critical metrics and factors associated with softwood plantations. These various estimates are summarised below.

- Establishment costs were quoted as being between $1,200 and $2,500 per hectare.
- Returns on investment (ROI) were quoted as being between one and four per cent.
- An ability to access the carbon market is likely to be worth an additional two percent on annual returns.
- Major corporate investors are looking for ROI of between 6 and 7 per cent.
- Leasehold costs for land suitable for pine can vary between $150 and $300 per hectare, depending on location and quality of land.
- It has been suggested that production can vary between 15 and 30 m^3 mean annual increment (MAI) at a site with a climate wetness index of 0.75, depending on the suitability of the site, planting density, nutrition, soil water storage capacity and the attention to silviculture.

This variability in key metrics makes it difficult for a current or prospective landholder to be confident in a 30-year investment.

The point is considered in the design of the Private Forestry Engagement Strategy in Section 4.

3.2.3 Transparency in markets

The market for softwood in Western Australia is constrained because of the two State Agreement Acts established in 2002, which require FPC to sell all of its product from its own plantations and share farms to three processors, and the frequent absence of alternate buyers of softwood. Ultimately, the market in the south west has one dominant buyer (Wespine) and potentially many sellers. Small scale processors stated they struggle to get raw timber, and as mentioned previously, there is a variety of opinion about the ease of having thinnings harvested and sold.

Overall, the growers interviewed suggested that market information in WA was 'opaque', with no clear information available – as compared to the situation in eastern Australia and New Zealand.

The Australian Pine Log Price Index ('the Index') is compiled by KPMG using data provided by Australian softwood growers operating in eastern Australia. The Index documents changes in pine log prices achieved by large-scale commercial plantation owners selling common grades of plantation softwood logs to domestic processors. Contributions to the Index are made by major growers who are involved in the growing and management of softwood plantations in southern and eastern Australia. (https://www.timberbiz.com.au/kpmg-pine-log-price-index/, downloaded 6 September 2020).

The prices quoted for most categories are higher than those quoted in FPC's price schedules in Western Australia. For example, the price for medium sawlogs in July – December 2019 was 25 per cent higher than that quoted at the mill gate in FPC's recent price list. For small sawlogs, the difference was greater – 87 per cent higher price shown in the KPMG index. FPC explained that the pricing difference in FPC's small sawlog rate and that provided in the KPMG Australian Pine Log Price Index can be put down to product specification. FPC's current export small sawlog specifications are more aligned with an Industrial Wood log than a traditional small sawlog. The reason for this pricing difference may not be understood by existing or prospective growers.

The complexity in softwood markets was illustrated by a recent report on the ABC which stated:

> *A South Australian regional timber processor has warned thousands of tonnes of softwood resource are bypassing mills and heading to China, despite long-term shortages facing some businesses.*
>
> *Softwood export volumes decreased during the start of the pandemic, but trade is again flowing through deep-sea ports in Australia.*
>
> *Photographs supplied to the ABC show softwood resource — sourced from the Green Triangle commercial forestry estate in south-east SA and Western Victoria — being stockpiled at the rail internodal at Bordertown and in the wood holding yards at the Port of Portland, Victoria, ready for exporting.* (https://www.abc.net.au/news/2020-09-02/softwood-resource-exported-to-china-amid-log-supply-insecurity/12617994; downloaded 7 September 2020)

The report quoted processors who are unable to supply domestic demand for timber products, and suggested that a continued high level of exports would put local jobs at risk.

While these concerns about market clarity and product prices may be perceptions, and not necessarily factually based, they are views well-held by many of those consulted, and

need to be addressed in the design of the Private Forestry Engagement Strategy (see Section 4).

3.3 Competing land uses

Farm forestry needs to be able to compete with established agricultural uses on cleared land in the south west, namely sheep grazing (and some grain growing), dairy farming, beef cattle grazing and to a lesser extent perennial and annual horticulture (because of the smaller higher priced landholdings).

3.3.1 Land capability

An assessment of land capability for perennial crops (including trees for timber) suggest an upper limit for the land that could feasibly support farm forestry, being about 600,000 ha in the south west within range of a processing plant (extrapolated from van Gool *et al.* 2008, as reported in the Situation Analysis).

Conversion of up to 50,000 ha (8 per cent) of this area to softwood plantations represents a significant challenge for government and forestry interests.

3.3.2 Land use in the south west

Figure 1 shows land use in the 'Bunbury region' as defined by the Australian Department of Agriculture, which covers nearly the whole area within the Dardanup Pine Hub as defined by the State Softwood Strategy (FPC 2016).

