

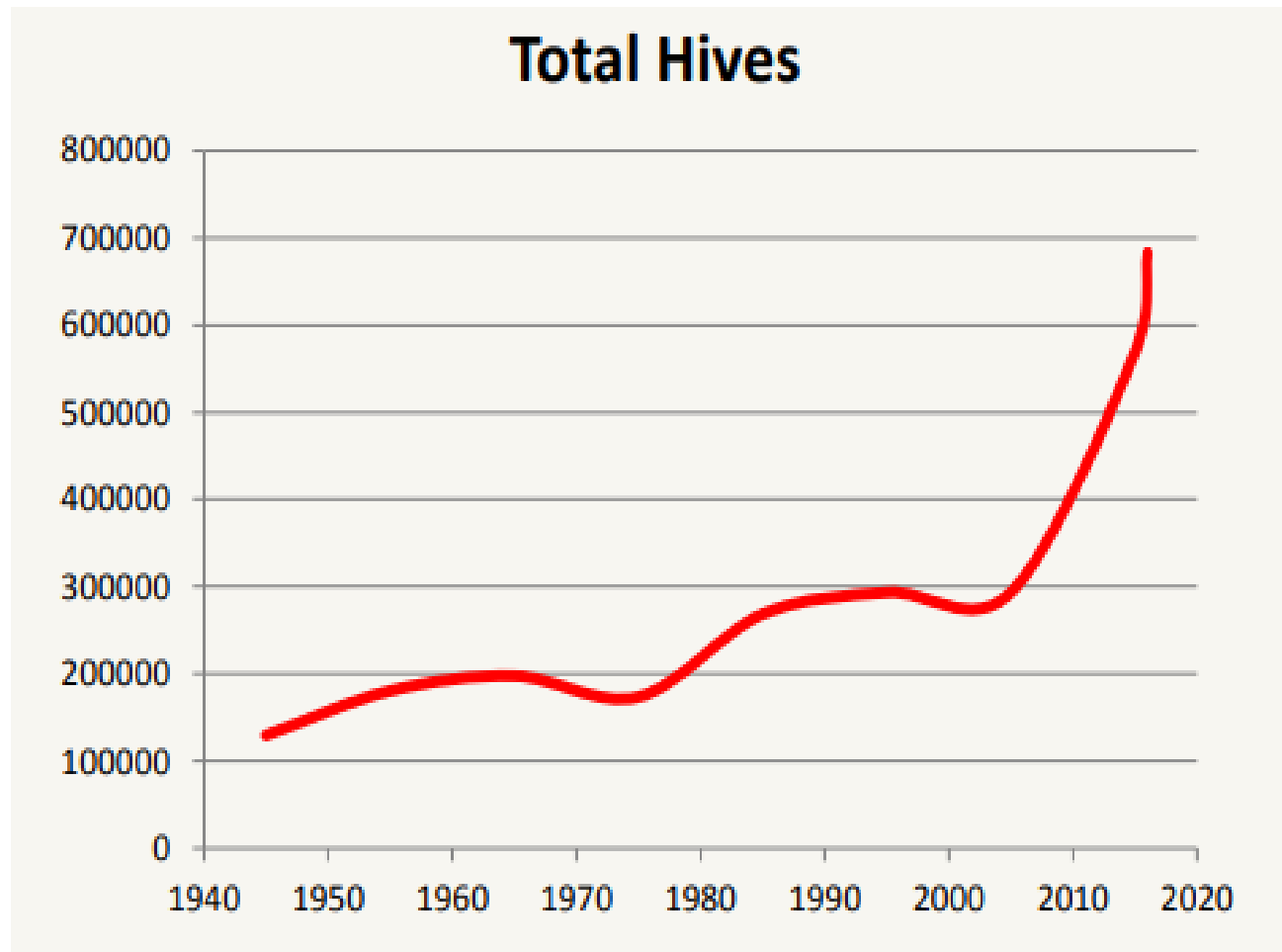
Jason Prior
Downunder Honey Ltd
&
Trees for Bees Plant Nursery
Cheltenham



