The *Illustrat3D* NATURE
DOCUMENTATION

Thank you,

for considering **Illustrated Nature** for your project.
This document contains easy to follow instructions and explanations that will help you get started immediately.

If I left something unclear or if you have any difficulties in regards to this product, please write me at **artofmatkovski@gmail.com**

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Project Setup

Default 3D Pipeline

1. Create a new project with the **3D** template selected.

2. Go to **Project Settings/Player** and set the **Color Space** to **Linear**.

3. Import the **Post Processing** package from the **Package Manager**.

2. Import **The Illustrated Nature** asset from the store.

Color Space

The Illustrated Nature is created in a Linear Color Space. In order for the colors to look correct, you need to set you project's color space to Linear.

Post-Processing

To experience the demo scene as it was intended please install the Post-Processing package from the Package Manger window before importing the package from the store. This is used to enhance the colors and contrast and improve the overall look of the scene.
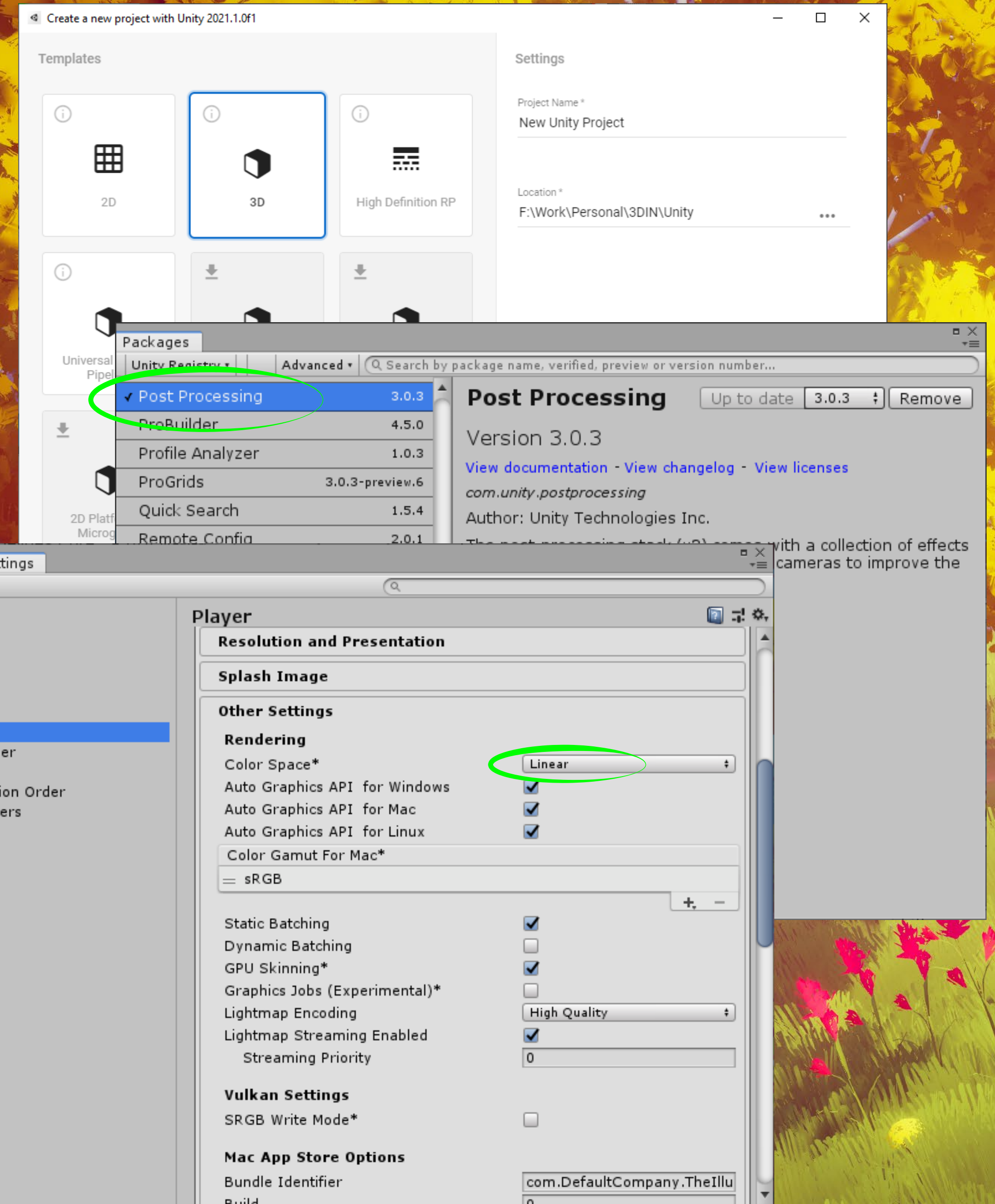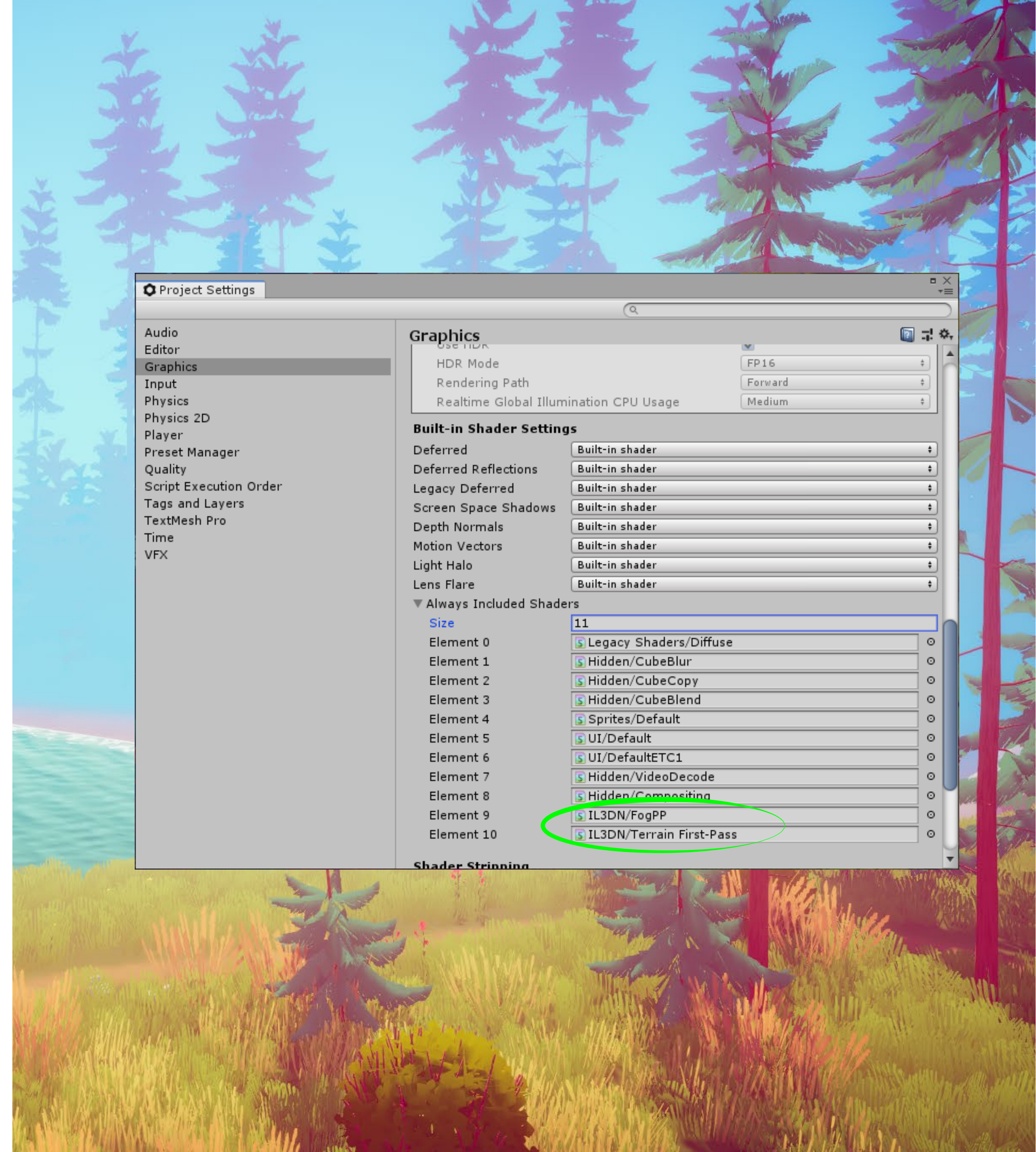
Project Setup

Default 3D Pipeline

If by any chanse the post-processing doesn't seem to work in your project, please check that the post-processing volume and the camera in the scene are using the same layer.

