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NZ Cypress Forestry Strategy

Stage One 2019-2020 – industry consultation; forest resource analysis; draft strategy development

Interim report

Outcomes of consultation with corporate growers and the harvesting and marketing and consultancy sectors

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FOREST GROWERS RESEARCH

SUMMARY

- As part of Stage One of the SWP initiative to develop a strategy for NZ cypress forestry (workplan SWP-WP120), an industry consultation was undertaken in March and April 2020. Two sectors of the industry were involved (i) corporate growers and other major landowners, and (ii) the harvesting and marketing and consultancy sectors.

- The overall objectives of the consultation were to gather information about the scale, age and condition of the corporate cypress resource and current levels of forest management activity. Another aim was to learn more about cypress log values and their drivers.

- There was a good response from corporate growers/major landowners, with 13 respondents who in total represent over 1,000 hectares of cypress in the North Island, and over 5,000 hectares in the South Island.

- There were fewer responses from the harvesting and marketing/consultancy sector (11 respondents, five so far who have been willing or able to provide data): the information provided by these respondents is valuable.

- There has been some (limited) new planting of cypresses in recent years by the corporates in the form of trials, including trials of new Scion and NZFFA genetic material.

- Respondents confirmed anecdotal reports about the current minimal activity associated with cypresses. There is very little planting activity going on or planned for the near future in either the corporate or private sector; pruning and sometimes thinning are deemed to be costly activities which are difficult to justify to corporate directors.

- Two well-recognised factors are combining to dampen enthusiasm for planting cypresses – the threat and reality of canker in macrocarpa (and in other cypress species in the North Island), and the fact that, under current regimes and market conditions, cypress cannot compete with radiata pine as a corporate investment resource.

- Cypress harvesting activity and volumes throughout New Zealand are very low, due to lack of cypress forests at harvest age.

- Anecdotal reports of a scarcity of good quality macrocarpa in the North Island were repeated, with domestic processors apparently now relying largely on old shelterbelt resources of mixed quality.

- At the same time, domestic markets in both the North and South Island are limited in scale because of the relatively small volumes of cypress they can handle, but several respondents report that export markets (particularly China) have until recently been unlimited and have generated relatively high prices for all grades of logs.

- There is no co-ordinated marketing of cypress. Descriptions of cypress logs and grades vary, perhaps emphasising the point that there are a number of ways that ‘cypress’ is described in the markets. This inconsistency may not be helpful to anyone in the value chain. Also, there is little differentiation between different species of cypress by some harvesting and marketing contractors, at least not at a superficial level.

- Like-for-like, cypress is consistently reported to be worth more than radiata pine, with an average positive differential of $50-$70/tonne across all grades. The biggest differential reported is for large, top-quality pruned macrocarpa logs destined for domestic markets in the southern South Island, where the price is reputedly set by one dominant supplier of logs.

- Key drivers of log value in both domestic and export markets appear to be log size (length and small end/large end diameter (SED/LED), branch size, and incidence of canker. While domestic sawmillers may differentiate between different species of cypress and prefer macrocarpa and Lawson's cypress where this is available, when supply is short similar prices will be paid for lusitanica by some buyers. No evidence was found of any differentiation in the export market.

- One of the advantages reported in marketing cypress is that there is a strong market for all grades of log, including low-grade logs for e.g. boxing and sleepers and for firewood.

- Encouragingly, a number of corporate growers are looking to increase their forest's diversity and are actively reviewing their strategies around alternative species. Despite the well-reported economic performance of some of the large-scale cypress resources in the southern South Island, failing to match up to radiata pine, cypress has not been written off as an alternative species. It is only one of the suite of alternative species that growers are interested in, however, so will have to 'fight its corner'.

Author's Note

During the consultation, many of the corporate and large-scale forest managers have expressed enthusiasm for the work being done by SWP under this project. It seems there is growing recognition of the risks associated with New Zealand forestry's dependence on a single species: NZ's dependence on the Chinese market has also been thrown into the spotlight during recent months.

