



Nature Shaders

Documentation

Read the latest version of the documentation online:

<https://support.visualdesigncafe.com/hc/categories/900000043503>

Material Editor

The material editor is used to adjust a material. It contains the following sections to edit different parts of the material:

Transparency



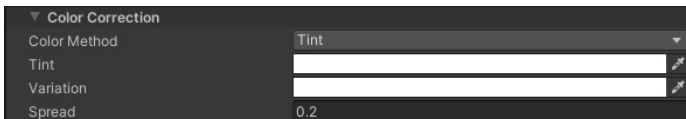
Clip

Adjust the clip threshold for the material. Any alpha value in the texture below this value will be transparent, any value above the clip value is opaque.

Color Correction

Use this section to change the color of the material. There are two different color correction methods to choose from: *Tint* and *Hue/Saturation/Lightness* (HSL).

Tint



This is the easiest method and has the best performance. However, it is not accurate if you want to drastically change the color of the object. *Tint* should mainly be used for small color variations.

Tint

The color of the texture will be multiplied by the tint color.

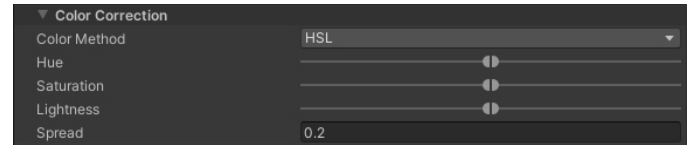
Variation

A second tint color used to create color variety. The color is blended between Tint and Variation based on the object's world position.

Spread

The spread of the color variation.

Hue/Saturation/Lightness (HSL)



More advanced color correction can be achieved with *Hue*, *Saturation*, *Lightness* adjustments. This is great for completely changing the color of materials or for accurate adjustments. The downside is that it has a higher impact on performance.

Hue

Change the hue of the material. The value will be blended between the min and max sliders.

Saturation

Change the saturation of the material. The value will be blended between the min and max sliders.

Lightness

Change the lightness of the material. The value will be blended between the min and max sliders.

Spread

The spread of the color variation

Surface

The surface section is used to set the surface properties and maps for the material. There are two different Surface Map Methods: *Metallic Gloss* and *Mask*.

Metallic Glossiness Map



Albedo

A texture containing the base color for the material.

Normal

A texture containing the normal map for the material. Adjust the normal strength with the slider.

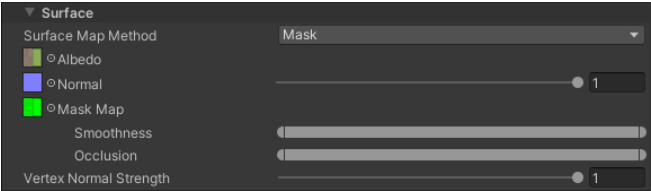
Glossiness, Metallic

A texture containing the smoothness/roughness and metallic values of the material. Use the slider to remap the smoothness/roughness. The channels use the same format as the mask map (see the table below).

Occlusion

A texture containing the occlusion of the material. Use the slider to remap the occlusion.

Mask Map



Albedo

A texture containing the base color for the material.

Normal

A texture containing the normal map for the material. Adjust the normal strength with the slider.

Mask Map

The mask map contains four grayscale textures, one in each of its color channels. Use the Smoothness and Occlusion properties to remap the values of the textures.

Color channel	Map
Red	Metallic
Green	Occlusion
Blue	Reserved for future use
Alpha	Smoothness

Translucency



Strength

The strength of the translucency. A higher value will increase the strength of the light, a value of 0 will disable the effect.

Scattering

How much the light will scatter when passing through the object. A higher value will show the effect over a wider range.

Distortion

How much the light will scatter based on the surface normal of the material.

Color

The color of the inside of the object. In most cases this can be left at white, unless the object has a specific material that modifies the light color.

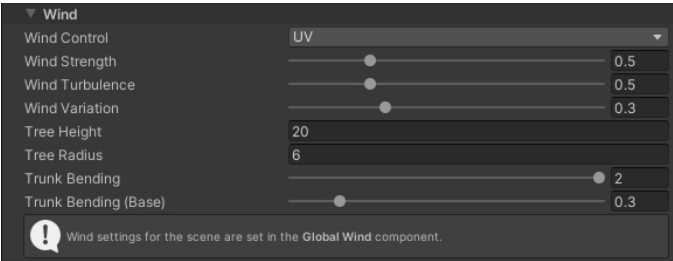
Thickness

A map containing the thickness of the material. Black is a thickness of 0, which lets all light pass through. White is a thickness of 1, which does not allow any light to pass through.

Note

When using the High-Definition Render Pipeline, this section is replaced with a reference to the diffusion profile.