Please make sure to include the FogPP and Terrain shaders in the Always Included Shaders in Project Settings/Graphics. This will avoid the error of having the shader not included in builds and getting a black screen.

Project Setup

URP (Latest LTS only)

1. Create a new project with the **Universal RP** template selected.

2. Import **The Illustrated Nature** asset from the store.
   You will now notice that all the shaders are pink, proceed to the next step to import the correct shaders.

3. Install the additional package included in the asset's hierarchy named **Install - IL3DN (URP) - Latest_LTS_Only**
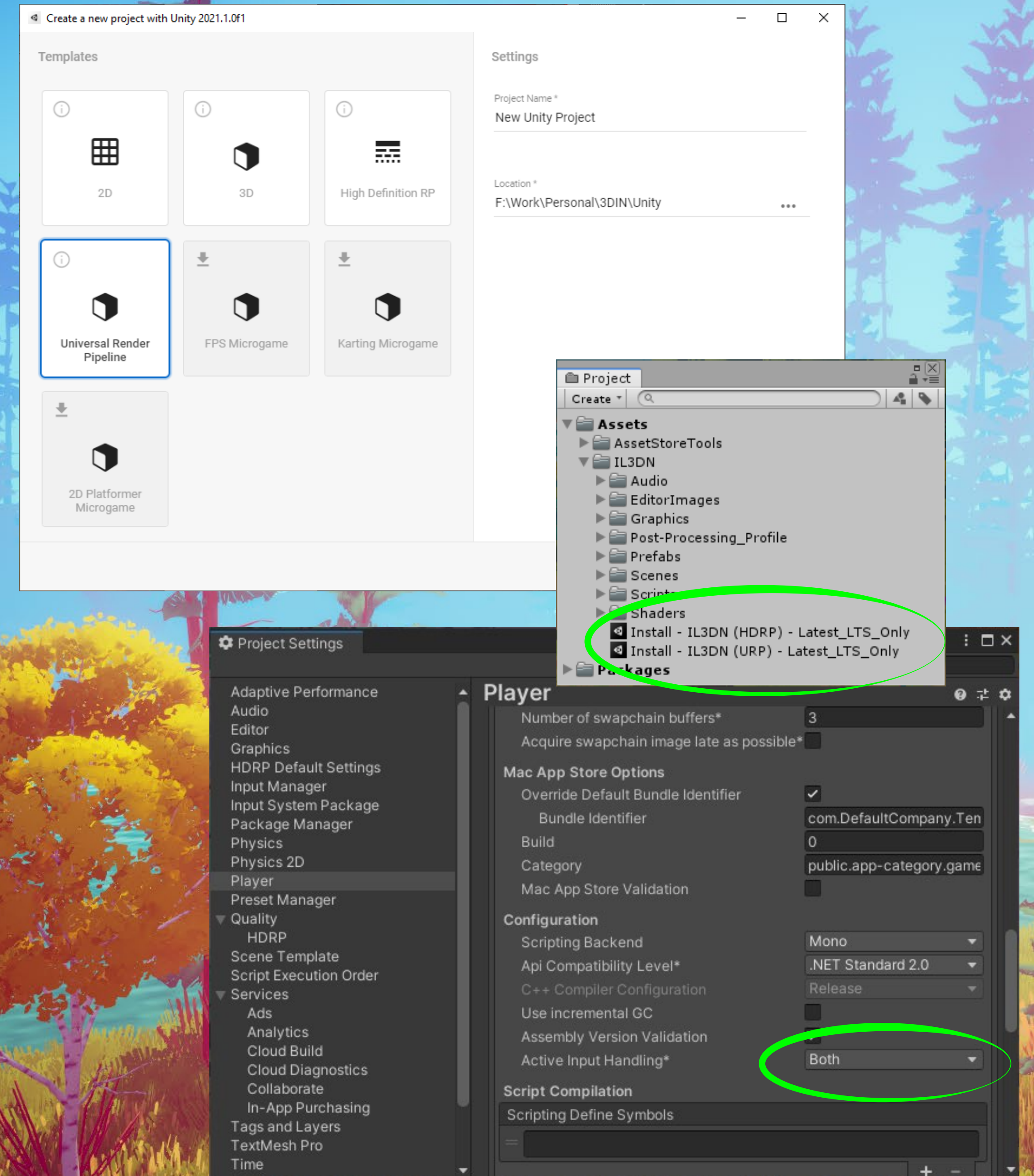
4. **Necessary only if you get input errors**.
   Switch the **Active Input Handling** to **Both** in **Project Settings/Player**

Shaders, materials and scenes will be replaced with URP compatible version. The custom Fog image effect does not work in URP and will be updated in the future when Unity URP will support custom image effects.

The URP version of the package will always be updated to work with the latest available LTS version of Unity, any backwards compatibility is not guaranteed.

Please make sure to include the FogPP and Terrain shaders in the Always Included Shaders in Project Settings/Graphics. This will avoid the error of having the shader not included in builds and getting a black screen (see previous page for screenshot).

Project Setup

HDRP (Latest LTS only)

1. Create a new project with the **High Definition RP** template selected.

2. Import **The Illustrated Nature** asset from the store.
   You will now notice that all the shaders are pink, proceed to the next step to import the correct shaders.

3. Install the additional package included in the asset's hierarchy named **Install - IL3DN (HDRP) - Latest_LTS_Only**

4. Necessary only if you get input errors.
Switch the **Active Input Handling** to **Both** in **Project Settings/Player**

Shaders, materials and scenes will be replaced with URP compatible version. The custom Fog image effect does not work in URP and will be updated in the future when Unity URP will support custom image effects.

The HDRP version of the package will always be updated to work with the latest available LTS version of Unity, any backwards compatibility is not guaranteed.

