Use of Rock Vanes in lieu of Armor Stone for Stream Bank Protection

By

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16:30 – 17:30, Room 2315 GG Brown

SUMMARY
Stream bank protection can be classified into Resistive vs. Redirective methods. Armor stone (riprap), which is widely used in engineering practice, is a good example of a resistive approach. The armor stone is placed against the bank where it provides continuous protection against scour and erosion along a reach of shoreline. Rock vanes, on the other hand, are discontinuous structures; they are placed at an angle to the bank where they redirect high velocity flows away from the shoreline. The merits and limitations of each approach will be reviewed.

Rock vanes provide complex and diverse aquatic habitats. Armor stone on the other offers far fewer, if any habitat benefits. These differences in function and aquatic habitat value will be discussed further in the seminar. Examples of rock vanes used in several local stream bank protection projects along the Huron River and its tributaries will be described.

Both the function and habitat value of armor stone can be improved by incorporating live vegetation into the porous armor. Live cuttings of willow (and other riparian plants) can be established in an armor stone revetment using the so-called “joint planting” and/or “bent willow pole” method. Examples of this approach in bank protection work will also be presented.
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