

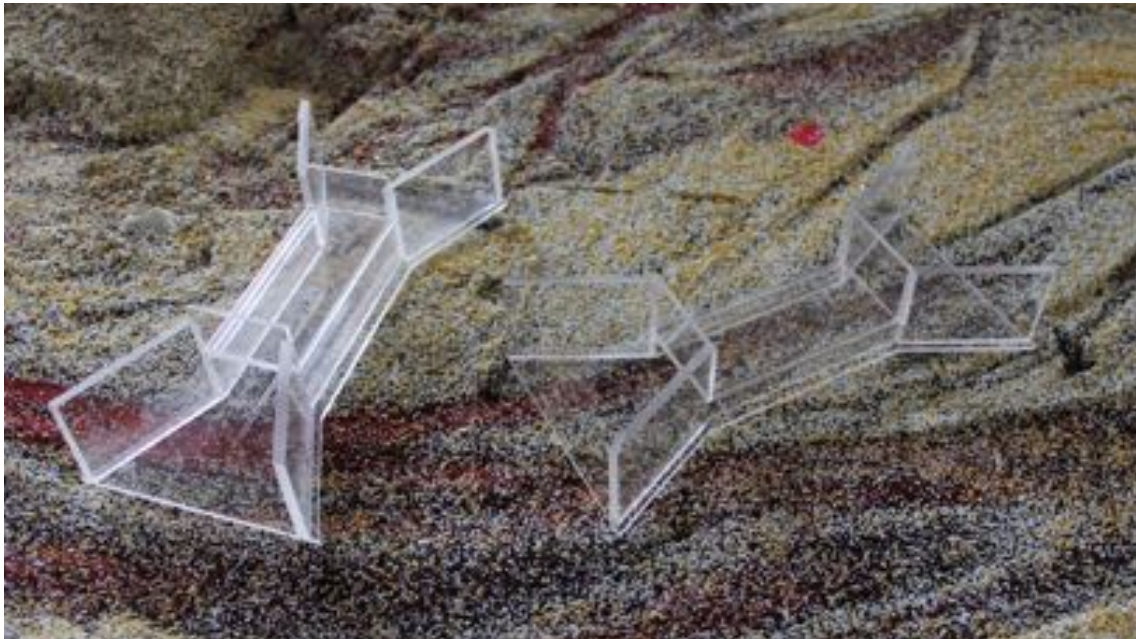


### Emriver Structures Kit

- 1/2-inch-tall model box culvert
- 1-inch-tall model box culvert
- Model walled culvert
- Model double walled culvert
- Model houses

A **culvert** is a closed conduit used to convey water from one area to another, usually from one side of a road to the other side.

The Structures Kit comes with two sizes of box culverts, a 1/2-inch-tall and a 1-inch-tall.



The culverts can be used in an Emriver model to demonstrate the effects of stream flow on different sized culverts.

The culverts are clear so that one can see how the sediment flows through them.



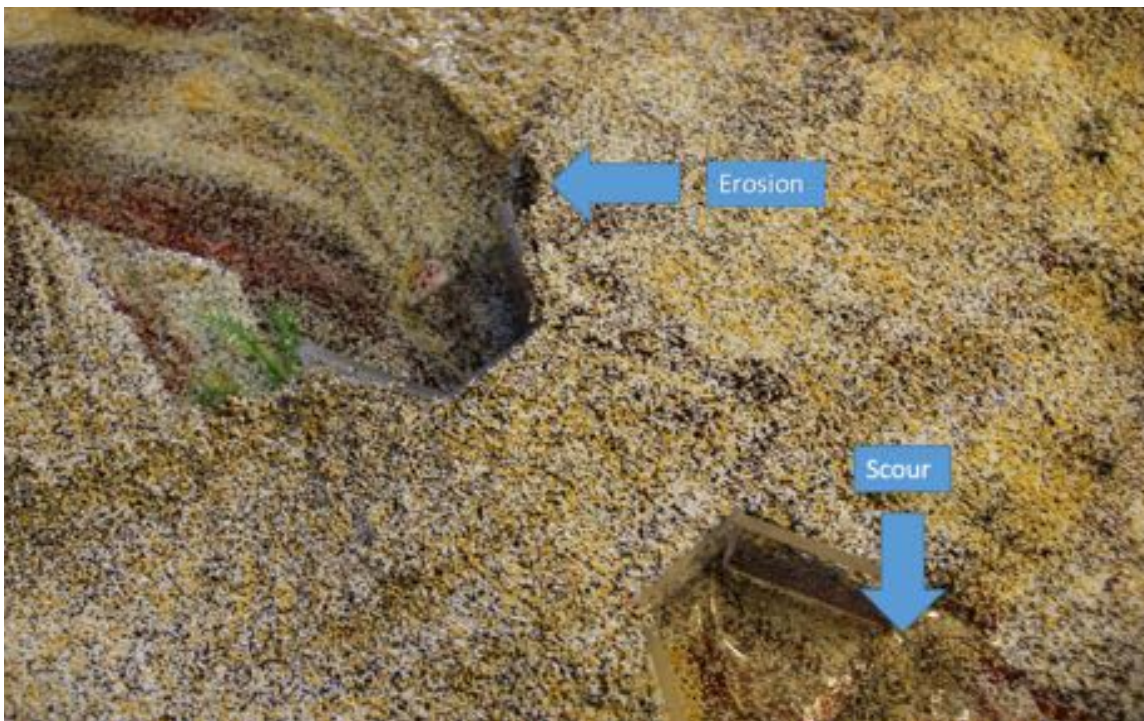
To use a culvert, place it in line with the stream flow. Next, push the media along the sides of the culvert so that the water is flowing into it.



