

**Understand
the problem
before
deciding on a
solution...
fix the river or
fix the bridge?**

**Yellowstone
River
1950 to 2004**



Thought Leader

Join us at the
AREMA BRIDGE INSPECTION & STREAMBED SCOUR SEMINAR *QUEBEC, PQ,
CANADA, JUNE 12-15, 2017*

“Streambed Erosion Hazard Recognition & Countermeasures for Railroad Embankments and Bridges” Seminar will start immediately following Bridge Inspection, Wednesday, June 14, 2017, 930 Centre de Services, 930 Chemin Sainte-Foy, Quebec **Register Now!** <https://www.arena.org/Seminars/index.aspx>

The most common natural hazard that takes a railroad out of service is erosion of track embankment and bridges. A track wash out is not only costly to repair, but also results in long periods of service interruption. To be sure, the cost to repair damages after track has washed out is often greater than the cost to mitigate erosion at the first sign of unstable streambeds.

This highly dynamic and interactive session is regionally focused, and ready to tackle audience case studies on the fly. Attendees will learn strategies that increase survivability of railroad infrastructure to natural hazards. This seminar teaches participants to recognize early signs of impending streambed instability, and design procedures that may mitigate erosion.

Speaker:

- **Erich G. Schmitz, PE, Wilson & Company, Kansas City, MO**
- Steve Hill, VP & Chief Engineer, Iowa Pacific Holdings (ret), Chicago, IL



**Inspect: Determine
what's going on below
the surface utilizing
underwater sonar.**



**Determine unique solutions
based on location.**

**Case Study: 500 geotech
filter bags individually
placed to fill in breached
sections of levee**



Meet Our Presenter

Erich Schmitz, PE, specializes in hydrologic and hydraulic design, and has served the rail industry as a technical advisor for flood mitigation, emergency response, and service recovery. He has been a teaming partner to railroads and state highway departments and has directed or performed hydrologic, hydraulic, and bridge scour analyses at hundreds of locations across the country. Erich has taught the American Railway Engineering and Maintenance-of-Way Association (AREMA) course on streambed hazard recognition for Class I railroads since 2009. Erich.Schmitz@wilsonco.com

Things You'll Learn

- Characterize stream instability and scour problems at railroad bridges
- Causes and types of scour
- Inspecting for scour
- Show how to estimate the likely magnitude of scour at bridges during floods
- Illustrate common countermeasures for bridge scour and stream instability
- Provide guidance on selection of countermeasures
- Illustrate, using actual case studies

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**WILSON
& COMPANY**

discipline | intensity | collaboration | shared ownership | solutions