

CEI NEWS

Flood Management



CEI Presents to FEMA Region I on Smart Stream Crossing Design

The FEMA Region I Environmental & Historic Preservation Office invited CEI's David Nyman, P.E., to speak at FEMA's Boston office on "*Smart Stream Crossing Design: Providing Flood Resiliency and Wildlife Passage by Working with the Stream*". The May 9, 2013 session was attended by professionals of FEMA's Region I staff, representatives of the US EPA and Massachusetts DEP, and via webinar by other FEMA staff across the country.

The presentation explored the design of replacement culvert and bridge structures in New England, to reduce vulnerability to flood damage while at the same time improving habitat at existing roadway stream crossings.

More frequent and more severe storm events, with associated flooding at culverts and bridges, have focused public works managers' attention on the vulnerability of roadway infrastructure. At the same time, environmental agencies have been developing policies and regulations to improve wildlife passage at these structures. With many stream crossing structures undersized and at risk, and an evolving regulatory interest in these structures' impacts on habitat, maintaining sustainable infrastructure calls for proactive and innovative approaches for improving stream crossings.

In this case, prudent flood management and responsible environmental stewardship work hand-in-hand. Measures designed to reduce flood vulnerability at road/stream crossings provide potential "win-win" opportunities; suitably designed replacement structures can have positive benefits for both flood control and wildlife passage. Stream crossings can be improved for greater flood resiliency and improved wildlife passage, by designing to accommodate natural stream processes. By preserving or simulating the stream's natural cross sections to the extent practicable, new and replacement structures can improve conveyance of not only water, but also sediment and debris, in addition to wildlife.

You can access Mr. Nyman's presentation here ([click link](#)).

For additional information on the design of culverts and bridges for wildlife passage and increased flood resiliency, please contact David Nyman, P.E. at 508.281.5160 dnyman@ceiengineers.com.

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