Please make sure to include the FogPP and Terrain shaders in the Always Included Shaders in Project Settings/Graphics. This will avoid the error of having the shader not included in builds and getting a black screen.
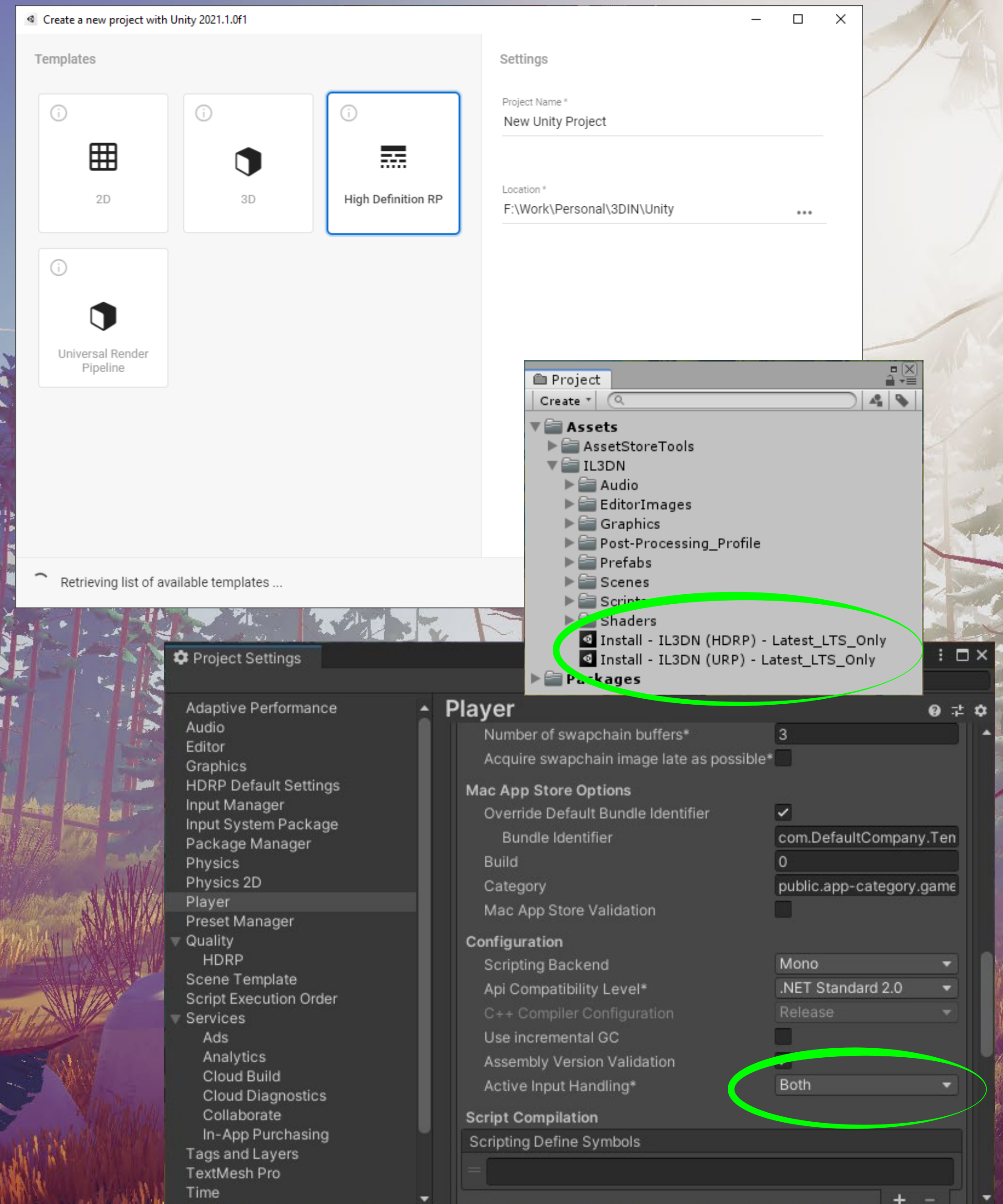
Demo scene

Environment

The environment is made out of a series of stylized vegetation models, shaders, image effects and scripts put together in a scene with sounds and music, with the goal to make it useful and ready to use in any project.

The style of the art is unique and set up in a way that will allow you to customize it to your needs. There are 14 individual white textures with alpha for the vegetation, compressed at a 256x256 size. All the colors in the scene are controlled through the color property of the materials.

Every model is made with patience and love, and harmoniously sits inside the scene like a brush stroke in a painting.

If you hit play in the Illustrated Nature demo scene, you will be able to walk, look around and explore the environment.

You will see colorful trees and grass moving in the wind, clouds swirling in the sky, you will hear birds singing, wind howling, water dripping and your own steps, as you walk to different parts of the scene.

Special thanks to **soundcloud.com/moonfinger** for providing the music for this project.

Populating the scene

Almost everything you see inside the scene was placed using a prefab scattering tool. I have used Prefab Painter 2.
One other similar tool that can be used is Polybrush - a tool made available by Unity, which you can download for free from the Package Manager.
The only limitation at this time is that Polybrush does not support placing prefabs over terrain meshes.

The Illustrated Nature can be used with **Vegetation Studio Pro** for creation of big environments. The compatible prefabs have the suffix **_OneMesh** in their name

All vegetation models have LOD's so you should feel confident scattering them around.

A few things to consider when populating your scene, try and group the assets together, same type of flower in one corner, same type of trees in another, bushes and taller grass beside the water. You can tell a story with the environment as well.

Look for references and try to imitate the way nature works, although the graphics are stylized, we are still very sensible to the way things work in real-life.

Where you know your player will spend more time (around paths and points of interest), place more detail and try to create a composition with the environment to lead the player where you want him to go.
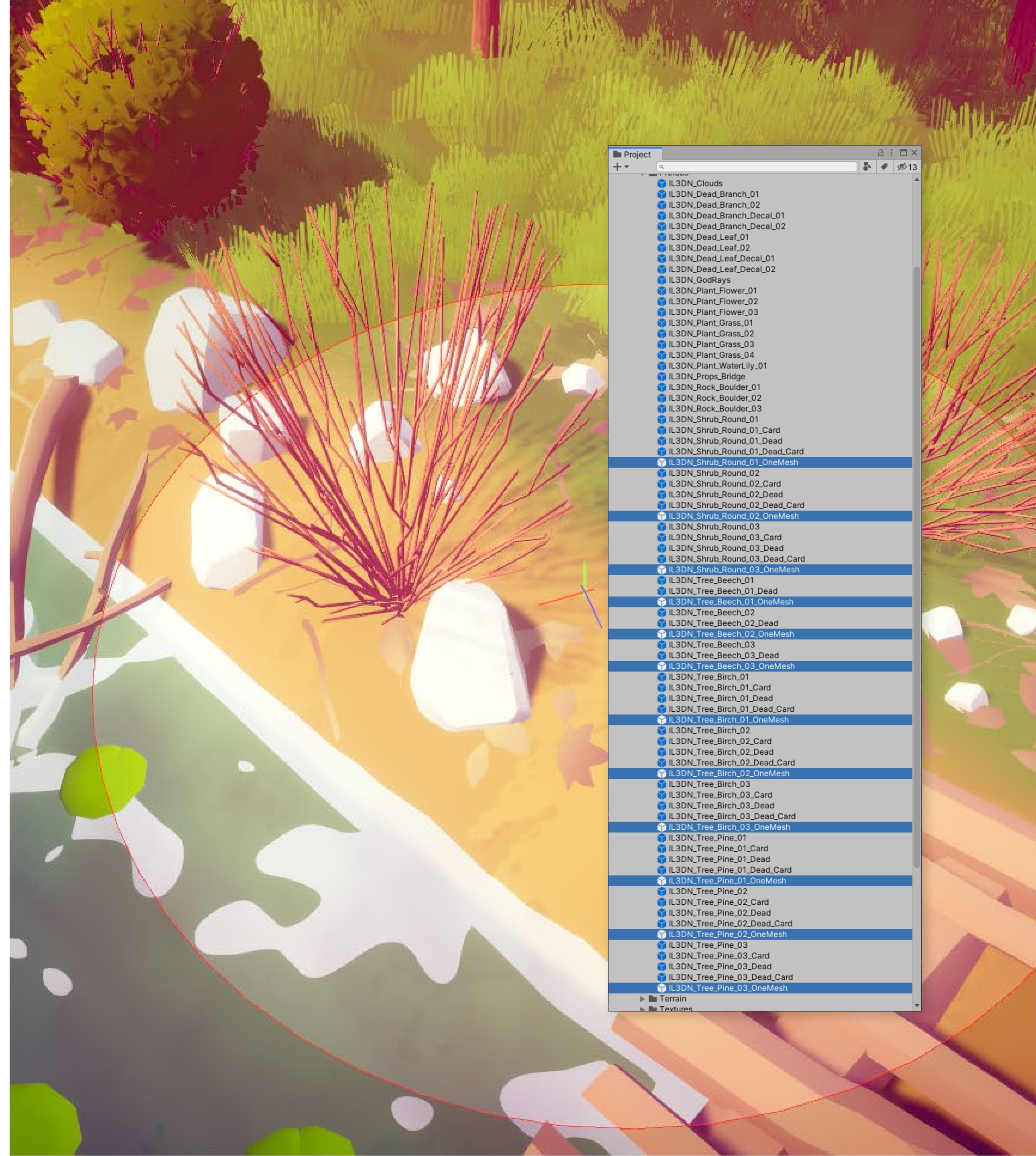
Shaders

All the shaders in The Illustrated Nature pack are made with **Amplify Shader Editor** tool from Unity Asset Store, and are fully customizable.

