CUSTOM VEGETATION PACK

EUCALYPTUS FOREST
DOCUMENTATION V.1.0

Introduction

Thank you very much for buying CVP: Eucalyptus Forest. This vegetation pack was created from scratch collecting references, textures and real sounds of the virgin eucalyptus forests in Latin America. The following will explain the main features and tips to get the most out of it.

You can check the online documentation here:

https://docs.google.com/document/d/1rqI6vAGlaJdQRXdwujPcxQVJkSsgAMGD-iSmISQtrZA/

1: First steps

To be able to import resources it is not necessary to have a new project. Just go to **Assets -> Import Package -> Custom Package** or import directly from the **Asset Store**.

This asset needs **Linear** color space and **Deferred** rendering path to work well, you can change this options on **Project Settings -> Player -> Other Settings -> Color Space** and **Project Settings -> Graphics -> Tier Settings -> Rendering Path**.

IMPORTANT: Compatibility

This assets is fully compatible with **Built-in Render Pipeline**, in order to use it on **Lightweight Render Pipeline** / **Universal Render Pipeline** / **High Definition Render Pipeline** you can test the **SRP-BETA** Shaders in **Eucalyptus-Forest -> Assets -> Shaders -> SRP-BETA** folder depends on your unity project version. But at the moment **SRP compatibility still in beta so be carefull**.

HDRP: 4.10 / 5.7.2 / 5.16.1 / 6.9.1 / 6.9.2 / 7.1.6

LWRP: 4.10 / 5.7.2 / 5.16.1 / 6.9.1 / 6.9.2 / 7.1.6

URP: 7.1.6

If HDRP / LWRP / URP doesn't work and common mistakes

Be sure to download the **correct supported SRP Version**. Be sure you've downloaded all the **SRP dependency files** from the **Package Manager**! Be sure to **switch to linear** Space color when using HDRP.

2: Demo Scenes

You can try the different scenes that are included in this pack to have a reference of how they can be used to generate different atmospheres in different scenarios. To be able to appreciate them better, you must have **Post Processing Stack V2** installed (see more details in the **Third Party Assets section**).

Prefabs-Viewer / Sample-Scene

In **Prefabs-Viewer** the **grid prefabs** are shown. A more practical way to take a look at the whole pack or choose your favs, the lighting is quite standard simulating a **sunny day** outdoors. Otherwise **Sample-Scene** is a **very simple scene** to play with.

Cinematic-Scene

This scene is designed to render cinematics, the density of the **vegetation is quite high** so it is not suitable for gameplay, but to achieve a very realistic forest, the lighting simulates a **sunset**.

Terror-Example

Cloudy day, intense **fog** and an atmosphere of **terror** are shown in this scene.

3: Third-Party Assets

This pack includes some **presets** that can be used with other assets available in the Unity Assets Store. to use them it is **necessary to have previously installed versions**

compatible with these presets. (We are working on new presets for other assets for purposes that will be included in future releases).

Post Processing Stack v2 Profiles

Post-processing profiles contain the touch-up seen in the sample scenes, it is necessary to have **Post Processing Stack v2** installed from **Windows -> Package Manager** to maximize its compatibility. Also included here are some extras such as **Cookies** for flashlight spotlights and textures for the **Lens-Dirt** effect in post processing.

Mtree (Source)

If you have purchased **Mtree** you can import the profiles included in this folder to edit the contents of **CVP: Eucalyptus Forest** at your leisure or create new trees based on them, **it is highly recommended to do this in a dedicated project** and then import the resources to the desired one (to know how to edit with Mtree, go to the respective documentation).

4: Working with LODs

The prefabs in Eucalyptus Forest make use of the **Unity LODs System**, these are pre-configured to work with a **LOD Bias: 2** and **Maximum LOD Level: 0**. You can edit these configuration settings in **Project Settings -> Quality -> Others**.

Editing Prefabs with LODs

In certain cases and depending on the configuration of each project, it may be necessary to edit the LODs of the prefabs, you can access this option from the "**LOD Group**" component located in each prefab. In turn to access the models you can go

to the folder **Eucalyptus Forest -> Assets -> Meshes** there you will find extra less polygonal variants that were not used.

5: Prefabs

The Prefabs are located in the **Eucalyptus Forest -> Assets -> Prefabs** folder where you will find subfolders that divide the content according to their type.

Bushes

Small bushes ideal to cover the **low layers** of the forest.

Eucalyptus/Barks

In general, variants of vegetation but **dry**.

Eucalyptus/Trees

All **common** tree variants are contained here.

Eucalyptus/Trees/Billboards2Background

Lite versions of trees, extremely recommended to add density to the forest in distant areas **without overloading** the polygon scene.

Ground Covers

It contains leaves, dry branches, trunks and barks with very low amount of polygons, **ideal to cover the surface** in walkable areas.

Ground Plants

Some plants that go more flush with the ground, usually go well to **complement** with Bushes.

Ground Surfaces

Here are **Terrain Layers** to use on your own terrains and also a simple **water plane** that can be used when sketching your scenes.

Particles

It contains 3 **Unity Particle System** Prefabs that simulate the fall of leaves from the treetops, to exaggerate this effect it is advisable to play with the values in the **Particle System component -> Emission -> Rate over Time**.