The timing of this project is therefore good, and further consultation with corporate growers, if well thought out, is likely to receive support.

The most obvious next step would be to organise a half-day or one-day workshop, as already suggested in the Work Plan. If the agenda is attractive and people personally invited, I think it should be well-supported. Corporate forest managers are busy people, and are under scrutiny from their directors, so a well-focussed workshop will be essential – we may only get one chance to get this right!

1. BACKGROUND

As part of Stage One of the SWP project to develop a NZ Cypress Forestry Strategy, two sectors of the forestry industry were consulted with. These sectors were:

1. Corporate growers and other major landowners
2. Harvesting and marketing companies, and forestry consultants thought potentially to be involved in managing cypress harvesting.

The aims of the consultation were slightly different for each of the two groups:

1. Corporate growers and other major landowners – the aim was *"to gauge the extent of the cypress resource the major landowners have on their estate, and the level of establishment/silviculture/harvesting going on. We are also very interested in your future plans for cypress forestry."* Respondents were asked about the quality of their cypress resource, and for details of any recent cypress harvests, including what markets logs were sold into and prices received.

2. Harvesting and marketing companies, and forestry consultants – the aim was *"to gauge the extent of the cypress resource which has been harvested in recent years, the markets it is sold into, and the ranges of prices received. Also, any forthcoming harvesting or cypress management work you may be involved with."* Respondents were asked about the management regime of cypresses they were involved with (i.e. pruning and thinning) and the quality of trees and timber.

In both cases respondents were asked about their prior knowledge of the SWP, and whether they would be interested in future work on developing a NZ cypress forestry strategy. The questionnaire was qualitative and was not designed to produce data for statistical analysis.

Lists of companies and individuals to be contacted were compiled from several sources, and questionnaires were initially sent out on March 18th 2020. Corporate forest owners and forest managers were identified by the Working Group and through lists in Forestry Facts and Figures (NZFOA 2019). A total of 15 corporates were contacted, along with six regional councils and one other major landowner (Pāmu/Landcorp Farming Ltd) (see Appendix 1 for details of who received the consultation package).

Harvesting and marketing contractors and forestry consultants were identified via a web search and also with help from the Working Group. A total of 20 individuals or companies were contacted in this group.

In both cases, contacts were emailed with a personalised letter explaining the purpose of the survey and assuring recipients that data would be kept confidential. A consultation document providing background information, and a questionnaire were attached (with variations for each of the two groups of recipients). The survey was in MSWord, so could be saved and completed by the recipient and then emailed back, or recipients were invited to contact the sender to arrange a phone conversation if they preferred.

The timing of the consultation coincided with the imposition of COVID19 Level 4 lockdown, which meant that some of those contacted were very busy with managing their staff and businesses and therefore unable to respond; also that it became difficult to contact people as company offices were closed.

Ultimately there was a good response to the request for information from corporate owners, and useful information has been gathered, especially on the whereabouts of a large proportion of the national cypress resource, species and age classes, and how it is being managed.

The response from the harvesting and marketing/consultancy sector was less good, but this may have been because few of them are involved with cypress forestry to any significant extent. Those who did respond provided useful information.

Obtaining information on past and current log sales including volume harvested, value, markets and grades of logs sold, was difficult. The information generated by the consultation is very useful, however.

Data continue to be supplied and will be added to the summaries (April 30th 2020).

2. QUESTIONNAIRE RESPONSES

To date, responses have been received from 13 corporates and other landowners. Information from members of this group was also supplied by Angus Gordon, who contacted some of his personal contacts before the consultation process began.

2.1 Information gathered about the corporate/major landowner resource

2.1.1. Cypress resource by region

The total area of cypress forest accounted for by the questionnaire was 1,006 hectares in the North Island, and 5,194 hectares in the South Island, giving a total area covered of 6,200 hectares. The regional breakdowns are as follows:

North Island	Corporate/major landowner total cypress resource (ha)	NEFD 2018* (ha)
Northland	21	515
CNI	845	1,179
East Coast	71	271
Hawkes Bay	60	372
SNI	9	595
North Island total	**1,006**	**2,932**

South Island	Corporate/major landowner total cypress resource (ha)	NEFD 2018* (ha)
Nelson/Marlborough	9	406
West Coast	3,896	4,493
Canterbury	260	456
Otago/Southland	1,389	1,679
South Island total	**5,554**	**7,034**

* NEFD data are provided for comparison only. These data are recognised as having serious limitations in terms of the way they account for alternatives to radiata pine.

