UPDATE 1.0

VOLUMETRIC FOG – New method that uses a localized volumetric fog effect for more accurate underwater ray effect. For better visuals included are two adjusted instances of existing materials that take into account this new feature:

1_Volumtric_Fog_CC

2_Volumetric_Fog_PPFog

NOTE: For best visuals disable all the old post-process materials that create rays.

Volumetric_Fog_Emitter – A stationary particle that acts as a base for the volumetric fog effect.

Volumetric_Fog_Material

> Area Size

X Axis
Y Axis – These control square area covered by the volumetric fog
Z Axis

Vector Parameter Values

> Fog Color – Sets fog color.

Scalar Parameter Values

Density – Controls fog thickness/visibility

Edge Falloff – Controls edge hardness of the fog along the area borders

Near Fade – Fades out fog near camera – Useful to minimize certain artefacts when moving through the fog.

NOTE: To get this effect to work properly you will need to also add an "ExponentialHeightFog" component to your level and turn on "Volumetric Fog" (if your level does not require fogging outside of the water you can set the fog density to a very low number.

This is a very expensive rendering feature which should be used with the "Cinematic" project settings for best effect.

To get the volumetric particle to show rays make sure to light it with "Caustics_LightFunction_NEW".

LIGHT DIRECTION

Light_Direction – Parameter Collection for light vectors used in "**New_WaterSurface**" and "**PostProcessRays_Direc**"

Light_Direction_BP – Blueprint actor that dictates light direction used in **New_WaterSurface**" and "**PostProcessRays_Direc**" via the **Light_Direction** parameter collection.
To use drop in level and rotate, light intensity can be disabled with no effect on materials of other lighting is present on the level by selecting the "**Light_1 (inherited)**" component and adjusting the light settings in the Details menu. When rotating the actor make sure so have selected the entire "**Light_Direction_BP(self)**".

New_Water_Surface – Identical to the previous "**Water_WS_Master**" shader used in all maps with the exception of the removal of manual "**Light Vector**" and "**Light Vector Mask**". These are now set via the orientation of the "**Light_Direction_BP**" within the level.

PostProcessRays_Direc – Identical to the previous "**PostProcessRays**" shader used in all maps with the exception that this shader will now adjust the orientation of the rays based on the direction of the "**Light_Direction_BP**" within the level.

SCREEN DROPLETS

Screen_DropletsMat

> Blur Control

Blur Samples – Number of samples/Blur Quality
Blur Distance – Amount of blur

> Normal Map

Droplets Normal – Normal Mask strength and control of the droplets
Radial Mask Size – Mask used in fading out the droplets normal near the screen edge.

> UV Control

X Tile – Control texture tile in the X axis
Y Tile – Control texture tile in the Y axis
Tile Multiplier – Scale both XY directions equally
X Offset – Offset texture along the X axis
Y Offset – Offset texture along the Y axis

> Water Line Mask - Standard Waterline mask adjustments (see full Intructions.pdf)

> Droplet Brightness – Increase or decrease the color value of the droplets on screen.

Water_Droplets_Parameter – Parameter used for blending of the Screen_DropletsMat. Controls the spawn and fade of the effect when exiting a trigger box.

NOTE: For the purpose of demoing the effect there is a basic set-up in the Sunset level for this effect. It currently uses a TiggerBox and a basic blueprint located in the level blueprint that feeds in the Water_Droplets_Parameter. This is just for demo purposes and could be implemented in other ways.

Caustics_LightFunction_NEW – Identical to old function with a different texture.

DEMOS

The following maps contain demonstrations of the new effects.

SunsetMap_NewPP_Rays

- **Directional Post Process Rays "PostProcessRays_Direc"**
- **New Surface Water shader "New_Water_Surface"**

SunsetMap_NewVol_Rays

- **Volumetric Rays "Volumetric_Fog_Material"**
- **New Surface Water shader "New_Water_Surface"**

1_SunsetMap

- **Screen Droplets on water exit (must be in play mode) "Screen_DropletsMat"**