

JOINT COMMITTEE ON FISHERIES ENGINEERING AND SCIENCE



2020 Webinar Series



PRESENTER BIOGRAPHY

Robert Gubernick is a Watershed Restoration Geologist for the USDA Forest Service National Stream and Aquatic Center (NSAEC) and provides technical assistance to national forests on a variety of stream restoration and road management issues. From 2011 to 2018, Bob was on the Region 9 technical services team as the watershed restoration geologist. From 1981 to 2010, Bob was the engineering geologist and the lead fish passage engineer for the Tongass National Forest in Alaska and also supported projects in the Chugach National Forest and worked with the Bureau of Indian Affairs on a variety of projects. Bob is member of the FishXing development team and regularly leads workshops on site assessment and fish passage, develops technical guidance for designing road-stream crossings, and provides technical assistance to national forests, federal agencies, state agencies, and non-government organizations on road-related issues.

WEBINAR INFORMATION

Date: Wednesday, September 9, 2019

Time: 2:00 PM ET, 1:00 PM CT,

12:00 PM MT, 11:00 AM PT

Duration: 60 Minutes

Please use the following link to register for this webinar:

<https://fisheries.org/2020/06/webinar-september-9-stream-simulation-design-methodology/>

Stream Simulation Design Methodology: A Design Methodology for Adapting Road Crossing Infrastructure (bridges and culverts) to Climate Change

Robert Gubernick

Watershed Restoration Geologist, USDA Forest Services
National Stream and Aquatic Center

Climate change has resulted in increased frequency and intensity of large storm events strained existing transportation infrastructure due to factors including undersized stream crossings. Current research indicates shows precipitation events of 25mm to 75mm have increased by 45 to 50% in the eastern United States. In the last 8 years, the 13 National Forests in the northeast region sustained over \$52 million of damages from these large storms.

The US Forest Service manages ~612,000 kilometers of road across an extremely diversified landscape. Adaptation of this infrastructure to address climate change is imperative to maintain road infrastructure, including stream crossings, to maintain and improve flood resiliency of our society's transportation systems. The US Forest Service Stream Simulation Design methodology was originally developed for Aquatic Organism Passage (AOP) but has been shown to result in improved resiliency following extremely large flood events (>>Q100 to Q500+). Stream simulation is a geomorphic-based design methodology that creates more natural stream channels at road-stream crossing and improved resiliency for passage of aquatic organisms.

The Joint Committee on Fisheries Engineering and Science is hosting a free webinar series as part of its mission to engage scientists and engineers on topics related to fish passage. The Committee consists of members of the American Fisheries Society Bioengineering Section (AFS-BES) and the American Society of Civil Engineers Environmental and Water Resources Institute (ASCE-EWRI). It was established in January 2011 to foster communication between the two groups, provide opportunities for engineers and biologists to share relevant knowledge and learn from one another, and to collaborate on projects related to fish passage.

[This webinar is jointly sponsored by the Committee and AFS-BES.](#)