The data is dominated by one large owner each in the North and South Islands (Timberlands Ltd and Ngai Tahu respectively) although there are three further relatively large-scale cypress forest owners in the southern South Island (Blakely Pacific, City Forests, and Rayonier-Matariki).

Some of the ’missing areas’ can be explained by recognising that a number of key corporates have not yet responded to the request for information – for example, Pan Pac is known to own or have the cutting rights to significant areas of ex-NZ Forest Service forests in the Hawke’s Bay Region; the China Forestry Group Corporation is now a major plantation owner in the southern North Island, there has been no response from Crown Forestry nor a couple of major corporates with forests known to include at least some cypresses in the northern South Island. Also, questionnaires from most regional councils have yet to be returned. It is not known what areas of cypress these ‘missing’ corporates manage in total.

In addition, farm foresters and other private small-scale woodlot owners, who were not part of this consultation exercise, own many small areas of alternative species which cumulatively will account for a certain proportion of the missing area. For example, this is known to be the case in Canterbury. A 2018 survey by Scion investigating cypress nutrition (SWP-054) was completed by 57 farm foresters with a median area of 3.2 hectares of cypresses giving a total area covered by the survey of 460 hectares. Three respondents in the Scion survey had areas of cypress over 40 hectares, (whereas in this survey, only one respondent had a cypress forest area of less than 40 hectares).

2.1.2 Cypress resource by species and age

The following graph (Fig. 1) provides an indication of the composition of the total resource captured by the responses.

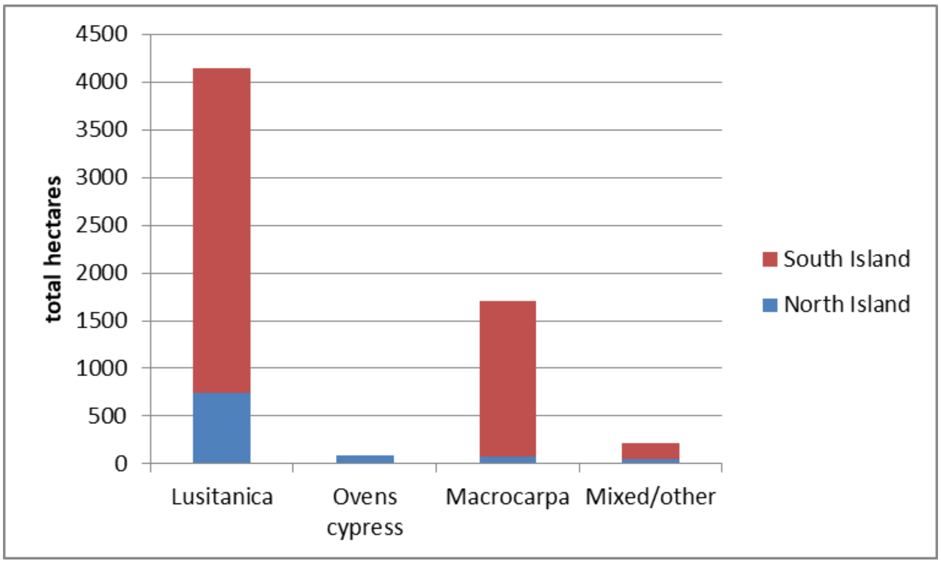

Fig 1: Total areas of different cypress species captured by questionnaire.

Fig.2 below summarises the age classes of the different species groups in the North Island. The North Island data is dominated by the large area of *C. lusitanica* planted on the Kaingaroa Timberlands Ltd estate in the early 2000s.