Terrain

The terrain shader is a simplified version of the default terrain shader in Unity. The main difference is that it has a color slot for each texture, set up as a terrain layer and allows you to change the tint of that texture.

In order to use the shader on a new terrain, you must assign a material using the shader to the new terrain in the settings tab.
After that, you should create up to 4 terrain layers in the Paint Texture tab. Each layer will use one of the color slot of the material. To take advantage of this, I recommend using bright/white textures, and color them from the material.

With the current setup, support for more than 4 terrain layers is impossible. I suggest using the default terrain shader with colored textures if your project needs more than 4 layers.

The snow property on the shader adds a white layer on top of each color. The intensity of the white layer can be controlled from the IL3DN_Snow script.
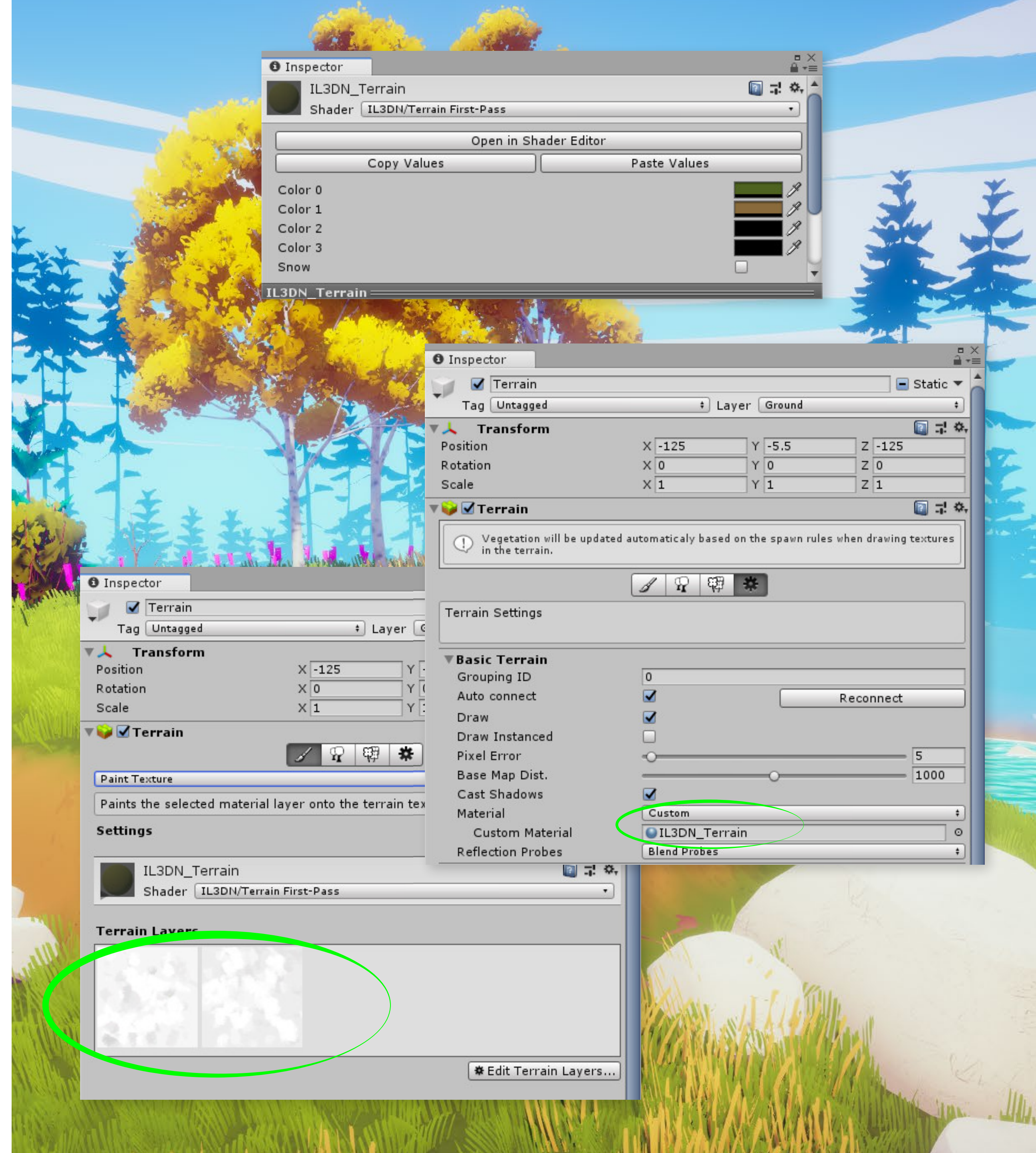
Water

The water shader allows you to create a stylized and colorful water surface.

Normal texture, **Normal Strength**, **Size and Speed** - change the normal map texture for the water and adjust it's intensity, tiling size and scrolling speed.

