**Post-Quake Farming**

**4 October 2019**

**AGENDA**

**10:00 am Steepdown Yard (Blunts Road, Inland Road)**

Discuss the objectives for the day and introduction to Tony Blunt + Kurt Bartrum

**10:15 am Car pool to top of Steepdown**

**10:30 am Forestry on farm** *(Tony Blunt + Dave Janett)*

Discuss history of property, regeneration of native bush and current plantings

Future carbon claims and/or plantings to be undertaken, eligibility of land, 1 BT grants.

**11:15 am Alternative income sources** *(Tony Blunt, Farm Owner)*

Alternative income sources associated with forestry and native bush

**11:30 am Travel back to Steepdown Yard**

**11:45 am Carbon Lookup Tables**

Annuity calculation worksheet provided for farmers with varying area and species

**12:00 pm Summary of morning and any final questions**

Q & A session

**12:15 pm Travel to Lynton Downs**

**12:30 pm**  **Lunch**

**1.15pm Lynton Downs** *(Kurt Bartrum, Farm Manager)*

Introduction to Lynton Downs and the commercial forestry business (Kurt)

**1.30pm Travel to Forestry Site** *(Jeremy Patterson-Green, Tasman Forestry Management Ltd)*

Harvesting, species harvested and markets, typical income and costs, logging now vs 20 years ago and future considerations

**3.00pm Woolshed Discussion** *(Adrian Loo – Forest Management Ltd)*

Pre/Post 1990 plantings – Carbon / Averaging for exotics

Climate Risk

1BT Grants

How do I get started?

Open question session – (Tony, Kurt, Jeremy, Adrian)

**4.00pm BBQ and Refreshments** *(Kaikoura Teen Ag)*

**Steepdown Farm Summary**

**Current Farming System**

* 798 ha (500 ha effective + 298 ha bush)
  + 70 ha cultivatable flats
* 1,400 breeding ewes
* 400 ewe replacements
* 90 breeding cows
* 15 R2yr heifers
* 31 R1yr heifers

**History**

* A large area of native bush was cleared in the late 1970’s under the government’s land development scheme
* Bush regeneration started to come away post 1989 (see following pictures)
* A farm system change was carried out in 1998 once Tony returned home to the farm
* First meeting with ECAN in 2019 to discuss forestry and develop a claim

**Emissions Trading Scheme**

* Currently 155 ha under scheme earning an annuity
* 35 ha of new poplar poles that will qualify in next application
* In the process of applying to add an additional 70 ha to the scheme
* Targeting 300 ha under the scheme in future

**Current and Future Planting**

* Recently finished planting poplar poles on 15 ha of unstable hill ground
* Another 20 ha identified as needing poles
* In discussion to try and get funding for 40 ha of additional plantings under ‘potential enhanced planting’ scheme

**Emissions Trading Scheme Revenue**

* Currently earning circa. $60,000/year with the current qualifying area in the scheme
* Would increase to circa. $120,000/year if target area qualifies for scheme

**Honey**

* Currently renting out hive sites for $20,000/year
  + Across 3 x sites (80 hives total)
* Mainly Kanuka currently
* Looking at option for planting Manuka under ‘potential enhanced plantings’ scheme
  + Would help with spreading income risk as the flowering dates are slightly different

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Figure 3: Steepdown area in emissions trading scheme

Figure 2: Steepdown land cover - 2008

Figure 1: Steepdown land cover - 1985

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Figure 5: Comparative land cover - 2019

Figure 4: Land cover - 1984

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Figure 7: Comparative land cover - 2019

Figure 6: Land cover - 1988

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Figure 8: 35 ha Poplar planting carried out in 2019

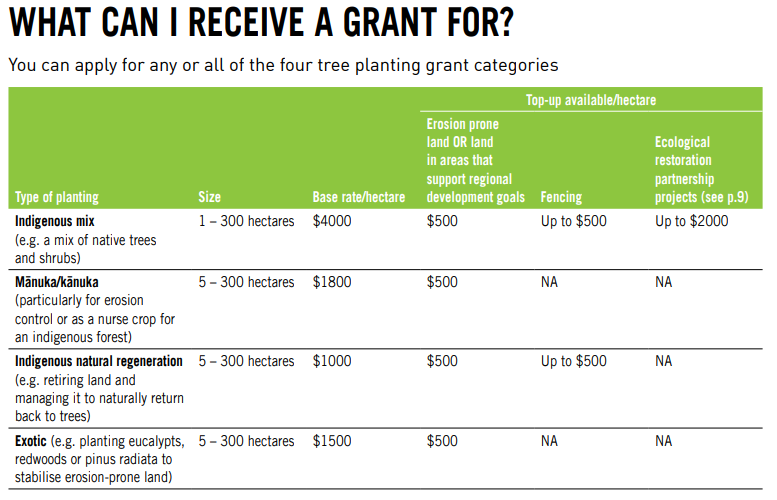
**Annual Lookup Table for Sequestered Carbon (ton/hectare/year) for Post-1989 Forest Land**