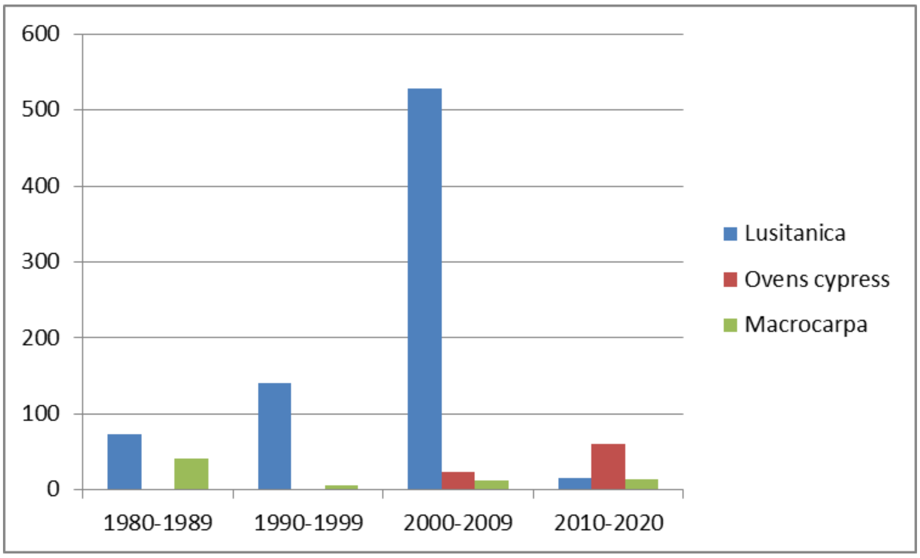

Fig 2: North Island resource by age class and species captured by questionnaire.

The same level of ‘species x age-class’ data given in Fig 2 for the North Island is not available for the South Island resource, as it was not supplied in questionnaire responses. However, the South

Island resource is dominated by the Ngai Tahu West Coast plantings of *C. lusitanica*, (approx.3,380 hectares) the majority of which was planted in the late 1990s and early 2000s.

2. 2 Management of the resource

Information was requested about how cypress forests are being managed, and the quality and health of the trees. Management regimes vary between and within estates. Some owners' primary objective in growing cypresses is for trials, in which case a range of different regimes are likely to be underway.

Where cypresses are being grown primarily as a timber crop, whether or not they have been, or will be, pruned and thinned, and to what extent, may depend on the knowledge, opinion and interest of the people managing the trees, and whether or not the cost can be justified to those in control of the company finances at the time.

> *"We are anticipating a 35-year rotation. All stands will be thinned to 550 sph. One mac stand is pruned to 6 metres, one lusi stand is pruned to 6 metres and will be thinned to 500 sph."* CNI grower.

> *"Pruned to 4.5 m, first thin to 750 sph, one more thin to 450 sph" (*Stand 1). *"Three lifts to 5.5m by age 12"* (Stand 2) – Hawke's Bay grower.

Most growers were anticipating 35-45-year rotations; some already have trees in this age class and older which have yet to be harvested.

A limited amount of quantitative harvesting and marketing data was received from corporate growers. Several have little or no resource mature enough to harvest yet. More details about markets and log prices are presented in Section 2.4.

Growers in both the North and South Island have reinforced the point that domestic mills which buy cypress can only handle small quantities, and quickly become over-supplied by the volumes likely to be brought to market by larger growers.

> *"There is a lack of a coordinated marketing strategy, and a very thin local market. Whenever a crew moves into a Macro block, the market is quickly swamped and hasn't the capacity to absorb the volume."* Southern South Island grower.

> *"Cypress tends to be harvested with adjacent radiata pine and dispatched as if it were pine – so it may go in mixed loads across the wharf. The problem is that local mills can only handle small amounts, and one harvesting event can flood the local market."* CNI grower.