Transparency and **Smoothness** - adjust how clear the water and how smooth the surface is.
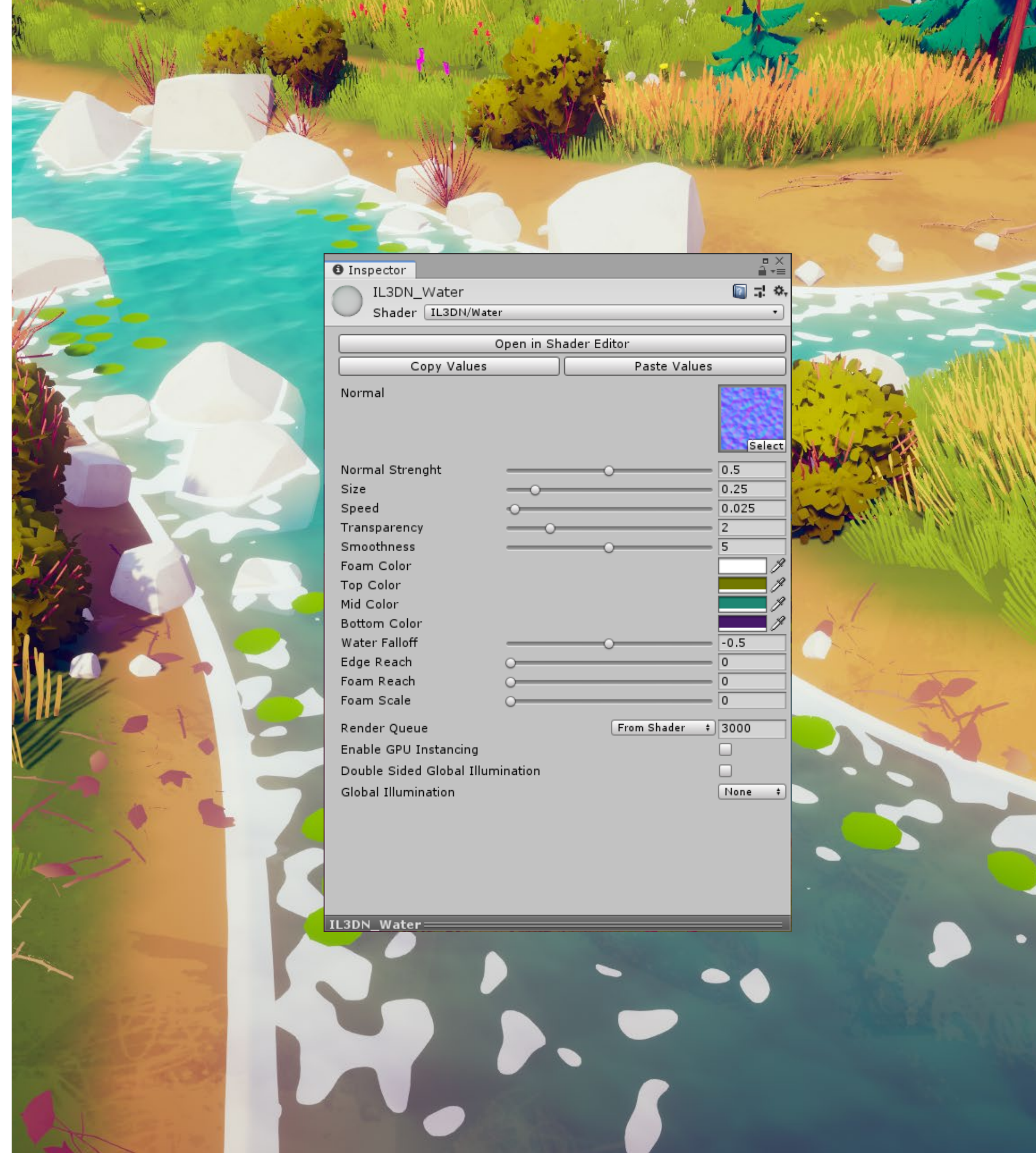
Foam and depth colors - change the colors for the foam and each depth layer.

Falloff - adjust how close to the surface the depth colors appear.

Edge Reach - controls the thickness of the solid edges that touches other geometry.

Foam Reach - controls how far from the edge the foam can be seen.

Foam Scale - controls the scale of the foam noise.

Wind Animations

The vegetation models are animated with the help of two type of animations. **Vertex animations** and **UV animations**, both happening at the shader level.
For simplicity, I am calling these **Wind** and **Wiggle** throughout the project.

The wind is used to move the vertices in world space while the wiggle is rotating the UV of the leaf texture as if it's being pushed by the wind.

For the best visual effect I recommend using the animations together.

Vegetation

Grass, **Leaf** and **Branch** shaders are very similar in settings.
They all have an option to turn on or off the wind and snow features.

These options allow you to tune individual materials for their snow, wind or wiggle animations.

Snow - The check-box allows you to turn on or off the snow feature.

Wind - The check-box allows you to turn on or off the wind **vertex animation** feature. The strength controls how much of an effect the vertex animation has on this material.

Wiggle - The check-box allows you to turn on or off the wind **UV animation** feature. The strength controls how much of an effect the UV animation has on this material.

The Branch shader only has the Wind settings (no wiggle) since there are no UV animations on the models using it.

I recommend leaving these boxes unchecked and controlling the effects globally from the **Wind** and **Snow** scripts. The global strength of the wind is controlled from the Wind script.

For more information about the wind and how it works please see the **Shaders / Wind Animations** section of this document.

Fog

The Fog shader is an image effect which you can use instead of Unity's default fog. Using it you gain control over the colors and can stylize it to your needs.
There are 2 ways you can add the fog to your camera. Either through the Post-Processing Stack or through a simple script that you drop on your camera and assign a material with the shader.

1. Using the Post-Processing stack - Unsupported in SRP versions.
Simply click **Add Effect** and the second option should be **IL3DN Fog**.
You will then be able to control the settings through the post-processing profile as any other effect from the stack.

**2. Using the IL3DN_Fog** (Script) - Unsupported in SRP versions.
Drag the **IL3DN_Fog** script from the Scripts folder onto your camera and assign a material that uses the **IL3DN/Fog** shader.
You will then be able to control the look of the fog by tweaking the material properties. By using this method you are able to update the material through the **Color Manager** script. This allows you to change the color settings of your scene very fast and is the method used in the default pipeline version.

The fog shader has **Near**, **Far** and **Glow** color properties that control the colors near and far from the camera, and a glow color in between those two.
The **Density** slider controls how close to the camera the far color starts.
Exclude Skybox is used to exclude the fog from the skybox.
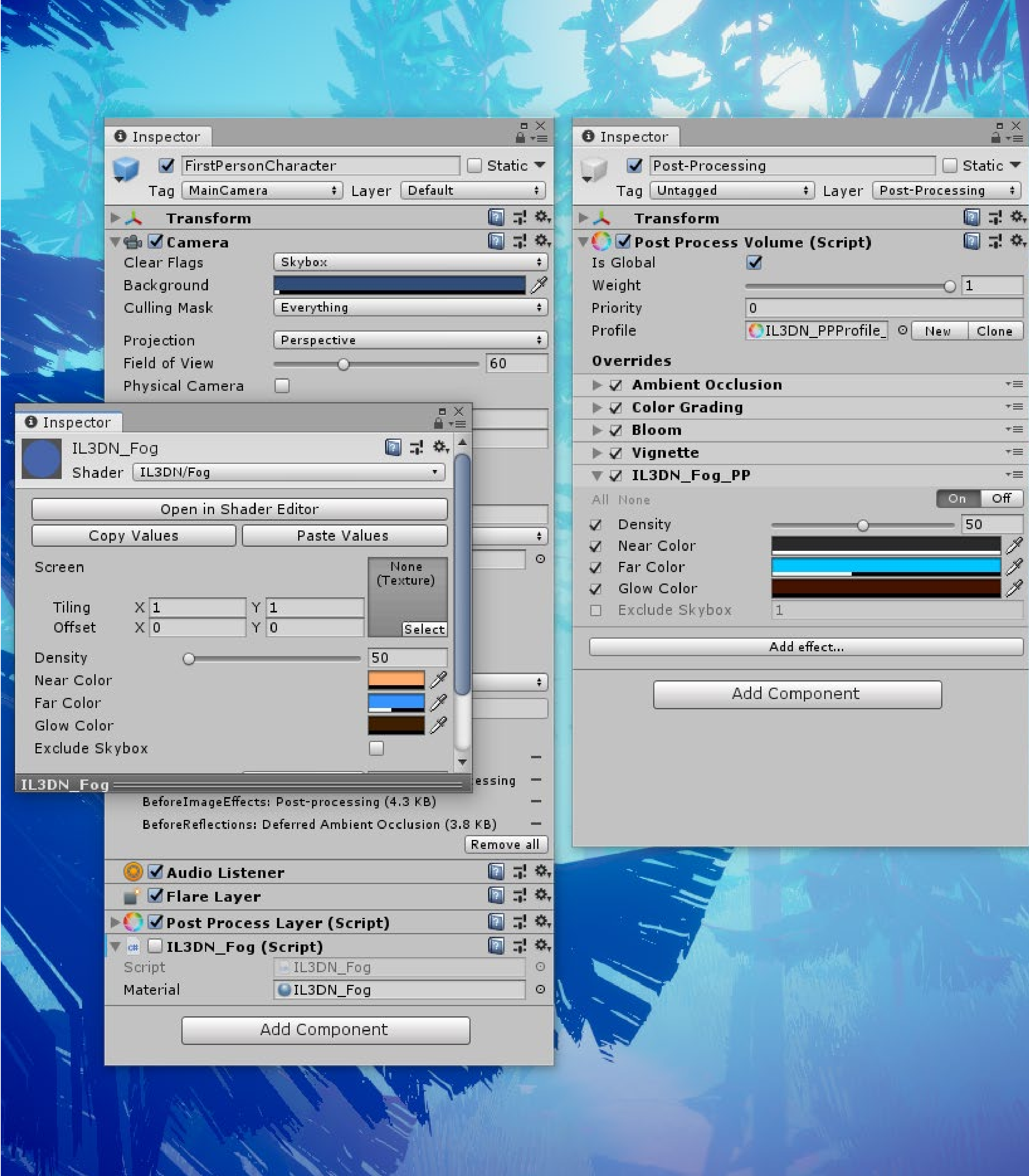
Tools

