



# **Crest - Splines**

***Release 1.4.2***

**Wave Harmonic**

**Sep 04, 2025**

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## **INTRODUCTION**

The Splines package brings splines to Crest 5. They can control waves, water level, flow and foam. Popular use cases for splines are streams and shorelines, but they can be used for much more.

### **1.1 Features**

- Point-level controls of waves, water level, flow and foam
- Data can be oriented lengthways or sideways, and in-between, for streams and shorelines respectively
- Integration with Unity Splines

## RELEASE NOTES

### 1.4.2

#### Optimizations

- Optimize spline data by reducing data on mesh

### 1.4.1

#### Fixes

- Fix script compilation errors if Unity spline package not present

#### Optimizations

- Optimize render state for spline input shaders (cull back faces etc)

### 1.4.0

#### Changes

- Greatly improve Unity Spline integration by integrating with SplineContainer directly instead of using SplineInstantiate
- Add tooltips to enum options
- Improve “Override Global Wind Speed” default value
- Make new Gerstner swell preset the default for shoreline waves

Full version history has been omitted for brevity. It can be found at [Release Notes](#).

## SPLINES

Splines are useful tools for authoring. They can give a more convenient workflow than using primitive meshes as they are malleable in the editor. Furthermore, splines are imbued with data like velocity and direction for waterflow.

A common use of splines is to set the water level to follow a riverbed using the *Level Input* component. A spline may also be used to add waves or flow velocity. Another typical use case of splines is to add waves aligned to shorelines.

### Usage

Firstly add a Spline component to an empty game object. Then use the controls on the spline to add spline points – similar controls are also available on the spline points themselves.

To get started:

- Add a Spline component
- Use the spline controls on the spline to add two spline points

You will notice no spline mesh has been generated. This is because splines do nothing by themselves and are used in conjunction with Lod Inputs and *Shape* components.

The following components can be used with splines:

- *Level Input* can be used to set the water level to match the spline.
- *Flow Input* can be used to make the water move along the spline.
- *Foam Input* can be used to generate foam at specific spline points.
- *Shape FFT/Gerster* can be used to generate waves that propagate along the river.

Relevant data components will automatically be added to spline points. For example if the spline is used with a *Flow Input* component, the *Spline Point Data Flow* component will be added to spline points which can then be used to configure the flow speed.

### Lakes

Splines can be used to create lakes by adjusting the radius on each spline point.

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#### Example

The Lakes sample contains an example of a river connecting two lakes.

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## Rivers

Splines can be used to create rivers and it is one of its strengths as when used with a *Flow Input* water will flow in the direction of the spline.

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### Example

The Lakes sample contains an example of a river connecting two lakes.

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## Shoreline Waves

Waves can be directed to be orthogonal to a spline to simulate shoreline waves by changing the *Wave Direction Heading Angle*. This works well with Shape Gerstner when *Reverse Wave Weight* is set to zero.