Wind



Wind Control

Determines which method should be used to control how the material reacts to wind in the scene.

- **Vertex:** Uses the vertex position to calculate an approximation of the object's shape. Produces the lowest quality wind animations, but requires no setup.
- **UV:** Uses the vertex position and UV coordinates to calculate an approximation of the object's shape. Produces average quality wind animations, but requires the textures to be in the correct format.
- **Baked:** Uses data baked in the vertex colors and UV coordinates to get the exact shape of the object. Produces the best quality wind animations with the best performance, but requires data to be baked based on the data that Unity's Tree Creator saves.

Wind Strength

Adjust the wind strength for this specific material. This value is multiplied by the wind strength in the scene.

Wind Turbulence

Adjust the wind turbulence for this specific material. The value is multiplied by the wind turbulence in the scene.

Wind Variation

Adds a variation to the wind strength based on the object's world position. A value of 0 will add no variation, a value of 1 will disable wind for some objects.

Tree Height

The total height of the tree/plant/grass/object. This is used when wind control is set to Vertex or UV.

Tree Radius

The total radius of the tree/plant/grass/object. This is used when wind control is set to Vertex or UV.

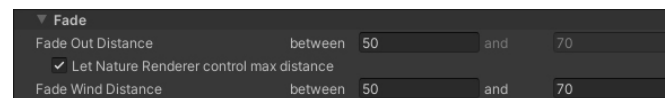
Trunk Bending

The amount of bending that will be applied to tree trunks. A value of 0 will prevent the trunk from bending and will only apply wind to the leaves and branches. Any value above 0 will bend the entire tree.

Trunk Bending (Base)

The amount of bending that will be applied to the base of the tree. Can be used if the tree has a low amount of triangles at the base of the tree to increase the bending effect.

Fade



Fade Out Distance

The object will fade out by decreasing its size between the two given values. If the object is further away than the second distance, it will be culled.

Fade Wind Distance

The wind animations will be reduced starting from the first distance, and will be completely disabled at the second distance. This is done to reduce visual noise in the distance and to increase performance.

Rendering

Unity's default rendering settings for a material.

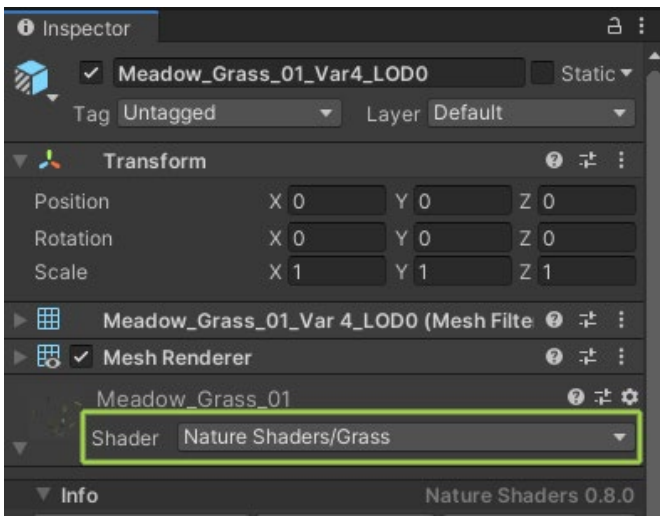
Object Interaction

Vegetation that uses the "*Grass*" or "*Vegetation*" shader can interact with other objects in the scene. The vegetation will sway when an object moves through it and will get pushed down.

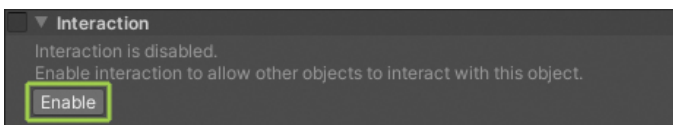
For the vegetation object:

Select the material of the vegetation and ensure that it is using the "*Nature Shaders/Grass*" or "*Nature Shaders/Vegetation*" shader.

Note: For URP and HDRP the shaders are in the "*Universal Render Pipeline*" or "*HDRP*" sub-category.



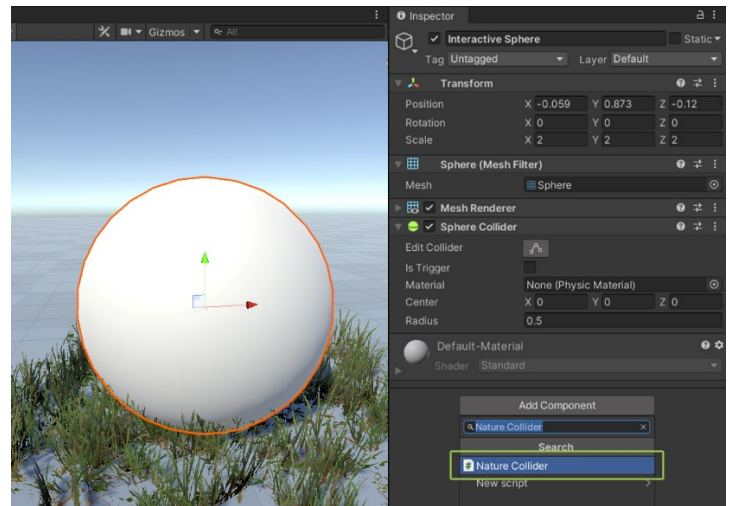
Scroll down to the "Interaction" section in the material editor and enable *interaction*.