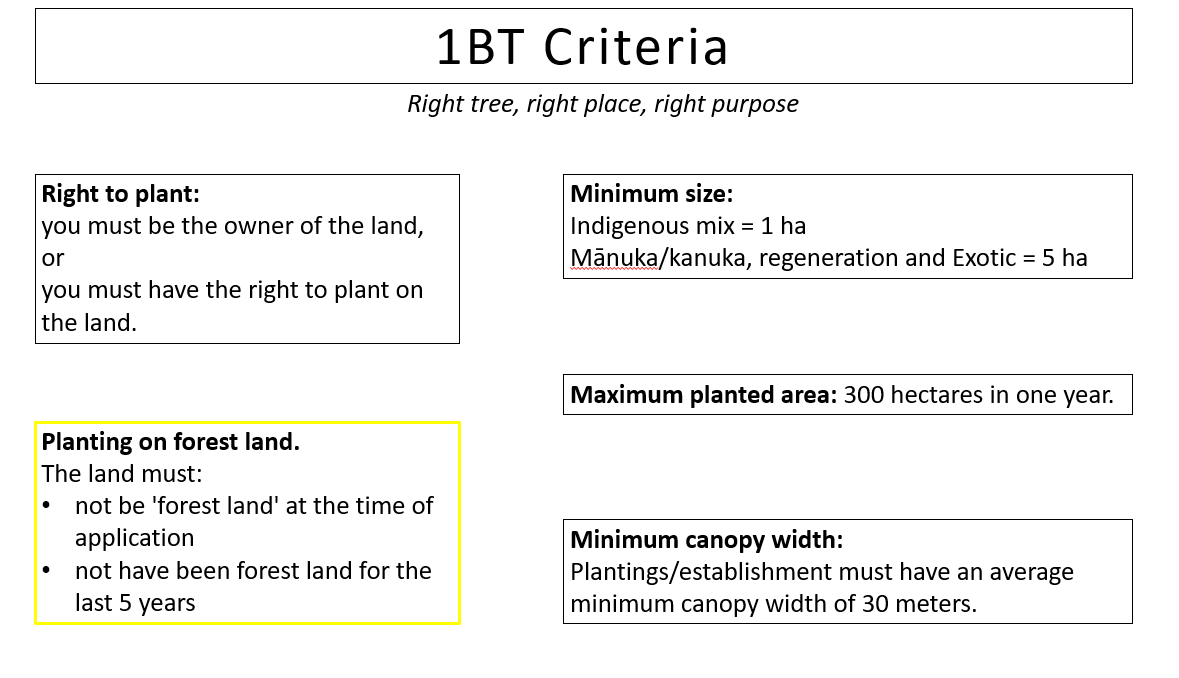
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **Douglas-fir** | **Exotic Softwoods**  **(Poplar)** | **Exotic Hardwoods** | **Indigenous Forest**  **(Manuka/Kanuka)** | **Pinus Radiata**  **(Pine Tree)** |
| **0** | 0 | 0 | 0 | 0 | 0 |
| **1** | 0.1 | 0.2 | 0.1 | 0.6 | 0.2 |
| **2** | 0 | 0.8 | 2.9 | 0.6 | 0.8 |
| **3** | 0.3 | 2 | 10 | 1.3 | 1 |
| **4** | 0.6 | 9 | 21 | 2.1 | 3 |
| **5** | 1 | 14 | 29 | 3.2 | 10 |
| **6** | 1 | 19 | 35 | 4.3 | 16 |
| **7** | 4 | 18 | 39 | 5.4 | 22 |
| **8** | 13 | 14 | 39 | 6.5 | 23 |
| **9** | 13 | 10 | 38 | 7.6 | 25 |
| **10** | 17 | 8 | 37 | 8.6 | 24 |
| **11** | 19 | 11 | 35 | 9.6 | 14 |
| **12** | 21 | 12 | 34 | 10.5 | 11 |
| **13** | 23 | 14 | 31 | 11.2 | 8 |
| **14** | 25 | 15 | 30 | 11.8 | 12 |
| **15** | 27 | 16 | 28 | 12.2 | 16 |
| **16** | 28 | 17 | 26 | 12.6 | 19 |
| **17** | 29 | 17 | 24 | 12.7 | 21 |
| **18** | 31 | 17 | 24 | 12.8 | 23 |
| **19** | 15 | 18 | 22 | 12.7 | 25 |
| **20** | 18 | 17 | 21 | 12.4 | 26 |
| **21** | 21 | 17 | 20 | 12.2 | 26 |
| **22** | 24 | 17 | 19 | 11.7 | 27 |
| **23** | 24 | 16 | 19 | 11.3 | 27 |
| **24** | 27 | 16 | 17 | 10.8 | 28 |
| **25** | 27 | 15 | 17 | 10.3 | 27 |
| **26** | 27 | 14 | 15 | 9.6 | 26 |
| **27** | 9 | 15 | 15 | 9.1 | 27 |
| **28** | 23 | 14 | 13 | 8.5 | 27 |
| **29** | 25 | 14 | 13 | 7.9 | 27 |
| **30** | 25 | 13 | 11 | 7.4 | 27 |

