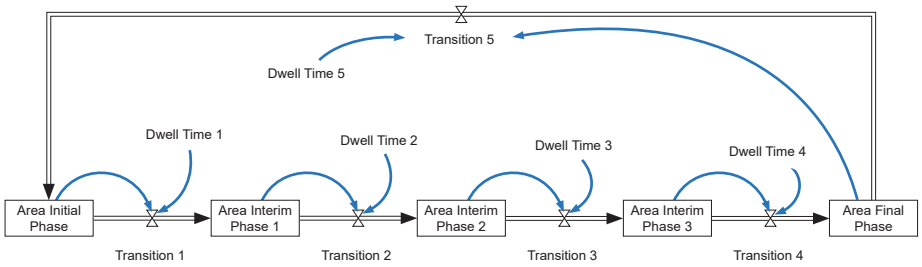
Care4C MODELLING

Generic tool for comparing silvicultural concepts with regard to CO2 uptake and emissions

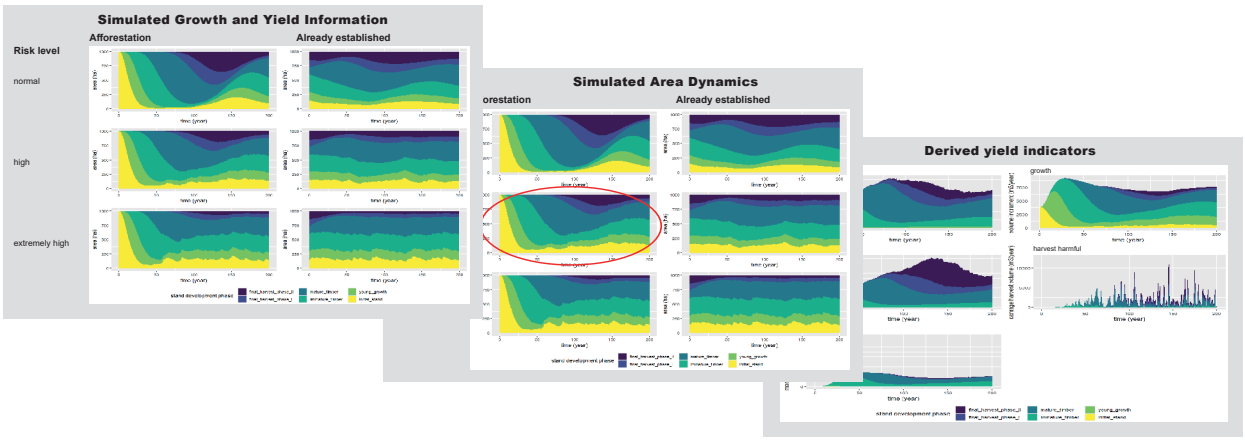
1. Generic Model



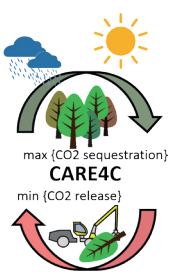
2. Silvicultural Concept Definition

```
> pine_thinning_from_above_1
$concept_name
[1] "Scots pine thinning from above"

$units
      time       area     volume       mass stem_diameter
    "year"       "ha"      "m3"        "t"         "cm"

$growth_and_yield
# A tibble: 6 x 12
  phase_no phase_name           duration n_subphases vol_standing vol_remove vol_mort dbh_standing dbh_remove n_standing survival_cum vol_incr
     <int> <chr>                   <dbl>       <dbl>        <dbl>      <dbl>    <dbl>        <dbl>      <dbl>      <dbl>        <dbl>    <dbl>
1        1 initial_stand              15           3            0          0        0            0          0       7000        0.999
2        2 young_growth               14           3         58.5          0    0.142          5.8          0       6237.       0.996
3        3 immature_timber            29           6         206.       1.64     1.72         10.3       12.9       4168        0.979
4        4 mature_timber              49          10         374.       4.38     1.60         22.9       25.8        970        0.910
5        5 final_harvest_phase_I      19           4         446.       5.2      0.584        30.2       41.9        510        0.868
6        6 final_harvest_phase_II     29           6         378.       3.46     0.471        32.7       41.5        356        0.791
```

3. Simulation Results



Under Development:
Estimate CO2 emissions due to the harvest operations



Will be available as R-package care4Cmodel.

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