Wave Creator

Thank you for buying Wave Creator. I hope it helps with your game development.

This document is split into 3 parts. Setup, Options and Popular Problems.

Setup

So how do you get started, I would recommend watching this Overview Video, in it I explain everything about Wave Creator. Nevertheless I have provided a brief summary below.

- To create a Water Body go to GameObject / Create Other / Water Body. After creating the Water Body a message will appear in the console. Go to (project view) Wave Creator / Scene Assets / 'Replace with Scene Name' Water Assets / Skybox Reflection Cubemap and replace the grey Cubemap textures with the textures of the skybox you are using.
- To add the float script to a game object go to Component / Scripts / Float.
- To add the submerged effect to a game object go to Component / Scripts / Submerged Effect.

Options

In this section I will go over all the options you can change in Wave Creator.

Wave Creator Window (Create Water Body)

- Width - Length of the Water Body along the x axis.
- Length - Length of the Water Body along the z axis.
- Performance Options - The first option is the resolution of the mesh. This is how many vertices and triangles the Water Body has.

Mesh	Vertices	Triangles
High	65025	129032 (max)
Mid	10201	20000
Low	2601	5000

The lower the number of verts and tris the greater the performance but the wave movement and specular highlights will be more jagged. It is therefore wise to use the low res mesh on mobile devices. This is the mesh which was used in the Mobile Performance video.

The second option is a choice of Shader, this is explained below:

Shader	When to use
Wave Creator +	When developing for PC or Mac
Wave Creator Mobile +	When developing for newer mobile devices, such as iPad Air
Wave Creator Mobile	When developing for older mobile devices, such as iPhone 4s

Wave Creator Shader

- Deep Water Colour - The colour of the deep water.
- Shadow Water Colour - The colour of the shallow water.
- Shallow To Deep Adjustment - This variable dictates where the shallow water ends and where deep water starts.

- Water Texture - The water texture.
- Normal Texture - The bump map used for specular reflection.

- Specular Colour - The colour of the specular highlight. (black will not show up)
- Shininess - How spread out the specular highlights are, this should not be below 25.

- Cubemap - The Cubemap texture which is reflected in the water.
- Reflect Power - How much the Cubemap is reflection in the water.

- Foam Colour - The colour of the foam (the alpha component is active)
- Foam Texture - The foam texture.
- Shoreline Foam Amount - The amount of foam around the shoreline.
- Wave Foam Amount - How shallow the wave has to be for foam to appear on it.

- Height - The maximum height of a wave, the distance between the highest peak and shallowest trough is twice this value.
- Steepness - How steep the sides of the wave are.
- Frequency - The number of waves.
- Velocity - The speed of the waves, can be set to a negative value for the waves to flow backward.
- Direction Type - When Direction Type is set to Directional, X Direction and Z Direction make up a Vector2 direction which all waves travel in. When Direction Type is set to Circular, Move Towards X and Move Towards Z make up a point where the waves flow towards. (0,0) is the centre of the Water Body.
- Wave Fadeout - How close the camera has to be to render waves.

- Regenerate Heightmap (button) - Press this button to regenerate the heightmap if you modify your terrain.
- Heightmap - Wave Creator uses this to create deep and shallow areas and shoreline foam. Don't change manually.

Float

- Water Body - Assign the Water Body you want the object to float on to this variable.
- Offset - This is added to the actual height of the wave, if this is a negative number the game object will sink into the waves, if positive the game object will rise up, out of the waves.
- Random Rotation Factor - How much the object rotates in the water, this creates a more realistic effect, use a small value for this if the object is large such as a ship.

Submerged Effect

- Water Body - Assign the Water Body you want the camera to react to to this variable.
- Under Water Colour - The colour the fog changes to when the camera is underwater.
- Under Water Visibility - The density of the fog when the camera is underwater. (how far you can see underwater)

Popular Problems

- If you do not save your scene before you create your Water Body a null reference exception will occur or say that 'Water Assets' is not a suitable folder name.
- The Wave Creator Shader reacts to the camera in both scene view and game view whereas the float script only reacts to the camera in game view. This means that the float script may not look like its working in scene view but it should always work through the game view.
- When Direction type is set to Circular and Move Towards X and Z are equal to 0 the waves will flow towards the centre of the Water Body.
- There must be another object with a renderer in the scene as well as the Water Body for the Water Body to detect changes in light.