Stream Compensatory Mitigation: What's Next

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Amy Singler

ELI Stream Mitigation Webinar Series
August 27, 2019

The Nature Conservancy


Value of barrier removal as durable mitigation practice
Current guidance and use of barrier removal for mitigation
Moving forward as a restoration community
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Amethyst Brook, Pelham, MA

DAM REMOVAL AS A RESTORATION

Removing stressor. Restoring function.

- Riverine processes: water quality, DO, sediment and nutrient movement.
- Fish and wildlife passage
- Rapid recovery of many processes and metrices; long term sustainability of function and dynamic system.

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Dam Removal as compared with reach-scale practices

Whittenton Dam Removal, Mill River, Taunton MA

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USE OF BARRIER REMOVAL FOR MITIGATION

Bloede Dam, Patapsco River, MD
Removal completed 2019

- 2016 ELI study: 15 out of 32 district guidance identify dam removal as an acceptable method; 13 out of 32 identify culverts.
- As of 2017: 38 barrier removals, mostly ILF; handful of PRM removals.
- Recent high profile examples of dam removal for mitigation banks: Milburnie, NC. Bloede Dam, MD.

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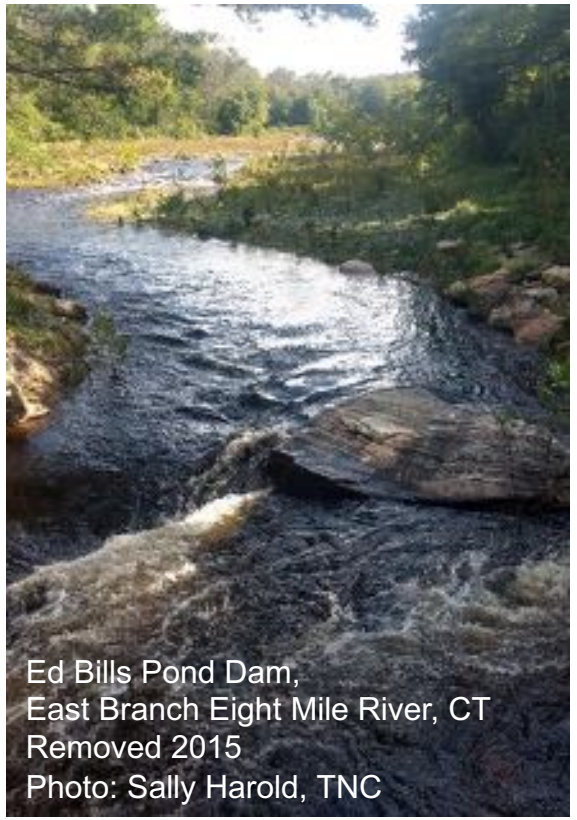
September 2018 Regulatory Guidance Letter addressed many of the common concerns related to use of dam removal for compensatory mitigation.


Ed Bills Pond Dam,
East Branch Eight Mile River, CT


Ed Bills Pond Dam,
East Branch Eight Mile River, CT
Removed 2015


Ed Bills Pond Dam,
East Branch Eight Mile River, CT
Removed 2015
Photo: Sally Harold, TNC

- Sediment impacts
- Loss/change of wetland type
- Upstream/tributary crediting
- Linear feet vs. acreage
- Long term protection

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Dam Removals as Compensatory Mitigation
Bloede Dam, Patapsco River, MD


Bloede Dam, Patapsco River, Maryland


Bloede Dam Removal, Patapsco River, MD Removed 2018-2019

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ANTICIPATED EFFECT OF USACE RGL 18-01

- Recognizes impacts of dams and other instream structures on stream ecosystems and the effect removing these barriers has on supporting the goals of the Clean Water Act
- Provides guidance on generating credits
- Geographic eligibility: 8-digit HUC (Gunpowder-Patapsco); secondary adjacent HUC8's (Patuxent)
- Site Protection: Memorandum of Agreement (MOA) between Maryland DNR, USACOE and MDE that provides long-term protection in Park Master Plan
- Process-based restoration may result in alteration of man-made wetlands, etc.

credit based on long-term net gain, not short-term impacts

identifies credit factors for district engineers to consider

district engineer flexibility in long-term protection

should not require compensatory mitigation if net increase in aquatic function

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Slide borrowed from
Serena McClain, American Rivers, NMEBC May 2019


