Guidelines for the Engineered Placement of Wood in Rivers

2008 Northwest Stream Restoration Design Symposium
Skamania, WA

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Guidelines needed for the engineered placement of wood in rivers

- Historical wood removal
- Wood reintroduction
  - Habitat enhancement
  - Bank stabilization
  - Riparian forest recovery
- Challenges for scientists, designers, & contractors
- Compatible with public safety & property

Bernhardt et al. 2005
Collins et al. 2003

Snag Removal in Puget Sound Rivers

U.S. River Restoration Projects
Chehalis River
December 2007 Flooding

Boistfort Valley Bridge (Seattle Times)

Woody debris in farmlands, Boistfort Valley (The Chronicle)

Wood removal at Lost Valley Road, mouth of Stillman Creek (The Chronicle)
Common concerns for wood placement

- Performance (habitat, stability, cost)
- Increase in flood elevations
- Channel migration
- Risk to property and infrastructure
- Public safety and recreational use
- Lack of guidance on liability and risk
ACEC Committees on EPW

1) Project Definition
   - Science-based approach
   - Geomorphic and ecologic assessments
   - Concept development

2) Design Development
   - Critical analyses (hydraulics, force-balance, scour)
   - Hazard and risk assessments
   - Feasibility and constructability
   - Documentation of design basis

3) Liability Management
   - Sources of liability
   - Legal statutes
   - Warnings and notices
Purpose and Goals of Session

- Present case studies
  - Baseline data needs
  - Project goals and constraints
  - Engineering rationale and analyses
  - Performance
  - Risk management

- Identify additional guideline concerns

- Provide input for EPW working group

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