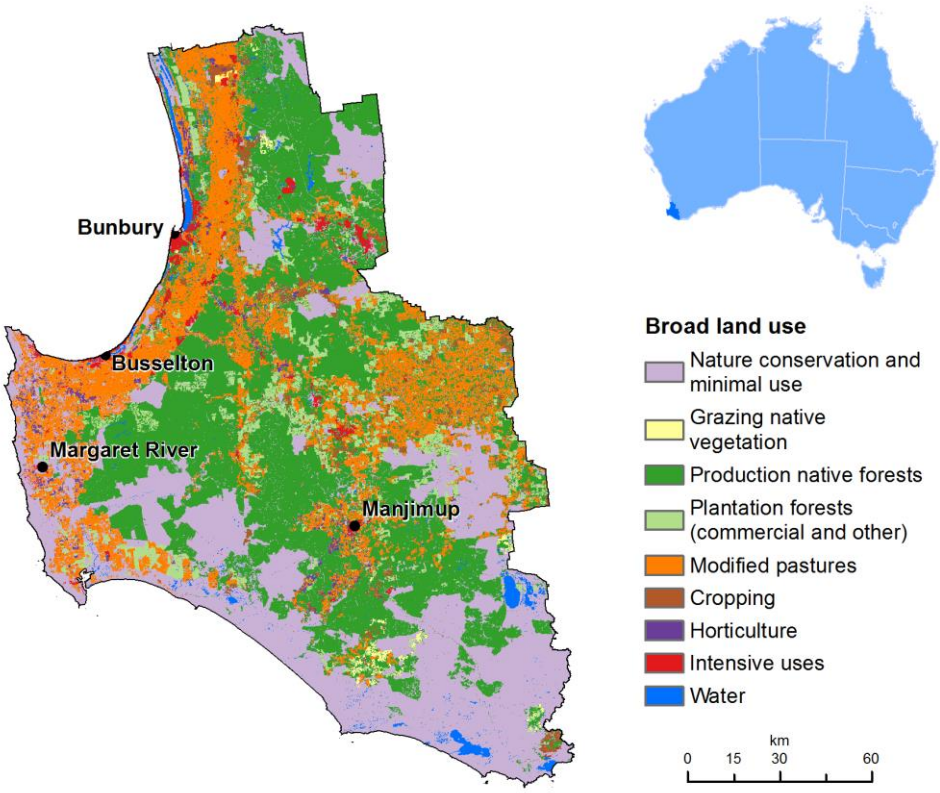

Figure 1: Land use in the 'Bunbury Region'

https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/wa-bunbury#regional-overview

Within this area, there are 7,100 km^2 of agricultural land, which in 2018-19 generated agricultural produce with a gross value of $852 million. This area also includes most of the 97,000 ha already planted to pine, the bulk of which is on land vested in the Conservation Commission of WA and made available to FPC.

3.3.3 Current land uses and profitability

The most recent publicly available information on the land uses, distribution of property sizes and estimates of profitability from a number of sources are summarised in Table 1.

Current agricultural use of this land in the south west is diverse, with many different enterprises, a large number of individual holdings, and varying levels of profitability. The distribution of property sizes is skewed, with 32 family farm business known to have over 1,000 ha each, and at the other end of the distribution are large number of small holdings (so-called lifestyle or hobby farms).

On average it is clear that the major broad acre enterprises, being beef cattle, dairy, sheep grazing and mixed grazing are doing reasonably well. The gross margins in these industries are suggested to be about $300 per hectare, which is greater than current annuities for pine plantings. Returns on investment in 2016 in the broad acre areas within the hubs averaged around 3 per cent, with the top performers achieving up to 9 per cent, and with most larger-scale producers achieving between three and 7 per cent. Further, the larger properties and the better managers are delivering ROIs well above average returns (see also commentary in the Situation Analysis).