2.2.1 Tree health

Only one owner reported consistently poor quality trees – these are the West Coast forests now belonging to Ngai Tahu, which are known for their generally low productivity and poor form. The forests were planted by Timberlands West Coast in the 1990s and early 2000s, and are now largely left untended, and replaced with other species when harvested (T. Smith, pers. comm). Douglas-fir, sitka spruce (*Picea sitchensis)* and rimu regeneration are all reputedly growing better than the cypresses, despite considerable expense having gone into site preparation for the cypresses in some parts of the estate.

One other major corporate with a large macrocarpa estate in the southern South Island commented:

> *"Some stands have low or variable stocking and low growth rates, this due to incorrect siting, poor site preparation, significant weed competition and wilding pine infestation. The timeliness of pruning and or thinning has not been optimal in many cases."*

Forest managers in the North Island generally reported their trees to be medium or good quality. The arrival of canker in *C. macrocarpa* stands in the Central North Island was noted by one grower and is a constraint regularly commented on by North Island respondents.

Two South Island harvesting and marketing respondents both commented on the general poor quality of the resource they are dealing with. One Southland harvesting and marketing contractor said:

> *“Canker is a major problem, a lot of poor results and poor returns achieved.”*

2.3 Responses from Harvesting and Marketing Contractors/Consultants

So far, five harvesting and marketing contractors/consultants have responded with information, one more has promised data but not yet delivered, and six others have responded but are unable or unwilling to provide data. Of these, five pointed out that radiata pine is the only species they deal with.

None of the respondents reported any cypress planting work coming up. One central North Island contractor said he was due to prune and thin a 10 hectare block of *C. ovensii* in the future, and also has a 3.5 hectare block of macrocarpa to harvest in due course.

Those contractors who have harvested cypresses have sold logs into both export and domestic markets. Two respondents indicated they handle up to 1,000-1,500 tonnes of cypress per year; one other said he is dealing with three operators each harvesting between one to two loads per month (around 100-200 tonnes in total per month). Although these amounts would equate to a significant number of shelterbelt trees, mature, productive plantation-grown cypress would likely yield at least 500 tonnes/hectare, meaning 1000-1500 tonnes is the equivalent of 2-3 hectares of plantation-grown cypresses/year.

2.4 Log prices and drivers of log value

There is a market for all grades of ’cypress’, although domestic sawmills may be selective and prefer macrocarpa (and perhaps Lawson’s cypress). One small-scale grower recently reporting a mixed macrocarpa/lusitanica load being rejected by a domestic sawmill because of the lusitanica, but the shortage of cypress overall has led to other buyers being happy to buy lusitanica. No differentiation between species was been reported in export markets.

There are varying reports of prices being generated by cypress log sales. More than one North Island commentator reinforced the fact that there *“is not much good stuff left”* meaning domestic mills are short of stock, and a number of mills have closed because of this.

The relatively strong export market has added to the challenges facing domestic sawmillers.

> “*I heard just before lockdown that the [export] market for macro logs was well over $200 per tonne for all grades. This would make local operators redundant unless the price for clears say was over $4,000 a cubic metre*.” Hawke’s Bay sawmiller.

Recent sales by one of the lower North Island’s major log buyers confirm this sawmiller’s price. In a series of sales in 2018-2019, the prices for top grade macrocarpa logs (>5.3 m long, > 40cm SED) averaged around $230/JAS. (This compared with an average of around $180/JAS for top-quality radiata logs at the same time). Medium grade logs (>5.2 m, >30cm SED) averaged around $200/JAS. The lowest grade logs ((> 2.7m length, > 20 cm SED) averaged around $155/JAS (compared with $118/JAS for short-length KIS grade radiata pine).

One of the lower North Island’s major harvesting and marketing contractors reported that they are only harvesting small amounts of cypress now, mostly from farm shelterbelts and occasional small woodlots. They know of few if any stands greater in area than a few hectares in the Southern North Island now, and most of these are younger stands.

> *"For bigger stuff (over 40 cm LED), we are getting about $250/JAS, going down to about $165/JAS for smaller grades. We estimate cypress generally to be worth about $70/tonne more than radiata. Knotty log for knotty log, cypress probably makes twice as much as radiata."* SNI harvesting and marketing contractor, selling cypress mainly into export markets (China).

