

Thank you for purchasing the Stylized Nature Bundle!

For any questions or suggestions, please contact us at
twotheories.helpcenter@gmail.com

If you purchased our package and you're satisfied, please rate the package
and leave us a review. It's helpful to customers and to us !



TABLE OF CONTENTS

.....

Getting Started

- : IMPORTING
- : COLLISIONS
- : LODS
- : UNITY TERRAIN
- : PREFAB LIBRARY
- : DEMO SCENES

Shaders

- : FOLIAGE SHADER
- : TREES SHADER
- : ROCKS SHADER
- : GRASS SHADER
- : USING THE SHADERS WITH CUSTOM ASSETS
- : RENDERING PATHS AND LIMITATIONS
- : SRP SUPPORT

Polycount

- : VEGETATION
- : TREES & ROCKS

GETTING STARTED

.....

Importing

- Import the Unity package through the Asset Store download manager (under Window/Asset Store). You may receive a warning message about obsolete APIs, it is safe to run the API updater.
- You will receive warnings when importing concerning «Inconsistent LOD naming». You can safely ignore these warnings (the warnings exist because the LODs have been exported individually).
- For ease of use, textures, materials and shaders use the prefix SNB (Stylized Nature Bundle) as a naming convention.

Collisions

- Some prefabs have a mesh collider using a simplified mesh with high fidelity to the original shape. If you don't need collision you can delete the mesh collider component. You can also replace the mesh collider component with a capsule collider for faster performances or if you don't need accurate collisions.

LODs

- All the trees and rocks are LODs ready. The LODs use the Unity built-in LOD Group system. If you don't need LODs in your game, please use the noLODs prefabs.
- You should adapt the camera distance in the LOD Group component accordingly to your need and your camera.
- The LODs use the animated crossfading transitions to prevent the models from popping.
- Warning !** The crossfade animation is not fully compatible with deferred rendering. Please check the **Rendering Path and Limitations** part of the documentation for explanations and solutions.
- If you want to create your own LODs, you can modify the prefabs or create new ones using the original 3D models in the /Models folder.

Unity terrain

- Beware that the vegetation items will not work on the terrain as «Detail objects». Some prefabs have LODs which is incompatible. Also, the custom shaders included in this pack will be replaced by the built-in terrain grass shader. Instead, add the vegetation items as «Tree Objects».
- We recommend using mesh brush tools such as Prefab Brush + or Mesh Brush, which have a lot more options for distribution and which can be used outside the Terrain tool.

Prefab Library

A large prefab library is available for your needs. You will find all the prefabs in the / Prefabs folder. Don't use the models in the /Models folder unless you want to create your own prefabs. Depending on the objects, you will find different prefab categories.

- LODs

These prefabs are LODs ready with 3 LOD levels. These prefabs are using the Unity built-in LOD system with a crossfade transition between the LOD levels. You can change the camera distances accordingly to your camera and your game.

- Particles LODs

The LODs trees have a special variation with falling leaves. You can occasionally use these prefabs to add life to your scene.

- noLODs

These prefabs contain the original models without LODs. Models that need it have a mesh collider component attached.

- Particles noLODs

The trees with a falling leaves particle system.

- Particles

You will find in this folder some useful particle systems like falling leaves for trees, falling leaves for a zone, fireflies or fire.

Demo Scenes

The purpose of the demo scenes is to show the visual quality you can achieve with this pack. The scenes are not playable. Note that the far backgrounds of the demoscenes are sometimes faked with scaled trees, bushes or rocks ! If your game allows you that kind of trick, you should no hesitate to use it (see below **Some Art Tips !**).

The demo scenes are in Linear Space (you can change it under Edit/Settings/Player). They use Unity Post Processing Stack (V1) to add nice effects like Bloom or Depth of Field. Don't forget to tweak the Shadow Distance parameter for your needs (Edit/Settings/Quality). For the demo scenes, Shadow Distance value is 100. There is height and distance fog in the scenes, and also a gradient ambient lighting.

Some Art Tips!

Backgrounds : Fake volumes are very useful (billboards or scaled meshes) in order to fill your far backgrounds !

Lit particles : Unlit particles are faster, use a lit particle material only if you have a strong lighting in your scene !

Grass : The base color of the grass should match the color of the ground.

SHADERS

.....

All shaders have been made using Amplify Shader Editor, and can be modified using it. Make sure you are using the latest version of ASE !

The shaders included in the package can be found under the « SNB_Nature » section in the shader dropdown list.

You will find two shaders with the _Deferred suffix. Go to the **Rendering Paths and Limitations** part for the specific use of these two shaders.

Foliage Shader (SNB_Foliage)

This shader features translucency and wind.

