

Emerging Issues and Topics: Barrier Removal

Jessica Wilkinson, Senior Policy Advisor External Affairs The Nature Conservancy

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Clean Water Act and Section 404

Objective of the Clean Water Act of 1972

 "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

Section 404 of the Clean Water Act

 The discharge of dredged or fill materials into waters of the United States, including wetlands





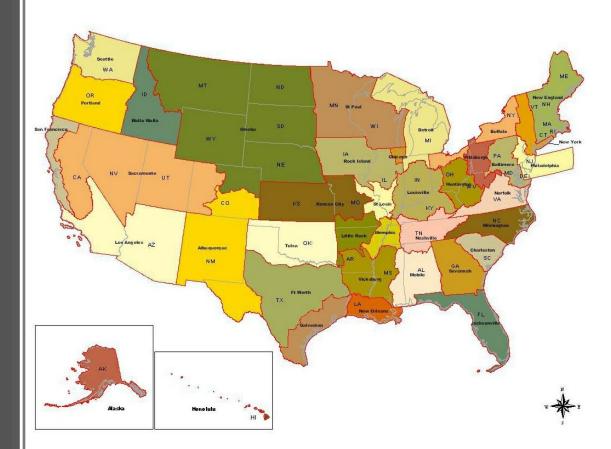


US Army Corps of Engineers.



Day-to-Day Permitting

38 US. Army Corps of Engineers Districts





Permitting and the 404 Mitigation Sequence

Avoid Impacts

Minimize Impacts

Compensate for Impacts



Goal of 404 Program: No Net Loss

Impacts

 Activities that cause a loss of acres and/or functions



Offsets

 Activities that support an uplift in acres and/or functions



Goal of 404 Program: No Net Loss

Impacts

 Activities that cause a loss of acres and/or functions



Offsets

- Activities that support an uplift in acres and/or functions
 - Restoration
 - Enhancement
 - Protection

Traditional Stream Restoration Methods

 Channel reconfiguration and meandering

 Reach-scale bank restoration

 Construction of instream habitat structures



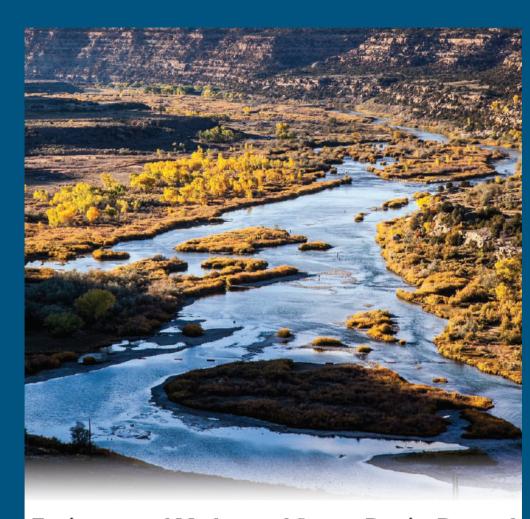


Dam Removal: <u>A Non-Traditional Stream Restoration Method</u>





- 2017. Wilkinson, Jessica, Justus Raepple, Ryan Rossner, Amy Singler, Tara Moberg, Katie Kennedy, Sally Harold.
- Reviewers: USACE HQ and Districts, EPA HQ and Regions, U.S. FWS, private mitigation providers, academics, etc.



Environmental Markets and Stream Barrier Removal

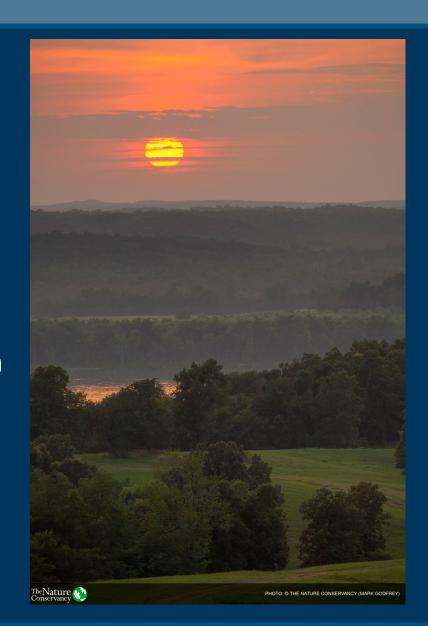
An Exploration of Opportunities to Restore Freshwater Connectivity Through Existing Mitigation Programs





National & Local Policy and Dam Removal

- National §404 policy neither explicitly supports nor limits the practice
- 2016 ELI study found that 15
 Districts identify dam removal as an acceptable compensatory mitigation method
- 35 projects identified





Barriers to More Widespread Adoption

- Absence of appropriate crediting methodologies
- Defining appropriate long-term protection
- · Economic viability and demand
- Generation of large quantities of credits
- Appropriately accounting for stream length affected
- Environmental impacts from dam removals
- Ensuring additionality
- Definition of barrier removal



Next...