Table 1: Agricultural industries and land use – Bunbury region

Land use	Number of farms	% of Region	Area (ha approx.)	Estimates of ROI%	Top performers (normally top 25%
Beef Cattle Farming (Specialised)	372	32	272,200	0.0% to 4.5% (mainly 2% to 3%)	See broad acre overall
Perennial horticulture (including grapes)	261	23	163,300	not available	not available
Dairy Cattle Farming	114	10	71,000	2.0% to 6.7%	8.2%
Vegetable Growing (Outdoors)	99	9	63,900	3.0% to 6.0%	15%
Sheep Farming (Specialised)	78	8	56,800	0.0% to 8.7% (mainly 4% to 8%)	15%
Grain-Sheep or Grain-Beef Cattle Farming	60	5	35,500	11% to 14%	14%
Other	166	13	92,300	not available	not available
Total agriculture	**1,150**	**100**	**710,000**		
Broad acre overall				2.2% to 8.7%	8.7%

Note: Estimated value of agricultural operations $40,000 or more. Industries that constitute less than 1 per cent of the region's industry are not shown

Sources: Australian Bureau of Statistics 2019; Planfarm 2018; VegetablesWA and Planfarm 2018.
https://www.agriculture.gov.au/abares/research-topics/surveys/disaggregating-farm-size#statistical-tables
https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/farm-fin Financial-performance-wa#performance-of-beef-industry-farms
**https://www.agriculture.gov.au/abares/research-topics/surveys/farm-performance#performance-by-state-and-region

This analysis of the structure and performance of the agricultural industries in the south west, based mainly on information in the public domain is inadequate for a proper

understanding of the real opportunities for the take-up of softwood plantings. A more detailed forensic investigation is required, that probes deeper into the public information on landholding sizes, and information about current profitability and aspirations of farm businesses in the area. This requirement is considered in the design of the Private Forestry Engagement Strategy in Section 4.

There is a variance in opinion about the future for land that has been supporting bluegums over one or two rotations – mainly to east of the region within the Dardanup Hub. The processor (WAPRES) is of the view that most of this land will return to bluegums, supported by annuity payments. The objective is to ensure that land that has once been trees continues to grow bluegums. This view is contested by a farm management consultant who suggests that the increased profitability of sheep grazing means that few of his clients will replant bluegums. Those converting land from bluegums to sheep grazing are required to outlay about $1,500 per hectare to return the land to full grazing productivity.

This may just be a situation where the client groups are mutually exclusive, but it requires closer investigation.

3.3.4 Land values

In Table 2, current land values and trends over the last 10 years are shown. Land values have steadily declined since the median land value peaked at over $12,000 per hectare in 2012. As expected, the land value for smaller areas transacted is higher than for the larger holdings.

These land values were challenged during the consultation, with land values for high quality agricultural land (with available water) being quoted as being as high as $20,000 per ha, with the demand being driven by perennial horticulture (avocados and citrus), and the increased profitability of grazing sheep in the eastern areas of the south west.

Table 2: Agricultural land values in the south west

Parcel size (ha)	Median $/ha				No. of transactions	
	2019	% change	10yr CAGR*	Decile	2019	YoY** +/-
50–80	$9,387	-15.3%	-3.4%	4.8	55	-3
80–120	$9,474	-0.4%	-1.5%	8.3	20	3
120–160	$5,809	-5.4%	-5.9%	5.2	8	-5
160+	$5,581	16.6%	-7.0%	4.3	32	17
Overall	$8,161	-7.0%	-4.1%	4.8	115	12

* 10 year compound annual growth rate ** year on year
Source: Rural Bank (2020).

In 2019, the south west saw an increase in the amount of transactions greater than 160 ha, resulting in larger parcels accounting for a greater percentage of transactions. In 2019, the 50–120 ha portion of the market accounted for 65 per cent, down from 73 per cent in the previous year. A distinct reduction in the portion of transactions for higher valued, smaller parcel sizes, which was met with an increase in the amount of lower valued, larger parcels was a key driver in the lower median price per hectare for the south

west region in 2019. The number of transactions in reasonably sized parcels of land (over 120 ha) in 2019 was modest at just 40 across the region.

3.3.5 The importance of scale in south west landholdings

The objective of achieving 10,000 ha of farm forestry softwoods is constrained by the need to have blocks of pine no smaller than 20 ha.

In a region with many small holdings, locating areas of this size and greater is not straight forward. Further scale is critical in south west agriculture with buyers – such as existing farmers wishing to expand their holdings and new investors coming into the region. Sufficient areas of quality soils with available water resources are eagerly sought by buyers, with advice received that such holdings can cost up to $20,000 per hectare.

As shown in Table 1, the broad acre land uses that could be more easily converted to farm forestry current support beef, dairy and sheep farming, and mixed grain and livestock farming, which occur on 54 per cent of the agricultural area, on 624 farms.

3.3.6 Differing objectives by landholders

The diversity of objectives held by landholders was highlighted by those consulted, particularly by those people working closely with existing farming businesses.