Alternatively, media can be put over the culvert to model bridges.



Either way, some things to look for when the flow exceeds the capability of the culvert include erosion and scouring.

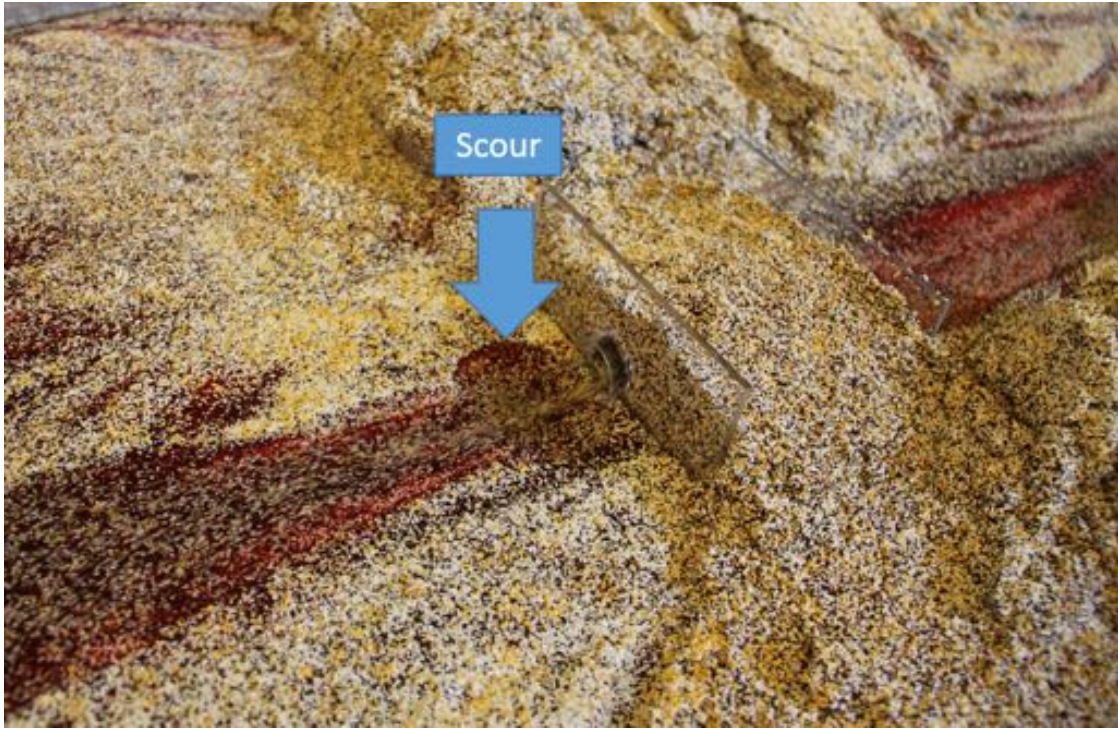




The Structures Kit also comes with single and double round culverts. A general rule of culvert design is that culverts should be designed to easily handle 20-year floods.



If a culvert is too small, it will cause water to back up upstream and cause scouring downstream. If a culvert is too large, it is a waste of resources, materials, and labor.



If a culvert is too high (a perched culvert), then it disrupts ecological flow and causes scouring. If a culvert is too low, it is likely to fill with silt. You can demonstrate all of these scenarios with the model and Structures Kit.



Double culverts double the wetted perimeter of the culvert and allow for larger flows.



The houses included in the Structures Kit are useful in modeling the drawbacks of building in the floodplain, such as bank failures