Title: Stream Functions Assessment and Rapid Index (SFARI) for Evaluating Ecosystem Condition

Presenters: Dr. Leanne Stepchinski, Dr. Gabrielle David, and Dr. Garrett Menichino

Abstract: The Stream Functions Assessment and Rapid Index (SFARI) is a rapid, reach-scale stream assessment method that is applicable across a broad range of stream types in the United States. SFARI uses field indicator metrics to score stream functions, evaluating stream physical, chemical, and biological condition with a semi-quantitative scoring approach. SFARI provides a standardized set of stream functions and variables, and scoring guidance to produce comparable condition results across sites and regions. SFARI fits within a broader tiered stream assessment framework as a rapid-level assessment approach that can be applied to condition evaluation and alternatives analysis for ecosystem restoration. This webinar will cover the limits of common rapid stream assessments, the need for comprehensive function coverage in assessments, and the SFARI structure. The webinar will also demonstrate application of SFARI with field studies that have been performed across the country.

Leanne Stepchinski, PhD

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Bio: Leanne Stepchinski is an ORISE Postdoctoral Fellow with the U.S. Army Engineer Research Development Center (ERDC) Environmental Laboratory. She holds a B.S. in Geosciences from Trinity University, and a Ph.D. in Geology with a focus in Ecohydrology from the University of South Florida. Her research focuses on wetland and stream hydrology, with applications in stream assessment.

Gabrielle David, PhD

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Bio: Gabrielle David is a research physical scientist specializing in fluvial geomorphology in the Remote Sensing/GIS Center of Expertise at the U.S. Army Engineer Research and Development Center (ERDC) Cold Regions Research and Engineering Laboratory (CRREL). Dr. David leads applied research projects on stream systems in support of the US Army Corps of Engineers (USACE) Regulatory Program through the ERDC-led Wetland Regulatory Assistance Program (WRAP). Prior to her time at ERDC-CRREL, Dr. David was a visiting assistant professor at Boston College and Bowdoin College. Dr. David received her BS in Environmental Geology from The College of William and Mary and her MS and PhD in Geosciences from Colorado State University.

Garrett Menichino, PhD, PE, CFM

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Bio: Garrett Menichino is a research civil engineer with the U.S. Army Engineer Research and Development Center (ERDC) Environmental Laboratory (EL). His research focuses on linking the hydrologic and hydraulic processes in water resources infrastructure to ecological functions, with applications to river restoration, floodplain management, and flood risk management. Dr. Menichino is a licensed civil engineer in the State of Virginia and is a Certified Floodplain Manager with the Association of State Floodplain Managers. Dr. Menichino received his BS in Civil Engineering from the University of Virginia and his PhD in Civil Engineering from Virginia Tech.