Clearly there is no such thing as an 'average south west farmer or landholder', which highlights the need for a diversity in marketing approaches to landholders to match the diversity in the south west landholding community.

The categories – not mutually exclusive – we have identified are:

- **Family accumulators**. These are 'mainstream' commercial farmers seeking high returns from their land assets and seeking to expand their business through land purchases or new more profitable activities (e.g. avocados). Pine plantations will only be attractive if the ROI meets requirements, or if pines have a comparative advantage over other uses on the land committed to pines, or if pine-growing can provide a tax-effective investment (see further comment below). Further, if pines are planted, the area committed must be constrained so that the essential structure of the overall business remains much the same (i.e. the business does not 'flip' from being mainly grazing to mainly trees).
- **Legacy farmers**. The average age of farmers in the south west is high, and farmers in this category are involved in succession planning or considering how to leave a legacy for family members. Establishing a 30-year pine planting on less productive agricultural land might appeal.
- **Tax sensitive landholders**. Given recent favourable beef prices, it is likely that a number of the larger landholders in the south west may be looking for tax-effective investments. People in this category will include those who already have the maximum amount ($800,000) invested in Farm Management Deposits. Committing $2,000 per ha to planting pines may appeal in what would resemble an 'internal MIS scheme'.
- **Tree lovers**. There are evidently a few landholders who like growing trees for a range of personal and environmental reasons. They are less concerned about the ROI, but need advice and support in establishing a plantation.

- **Diversifiers**. Many landholders seek to diversify their land-based investments, with trees being a possible long-term option, in comparison with more volatile options such as horticulture and beef. The desire for diversification can extend to people (urban based) with mainly non-land-based investments, who are seeking a completely different form of investment (see also absentee landholders).
- **Absentee landholders**. An unknown area of agricultural land in the south west is held by absentee landholders – for a range of purposes (hobby farm, rural retreat, alternate investment, retirement opportunity etc). Some of these people have planted trees as a diversification action, or as a legacy for families. Establishing contact with these people is likely to occur through city-based farm advisers and specialist agricultural and forestry consultants.
- **Corporates**. The corporates – resource companies, fund managers, major forestry companies etc – are well known to industry (FPC, processors) and are key targets for the recently announced WA Government initiative to attract major private sector investment to expand Western Australia's softwood estate. (https://www.mediastatements.wa.gov.au/Pages/McGowan/2020/08/Rebuilding-the-Western-Australian-softwood-plantation-estate.aspx, downloaded 10 September 2020). This initiative will complement the Private Forestry Engagement Strategy.
- **Superannuation funds**. These national and international funds are an important target for FPC, in that they can command large landholdings and plantation estates. They will also be active in securing maximum benefit from the international carbon market. The recently announced WA Government initiative (referred to above) to attract major private sector investment to expand Western Australia's softwood estate is also directed at these fund managers.

3.3.7 Landholders and risk

There do not appear to be any objective data on the appetite for risk amongst south west farmers. However, it can be argued that for grazing businesses, the choice to farm in a relatively safe rainfall area suggests a greater degree of risk aversion than say for a wheatbelt farmer operating in a marginal rainfall area. This view was confirmed in discussion with consultants who suggested that farming businesses will manage risk through diversification, both on-farm and off-farm, and where possible by sharing risk with other parties (i.e. through agistment or leasing of land).

A thirty-year investment in pines, with an uncertain end value for the product represents a new type and a new level of risk for many landholders who are used to annual returns for agricultural commodities.

It was suggested that overcoming this concern about risk requires risk sharing in the form of an annuity, and/or a commitment to an end sale price, and/or a significant incentive at the time of establishment.

Many broadacre croppers in the wheatbelt will hedge a percentage of their production through involvement in the futures market for grain (see: https://www.asx.com.au/products/grains-derivatives.htm , downloaded 10 September 2010).

There is a futures market in North America for lumber (timber) and it may be worth exploring the worth of Australian growers becoming involved in this market (see Section 4).

3.4 Marketing carbon

There was some consensus amongst those consulted that effective participation in the carbon market can add two per cent to the ROI from pine, which for productive plantations will lift total ROIs to levels comparable to other land uses.