A central North Island grower selling to domestic mills supplied the following information:

> *"We have harvested and sold a few stands of cypress (several hundred cubic metres worth). These have gone to mills in the Bay of Plenty and central North Island. The mills do pay a good price for logs (around $110-$130 per m3 delivered). We certainly do not see the very high prices that are sometimes quoted for sales in the South Island. However, our customers take almost everything (including what we would call pulp) for sawlog prices. Scale is an issue as most of these mills are small and one stand will supply them for several months."* CNI grower.

The South Island situation is different, with some large corporate-owned areas of quality cypresses (mainly macrocarpa) in Otago and further smaller areas in Southland.

South Island macrocarpa prices are reported on a quarterly basis in the NZ Tree Grower: for example, the February 2020 prices given are as follows:

Macrocarpa logs	$/tonne
Pruned, >40cm SED	350-375
Pruned >30cm SED	170-190
Small branch >30cm SED	160-165
Small branch >20cm SED	135-145
Large branch/boxing/sleeper	115-120
Firewood logs	75-80

The very high prices indicated for top-quality pruned logs are paid by domestic sawmills only, and largely set by the dominant supplier of macrocarpa logs to sawmills in the southern South Island. Other grades go into either domestic or export markets, and the Chinese demand for boxing/sleeper quality logs for casket manufacture has set a price point for this grade of timber in recent times. The dominant South Island supplier into domestic markets makes an effort to regulate the supply of logs to ensure mills do not become over-loaded.

A southern South Island contractor who harvested 1,500 tonnes of macrocarpa timber in 2019-2020 from shelterbelts (with some canker reported) and sold it into domestic markets provided the following price information:

Small branch logs SED 30 cm	*Approx 700 t*	*$170 - 180/tonne*
Large branch/sleepers/boxing	*Approx 300 t*	*$130/tonne*
Firewood	*Approx 500 t*	*$50/tonne*

A southern South Island grower, who also commented on the problems of domestic markets rapidly becoming over-supplied, says:

> "*Typically, most macrocarpa gets exported at little if any premium to radiata prices."*

A production thin in a 30-year old macrocarpa block in 2016 produced some 3,000 tonnes which were sold over the wharf. Main outputs were equivalent to K and KIS grades, with prices of $115 -

$96/JAS respectively. Firewood was sold at $45/tonne. Another block was harvested with 875 tonnes of what are described as ‘S grade’ logs generating $160/JAS, and industrial grade generating $140/JAS.

2.5 Strategic interest in cypress

The strategic intentions of corporate growers are important in this consultation, because of the overall objective of developing a strategy for the NZ cypress forest industry. Growers were asked about plans for future management of their cypress resource, and whether they intend to undertake any new planting, either on cut-over sites or on new sites.

2.5.1 Future cypress planting and management

In terms of future management of existing forests, there was a mixed response to whether trees will be pruned, but almost all owners do plan to thin forests of appropriate age.

Only one company is definitely hoping to plant more cypress on cut-over sites in the form of large trial plantings, to learn more about how to grow cypress for optimal productivity. Other companies are ‘uncertain’ about whether or not they will plant more cypress, while the majority are not planning any further planting either on cut-over sites or new sites. The reasons for the lack of interest in new planting vary, including already having enough cypress on the estate but more often because, at present, it is hard to argue the economic case for cypresses as an investment proposition when compared with radiata pine.

2.5.2 Overall strategic interest in cypresses

While the current enthusiasm for investing in cypress – both in terms of existing resources and new planting – seems muted at best, in contrast there is strong support for the need for alternatives to radiata pine from the corporate/large-scale land-owner sector. Significantly, three respondents said they are currently reviewing their long-term forest strategy, and want to include more alternatives to radiata pine – in the first instance this might be in the form of trials, with some growers already running their own trials or participating in Scion and NZFFA trials of new genetic material.