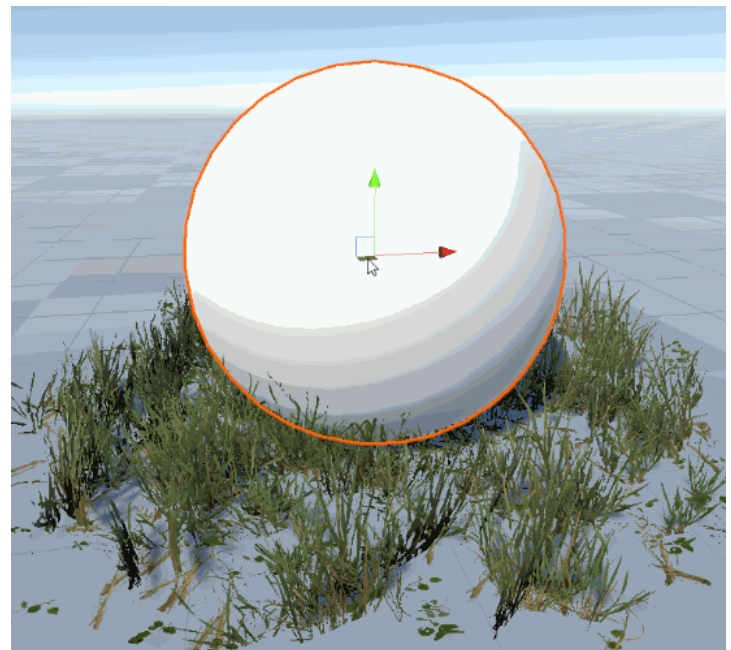
For scene objects:

1. Select the game object in the scene that you want the vegetation to interact with.
2. If the game object does not yet have any collider, then add a collider. The collider is used for interaction.
3. Add a Nature Collider component. This component will register the colliders on the object as colliders that should interact with vegetation.

Note: Only the colliders on the same game object are registered. Colliders in children are not registered.



That's it, the vegetation should now interact with the object and sway when the object moves around. Both in edit-mode and at runtime.



Overlay

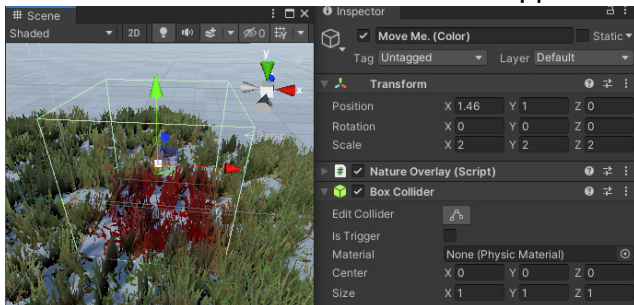
Nature Shaders supports an Overlay feature that can be used to adjust material settings for a specific part of the scene.

The Overlay can adjust the color of vegetation within an area, or completely mask out vegetation.

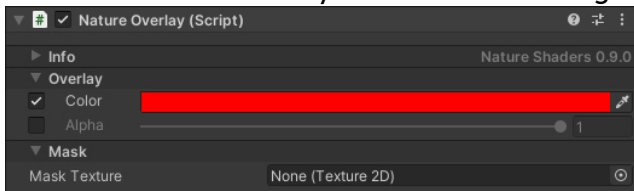
Create an overlay in the scene

Overlay objects in the scene adjust the material settings for the vegetation within the overlay's bounds.

1. Select a game object in the scene that you want to use as overlay or create a new game object.
2. Add a collider to the game object. Vegetation within this collider will be affected by the overlay. *Box, Sphere, Capsule,* and *Mesh* colliders are supported.



3. Add a "Nature Overlay" component to the game object. The component will register the collider as being an overlay, and will be used to adjust the overlay settings.



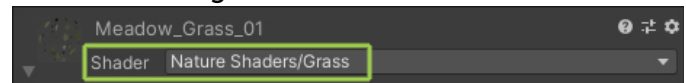
Tip: Set up a new collision layer for overlay objects, so that the overlay colliders don't interact with other objects in the scene.