Hamant Brook, Sturbridge MA
Three dams removed 2017

MOVING FORWARD

Outstanding Concerns

- Restoration and regulatory community still getting comfortable with dam removal impacts vs benefits
- Concern over outcomes vs. Too many credits
- Crediting methodology

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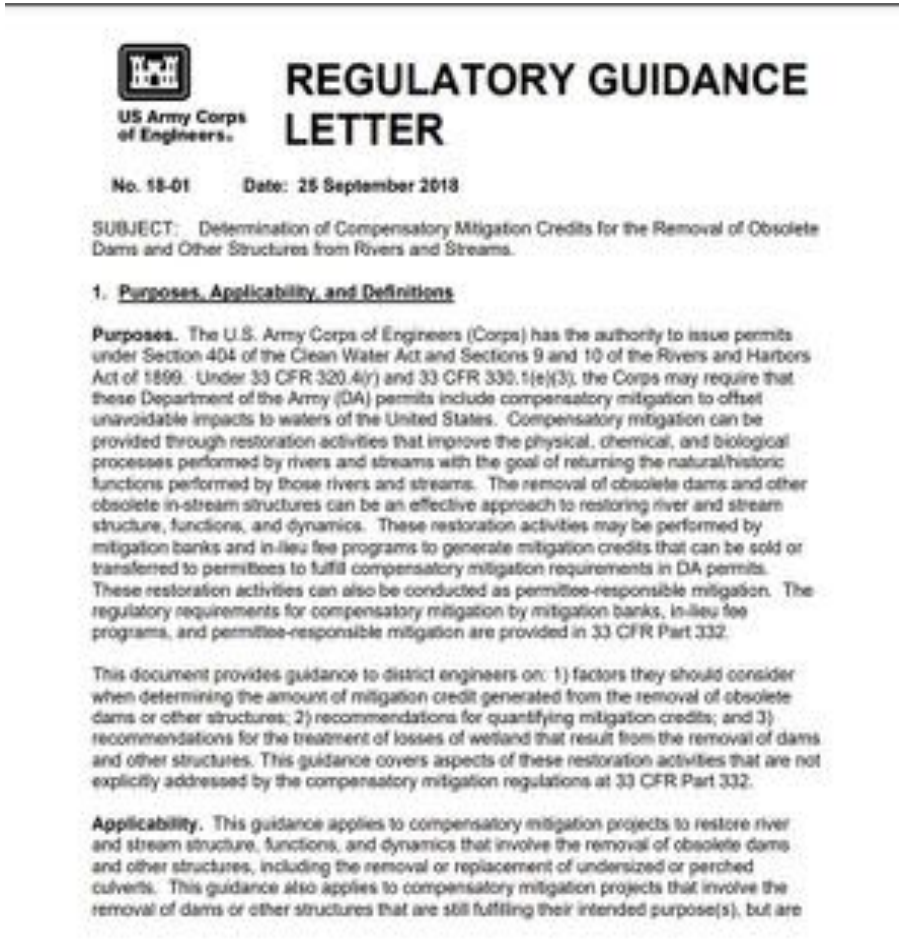
MOVING FORWARD. GOOD THINGS TO COME

- Science around all stream restoration practices continues to improve, particularly related to ecosystem benefits.
- We need more monitoring to advance our understanding around all stream restoration approaches.
- Continued opportunity for stream restoration through barrier removal. Lots of projects need doing and need funding.
- Corps district level interest in continuing practice and asking the hard questions to get to shared understanding.

ADDITIONAL RESOURCES



US Army Corps of Engineers.

REGULATORY GUIDANCE LETTER

No. 18-01 **Date: 25 September 2018**

SUBJECT: Determination of Compensatory Mitigation Credits for the Removal of Obsolete Dams and Other Structures from Rivers and Streams.