About us

- Operate 1600 Hives – mix of clover, bush & manuka sites
- Extraction business, 200-300 tonne per annum
- Trees for Bees Plant Nursery
- Consult on Trees for Bees projects
- Promote sustainable beekeeping and partnerships
- Opposite Hato Paora @ Cheltenham

Exponential Growth



Honey industry growth

YEAR ENDED 30 JUNE		2013	2014	2015	2016	2017	2018
Beekeeper and hive numbers							
Number of registered beekeeping enterprises ¹		4,279	4,814	5,551	6,735	7,814	8,552
Number of registered bee hives ¹		452,018	507,247	575,872	684,046	795,578	881,185
Honey production							
New Zealand annual honey production	Tonnes	17,825	17,610	19,710	19,885	14,855	20,000
Honey yield per hive	kg/hive	39.4	34.7	34.2	29.1	18.7	22.7
Honey prices²							
Bulk honey price range for light clover honey	NZ\$/kg	5.00-7.30	5.50-8.30	7.00-10.75	9.50-13.00	10.00-14.00	8.50-12.00
Bulk honey price range for mānuka honey ³	NZ\$/kg	10.45-60.00	8.00-85.00	9.50-116.50	12.00-148.00	10.80-127.00	12.00-135.00
Honey exports (pure honey)⁴							
Honey export volume	Tonnes	8,054	8,702	9,046	8,831	8,450	8,692
Honey export value (at fob ⁵)	Million NZ\$	145	187	233	315	329	348
Honey export price (at fob ⁵)	NZ\$/kg	17.99	21.45	25.77	35.62	38.92	40.04

- Growth in beehives from 270k to ~900k in just over a decade
- Overcrowding with falling per hive yields, record failure in 2017
- Challenging weather conditions for honey production last 3 years
- Falling prices for non Mono Manuka after MPI standard launch

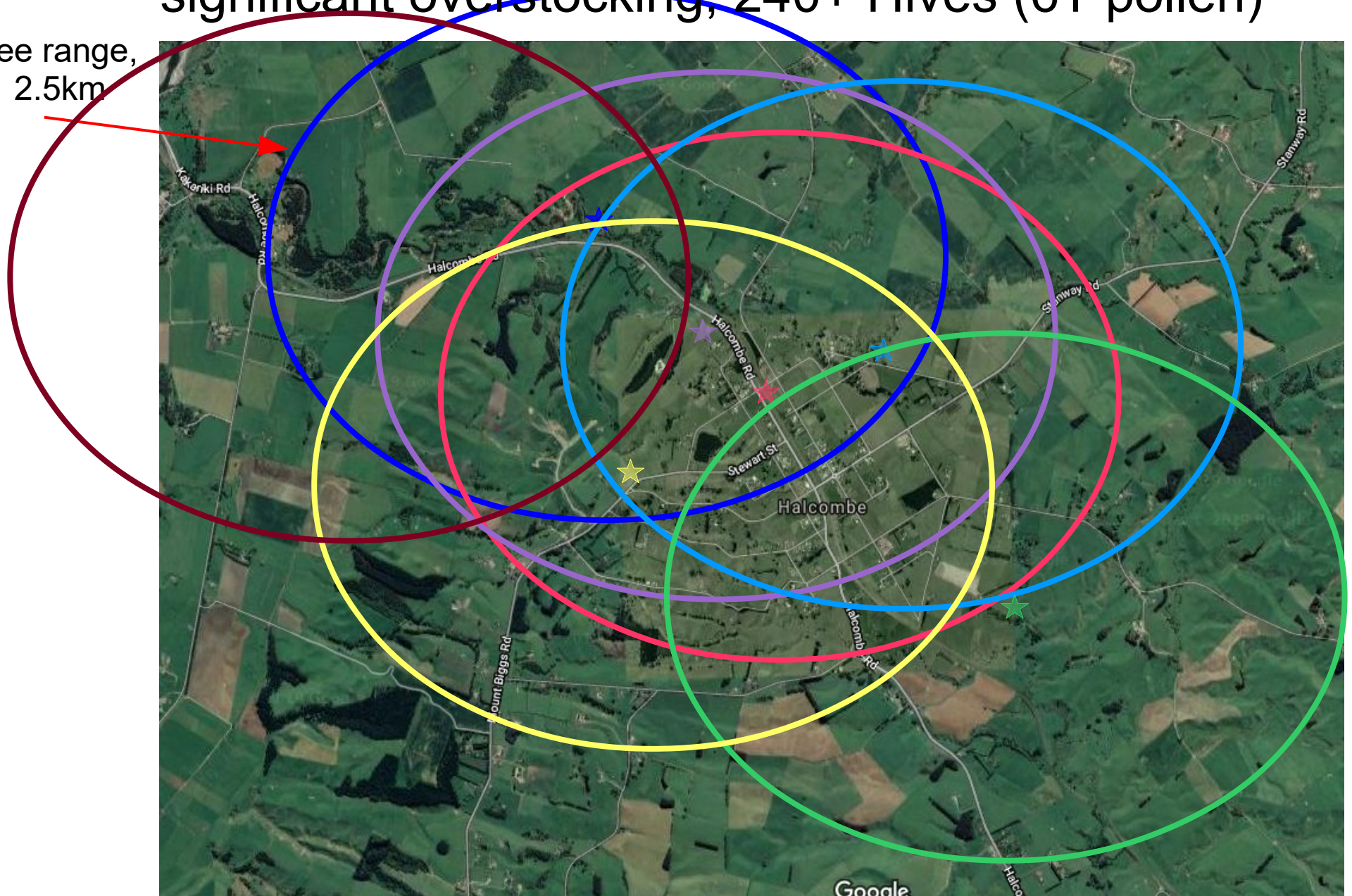
Example Halcombe circa 2016, Beehive range, 4 commercial apiaries, 120 hives total (3T pollen)

