



Designing Fish-Friendly Culverts (and bridges)

THE PROBLEM WITH BLUE BROOK

- In the eastern part of the U.S. (show U.S. map), up in the Blue Ridge Mountains of Virginia, there is a beautiful little river called Blue Brook. Blue Brook comes out of the mountains flowing fairly quickly, over cobbles and rocks creating riffles and runs, meanders around bends in the river, picking up speed in some places and slowing down in others as it reaches the valley below. It then joins a larger river, called the Buffalo River and flows all the way to the Chesapeake Bay.
- In Blue Brook and in the Buffalo River is a colorful wild fish called an eastern brook trout (aka brook trout). The brook trout migrate up into Blue Brook in summer to escape warm temperatures in the rivers of Virginia, and there they stay to spawn and reproduce in the fall. For more information on brook trout: <https://bit.ly/2w8NtUj>.
- There are many roads connecting the people that live in the mountains, and many cross over Blue Brook and the Buffalo River. Currently, cars and trucks cross Blue Brook at Buffalo Ford, using an old culvert.
- Unfortunately the culvert was not constructed with fish movement in mind. There is a three foot drop on the downstream end, and a big pool of water is forming below the culvert. Local citizens and anglers say fish are harder to find upstream of the culvert, they are catching fewer fish, and they are upset.
- There also is erosion along the river banks, and flooding over land upstream of the culvert, especially when it rains a lot. Landowners along Blue Brook are upset by the loss of property (adjacent to the stream) as well as concerned for their safety.

Possible Questions To Ask:

- What might be some of the reasons (or causes for) why fish are harder to find upstream of the culvert?
- Why might there be flooding upstream of the culvert?
- What would you do to help restore the fish upstream of the culvert?