**Annual Carbon Value ($/hectare/year) for Post-1989 Forest Land at a $25 per NZU carbon price**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **Douglas-fir** | **Exotic Softwoods** | **Exotic Hardwoods** | **Indigenous Forest** | **Pinus Radiata** |
| **(Poplar)** | **(Manuka/Kanuka)** | **(Pine Tree)** |
| **0** | $0 | $0 | $0 | $0 | $0 |
| **1** | $3 | $5 | $3 | $15 | $5 |
| **2** | $0 | $20 | $73 | $15 | $20 |
| **3** | $8 | $50 | $250 | $33 | $25 |
| **4** | $15 | $225 | $525 | $53 | $75 |
| **5** | $25 | $350 | $725 | $80 | $250 |
| **6** | $25 | $475 | $875 | $108 | $400 |
| **7** | $100 | $450 | $975 | $135 | $550 |
| **8** | $325 | $350 | $975 | $163 | $575 |
| **9** | $325 | $250 | $950 | $190 | $625 |
| **10** | $425 | $200 | $925 | $215 | $600 |
| **11** | $475 | $275 | $875 | $240 | $350 |
| **12** | $525 | $300 | $850 | $263 | $275 |
| **13** | $575 | $350 | $775 | $280 | $200 |
| **14** | $625 | $375 | $750 | $295 | $300 |
| **15** | $675 | $400 | $700 | $305 | $400 |
| **16** | $700 | $425 | $650 | $315 | $475 |
| **17** | $725 | $425 | $600 | $318 | $525 |
| **18** | $775 | $425 | $600 | $320 | $575 |
| **19** | $375 | $450 | $550 | $318 | $625 |
| **20** | $450 | $425 | $525 | $310 | $650 |
| **21** | $525 | $425 | $500 | $305 | $650 |
| **22** | $600 | $425 | $475 | $293 | $675 |
| **23** | $600 | $400 | $475 | $283 | $675 |
| **24** | $675 | $400 | $425 | $270 | $700 |
| **25** | $675 | $375 | $425 | $258 | $675 |
| **26** | $675 | $350 | $375 | $240 | $650 |
| **27** | $225 | $375 | $375 | $228 | $675 |
| **28** | $575 | $350 | $325 | $213 | $675 |
| **29** | $625 | $350 | $325 | $198 | $675 |
| **30** | $625 | $325 | $275 | $185 | $675 |

**‘One Billion Trees’ Programme**

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**Lynton Downs Summary**

**Current Farming System**

* 3,555 ha total
  + 900 ha effective
  + 249.9 ha in forestry
  + 2,405 ha regenerating native and rocks/alpine growth
* 3,300 breeding ewes
* 950 hoggets
* 190 M/A cows
* 45 heifer replacements

**History of Forestry**

* Heavy clay country, prone to slipping with low/no fertiliser history and some weeds
* Family interest in forestry, an English forester came to Lynton Downs in the early stages of planting and put some species in such as Conifer, Corsican Pine and Cedar
  + Hard to find markets for smaller amounts of these species
  + Have now gradually changed back to a mix of predominately Douglas fir and Radiata
* First plantings in the 1960’s
* Under a rotation of planting to milling

**Forest Management**

* The present practice is to plant a mix of Douglas fir and Radiata
* Douglas fir on a 50-year rotation. Planted on the steeper country as it is milled less often
  + No pruning cost
  + 600 trees/ha for smaller branches at harvesting
  + Weed control is higher due to slower growing until canopy closure
* Radiata Pine aiming for 350-400 trees/ha
  + 3 stage pruning and thinning costs
* Prime Pine Kaikoura normally only take smaller amounts on a weekly basis