Wind

The Wind script is used to control the wind animations in your scene by having quick control over the settings of the vegetation shaders.
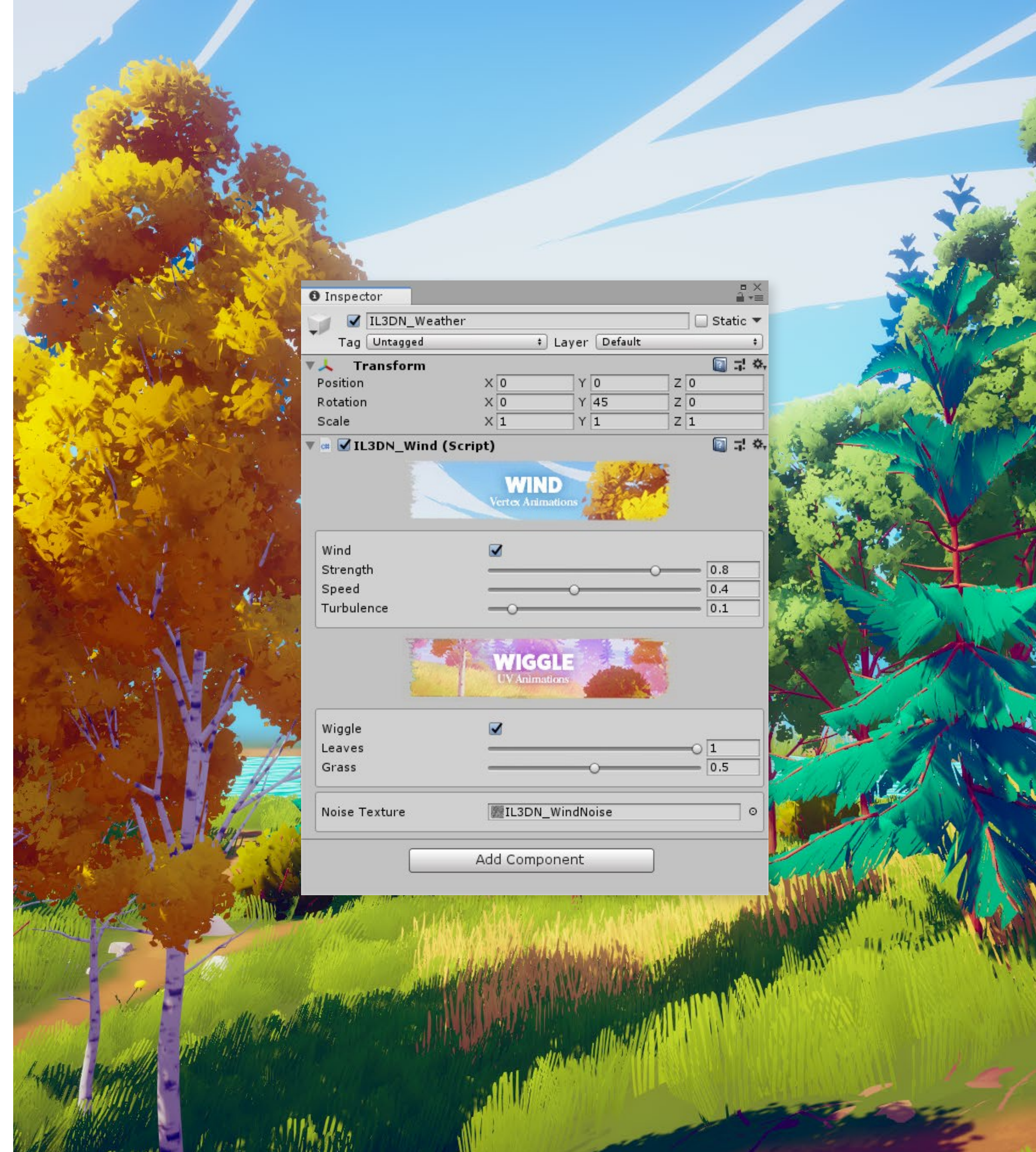
You should place this script on an empty game object in your scene. You can use that game object's transform rotation to affect the direction of the wind panning over the environment.

Wind - controls whether the wind vertex animation is turned on or off. Use the Strength slider to control the force of the wind over the vertices, the **Speed** slider to control the speed of the wind through the environment and the **Turbulence** to control the size of the wind, or how noisy it looks.

Wiggle - controls whether the UV animation is turned on or off. Use the **Leaves Wiggle** to control the amount of rotation the leaf texture has. Use the **Grass Wiggle** to control the amount of rotation the grass texture has.

Noise Texture - assign a noise texture based on which the wind is created.

For more about the wind animation please see the **Shaders / Wind animations** section of this document.

Tools

Snow

The Snow script is used to control the snow layer on the vegetation models.

You should place this script on an empty game object in your scene, or together with the Wind script so that you are able to control the weather effects in the scene from a single game object.

Snow - controls whether the snow effect is turned on or off.