However, as shown in the Situation Analysis involvement by the plantation industry in the Australian Government's Emissions Reduction Fund has been low to date. A major reason suggested by those consulted is the low price of Australian Carbon Credit Units (ACCUs, being equivalent to one tonne of CO_2^e), which in recent times have varied between $10.23 per ACCU in April 2016, to $16.14 in March 2020. These prices per tonne of CO_2^e compare poorly with $47.00 in the EU, $20.49 in China, $31.07 in New Zealand and $33.56 in South Korea (*The Australian* 15 July 2020, pages 13 and 20). Major Australian-based emitters (e.g. Qantas) are understood to be investing in these higher priced markets in Australia and internationally.

During the consultation, further reasons for the lack of participation by private growers in the carbon market was said to be the overall complexity of the carbon market (e.g. frequent policy changes) and the cost of audit, suggested to be $20,000 per grower or per contracted area.

3.5 Summary – barriers and opportunities

3.5.1 Defined pros and cons of farm forestry

Based on situation analysis and our consultations, Table 3 summarises the community benefits, the farm benefits and factors limiting the adoption of farm forestry. These observations made across several jurisdictions replicate and extend Indufor's findings.

Many of the promotional documents about farm forestry emphasise multiple community benefits (biodiversity, amenity, water management) etc, but usually these cannot be captured in financial terms by the investor (the farmer/ landholder) who – in most cases according to the literature – needs to (or prefers to) allocate scarce resources to enterprises that will deliver a solely private benefit (which can sometimes be non-financial).

While there are multiple factors taken into account by landholders in the decision to grow softwoods the dominant factor is return on investment. Without clarity and confidence in expected return on investment the other factors are unlikely to have enough weight to convince landholders to grow trees.

Table 3: The pros and cons of farm forestry

Community Benefits	Farmer Benefits	Factors Against
• Economic diversity • Regional development • Renewable resource • Job creation and security • Indigenous employment • Reduced imports • Carbon storage • Improved water quality • Flora and fauna habitat • Cockatoo habitat • Habitat for bees • Enhanced biodiversity • Creating areas for recreation • Confidence for forest industries and manufacturing • Wood for homes and furniture • Fibre for paper	• Financial return from timber harvest • Farm enterprise diversity • Carbon credits • Shade/shelter for livestock • Improved crop yields • Productive use of marginal land • Windbreaks, shelterbelts • Reduced erosion • Flood mitigation • Improved water quality • Improved soil quality • Reduced farm effort • Effective use of farm labour • Long term investment akin to superannuation • Improved amenity • Societal contribution • Environmental contribution	• Low rates of return • Length of time till financial returns • High initial capital cost • Lack of regular cash flow • Poor/disastrous performance of Managed Investment Schemes – reputation issue • Negativity from some key influencers • Suggestion that treed land appreciates more slowly than ag land • No risk sharing • Uncertainty of log prices • Lack of incentives • Poor performance of comparable sites • Foregoing alternative land uses • Fire risk • Lack of land use flexibility • Community objections to ‘wall-to-wall’ plantations

3.5.2 Mechanisms used to facilitate farm forestry

A review of the literature revealed a range of mechanisms that have been advocated, and/or used in promoting farm forestry. These are listed in Table 4 and are separated into those that are relevant to farmers who are already growing trees and those relevant to prospective tree farmers.

Table 4: Mechanisms used to encourage farm forestry

Cited Supporting Mechanisms*	Farmers already growing trees	Prospective tree farmers
Joint ventures, share farming co-investment (shared capital outlay, shared risk)	X	X
Timber price guarantees		
Guaranteed market access	X	X
Carbon credits	X	X
Seedlings	X	X
Tool and equipment sharing		X
Infrastructure (roads, bridges)	X	
Peer mentoring (paid)	X	
Peer mentoring (volunteer)	X	
Master Tree Growers education	X	X
Extension services	X	
Site assessments		X
Consulting services	X	X
Information libraries online	X	X
Economic modelling		
Market information	X	
Case studies		X
Research	X	
Networking	X	
Field days	X	X
Demonstration sites	X	X
	X	X

*mechanisms cited in literature across Australia and New Zealand. Not all mechanisms are currently used.

4 The Private Forestry Engagement Strategy

The Strategy is presented in two sections – Stages of Decision Making and Target Audiences, and the Engagement Plan.

4.1 Stages of decision making and target audiences

In any landholder's decision-making process, regardless of their situation, a common step by step approach is likely as set out in Table 5. Influencing landholders at each of these stages is key to ensuring full consideration is given to including private forestry in land use plans. In addition, an understanding of the key stakeholders in a position to influence decisions is required to target information, as shown in Table 6. The Engagement Plan follows in Section 4.2.