SFX

Prefabs of ambient and **reverberation** sounds these work together with the **Audio Mixer** "**Eucalyptus-Forest-Ambient-SFX**" located in **Eucalyptus Forest -> Assets -> Sounds**.

Wind-Zones

CVP: Eucalyptus Forest works with the **Unity Wind Zone** component in conjunction with the "**Mtree Wind**" component. 3 wind presets for vegetation are included in this pack: **Breeze** (quiet) / **Windy** (normal) / **Storm** (strong). You only need to delete from your scene any Wind Zone that you have previously and drag and drop within your scene one of the 3 presets to achieve the wind effect, these can be modified in real time via script to adjust its direction and intensity.

Skyboxes

To help with the ambient lighting and reflections of your scenes you can use a skybox of the several available with drag and drop from the **Lighting tab -> Skybox Material** then pressing **Generate Lighting** button above the window.

6: Physics Prefabs

Probably you are notified that some prefabs have **Rigidbody** and **Mesh Collider** components attached to it. The idea behind this is to position the objects on the surface in a realistic and easy way, emulating at some point the technique seen in the **Book of the**

Dead - Uber Tree Spawner. Once the desired result is obtained, both components of these objects in the scene must be eliminated to reduce the consumption of GPU and CPU.

7: Tips and Tricks

Some helpful ideas to improve the graphics, performance and level design.

Object Placement Tool

To take advantage of **Physics Prefabs** it is highly recommended to use this tool, which is available at the following **link** of the asset store.

By setting a **Y (up) Offset to 1** you can spawner small objects to cover the surface realistically.

Several **Ground-Covers** prefabs use a single **material** so they can take advantage of the **Combine Mesh** tool for **meshes**, grouping and combining them to dramatically reduce the number of **drawcalls**.

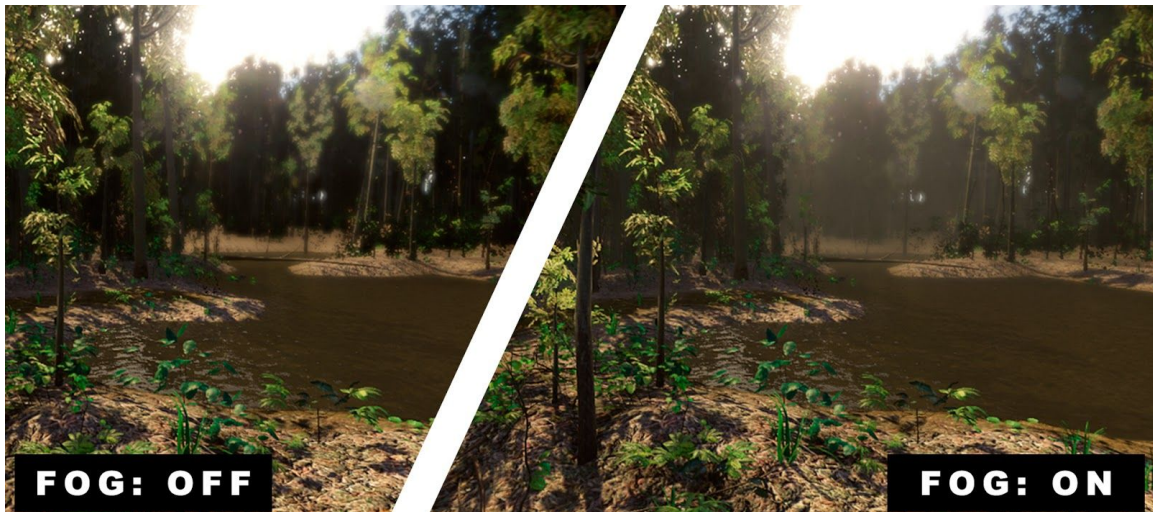### Reduce Shadow Distance and Camera Clipping Planes

It is a good practice to limit the distance of the shadows as much as possible in scenarios with high density of objects such as forests, since you will not be able to see too much in the distance anyway. You can access this from **Project Settings -> Quality -> Shadow Distance**. It is also highly recommended for the same reason, adjust the **far** property in **Camera Clipping Planes** of your Main **Camera** and make sure that the Shadow Distance is not greater than the far Clipping Planes.

Occlusion Culling

Use walls, terrain elevations or other obstacles on your stage to **reduce the amount of objects rendered per frame**, making efficient **Occlusion Culling** bake.

Use far Fog

It is useful for simulating **shadows** and **ambient occlusion** or **volumetric light** from distant areas of the forest. Set subtle values and colors that integrate well with your scene. **This technique helps compensate for the loss of quality** by adjusting the Shadow Distance and Camera Clipping Plans mentioned above. Be sure to check your camera's Post Processing Layer option: **Deferred Fog -> Exclude Skybox** to prevent the fog from covering your sky.

8: HD Photoset References

We have carefully curated a part of the creation process for you, this resulted in several **HD images** format as well as **videos** that will serve as a reference to put together more realistic scenarios, as well as take reference on **lighting** and **distribution** of elements of the environment. You can access following this **link**.

9: Change Log

- First Release.

10: Known Issues

- Waiting for reports.

11: Contact

Thank you for read this documentacion. If you find some errors, suggestions or need a new customized pack of vegetation you can contact me at: **alexanderelert@outlook.com**

- **I'm waiting to see your creations using the CVP: Eucalyptus Forest!**