Each of the sliders controls the amount of snow visible on that particular type of model.
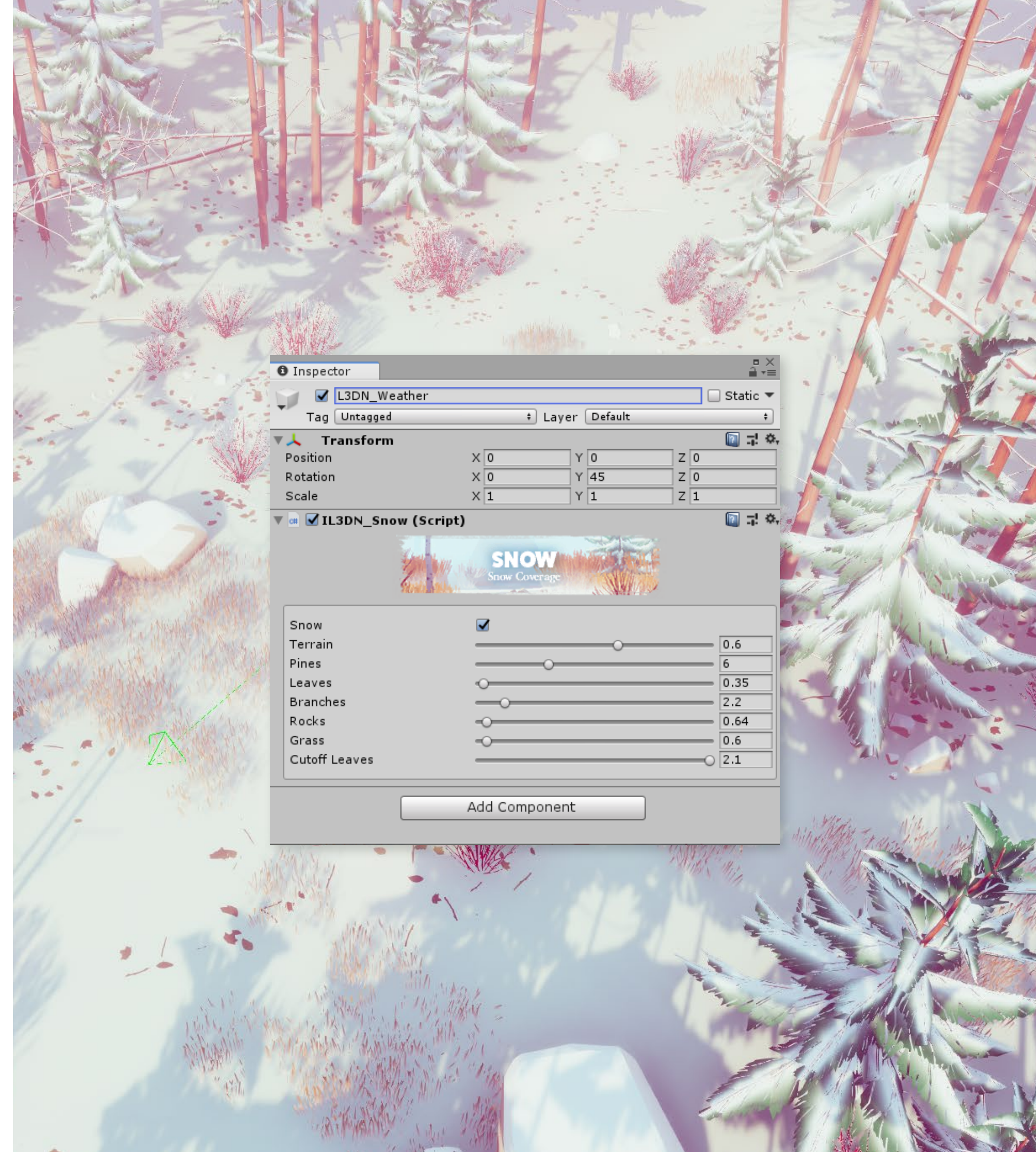
Color Manager

The Color Manager is made out of two scripts that will help you update the colors in your scene with incredible speed, and allow you to save different color palettes without the need to duplicate the materials and reassign them to your models.

It makes exploring new color moods very easy and intuitive.

At this time, there are two scripts:
**ColorManagerTextures** - for materials with single color slot and texture.
ColorManagerEffects - for materials with multiple color slots and no texture.

When placing one of the scripts on a game object it will automatically add the control script from where you can change the selected color palette across all the materials.

At the start, you will be presented with two options.

Load Materials - this button will gather all the materials in your scene and list them in the inspector *(Working only for the ColorManagerTextures at the moment)*.
Add new material - use the slot to drag and drop materials and add them manually to the list.
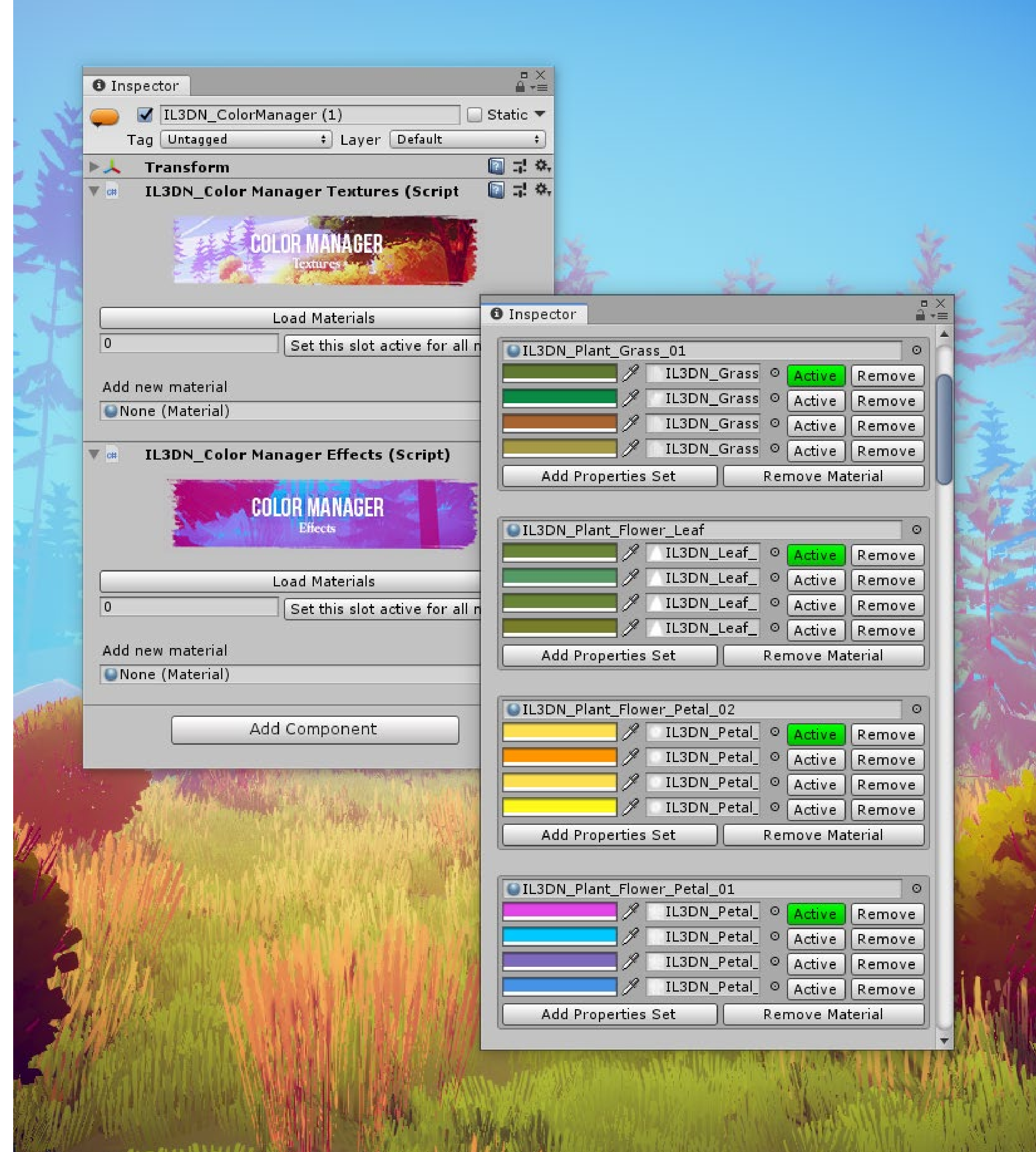
As soon as you have a material listed you will be able to add properties sets.

Add Properties Set - is used to create a new set of properties for that particular material, being either color + texture or multiple colors.
Every newly properties set created will automatically assign the current color and texture of the material.

Once you've added a properties set you are now able to change the color and texture of that material.

To the left of the properties you have two buttons.

Active - The highlighted Active button shows what properties set is currently active for this material. You can switch between them at any time.
Remove - this button removes that particular set of properties from the material.

Remove Material - use this button if you want to remove that material from the list completely.

When your materials will get filled with color variations, changing all the properties sets on all the materials at the same time will come in handy.

