Treefarmer Functionality by version number and year

Release Notes
Version 1.0 2020

1. Create a New Zealand webmap with Baseline map, e.g. OpenStreetMap
2. Add the layers that can be toggled on and off, e.g.,
    a. NZ aerial imagery from LINZ
    b. Infrastructure – Street Address, Roads, Waterways, Railways, Powerlines, Metal Quarries, log export ports, wood processing locations
    c. Cadastral – property legal boundaries
3. Search for an address and zoom to it
4. Select "Drawing" tool, and draw woodlot boundary – and save
5. Select “Roading” Click to start drawing access road polyline manually.
6. Set one costing option from drop down list with “Trucking” or “Forwarder”
7. Highlight road slope (in different colours) that exceed tables of slope maximum criteria, e.g. < or = 7 degrees for “Trucking”
8. Click on road line and move to improve location or slope and recalculate slope/costs by manually clicking calculate button.
9. Select “Skid location” tool – a point drawing tool
10. Click the centre point of skid with point drawing tool
11. Show skid outline on map to scale – e.g. 50m x 50m
12. Hard coded 50m buffer from point, and then converted to square buffer only for visual display on map
13. Select “Harvest Options” dropdown selection for Item 14
14. Set access road level from drop down list provided. E.g., Forwarder, Truck
15. Select “Inputs”, provide forms for users to input forest details, prices and costs in table format. Provide starting defaults form lookup tables.
16. Implement simple cost algorithms such as:
    a. Harvest system costs calculated from variables derived/dropdown selection
    b. Skid costs will be calculated based variables derived from map and look up tables provided.
17. Calculate final total woodlot harvest costs based on the inputs with a formula provided
18. Show printable map (just basic print “what you see is what you print” as a png)
19. Provide print function with results table with user enters reference name or address/identifier.

Version 2.0 2021

1. Migrate to production server and set up 2021

2. Show woodlot ground slope as coloured map
3. Enable multiple road lines to be tested in one session
4. Enable multiple (woodlot) polygons to be digitised in same session
5. Add layer (or access web service) for Erosion Susceptibility Classification- NES_FP
6. Analysis of road line slope from elevation to improve accuracy
7. Add new 5 species layers of productivity and use to estimate wood yield from Look up tables (two regimes and five stand ages)
8. Add Carbon yields for Radiata pine from ETS Look up Tables by region
9. Show all powerlines (currently have 110kv Transmission) data from LINZ or other data sources
10. Develop prototype afforestation addition to interface called "Tree Planting"
11. Develop User Manual document
12. Develop Tutorial video

Version 3.0 2022

1. Extend functionality of drawing Access Road polyline by allowing branch roads to attached to existing roads 2022
2. Project management: End User can then name 'Project" and "Save"
    - The following data will be saved:
        - Area of interest "Polygon", Road "Lines", Skid 'Points"
        - Data will be saved into the End Users local PC file system
        - Project details
        - Input criteria
3. Set up and manage "User Group"
4. Update User Manual and Tutorial video
5. Add Wind Risk modelling and layer with appropriate caveats - ex L. Dowling

Version 4.0 2023

1. Add new productivity layers (Coast Redwood, C. lusitanica, C. macrocarpa, ex Scion via Koordinates) to the database add to interface, provide colour coding by 4 categories, add legend, connect to the analysis and reporting 2023
2. Update tables for standing wood yields by tree age and productivity level for Radiata pine, Coast Redwood, C. lusitanica, C. macrocarpa
3. Extend carbon accounting results in the report, to show results for Averaging or Permanent accounting methods
    - For seven exotic species and two native forest options (plantation or regeneration) convert standing volume to merchantable volume and then into log grade volumes, implement log price adjustment by log grade.
    - Add adjustment factor to convert radiata harvest costs to other species, calculate gross timber revenues, total costs of harvest, and net returns at harvest.
    - Express as dollars per ha and average annual return/ha.

4. Add native forest (plantation or regeneration) costs of afforestation, and updated carbon yields
5. Highlight mapping of whole property or title - amalgamate parcels and show total property and woodlot/s location in the Output Report
6. Add three fire risk layers by climate change scenario
7. Improve a number of minor interface issues and labels
8. Implement updated User manual and video tutorial

2024 - Promotional

1. Develop promotional plan with NZFFA to advertise Treefarmer on the NZFFA Web site, in their Newsletter, and place advertising in Tree Grower. Promote Treefarmer to catchment groups, NZFFA National Conference, and NZ Assocation of Resource Managers.
2. Prepare quarter page advertisement for four insertions into NZ Farmers weekly.
3. Monitor usage with Google analytics

Version 5.0 2025

1. Import productivity layers for:
   Eucalyptus delegatensis
   Eucalyptus fasitgata
   Eucalyptus nitens
   Eucalyptus regnans
   Eucalyptus saligna
   Acacia melanoxylon - Blackwood
2. Modify user interface and modelling functionality to include new species
3. Calculate establishment and tending costs for the new species and update all exist costs with the Producers Price Index
4. Model timber yields using Multi Species Calculator to create look up tables for three regimes, each with 5 site qualities indices, for tree age 10 to 50 years.
5. Calculate log grade distributions by pruned and unpruned, plus small end diameter classes. Convert these into a lookup table.