> *“Our current strategy, other than providing trial sites, does not include Cypress – however we are refreshing a strategy currently & it is likely to include a focus on alternatives to P. radiata, in my opinion.”* CNI grower.
>
> *“We want alternatives to radiata pine. At the moment we are managing cypresses like radiata and this is not the way to do it. We are developing an alternative species strategy... cypresses will continue to be part of this strategy.”* CNI grower.
>
> *“Your project is very timely, because we are reviewing our strategy. I would like to be involved.”* South Island grower.
>
> *“Going forward, our strategy will be to retain a percentage of our forestry in radiata to pay the bills with the highest degree of certainty, with a smaller percentage dedicated to supporting the development of a critical mass of alternative species.”* Hawke’s Bay grower.

Forest owner	Interested in supporting development of a cypress strategy
Aratu	Possibly
City Forests	Unlikely
Ernslaw One	Possibly
Hancock Forest Management Ltd	Yes
Hawkes Bay Regional Council	Probably
Juken NZ Ltd	No
Lake Taupo and Rotoaira Forest Trust	Yes
Ngai Tahu	Yes
Pāmu	Probably
Port Blakely	'Watching brief'
Rayonier Matariki	Possibly
Timberlands Ltd	Yes
Wenita Forest Products	Unlikely

Corporate forest managers inevitably are answerable to their directors and shareholders, but the foresters who responded to this survey are generally supportive of efforts to diversify the NZ forest estate. To this end, there is likely to be support for well-defined further steps to develop a cypress strategy, with several of those questioned being immediately willing to support further work to develop a cypress strategy.

Harvesting and marketing contractors and consultants, on the other hand, unless they have a special interest in cypresses, are likely to have little incentive to take part in an industry effort to develop a long-term strategy for cypresses, given, as one put it:

> *"Our core business is radiata."*

Those who responded but were unable to supply data were involved in harvesting radiata pine only.

There are at least two obvious exceptions to this generalisation, in the form of two well-known South Island consultants who have for many years been strong advocates for cypresses and involved in research and development programmes nationwide.

2.6 Respondents' awareness of the SWP and its role

All corporate respondents apart from one are aware of the SWP and its activities, and, as mentioned above, would likely be supportive on an SWP-led initiative such as a workshop to discuss how a strategy for NZ cypresses might be progressed.

APPENDICES

Appendix 1: Respondents to the consultation – corporate forest owners and other major landowners

Thanks go to all the following forest growers who have responded, either by completing the questionnaire and/or over the phone.

Aratu
City Forests
Ernslaw One
Hancock Forest Management Ltd
Hawkes Bay Regional Council
Lake Taupo and Rotoaira Forest Trust
Ngai Tahu
Pāmu
Port Blakely
Rayonier Matariki
Timberlands Ltd
Wenita Forest Products

Others who may respond in due course:

China FGC
Crown Forestry
OneFortyOne
Pan Pac
Summit Forests
Tasman Forests Ltd

Responses are also hoped for from the following regional councils:

Bay of Plenty
Horizons/Manawatu
Waikato
Otago/Southland

Appendix 2 – Respondents to the consultation – harvesting and marketing contractors and consultants

Thanks go to all those who have responded, either by completing the questionnaire and/or over the phone, including those who were unable to provide any data.

Farman Turkington Forestry	Responded, not prepared to share data
Forest and Harvesting Managers (FHM)	Data provided (but no financial data)
Forest Management Group	No response
Forest Management NZ (FMNZ)	Responded, no data
Forest360	Data provided
Forme Consulting	Responded, no data
Fortus	No response
Laurie Forestry	Data provided
Log Marketing	No response
Merrill Ring NZ	No response
Northern Forest Products	Responded, no data
Northland Forest Managers (NFM)	No response
NZ Forest Managers	No response
NZ Forestry	Responded, no data
Paul D Carruthers Ltd	Data provided
Pentarch	Data provided
PF Olsen	Data to come
Professional Harvesting Services (PHS)	No response
Ribbonwood	No response
Wood Marketing Services Ltd	No response

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