

# How to have your Xplane airports overgrown with grass/weeds/flowers

By Simon W

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Note – these instructions assume the reader's basic understanding of Overlay Editor, by Marginal/Jonathan Harris, available here:

<http://marginal.org.uk/x-planescenery/tools.html>

They also assume reasonable knowledge of Photoshop or any other good image editing tool.

A video demonstration of the early results possible is [here](#)

## Detailed instructions

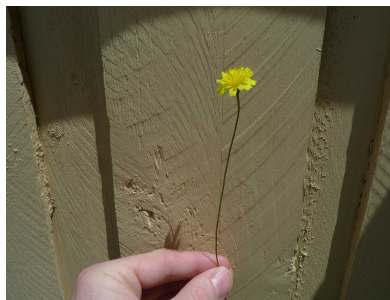
First, become familiar with the .for (Forest) file format, available here:

<http://scenery.x-plane.com/library.php?doc=forspec.php>

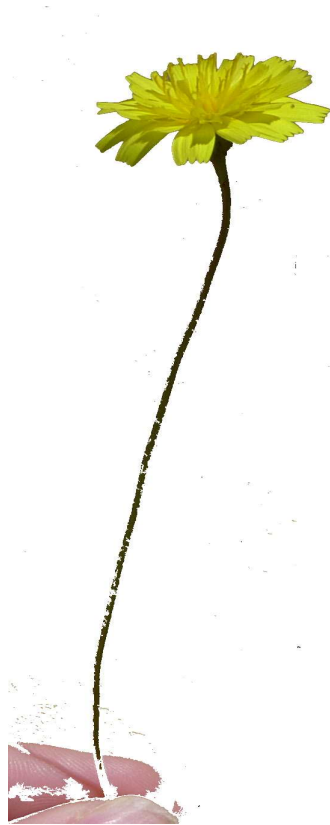
If you become familiar with this, you won't really need these instructions, but they'll help you come to grips with the format.

Grass can be applied, using Overlay Editor, in the same way as a Forest – it's just that the scale is so much smaller.

1. MOST important – obtain your grass textures/images. Believe me, that's the hardest bit. You can search the web for free textures, or do as many of us do, and become addicted to taking photographs of ANY good texture, including plants, like this:



You have to strip away all the extra textures, to get a pure plant image, like this:



I find the magic wand and lasso tools in photoshop great for this. Whoops, still haven't cut my fingers off in this one.

2. Once you have all your images, move them all into a .png texture file, of course making sure its dimensions abide by Xplane's ruthless 'rule of 2', meaning that it's size has to be, say, 1024 by 1024 pixels, or 512 by 512, etc, or even 512 by 1024 or 2048 by 512 etc, etc..don't forget to make sure you have no spaces in the filename (I often forget that myself, wondering why the image appears in OE but not in Xplane).
3. So the file might look like this:



4. The next hardest bit starts. The above .png has dimensions of 1024 by 1024 pixels. Photoshop gives a very accurate display of the pixel measurements on its ruler. To place any combination of the grass/weeds in your 'lawn', you must carefully measure where the bottom-left of each component grass starts, in terms of pixels to the right horizontally (s) and pixels from the bottom of the image (t). **I've highlighted the grass component that I'm referring to in the .for file over the pages (Example 1), via a red square**
5. So a key basic step is to copy an existing .for file (say this one) and rename it to your own, like "newtestgrass.for", using a good text editor (like Textpad).
6. You also need to have your .png texture properly saved and named. Then you can enter your first parameter, for the .png filename, highlighted in the yellow square.
7. **LOD 1000** is redundant in XP9 I believe, so just leave it as is, or delete.
8. You now need to measure the pixel WIDTH (W) AND HEIGHT (Y) of the grass.
9. Why? So you can enter these measurements in the .for file **below (Example 1)**, as boxed in red.  
 You can see what's happening. I'm telling xplane to pick an image that horizontally is to the very left of the .png (s=0), and just over halfway up the image, at pixel 604 (t), well it's 604/1024, so about 0.6 of the way up. Remember, the bottom-left of the image starts here.
7. The **W and Y** tell Xplane the rest of the dimensions to use, width and height.
8. **Centre Offset** – I'm only new to this myself, so I've followed the spec. This is meant to be the centre of your grass component, so half of its width of 355 is 177 (approx). You can use different offsets to create variety possibly, haven't explored it yet.
9. **Percent occur** – Very easy, sort of. If you had 6 different grass components (I call each type of grass a component), then you can allocate each of them a share of the coverage. For a large mix of grass types, it can take a bit of trial and error to get the mix right – it's fun! In this case, it's a simple lawn, so this single grass component gets all 100%.
10. **Height – Min and Max** – pretty self explanatory, Xplane randomly generates the heights based on these limits.
11. **Quads** – I'm yet to thoroughly test the effects of this, but I'm finding 1 quad/polygon more than enough to get the right look.
12. **Type** – Meant to denote the type of tree within each forest/lawn, but haven't explored effects enough yet. Mihaly and I have left it a zero for all, no apparent effects.
13. **Name** – You need to name each grass/component differently or xplane will get confused. Once you have a full set named (say, of 12 grasses), you can copy each line into different files and just change the Percent Occur to vary the look.
14. **Generic Parameters at the top of the file – GREEN Circle – Scale X and Y** – This is just the pixel size in width and height of your .png texture, the *entire file*. This then gives Xplane a reference to go by when it sees each of the TREE lines in the .for file.
15. **SPACING – Blue Box** – This is the spacing of each grass, in metres. Here we are dealing with tiny dimensions, so try using .1-.4. Have fun experimenting.
16. **RANDOM – Blue Box** – To quote the definition - "This defines how much each tree may deviate from a perfect grid filling. So a random of 0 0 means a perfect grid." So the higher the no., the more random the look. Again, experiment. I have to admit, I quickly get sick of: tweak the .for; boot xplane; take a look; Exit Xplane; start again. But it's worth it in the end.
17. **Skip Surface Water** – I reckon it's pretty self-explanatory. Tempted to remove that one day..
18. Once you have checked your .for file (and I mean checked thoroughly, it's easy to get those pixel dimensions wrong first time!), save it to your scenery directory (eg as I'm working on KMMH, the .for just sits in that directory). Same with the .png file.
19. **Launch Overlay Editor or WED Beta. Refer to my Example 2** over the pages. Locate your .for file, it will show up as a green tree symbol to the right. Click on it, then you can click your + button and it will be inserted as you see in **Example 3**. Carefully (reaaaalllly carefully) move your mouse over one of the vertices and HOLD your left mouse button

down to relocate the vertex.

20. **Troubleshoot** – if you can't see the file as expected, you may not have copied the .png or .for to your scenery pack. Similarly, having a png name with spaces in it won't help.
21. I'll remember Kiofka forever for telling me this handy hint – once one of the vertices is clicked on and is shown as white, you can press the + button in OE and it will create another vertex. You can create pretty complex and varied shapes. As ever, lots of fun.
22. **Placement** – I've found placement of the grass a little inaccurate – the position in OE is rarely the same in the real xplane. That's ok, some tweaking will fix that.
23. **Save your OE file**, then launch Xplane. Check look/placement, then get back into OE and fix as needed. Repeat, repeat, repeat until satisfied.
24. Working with a single grass is a good start, to get the idea. Then, when you get good, you can try things like **Example 4**, with large mixtures of grass components to make pretty meadows etc.

That's it!

All this work will be avoided as more lawn .for files are posted to the .org and elsewhere, meaning that you'll just drop the files into your scenery directory and then insert using OE/WED beta.

**Thanks to Daniel from the XPFR team** for originally suggesting I try this method, once I thought about it I could see the potential.

**Similarly, thanks to Mihaly (KSGY) from Xplane.hu**, who quickly supplied me with some of his own excellent files for experimenting with and distribution once he saw my original blog post about my early attempts. Many of the original grass textures and .for files are from him, with myself tweaking things a little further and experimenting. I love his reeds, they feature in the [video](#).

Over to everyone else now, I'm sure we'll see some beautiful meadows to give character to our airports/airfields. There's plenty of work to be done, to get the best appearance/performance balance.

Please contact me at the blog if you want to make any comments or suggestions.

