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Salmon Creek Oil and Gas Sedimentation Impact Assessment
Forest County, Pennsylvania

Much of Salmon Creek is located in Allegheny National Forest and has undergone extensive natural gas and oil development. This development was thought to have been causing widespread degradation of habitat in Salmon Creek and negatively impacting spawning opportunities for native trout that utilize riffles for reproduction. The sediment was assumed to have been coming from newly developed lease roads, well pads, and tank farms.

To understand potential sedimentation impacts to Salmon Creek and Little Salmon Creek (a key tributary) a substrate study was conducted to examine sediment characteristics (particle size and percent fines) in riffles near those areas downstream from intensive development and riffles located upstream that were not subject to similar oil and gas development.

Repeated sampling across transects in riffles using a quantitative method developed by Bunt and Asp (1999) found that the percent of fine sediment in riffles were not significantly different in riffles downstream of development activities when compared to upstream, unaffected riffles. In both instances fines were not impacting riffle use by trout in Salmon Creek.

Sediment, while generated by oil and gas extraction, is also being contributed to streams by dirt/gravel roads and other development activities. In addition, trout numbers were generally low in the Salmon Creek main stem but is most likely related to poor productivity, acid precipitation, and poor buffering capacity of soils.

Photo below shows gravel sizer and frame used to sample riffles in Salmon Creek following the protocol Bunt and Asp (1999).

Air Photo of Oil & Gas Development in ANF

Sediment Impact to Little Salmon Creek

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