Table 5: Marketing Strategies for each Stage of Decision Making

Stage		Marketing Strategies
 **Awareness**	Landholder awareness of option of growing pine	• Educate advisors, agents • Direct mail • PR in community newspapers • Field days presence • Community group presentations • Social media
 **Understanding**	Landholder understanding of details of opportunity	• Information on website – incentive packages • Investigate value of timber futures market • Investment model development • Carbon information • Case studies • Statement from Wespine • Statement from Forest Product Commission
 **Confidence**	Landholder confidence that opportunity is positive	• Independent advice • Local government planning policy
 **Decision**	Landholder decision made	
 **Implementation**	Landholder supported to implement	• Incentive packages • On-going professional support • Enrolment in Carbon management scheme

Table 6: Target Audiences

Landholders	Advisors	Enablers	Influencers
• Family accumulators • Legacy farmers • Tax sensitive landholders • Tree lovers • Diversifiers • Absentee landholders • Corporates • Superannuation funds	• Farm management advisors • Financial advisors • Real estate agents • Carbon brokers	• Purchasers • Forest Products Commission • Local Governments • Government agencies • Forestry management advisors	• Existing tree farmers • Stakeholder and community groups • Landholder family members • South West Catchments Council

4.2 The Engagement Plan

Objective	Strategies	Timeline	Responsibility
1. Improve information available	1.1 Fund return on investment model development for range of options 1.2 Develop independent Information package on costs and benefits for all uses. 1.3 Demystify carbon model for growers. 1.4 Information on market logistics for saw logs and thinnings 1.5 Develop case studies on successful growers (including video) 1.6 Identify land capable of supporting pines (potentially through GRID)	Year 1	SWTH to contract out information development by independent and credible economic/ financial analysis organisations
2. Improve potential returns	2.1 Develop entry incentive package 2.2 Run reverse auction 2.3 Investigate the timber futures market	Year 2	SWTH Possibly with other Hubs
3. Improve transparency of process and offering	3.1 Clear statement from FPC on what they will and won't do 3.2 Develop and promote a model planning policy for Local Government Authorities 3.3 Secure a clear statement from Wespine on its offering to landholders 3.4 Summary statement of history of farm forestry – debunking the myths	Year 1	FPC SWTH to contract Planning expertise Wespine SWTH
4. Educate advisors	4.1 Develop database of advisors and third parties 4.2 Direct mail information 4.3 Run education sessions for third parties • Farm advisors • Real Estate agents • Advocacy groups 4.4 Offer payment for attendance at education sessions	Year 2	SWTH contract to independent organisation through tender
5. Raise profile of opportunity	5.1 Seek PR opportunities in community newspapers 5.2 Exhibit at field days 5.3 Make presentations to community groups 5.4 Promote via Facebook page (to be developed) and online newsletter 5.5 Publish all information on website	Year 2	SWTH contract to independent organisation with support from PR/marketing firm through tender
6. Promote opportunity to landholders	6.1 Develop database of potential landholders 6.2 Publish a Prospectus 6.3 Publish Wespine offer of share farming 6.4 Direct mail to prospective landholders 6.5 Organise field trips for potential new entrants	Year 2	SWTH contract to independent organisation with support from PR/marketing firm through tender
7. Support potential new entrants	7.1 Package and extend best practice technical information on growing pines 7.2 Form panel of forestry advisors 7.3 Fund farm advisory services for potential new entrants 7.4 Develop and fund peer mentoring 7.5 Support entry to carbon market	Year 2	SWTH
8. Target resource companies	8.1 Seek meetings with resource companies with detailed information	Year 2	SWTH

4.3 Supporting information

Supporting information is provided for the Strategies shown under Objectives 1 to 4 is presented in the following sections.

4.3.1 Improve information available

A prospectus and suite of online information needs to be developed that covers the following information for prospective pine growers:

Summary statement of the history of farm forestry in WA

This statement should establish confidence that farm forestry has been a credible investment opportunity for some time. It should debunk some of the myths surrounding farm forestry and address the negative perceptions that are broadly held.

Benefits of farm forestry

This should outline the range of benefits of farm forestry including:

- Diversification;
- Supporting agricultural production;
- Carbon capture; and
- Nature conservation and biodiversity

The community and environmental benefits of farm forestry can be included. This online video is an example https://www.youtube.com/watch?v=nC2Otx24Z98

Return on investment model

The decision to invest in a farm forestry project involves many issues for private landholders. Farm forestry is a long-term investment of land, labour, and resources. Landholders will want to carefully consider the prospects before investing, and be able to make a real and robust comparison with other existing and prospective land uses.