: STANDARD PROPERTIES

: Textures

- : One BaseColor Texture with the Alpha channel for the transparency map.
- : One Surface Texture. This texture uses the Red channel for the Emission, the Green channel for the Metallic, and the Blue channel for the Smoothness.
- : One Normal Texture.

: Mask clip value

- : Similiar to the cutout parameter of the Unity standard shader.

: Normal and Emission strenght

- : You can tweak the strength of the Normal and the Emission. Beware that a negative value will invert the normal map. The Emission map of all assets is black but you can customize it (see **Using the shaders with custom assets**).

: TRANSLUCENCY

- : This shader fakes the translucency of the foliage using a fast performing method inspired by Edward Del Villar free online tutorial. The translucency is calculated using the intensity and the color of the lights in the scene and the color of the foliage.

- : Hence the translucency will be cohesive with the lighting of your scene.

- : You can configure the translucency with several properties :

Translucency Tint

Add a tint to the translucency (for a green forest, a yellow tint will add a nice touch). Black will negate the translucency force. White should be default.

Translucency force

How much light is passing through the foliage.

Directional translucency

The strength of the shadows of the directional lights. Lower this value to have a softer translucency effect.

Point Light translucency

The influence of point lights in the translucency effect.

WIND

The wind effect is double. A noise based motion offsets the foliage and a local vertex offset moves the whole tree (or plant, or flower). These two effects use Vertex Color to determine which part of the mesh will be affected by the wind.

Leave all the following values at 0 if you don't want any wind effect.

Warning ! The values of the Wind Trunk Amplitude and Speed should be the same as the Trees shader to keep a synchronized movement !

Wind Foliage Amplitude

The strength of the wind applied to the foliage.

Wind Foliage Speed

The speed of the wind applied to the foliage.

Wind Trunk Amplitude

The strength of the wind applied to the trunk. This value should be the same as the value in the Trees Shader.

Wind Trunk Speed

The speed of the wind applied to the trunk. This value should be the same as the value in the Trees Shader.

Trees Shader (SNB_Trees)

This shader features color variation, height based brightness and wind.

STANDARD PROPERTIES

Textures

One BaseColor Texture with the Alpha channel for the Smoothness map.
One Normal Texture.

Normal and Emission strenght

You can tweak the strength of the Normal and Emission with these parameters. Beware that a negative value will invert the normal map.

COLOR VARIATION

This shader lets you control color variation. The Trunk parameters will change the colors of the whole trunk. The Height parameters will change the color using a height based gradient. This is very useful to create custom dead trees for example.

Trunk Brightness

The brightness of the trunk.

Trunk Color Variation

Add a light tint to the trunk. The color will be amplified by the Trunk Brightness parameter.

Height Gradient

The softness of the height gradient. At 0, the height gradient limit will be sharp.

Height Start Gradient

Where does the gradient start on the Y axis.

Height Brightness

The brightness of the trunk using the height gradient. Keep the value at 0 if you don't want any height based brightness variation.

WIND

Wind Trunk Amplitude

The strength of the wind applied to the trunk. This value should be the same as the value in the Foliage Shader.

Wind Trunk Speed

The speed of the wind applied to the trunk. This value should be the same as the value in the Foliage Shader.

Rocks Shader (SNB_Rocks)

This shader features color variation and normal based coverage.

STANDARD PROPERTIES

Textures

One Base Texture with alpha channel for Smoothness map.

One Normal Texture.

Normal and Emission strenght

You can tweak the strength of the Normal and Emission. Beware that a negative value will invert the normal map.

COLOR VARIATION

Rocks Brightness

The brightness of the rocks.

Rocks Color Variation

Add a tint to the rocks. The color will be amplified by the Rocks Brightness parameter.

Grass Coverage

The shader enables the use of grass coverage using a simple color in order to keep the performances steady. The coverage is based on the facing upward normals of the mesh.

Grass Amount

The amount of coverage.

Grass Level

The contrast of the coverage.

Grass Color

The color of the coverage.

Grass Shader (SNB_Grass)

This shader features wind and color variation.

STANDARD PROPERTIES

Textures

One BaseColor Texture using RGBA channels as masks. R is a mask for Flower Inside Color, G is a mask for Grass Color, B is a mask for Flower Main Color.

WIND

Same properties as the Foliage & Trunk Shader above !

COLOR VARIATION

The shader allows you to customize the grass color with a height gradient. This is very useful to give the right color to the grass that will match the ground color.

Grass Color

The main color of the grass.

Height Color

The secondary color of the grass using a height gradient.

Height start gradient

Where the gradient starts.

Height gradient

How smooth the gradient will be.

Flower Main Color

The main colors of the flowers. You can chose two colors.

Flower Inside Color

The inside colors of the flowers. You can chose two colors.