Note: The Y position of overlay objects has no influence. Overlays are projected onto the terrain from a top-down perspective and will always show, no matter the Y position.

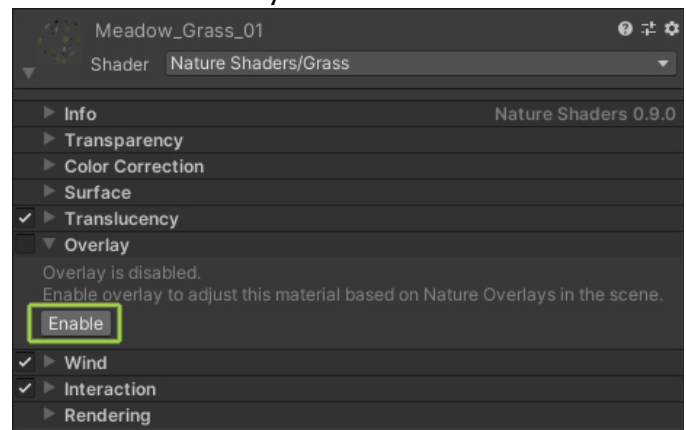
Enable Overlay in the material

The overlay objects in the scene will only affect vegetation that has "Overlay" enabled in their material.

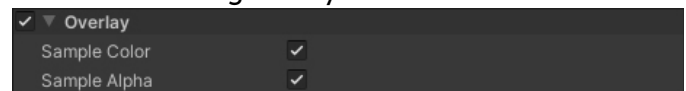
1. Select the material for the vegetation that you want to be affected by the Overlay and ensure that it is using one of the Nature Shaders.



2. Enable the Overlay section of the material.



3. Enable the settings that you want to be affected.



Sample Color

Load the color from the Color Overlay.

Sample Alpha

Load the alpha from the Alpha Overlay.

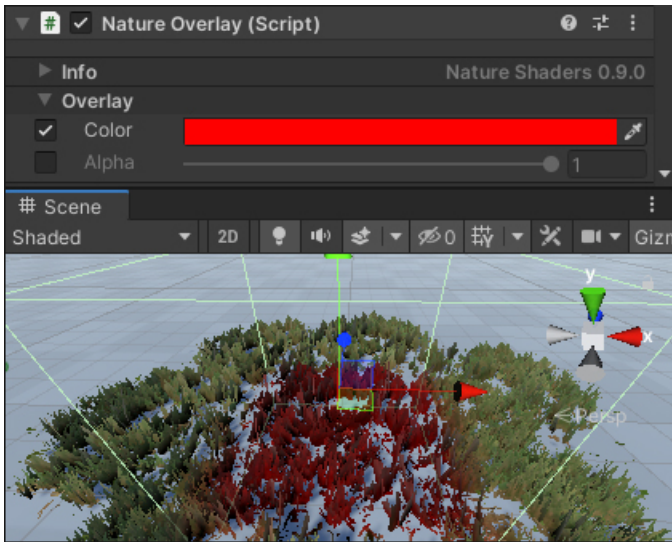
Overlay Component Settings

The overlay component has multiple settings that you can enable and adjust independently from each other.

Color

The color overlay adjusts the color of vegetation within the overlay. The color that is set in the overlay is multiplied with the color of the vegetation, effectively acting as a "Tint" property of the material.

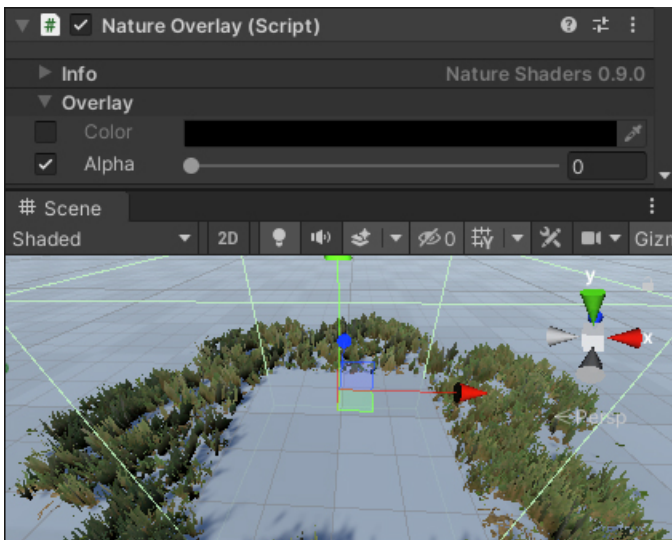
You can use this to create more color variation in your scene, without having to create multiple materials.



Alpha

The alpha overlay adjusts (reduces) the alpha of the vegetation within the overlay.

Use this to mask out vegetation, or to slightly fade out vegetation.



Note

Alpha Overlay only works for materials that have alpha clipping enabled.