Simon

<http://www.xplane10.wordpress.com/>

**Example 1 - .For file:**

A  
800  
FOREST

TEXTURE grasspack2.png

LOD 1000

SCALE\_X 1024  
SCALE\_Y 1024

SPACING .3 .3  
RANDOM .2 .2

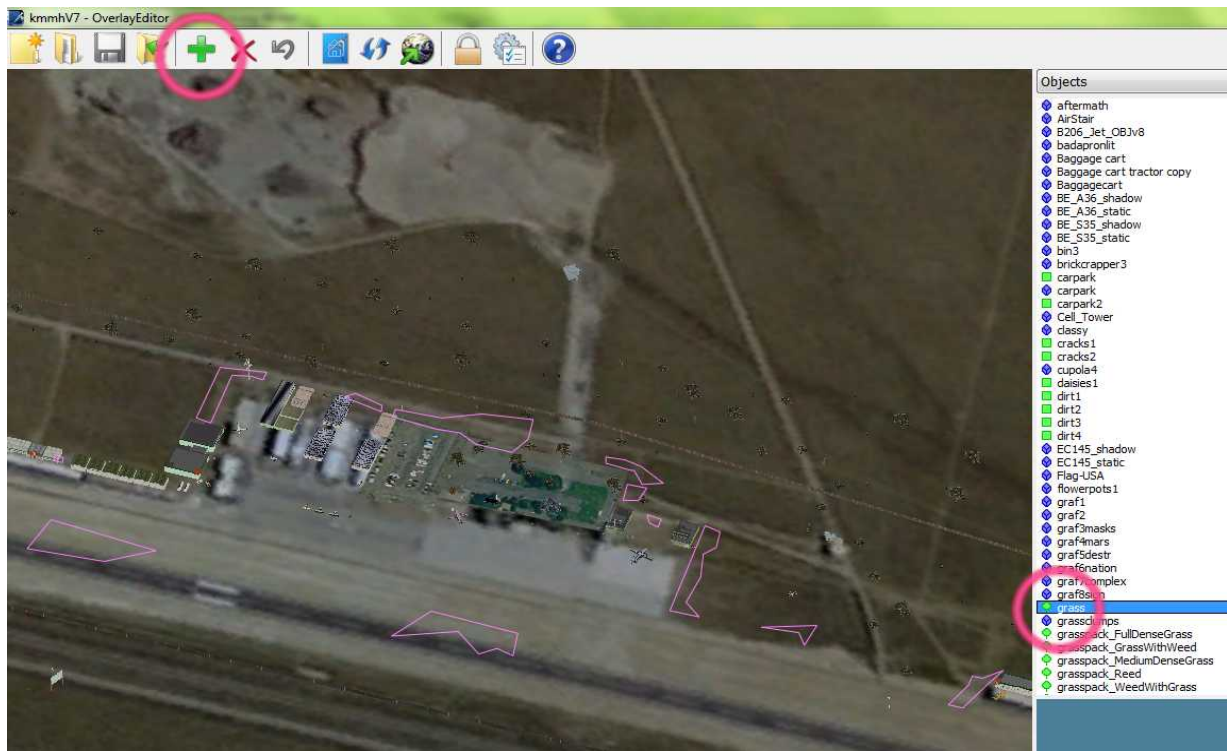
| #      | low-left | tex size | center | percent--height-- |        |       |     |     |       |      |        |
|--------|----------|----------|--------|-------------------|--------|-------|-----|-----|-------|------|--------|
| # tree | s        | t        | w      | y                 | offset | occur | min | max | quads | type | name   |
| #      | -----    |          |        |                   |        |       |     |     |       |      |        |
| TREE   | 0        | 604      | 355    | 190               | 177    | 100   | .2  | .7  | 1     | 0    | grass2 |

SKIP\_SURFACE water



“Centre offset” is generally half the width

## Example 2 – Overlay Editor:



Here I have held down the cntrl-shift keys and clicked on the 'grass' poly item, to view all my grass items. There are a few, showing how much quicker it is than just adding individual objects. Holding the same keys down, then pressing delete, deletes EVERY 'grass' poly in one go, a handy time saver.

## Example 3 OE – Clicking a Vertex:



See that tiny white dot, different to the other tiny pink dots? That's what happens when you click on one. Easy to see eh?!

Here I've obviously clicked the + button twice, as there are 6 vertices instead of the default 4.

