

Weirs

Weir Nodes are different to Storage nodes in that they provide a method of modeling the upstream reach and storage relationship in the stretch of river that the weir inundates. You can define the storage in the same manner as a link, which may be important for constituent modelling. If you do not want to configure storage routing through a weir, you can define the upstream storage relationship as 0. Configuration of a weir is similar to that of a storage routing link. Refer to [Configuring storage routing](#).

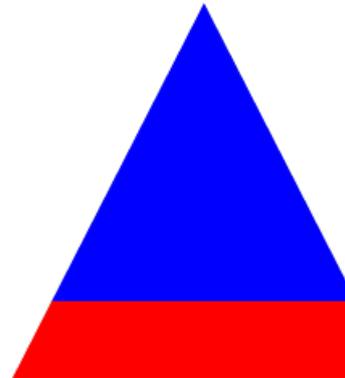
Conversion between a storage node and a weir node is available through **Tools >> Convert Storages and Weirs**. The retained settings during conversion are:

- All the weir setting (geometry, rainfall, etc) will be kept
- The downstream link and outlets will be retained
- Modelled variables will be retained
- Function and data sources will be retained
- Ownership and Constituent data will be retained

Note: Operations override data is lost

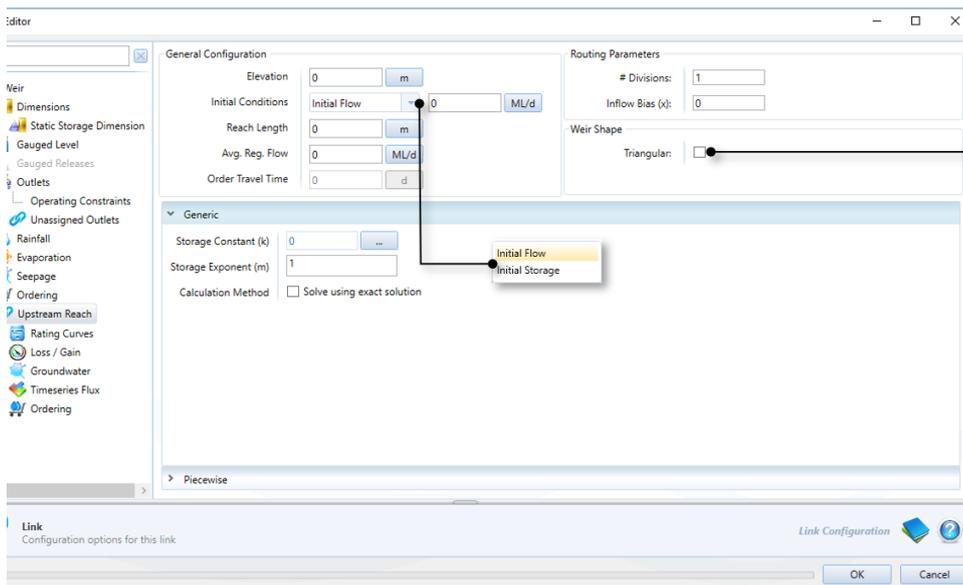
Two weir shapes can now be defined. By default the Weir Node will have a rectangular effective storage area, as in the original Source Weir Node. By selecting the Triangular check box the Effective Storage Area of the Weir Node will be calculated using a triangular method which represents the more correct geometry of normal river reaches. Refer to [Weirs - SRG](#) for further details.

The weir-related data entered for the storage node refers to the volume of the upstream reach that is inundated for a given operating level of the weir. The outlet relationships of the weir allow you to define a default outlet, which represents the main downstream flow path from the weir. For a re-regulating weir, this should be a **Gated Spillway**. Ensure that you incorporate the rating curve further downstream of the default outlet to constrain the maximum outlet capacity of the **Gated Spillway**.



Note: Outlets MUST be configured correctly; a default outlet MUST be set as a regulated release. The weir functionality will not operate to target levels and a warning will appear when the default outlet is set as an unregulated release.

Figure 1. Weir, Upstream Reach



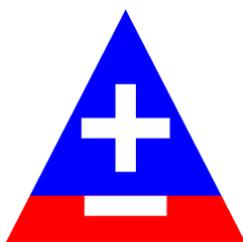
Specifying operating targets

Under Operating Targets, both ***Minimum operating level*** and ***Maximum operating level*** are only used when the storage is configured as a weir. The storage will not release water to satisfy downstream requirements if this results in the water level dropping below the minimum operating level. Likewise, water will be released to prevent the storage rising above the maximum operating level.

Gauged Level and Releases

As for storages, it is possible to overwrite modelled data with observed data in a weir using either Gauged Level and/or Gauged Releases. When you do so, the weir icon changes to indicate this (Figure 2). See [Gauged Level](#) and [Gauged Releases](#) for more information.

Figure 2. Weir, observed data replaces modelled data



Configuring ordering

When configuring ordering for a weir, refer to [Ordering at storages](#).

Note: If *Pass orders through storages* is enabled at a weir, the operating targets are not used to determine orders, even if they have been configured.

Weirs and constituents

Weirs only currently work with marker constituent routing and does not yet work for Lump constituent routing.

Weirs only work with Piecewise-linear Integral method for processing flows and volume changes.