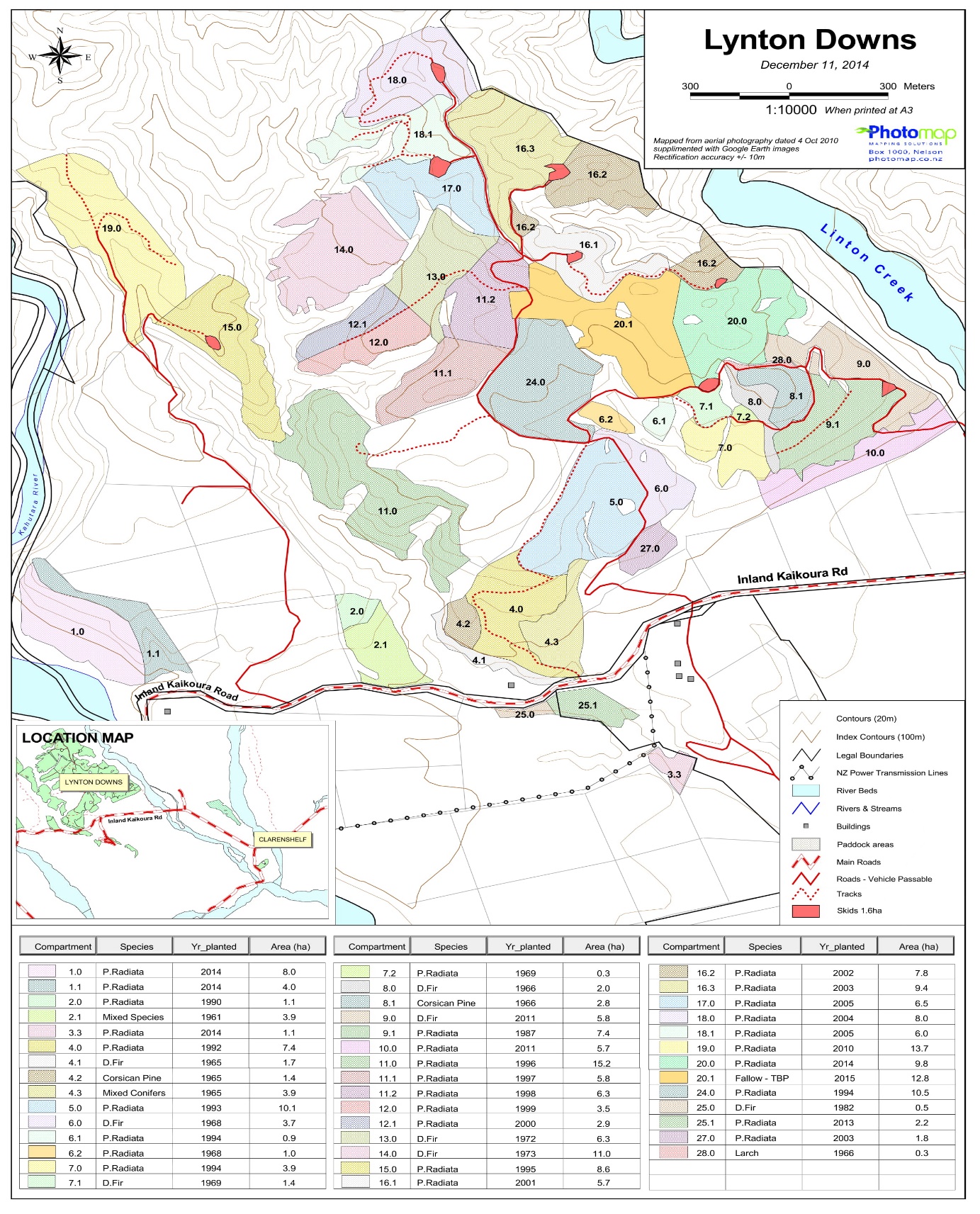
**Risks for Lynton Downs**

* Fire
* Wind, opening up faces to exposed trees at milling in a rotation
* Snow damage at high altitudes
* Costs of harvest and cartage
* Weeds

**Estimated Establishment Costs – cost structure per ha from cutover to harvest ready**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Root raking** | **Planting** | **Spot spraying** | **3 lifts/pruning** | **Weed Control** | **Total/ha** |
| Douglas fir | $875 | $360 | $138 |  | $100 | **$598** |
| Radiata | $875 | $270 | $92 | $2,600 | $100 | **$3,062** |

*Nb: Includes tree stocks, Douglas fir @ 600 seedlings/ha, Radiata @ 450 seedlings/ha, Weed control 1-3 years (estimate)*

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| --- | --- |
| **Species** | **Area (ha)** |
| Douglas fir | 32.4 |
| Pinus Radiata | 174.6 |
| Mixed Species | 3.9 |
| Corsican Pine | 4.2 |
| Mixed Conifers | 3.9 |