Bee range, 2.5km



Halcombe 2019, Beehive Range, 7 commercial apiaries significant overstocking, 240+ Hives (6T pollen)

Bee range,
2.5km



Trees for Bees - why a Nursery

- Great work done by Linda & Landcare
- Gap in being able to “buy” trees for bees
 - None of the willows were available
 - Need planting plans that nurseries can deliver on
 - Need year round flowers - a lot of riparian plantings don't provide for bees for 6 months of the year
 - A lot of obscure natives and exotics not commercially available
 - Not alot on Eucalyptus and where they fit
 - Plants for the home garden
 - One stop shop, consult, price, plan find
 - Beekeeper's perspective



- 150 species
- 3 FT staff ↑
- All about bees



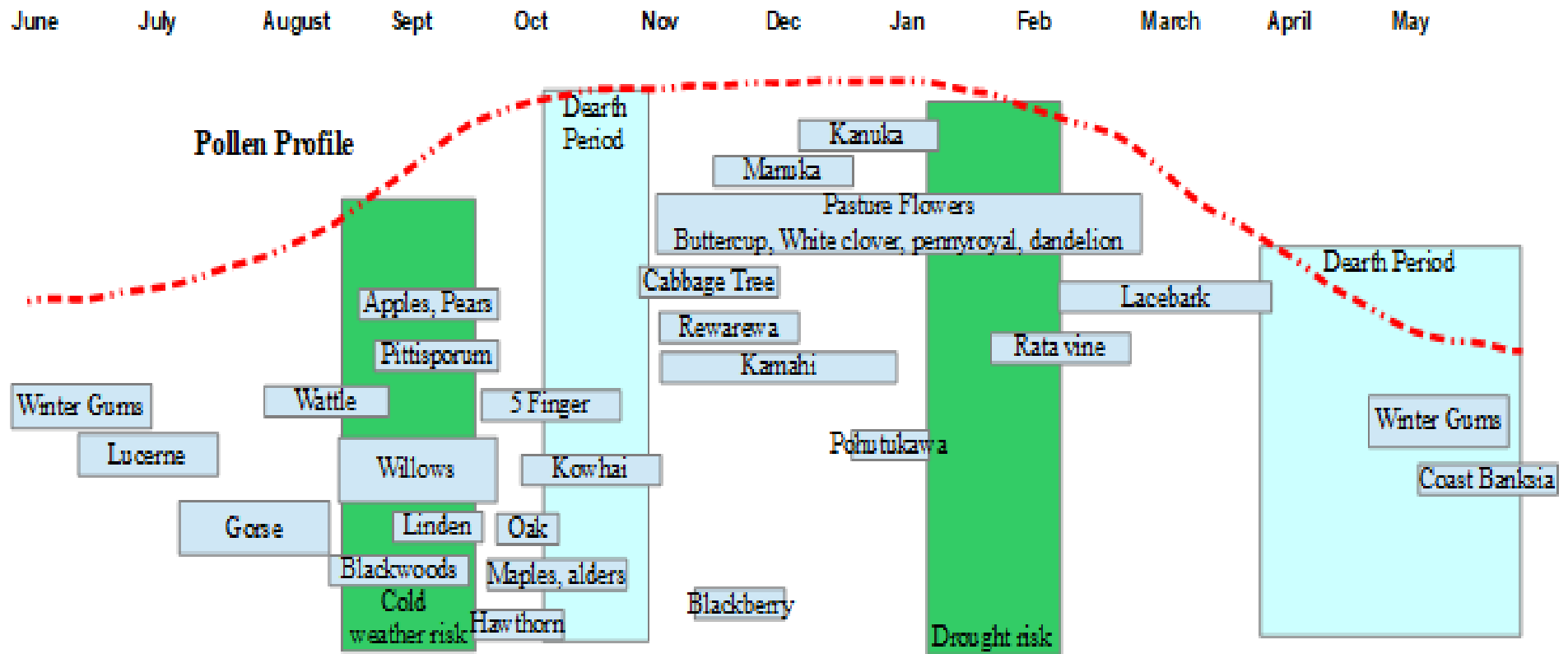
Tree Industry Context

- Backlash to blanket radiata plantings
 - Evolving story around alternatives such as durable eucalyptus that also produce nectar
- Farm planting for small blocks adding to 5ha eligible for significant grants (Billion Trees programme)
- Carbon credit price is back up and will probably go higher
- Ongoing drive to do more riparian planting
- People are thinking “green”
- Larger farms are considering retiring land, more forestry manuka & trees for bees

Where do we see the opportunities

- On the typical farm there are areas that are applicable for production forestry, encourage landowners to plant durable eucalyptus that are also honey producers
- Areas not suitable for forestry – manuka
- Trees for bees riparian planting mix
- Amenity planting around farm, hedges, shade trees,
- Whole of farm plan
- Home gardens, bring in the pollinators and beneficial insects, less sprays