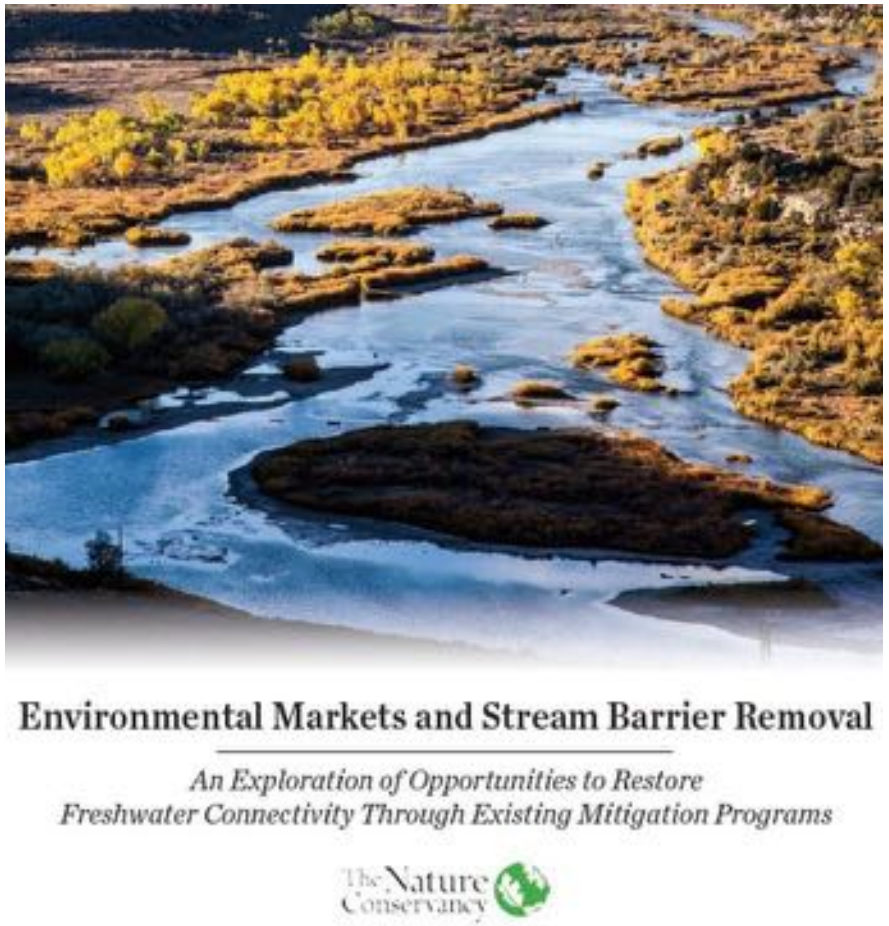
1. Purposes, Applicability, and Definitions

Purposes. The U.S. Army Corps of Engineers (Corps) has the authority to issue permits under Section 404 of the Clean Water Act and Sections 9 and 10 of the Rivers and Harbors Act of 1899. Under 33 CFR 320.4(r) and 33 CFR 330.1(e)(3), the Corps may require that these Department of the Army (DA) permits include compensatory mitigation to offset unavoidable impacts to waters of the United States. Compensatory mitigation can be provided through restoration activities that improve the physical, chemical, and biological processes performed by rivers and streams with the goal of returning the natural/historic functions performed by those rivers and streams. The removal of obsolete dams and other obsolete in-stream structures can be an effective approach to restoring river and stream structure, functions, and dynamics. These restoration activities may be performed by mitigation banks and in-lieu fee programs to generate mitigation credits that can be sold or transferred to permittees to fulfill compensatory mitigation requirements in DA permits. These restoration activities can also be conducted as permittee-responsible mitigation. The regulatory requirements for compensatory mitigation by mitigation banks, in-lieu fee programs, and permittee-responsible mitigation are provided in 33 CFR Part 332.

This document provides guidance to district engineers on: 1) factors they should consider when determining the amount of mitigation credit generated from the removal of obsolete dams or other structures; 2) recommendations for quantifying mitigation credits; and 3) recommendations for the treatment of losses of wetland that result from the removal of dams and other structures. This guidance covers aspects of these restoration activities that are not explicitly addressed by the compensatory mitigation regulations at 33 CFR Part 332.

Applicability. This guidance applies to compensatory mitigation projects to restore river and stream structure, functions, and dynamics that involve the removal of obsolete dams and other structures, including the removal or replacement of undersized or perched culverts. This guidance also applies to compensatory mitigation projects that involve the removal of dams or other structures that are still fulfilling their intended purpose(s), but are

RGL No. 18-01, Issued September 29, 2018



Environmental Markets and Stream Barrier Removal

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

The Nature Conservancy

2017 TNC *Environmental Markets and Stream Barrier Removal Report*

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Thank you

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