

Bacon Ridge Stream and Floodplain Restoration

Crownsville, Maryland



From top: Eroded stream channel before restoration; in-stream engineered wood structure; the stream during construction

The first stream restoration project in Maryland to use only wood harvested on site to restore floodplain functions.

With expansive wetlands, mature forests, and its namesake creek at its center, Bacon Ridge is a true natural gem. Unfortunately, it has undergone a series of changes over the years, including deforestation and development, that resulted in an extremely unstable and degraded stream channel.

Much of the stream channel contained visible signs of erosion including lateral migration, toe slope failures, and active head cutting and incision. These issues decreased groundwater levels and storm-flow access to the floodplain, and increased sediment supply to the downstream reaches, thus degrading water quality. To restore approximately 2,850 linear feet of mainstem channel, along with 1,500 linear feet of side channel, the

Arundel Rivers Federation turned to Biohabitats.

Using 90 in-stream engineered wood structures, harvested on-site, the team installed log jam grade controls and valley-wide sill structures across the floodplain to achieve floodplain reconnection while limiting the development of channel avulsions and nick points. This restoration created long-term bed and bank stability, slowed storm water flows to reduce sediment and improve water quality, and enhanced the ecological functions of non-tidal wetland and stream habitats.

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