Pollen Calender, the place to start

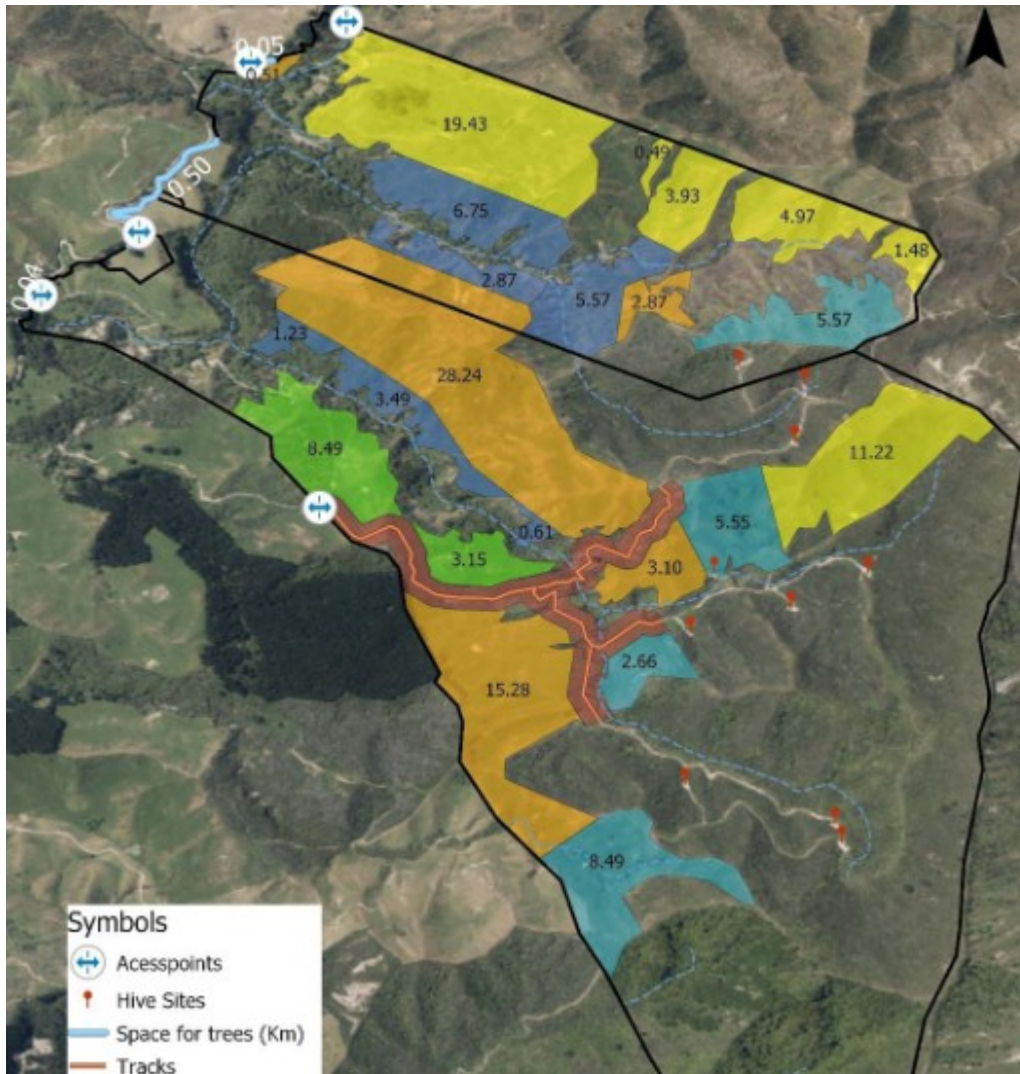


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Relate back to Pollen protein level

Protein Class	No.	Genus	Species	Common Name
High	1	<i>Brassica</i>	<i>napus 'Greenlandica'</i>	Brassica
High	2	<i>Ceanothus</i>	<i>papillosus</i>	California Lilac
High	3	<i>Chamaecytisus</i>	<i>palmensis</i>	Tree Lucerne
High	4	<i>Cordyline</i>	<i>fruticosa</i>	Cabbage Tree
High	5	<i>Hypericum</i>	<i>perforatum</i>	St. John's Wort
High	6	<i>Luma</i>	<i>apiculata</i>	Chilean Bark Myrtle
High	7	<i>Malus</i>	<i>domestica (Braeburn)</i>	Apple
High	8	<i>Melaleuca</i>	<i>squarrosa</i>	Yellow Bottle Brush
High	9	<i>Paeonia</i>	<i>suffruticosa</i>	Yellow Tree Peony Bee
High	10	<i>Phacelia</i>	<i>tanacetifolia</i>	Phacelia
High	11	<i>Prunus</i>	<i>persica</i>	Black Boy Peach
High	12	<i>Raphanus</i>	<i>raphanistrum</i>	Radish
High	13	<i>Camellia</i>	<i>japonica</i>	Camellia