## Example 4 – A more complex example

**This:**

A

800

FOREST

TEXTURE grasspack2.png

LOD 1000

SCALE\_X 1024

SCALE\_Y 1024

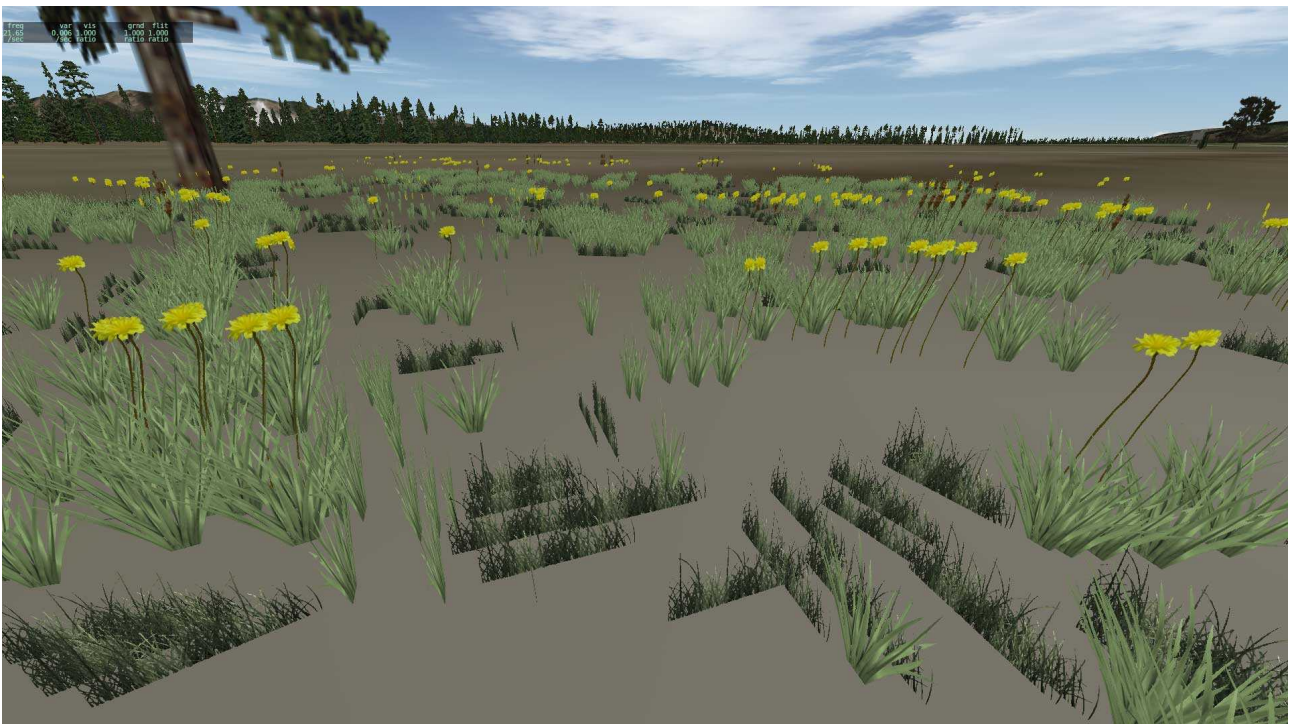
SPACING .3 .3

RANDOM .2 .2

| #        | low-left |     | tex size |     | center | percent--height-- |     |     | quads | type    | name |
|----------|----------|-----|----------|-----|--------|-------------------|-----|-----|-------|---------|------|
| # tree   | s        | t   | w        | y   | offset | occur             | min | max |       |         |      |
| TREE 0   | 604      | 355 | 190      | 177 | 40     | .2                | .7  | 1   | 0     | grass2  |      |
| TREE 460 | 474      | 300 | 280      | 150 | 30     | .4                | .9  | 1   | 0     | bigrass |      |
| TREE 290 | 314      | 60  | 270      | 30  | 15     | .6                | 1.2 | 1   | 0     | daisy   |      |
| TREE 380 | 334      | 60  | 270      | 30  | 15     | .8                | 1.3 | 1   | 0     | bigreed |      |

SKIP\_SURFACE water

**Turns into this:**



Hmm, I think I've overdone the daisies here, so on the next page you'll see me bring them down by 10 and increase 'grass2', and further, move another 10 from 'bigrass' to grass2, to de-emphasis the higher grass.

**Example 5 – Tweaked complex file:**

A  
800  
FOREST

TEXTURE grasspack2.png

LOD 1000

SCALE\_X 1024  
SCALE\_Y 1024

SPACING .3 .3  
RANDOM .2 .2

| #        | low-left |     | tex size |     | center | percent--height-- |     |     | quads | type | name    |
|----------|----------|-----|----------|-----|--------|-------------------|-----|-----|-------|------|---------|
| # tree   | s        | t   | w        | y   | offset | occur             | min | max |       |      |         |
| #        | -----    |     |          |     |        |                   |     |     |       |      |         |
| TREE 0   |          | 604 | 355      | 190 | 177    | 60                | .2  | .7  | 1     | 0    | grass2  |
| TREE 460 |          | 474 | 300      | 280 | 150    | 20                | .4  | .9  | 1     | 0    | bigrass |
| TREE 290 |          | 314 | 60       | 270 | 30     | 5                 | .6  | 1.2 | 1     | 0    | daisy   |
| TREE 380 |          | 334 | 60       | 270 | 30     | 15                | .8  | 1.3 | 1     | 0    | bigreed |

SKIP\_SURFACE water

Turns into this:

