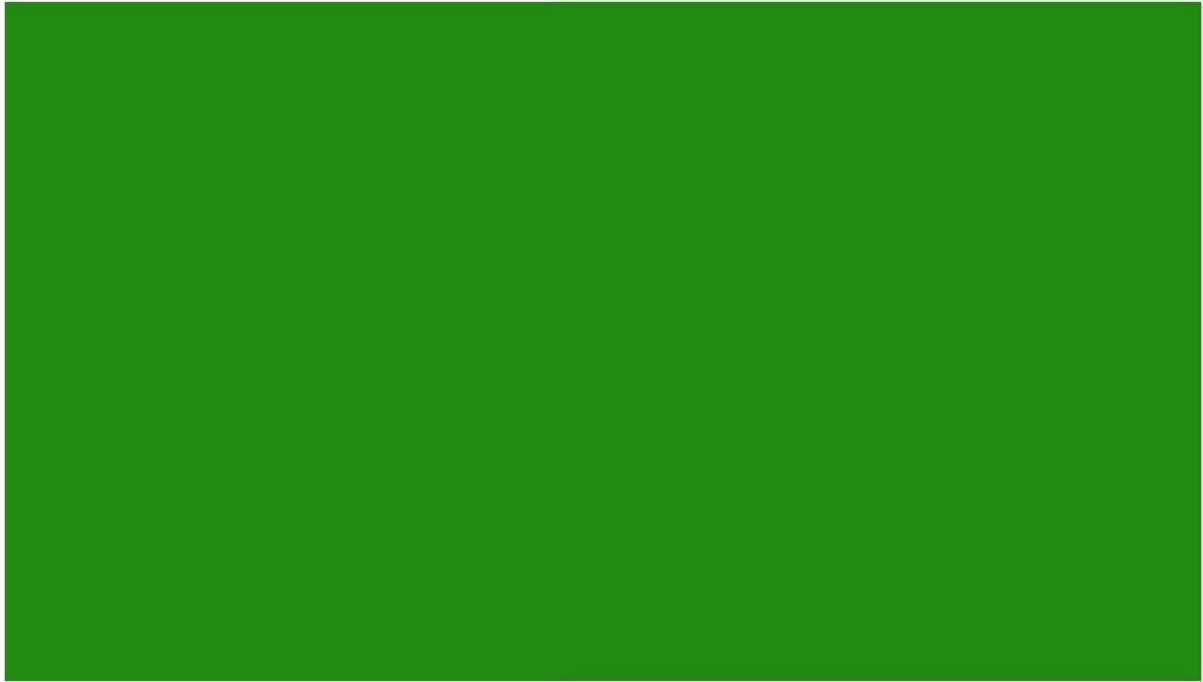
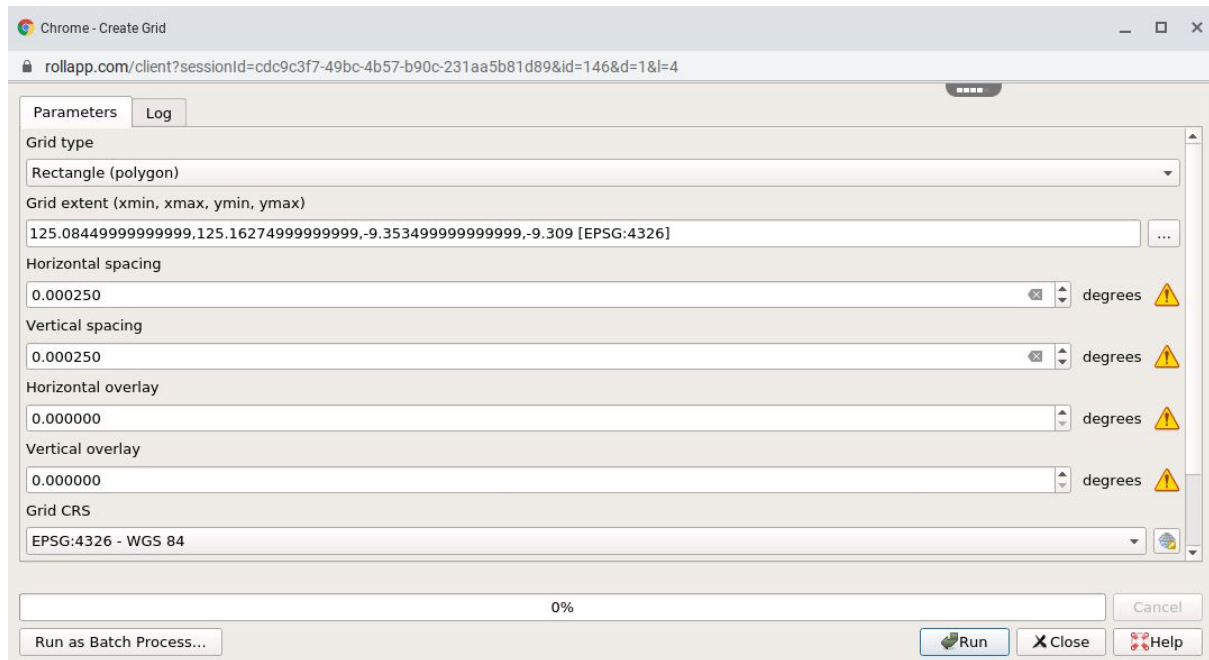