High	14	<i>Ceanothus</i>	<i>impressus</i>	Ceanothus sp.

Protein Class	No.	Genus	Species	Common Name
Medium	45	<i>Quercus</i>	<i>candicans</i>	Mexican oak
Medium	46	<i>Quercus</i>	<i>crassifolia</i>	Oak
Medium	47	<i>Quercus</i>	<i>laeta</i>	Oak
Medium	48	<i>Quercus</i>	<i>robur</i>	English Oak
Medium	49	<i>Quercus</i>	<i>salicina</i>	Japanese willowleaf oak
Medium	50	<i>Rosemarinus</i>	<i>officinalis</i>	Rosemary
Medium	51	<i>Viburnum</i>	<i>plicatum</i>	Japanese snowball
Low	52	<i>Fagopyrum</i>	<i>esculentum</i>	Buckwheat
Low	53	<i>Hebe</i>	<i>salicifolia</i>	Koromiko, hebe
Low	54	<i>Helenium</i>	<i>flexuosum</i>	Purple-headed sneezeweed
Low	55	<i>Helianthemum</i>	<i>nummularium</i>	Common Rockrose
Low	56	<i>Viburnum</i>	<i>tinus</i>	Laurustinus
Low	57	<i>Coprosma</i>	<i>repens</i>	New Zealand laurel
Low	58	<i>Coprosma</i>	<i>robusta</i>	Karamu
Low	59	<i>Pomaderris</i>	<i>kumeraho</i>	Kumeraho