Set this slot active for all materials - does exactly that, choose which slot you want active on all current listed materials.
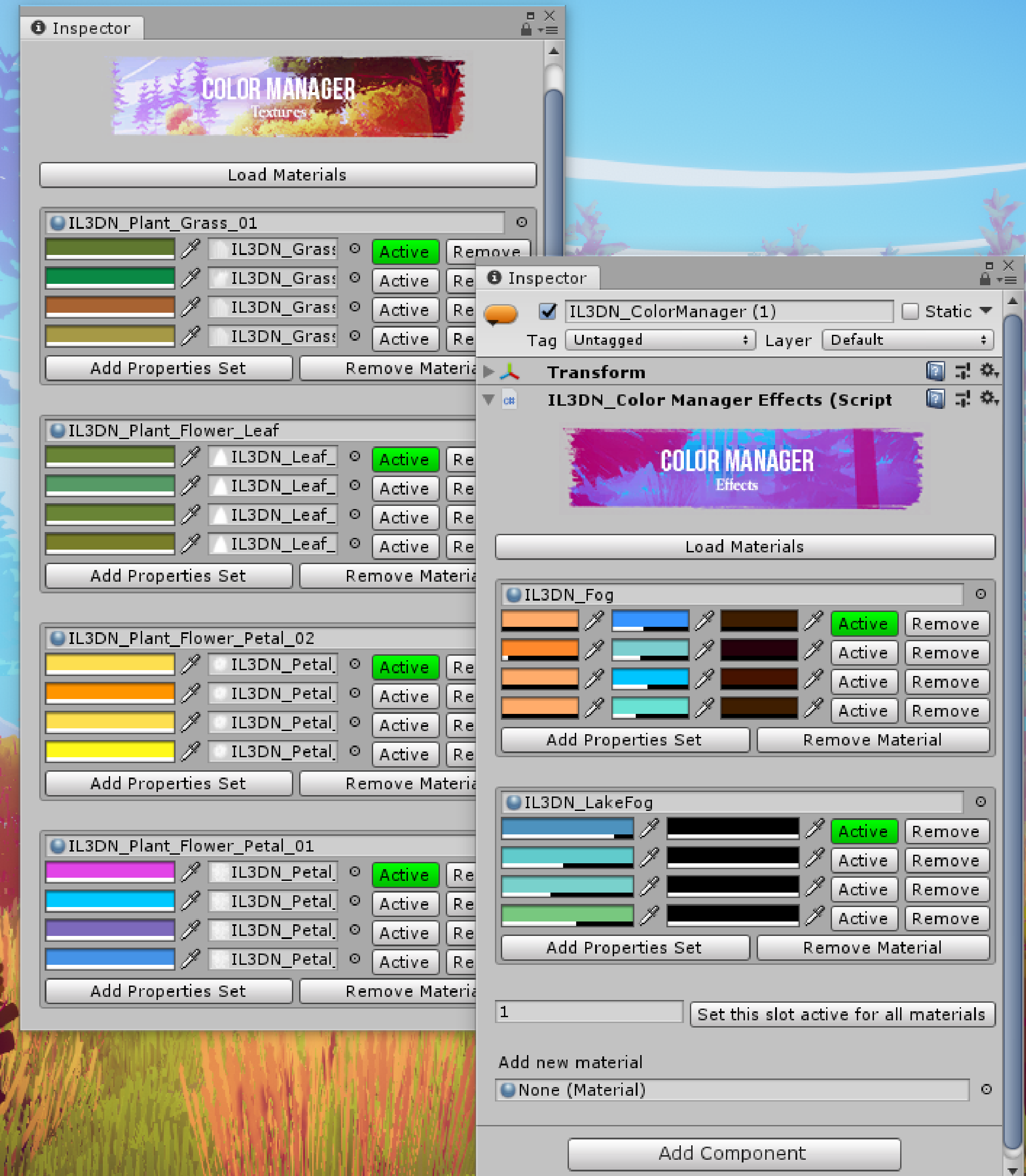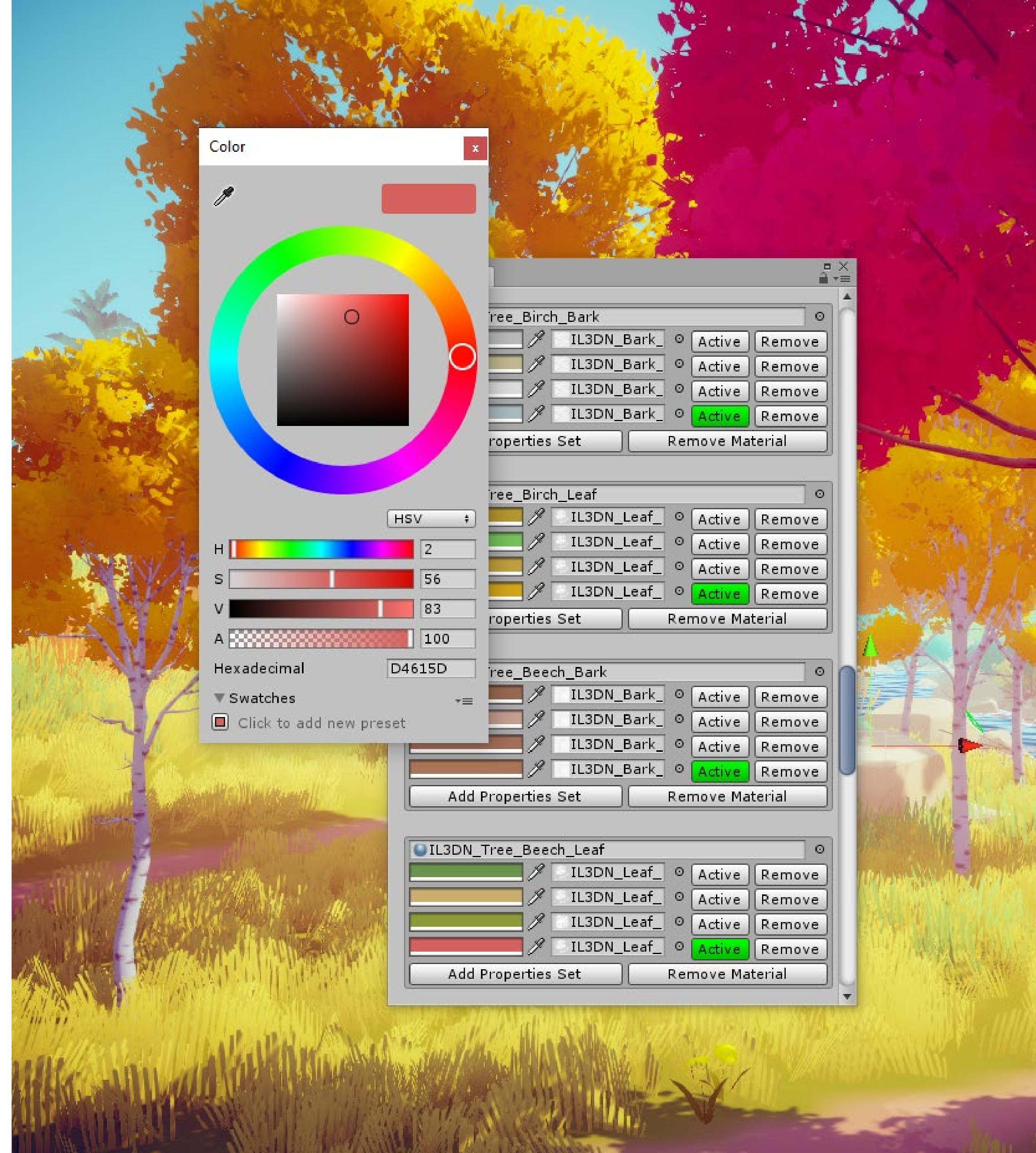
The Color Manager script saves the current active colors with the scene. That means that when you switch the scene it will automatically load your last configuration for that scene.

A good idea is to always have a copy of the color palette with the original material colors that you don't want loose. This way you can always come back to a color palette that you liked.

This tool will be consolidated into a single script and will get more robust as it's developed over time.

Special thanks to **Ovidiu Arion** for helping me with the scripting on this project. His work is available on the Asset Store at:
https://assetstore.unity.com/publishers/19336