A tool is required for the financial appraisal of farm forestry investments to allow landholders and their advisors to understand key criteria including net present value, land expectation value, internal rate of return and impacts on cash flows. It should include agreed ranges for plantation establishment and maintenance costs, growth rates and returns from potential timber products (saw logs and thinnings) and carbon sequestration.

The range of factors to be considered are similar to those set out in

https://www.rdani.org.au/files/pages/projects/farm-forestry-northern-inland-forestry-investment-group/Economic_Aspects_of_Growing_Hardwood.pdf and
https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.199.3456&rep=rep1&type=pdf

http://svc043.wic023v.server-web.com/pdf/pdf-members/afj/AFJ%202009%20v72/4/07Herbohn.pdf

A previous tool developed by University of Queensland should be evaluated for use to achieve this work.

file:///C:/Users/jduff/Downloads/The_Australian_Farm_Forestry_Financial_Model.pdf

Development of a return on investment model will need to be outsourced to an organisation or individuals who have credibility for financial advice within the landowning community.

Carbon Farming

Information and mechanisms are required to improve grower access to the carbon market opportunity. The solution is seen as being 'demystifying' the opportunity for participation, enabling individual growers to join a consortium of growers, and having these consortia involved in a professionally designed and managed scheme. Development of such schemes is already underway, with promotion being a future step (see Section 4).

Case studies

Written and video case studies of successful farm forestry ventures will add to confidence level of potential growers. (https://www.youtube.com/watch?v=dt7gA_DD-Os is a good example)

Statement from Forest Products Commission (FPC)

This should outline clearly the level of support (financial, marketing, advice etc) available from FPC for potential growers.

Statement from Wespine

This should outline the level of support or joint venture opportunities available from Wespine.

Sources of Advice

Setting out various sources of information available both in WA and other jurisdictions such as Tasmania and New Zealand. A list of credible farm and forestry advisors as well as peer mentors should be included.

4.3.2 Improve potential returns and manage risk

Reverse auctions

The use of 'tenders' or 'reverse auctions' to encourage landholders to undertake conservation on their land has been used in several situations. In a reverse auction, an organisation invites landholders to nominate a price which, if accepted, commits them to carry out a specified activity.

> *Tender based approaches, also called auctions, are a new way to deliver funding to community groups and individuals for conservation works and, sometimes, permanently protect biodiversity.*
>
> *In a tender scheme, landholders are invited to submit a bid to carry out conservation works on their property and determine the cost of carrying out the works. Bids are ranked according to best value for money.* (https://www.environment.gov.au/biodiversity/conservation/tender-and-auctions-conservation-payments; downloaded 5 September 2020).

Rolfe *et al*. (2017) evaluated 100 such tender/reverse auctions and concluded that

- the tenders are robust,
- relatively simple to apply and
- deliver more cost-effective allocations of public funding than other grant mechanisms.

A similar scheme – funded by Government and/or industry – could be used to encourage landholders to commit to pine plantings on land that has been assessed as suitable for the purpose.

Investigate the value of participating in the timber futures market

A timber ('lumber' in North American parlance) futures market has been in operation (in US dollars) in North America since 1969, with price protection offered to the forest products industry with the listing of 'Random Length Lumber futures contracts'. Firms engaged in producing, processing, marketing or using lumber and lumber products have been able to hedge their risk exposure. Most firms in the North American timber industry trade futures contracts to assist them in managing fluctuations in prices across season and years (https://www.vantagepointsoftware.com/trading/lumber/ downloaded 7 September 2020).

There is a need to evaluate whether this model has a relevance to the Australian situation. This work could potentially be done by the Australian Government or by the SWTH in conjunction with other timber hubs around Australia.

4.3.3 Educate advisors

Potential growers receive advice from and are influenced by a variety of sources including financial advisors, agribusiness and forestry advisors and real estate agents.

A data base of these "influencers" should be developed.

Direct e-mail contact should be made with the prospectus information.

Education sessions should be run based on the prospectus information using skilled presenters and those with on the ground experience of farm forestry. Advisors should be offered payment to attend sessions.

Following sessions online surveys should be utilised to test the effectiveness of the education and build continuous improvement. Annual surveys of advisors can be utilised to test support levels,

Advisors should be encouraged to follow social media channels set up to promote farm forestry.