Output -

Farm Planting Plans

- section up the property
- select planting templates
- planting density
- estimate of costs

Opportunities for Farm and Lifestyle

- Mixed Native hedges
 - Pittosporums, Kowhai, 5 finger, Lacebark, Ramarama, Kanuka, wineberry etc



Farm & lifestyle

- Mixed Exotic, Native
 - Pittosporum, Cabbage tree, Tree Lucerne, Manuka, Lacebark, Bottlebrush, Camelia, Palm,
- Low height
 - Flax, Koromiko, Corokia, other hebe, basket willows
 - carob



Firewood

- Tasmanian Blackwood,
- Blue Gums, Manna Gums, Yellow or Apple Box Gum, Swamp gum
- Tree Lucerne



Timber Plantations

- Tasmanian Blackwood
- Eucalyptus, number of species options, depends on frost levels, climate, distance from coast, durability
 - Working with NZFFA and NZDFI projects on species of interest

Riparian plantings

- Problem with Natives is the gap Feb – July
- Need to add more
 - Lacebarks, koromiko, *Coprosma grandifolia*
- Better nectar producers
 - Rewarewa, kamahi, rata vines, native creepers
- Plenty of flax & cabbage tree
- Some non native options – fix the dearth problem
 - tree lucerne, maples, escallonia, winter gums, swamp gum

Amenity Plantings

- Shade and feature trees
 - Lindens, tulip trees, maples, ornamental malus and pear, tupelo for wet areas, Oaks
 - Large natives, Rata, red beech, Pohutukawa
 - Ornamental gums, silver \$, winter red gums, ficifolia, etc
- Corner of a paddock
- Laneways
- Track stabilisation (deciduous)



Home Garden

- Miniture versions of popular species
 - Kowhai, rata, manuka
- Wildflowers
- Hedging
 - escallonia, vibernum, Indian hawthorne, ceanothus
- Winter gums
- Flowering cherry, pears, malus
- Camelia & Gordononia (spring & autumn)
- Members of the mint family

family Lamiaceae

basil (<i>Ocimum basilicum</i>)	germander (genus <i>Teucrium</i>)	oregano (<i>O. vulgare</i>)
bee balm (genus <i>Monarda</i>)	horehound (<i>Marrubium vulgare</i>)	rosemary (<i>Rosmarinus officinalis</i>)
bergamot (<i>M. didyma</i> and others)	hyssop (<i>Hyssopus officinalis</i>)	salvia (genus <i>Salvia</i>)
bells of Ireland (<i>Molucella laevis</i>)	lamb's ears (<i>Stachys byzantina</i>)	chia (<i>S. hispanica</i>)
black horehound (<i>Ballota nigra</i>)	lavender (genus <i>Lavandula</i>)	montana)
bugleweed (genus <i>Ajuga</i>)	lemon balm (<i>Melissa officinalis</i>)	self-heal (genus <i>Prunella</i>)
catnip (<i>Nepeta cataria</i>)	mint (genus <i>Mentha</i>)	thyme (<i>Thymus vulgaris</i>)
coleus (various genera and species)	peppermint (<i>M. ×piperita</i>)	sage (<i>S. officinalis</i>)
dittany (<i>Cunila origanoides</i> and <i>Origanum dictamnus</i>)	spearmint (<i>M. spicata</i>)	savory (genus <i>Satureja</i>)
dragonhead (genus <i>Dracocephalum</i>)	origanum (genus <i>Origanum</i>)	summer savory (<i>S. hortensis</i>)
false dragonhead (genus <i>Physostegia</i>)	marjoram (<i>O. majorana</i>)	winter savory (<i>S.</i>

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