Note : If you're editing the shader with Amplify Shader Editor, you might get a console warning when saving and updating a shader « Shader warning in 'Shader': Automatically setting target of LOD_FADE_CROSSFADE to 3.0 ». It is a harmless warning known by the ASE team. They don't have a workaround for this warning right now.

Using the shaders with custom assets

- : Should you like to use the custom shader on a tree outside of this package it must conform requirements used for wind animation and textures.
- :
: Some information is required to be baked into a tree mesh's vertex colors :
: The Red channel will influence the wind foliage parameter. You should apply red color on
: the part of the mesh like leaves.
: The Blue channel will influence the bending of the whole mesh. This effect should influence
: the upper part of the mesh. You should apply blue color on the upper half of your mesh
: (trunk and leaves).
- :
: Also, the foliage shader uses a MainTexture with Albedo and Transparency (Alpha
: Channel). The shader uses a second textures taking advantage of the RGB channels. Red
: is for Emission, Green for Metallic and Blue for Smoothness.
- :
: Should you like to use the custom shader of the grass outside of this package, your texture
: must conform requirements. Your grass elements will use the Green channel. Your flower
: elements will use the Red and Blue channels. Red will be used as a mask for the inside
: color of the flower and Blue for the main color of the flower.

Rendering Paths and Limitations

- : The package is fully compatible with Forward Rendering. However some of the shaders do
: not support LOD Group crossfade with Deferred Rendering.
- : Here is the solutions :
 - : - Special shaders for deferred rendering (rocks and foliage). You just need to change the
: shader used by the materials. These specials shaders may have some limitations (no grass
: coverage for the rocks).
 - : - Deactivate the LOD crossfade transition. Untick « Animate cross-fading » of the LOD
: group component under the /Prefabs folder.
- :
: The Foliage and Grass shaders use GPU instancing for better performances. You should
: use GPU instancing because Dynamic and Static Batching may not be compatible.
: The use of Dynamic Batching with forward rendering path may lead to shadows and
: ambient occlusion issues.
: The use of Static or Dynamic Batching is not compatible with the grass as it will kill the
: shader effect (because the shader uses the local vertex position of each mesh).

Vegetation Studio Compatibility

- : Should you like to use the assets with Vegetation Studio, you must use the Foliage_Simple shader instead of the classic Foliage shader.
- :
- :
- : Select your foliage material (M_SNB_Vegetation in the demo) and within the shaders dropdown list, select SNB_Foliage_Simple.

SRP Compatibility (HDRP/URP/LWRP)

- : The SRP are only partially supported. The SRPs are still changing too much for every release to do a proper support with custom shaders.
- :
- : Our package only support these versions of the HDRP/LWRP :
 - : **Unity 2019.1, SRP Version 5.13.0**
 - : **URP should work with 2019.3 and higher (tested with version 7.1.8 of URP).**
 - :
- : Our shaders are made with Amplify Shader and this is the latest version supported.
- :
- : Take note that **any other SRP version is not supported** and we won't be able to provide a lot of support for any LWRP/HDRP issue as this process is still very new in Unity.
- :
- : How to use the SRP shaders ?
 - :
 - : You can use SRP shaders by extracting **LWRP_Shaders, HDRP_Shaders** or **URP_Shaders** folders. **Extract the SRP Shaders inside the existing /Shaders folder.** You should only extract these on a project with LWRP or HDRP already installed.
 - :
 - : Then you need to replace the shaders for all the materials. You might need to re-link the textures (found inside the /Textures folder).
 - :
 - : Please note that the demo scenes have not been created with the SRP and won't work out of the box with any of the LW, HD or URP pipelines

POLYCOUNT

.....

Here is the list with the polycount of each asset as well as their LODs.

: VEGETATION

- : These items have no LODs as the polycount is already low.
: Flowers are around 20 to 80 tris, whereas bushes goes to a maximum of 176 tris.

TREES & ROCKS

Trees with leaves

Tris	Tree_01	Tree_02	Tree_03	Tree_04	Tree_05
LOD0	3100	850	772	2124	624
LOD1	1612	396	368	1074	448
LOD2	411	97	91	329	122

Trees without leaves

Tris	Tree_01	Tree_02	Tree_03	Tree_04	Tree_05
LOD0	1582	436	358	1158	624
LOD1	1106	258	230	752	448
LOD2	246	52	46	224	122

Rocks

Tris	Rock_01	Rock_02	Rock_03	Rock_04	Rock_05	Rock_06	Rock_07
LOD0	86	90	62	50	22	106	46
LOD1	72	50	56	30	22	70	30
LOD2	40	48	26	16	14	24	30

.....

Tris	Rock_08	Rock_09	Rock_10	Rock_11	Rock_12	Rock_13
LOD0	36	78	224	56	400	240
LOD1	26	62	180	54	296	178
LOD2	20	34	108	34	164	80