4.3.4 Raise the profile of the opportunity

Continuous marketing is required to keep farm forestry top of mind for potential growers and their advisors. Contracting a public relations firm to manage ongoing marketing is advised. Strategies include:

- A WA Farm Forestry website and Facebook page (https://www.pft.tas.gov.au/ and http://www.farmforestline.com.au/index.html are a reasonable examples of what is required);
- A quarterly newsletter distributed to all influencers;
- Seeking PR opportunities in local community newspapers;
- Seeking opportunities to present to relevant community groups such as catchment councils, land care groups, environmental groups; and
- Exhibiting at field days.

4.4 Evaluation Plan

The evaluation plan shown in Table 7 is twofold:

1. Plantation results – measuring the ultimate outcome of hectares of pine plantations under consideration, agreed to and actually planted.
2. Process results – monitoring that the activities in the strategy have been implemented and their effectiveness.

Table 7: Evaluation Plan

1. Plantation Results		
Objective	**Evidence required**	**Metrics to be collected annually**
Plantation Outcomes	Records of interest in plantations (possible annual survey of landholders)	□ Number of hectares under active consideration for pine □ Number of hectares agreed to but yet planted □ Number of hectares planted □ Profile of active landholders

2. Process Results		
Objectives	**Evidence required**	**Metrics to be collected annually**
1. Improve potential returns	Incentives package approved Prospectus developed Reverse Auctions conducted	□ Number of Prospectus distributed (printed on online download) □ Number of auction bidders □ Number of approved bids. □ Cumulative number of hectares in approved bids.
2. Improve information available and 3. Improved transparency	Information developed to be included in Prospectus: • Return on investment model • Costs and benefits • Case studies of success stories • Market logistics • Carbon model • FPC role and offering • Wespine offering • History of farm forestry • Model planning policy	□ Percentage of information required developed and approved □ Website hits per month □ Prospectus downloads □ Number of local governments with aligned planning policies
4. Educate advisers	Data base of advisors developed Invitations to advisers Education sessions organised based on Prospectus content Annual survey of advisors testing support for pine plantation option	□ Number of direct mail outs □ Number of advisors attending education session □ Survey results
5. Raise profile of opportunity	Promote PR opportunities Field days Community groups Website	□ Number of community newspaper stories □ Number of field days attended □ Number of presentations to community group □ Facebook reach metrics □ Website metrics
6. Promote opportunity to landholders	Database development Direct mail Field trips	□ Completion of database of potential landholders □ Number of direct mail contacts

2. Process Results		
Objectives	**Evidence required**	**Metrics to be collected annually**
		- Number of direct mail follow ups - Number of field trip participants
7. Support potential new entrants	Best practice technical information Panel of advisors Peer mentoring Consolidated entry to carbon market	- Amount and quality of technical information published on website - Number of advisors on panels - Number of landholders accessing panel advisors - Number of peer mentors available - Number of landholders accessing peer mentoring - Number of landholders supported to enter carbon market
8. Engage resource companies	Direct contact with resource companies	- Number of resource companies approached - Proportion of companies interested or active

5 Acknowledgements and References

5.1 Acknowledgements

The authors acknowledge the assistance and advice of Wendy Perdon, David Guille, Matthew Jones and John Tredinnick in preparing this Private Forestry Engagement Strategy.

The people consulted in the process of developing the Strategy are shown in Table 8.

Table 8: People and organisations consulted

Name	Affiliation
Duncan Beggs	Grower, Bridgetown and IFA/AFG
Vincent Graneri	Grower, Yelverton
David Guille	FPC, Albany
Matthew Jones	FPC, Nannup
Rod Jones and Ben Martin	Iluka Resources, Capel
Steve Hossen	Steven Hossen Rural Consulting, Busselton
Ian Telfer, David Gibelllini and Grant Johnson	WAPRES, Bunbury
Patrick Warrand and Brad Barr	Wespine, Dardanup
Robyn Fenech and Richard Yates	Harvey Water
Jocelyn Baister	Shire of Manjimup
Lachie McCaw	Grower, Forester, DBCA, and IFA/AFG, Manjimup
Paul Omodei	Planfarm, Manjimup
Ian and Wendy Duncan	Former growers of bluegums at Esperance, now at Nannup
Mal Crombie	Grower and service provider, Greenbushes
Mike and Michelle Rautenbach	Growers and IFA/AFG, McAlinden
Paul Martin and Brad O'Neill	CEO, Shire of Serpentine-Jarrahdale
Roger Seares	Grower, Northcliffe and IFA/AFG
John McGrath	Forester, pine silvicultural research
Sally Wilkinson	CEO, South West Catchments Council

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