# How to Develop Sustainable Harvest Maps

1. In the first year, reforest the whole project area. This seems to be a homogenous area but the system will remember the age of the forest, so some pixel will have grown trees others will have regrowth.



2. Plan the sustainable harvest, in this case  $\frac{1}{65}$  part of the project area will be harvested every year, i.e. 857 pixels per year. Annually, an equal size strip will be harvested (so not timber volume).
3. If you have not created a vector-grid of the project area yet, follow the steps below. Otherwise, use the existing vector grid and go to step 7 below.
4. Load the latest historical observation called year\_clip.TIF
5. Click Processing > Toolbox > Vector Creation > Create Grid



- a. Create a vector grid
  - b. Ensure at least one map of the area is uploaded onto the workspace (like 2018 East Timor forest cover)
  - c. Search and select “Create Grid” under “vector creation” toolbox
  - d. Grid type = Polygon
  - e. Grid extent = “use layer extent” and select the forest cover 2018 map
  - f. Horizontal spacing and vertical spacing are pixel size: i.e. 0.00025
  - g. Horizontal and Vertical Overlay = 0.000000
  - h. Grid CRS = Should automatically select same projection as the layer you chose for extent (should be EPSG:4326 – WGS 84)
  - i. Grid = >save as a file
6. Create a Forest feature in the grid

Chrome - Grid :: Features Total: 55714, Filtered: 55714, Selected: 0

rollapp.com/client?sessionId=c9c3f7-49bc-4b57-b90c-231aa5b81d89&id=160&l=5

123 Forest = 0 Update All Update Selected

	left	top	right	bottom	id	Forest
1	125.084499...	-9.30899999...	125.084749...	-9.30924999...	1	0
2	125.084499...	-9.30924999...	125.084749...	-9.30949999...	2	0
3	125.084499...	-9.30949999...	125.084749...	-9.30974999...	3	0
4	125.084499...	-9.30974999...	125.084749...	-9.30999999...	4	0
5	125.084499...	-9.30999999...	125.084749...	-9.31024999...	5	0
6	125.084499...	-9.31024999...	125.084749...	-9.31049999...	6	0
7	125.084499...	-9.31049999...	125.084749...	-9.31074999...	7	0
8	125.084499...	-9.31074999...	125.084749...	-9.31099999...	8	0
9	125.084499...	-9.31099999...	125.084749...	-9.31124999...	9	0
10	125.084499...	-9.31124999...	125.084749...	-9.31149999...	10	0
11	125.084499...	-9.31149999...	125.084749...	-9.31174999...	11	0
12	125.084499...	-9.31175000...	125.084749...	-9.31199999...	12	0
13	125.084499...	-9.31199999...	125.084749...	-9.31224999...	13	0
14	125.084499...	-9.31224999...	125.084749...	-9.31249999...	14	0
15	125.084499...	-9.31250000...	125.084749...	-9.31274999...	15	0

Show All Features

- Right click the new grid in navigation bar on left > open attribute table
  - Toggle editing (click on pencil in corner)
  - Select "create field"
  - Name = Forest
  - Type = Whole number (integer) (and wait for it to load)
  - Type 0 into the expression area and "Update All" > This will make the whole grid = 0
  - Click edit button (little pencil) and save changes
  - Exit attribute table
7. Below sustainable harvest is based on strips of 857 pixels: use the following expression in the calculation bar: (id > 857) and click Update All

Chrome - Project\_area\_vector\_grid :: Features Total: 56027, Filtered: 56027, Selected: 0

rollapp.com/client?sessionId=f1276436-438a-4130-b38e-69fd998a41ff&id=174&l=4

123 Forest\_Cover = "id" > 857 Update All Update Selected

	fid	left	top	right	bottom	id	Forest_Cover
844	844	125.085500...	-9.34075	125.08575	-9.341	844	0
845	845	125.085500...	-9.341	125.08575	-9.34124999...	845	0
846	846	125.085500...	-9.34124999...	125.08575	-9.34149999...	846	0
847	847	125.085500...	-9.3415	125.08575	-9.34175	847	0
848	848	125.085500...	-9.34175	125.08575	-9.34199999...	848	0
849	849	125.085500...	-9.34199999...	125.08575	-9.34224999...	849	0
850	850	125.085500...	-9.34225	125.08575	-9.3425	850	0
851	851	125.085500...	-9.3425	125.08575	-9.34274999...	851	0
852	852	125.085500...	-9.34274999...	125.08575	-9.34299999...	852	0
853	853	125.085500...	-9.343	125.08575	-9.34325	853	0
854	854	125.085500...	-9.34325	125.08575	-9.34349999...	854	0
855	855	125.085500...	-9.34349999...	125.08575	-9.34374999...	855	0
856	856	125.085500...	-9.34375	125.08575	-9.344	856	0
857	857	125.085500...	-9.344	125.08575	-9.34424999...	857	0
858	858	125.085500...	-9.34424999...	125.08575	-9.34449999...	858	1
859	859	125.085500...	-9.3445	125.08575	-9.34475	859	1
860	860	125.085500...	-9.34475	125.08575	-9.34499999...	860	1
861	861	125.085500...	-9.34499999...	125.08575	-9.34524999...	861	1
862	862	125.085500...	-9.34525	125.08575	-9.3455	862	1

Show All Features

8. Toggle editing (i.e. turn off) and save change. The vector-grid looks like this:



9. Transfer Vector Grid to TIFF Raster Toolbar>Raster>Conversion>Rasterize

Chrome - Rasterize (Vector to Raster)

rollapp.com/client?sessionId=cdc9c3f7-49bc-4b57-b90c-231aa5b81d89&id=247&d=1&l=4

Parameters Log

Input layer  
 Reforest\_Strip1\_2019 [EPSG:4326]

☐ Selected features only

Field to use for a burn-in value [optional]  
 123 Forest\_Cover

A fixed value to burn [optional]  
 Not set

Output raster size units  
 Georeferenced units

Width/Horizontal resolution  
 0.000250

Height/Vertical resolution  
 0.000250

Output extent (xmin, xmax, ymin, ymax)  
 125.08449999999999,125.16274999999999,-9.353499999999999,-9.309 [EPSG:4326]

Assign a specified nodata value to output bands [optional]  
 Not set

▼ Advanced parameters

Additional creation options [optional]  
 Profile Default

Name	Value

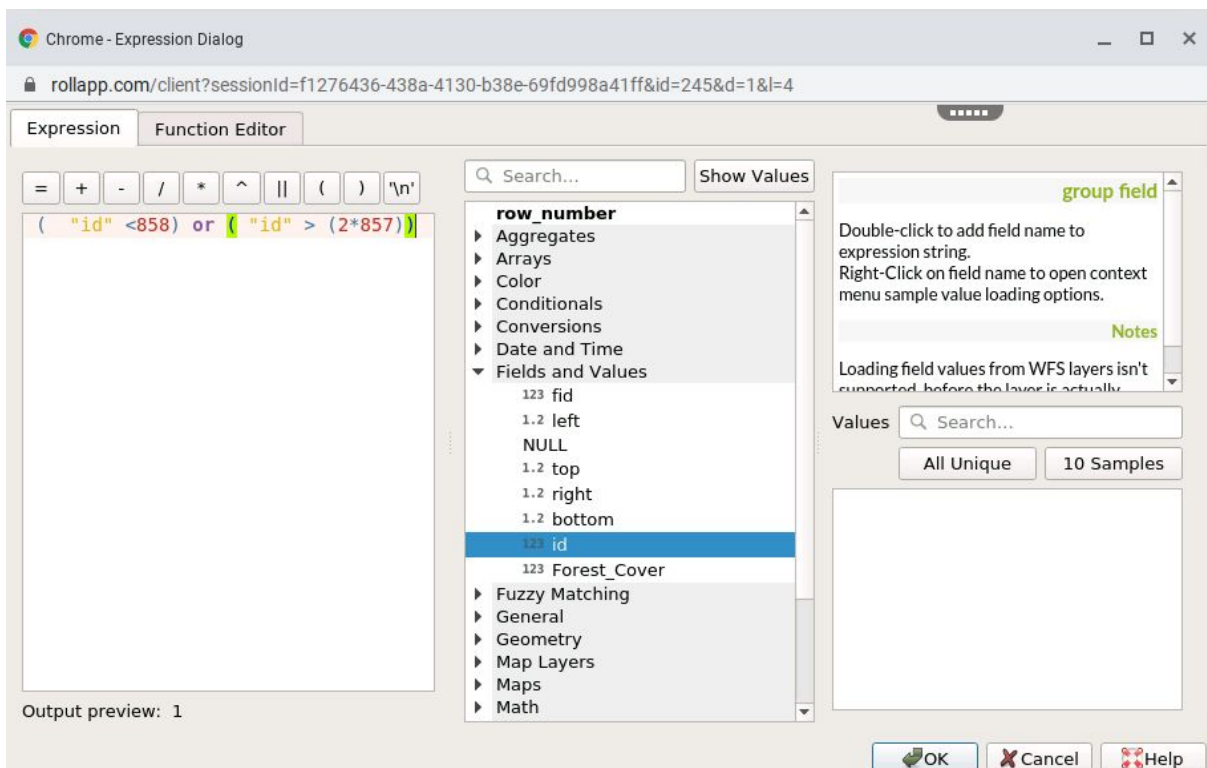
0%

Run as Batch Process... Run Close Help

- Input layer = your grid
- Field to use as burn in value = Forest (or Forest\_Cover or whatever you named the reforested area.)
- Use fixed value to burn = click delete and "Not Set" should appear as the value
- Raster size units = georeferenced units
- Resolution is same pixel size i.e. 0.00025
- Output extent is the same as original TIFF map e.g. 2018\_clip.tif
- Nodata value should be "Not Set"
- Click Run



10. Create the next vector-grid of sustainable harvest, i.e. the next strip of 857 pixels: use the following expression in the calculation bar:  $((id < ((1 * 857) + 1) \text{ or } (id > (2 * 857)))$  and click Update All.



11. Toggle editing (i.e. turn off) and save change. The vector-grid looks like this:





## 12. Transfer Vector Grid to TIFF Raster Toolbar>Raster>Conversion>Rasterize

Chrome - Rasterize (Vector to Raster)

rollapp.com/client?sessionId=cde9c3f7-49bc-4b57-b90c-231aa5b81d89&id=247&d=1&l=4

Parameters Log

Input layer  
Reforest\_Strip1\_2019 [EPSG:4326]

☐ Selected features only

Field to use for a burn-in value [optional]  
123 Forest\_Cover

A fixed value to burn [optional]  
Not set

Output raster size units  
Georeferenced units

Width/Horizontal resolution  
0.000250

Height/Vertical resolution  
0.000250

Output extent (xmin, xmax, ymin, ymax)  
125.08449999999999,125.16274999999999,-9.353499999999999,-9.309 [EPSG:4326]

Assign a specified nodata value to output bands [optional]  
Not set

▼ Advanced parameters

Additional creation options [optional]  
Profile Default

Name	Value
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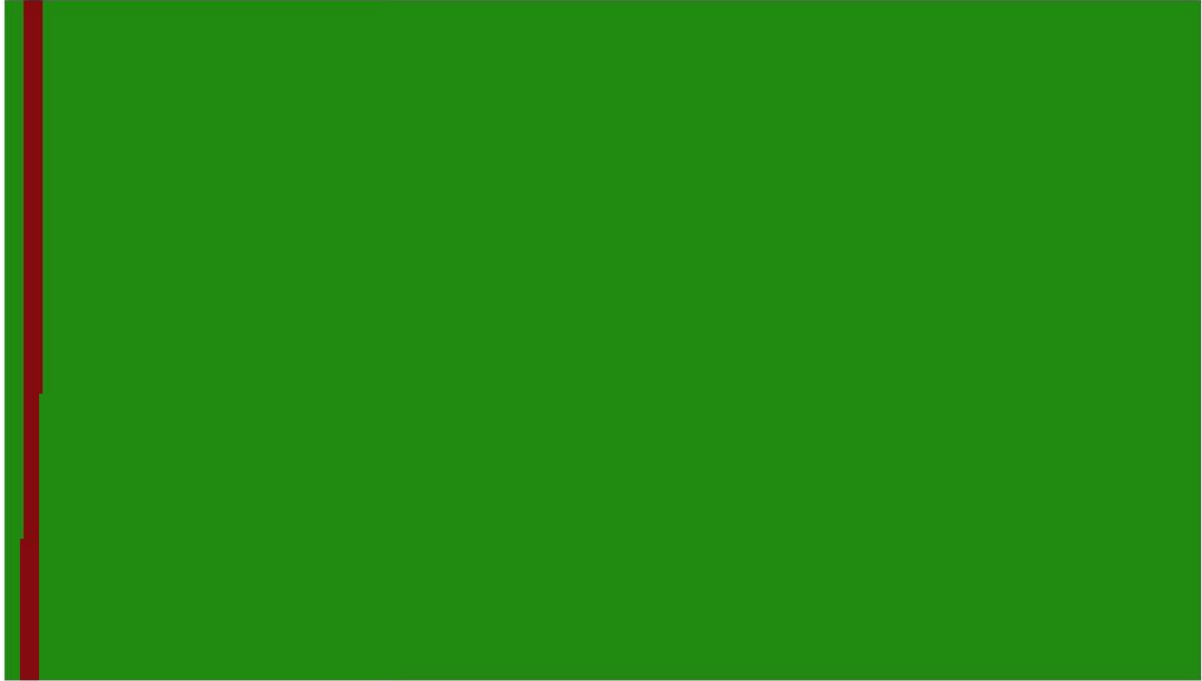
0%

Run as Batch Process...

Run Close Help

a. Input layer = your grid

- b. Field to use as burn in value = Forest (or Forest\_Cover or whatever you named the reforested area.)
- c. Use fixed value to burn = click delete and "Not Set" should appear as the value
- d. Raster size units = georeferenced units
- e. Resolution is same pixel size i.e. 0.00025
- f. Output extent is the same as original TIFF map e.g. 2018\_clip.tif
- g. Nodata value should be "Not Set"
- h. Click Run



- 13. Continue until 2050 or until the end of the projection series by increasing the red highlighted counters with 1 ((id < ((1\*857)+1) or (id > (2\*857))) and click Update All.