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Do Beaver Dam Analogues Really Mimic Beaver Dams?

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Beavers profoundly alter streams by building dams. Beaver dams change how water, sediment, nutrients and energy flow through stream corridors enhancing both habitat diversity and landscape connectivity. Humans are captivated by learning from nature and trying to mimic it, especially in human-degraded environments. There is considerable eagerness for using beaver dam analogues (BDAs), also called simulated beaver structures, as low-tech, low cost solutions for restoring the functioning of degraded streams where beavers are not present and cannot survive. The use of BDAs in stream enhancement projects, especially in the western United States, is outpacing the research, leading to questions about whether BDAs do, in fact, yield similar ecosystem-scale effects as natural beaver dams. We review the different names used for BDAs, discuss the many ways these structures can be built and how different types function, and how they compare to real beaver dams. We conclude the talk by exploring what we can expect from various types of BDAs in the short and long term and whether these structures can lead to stream and riparian zone restoration that can facilitate the return of beavers.