

An Overview of Recent Regulatory Changes Affecting Dam Removal Projects

Association of State Wetland Managers Webinar, February 2017

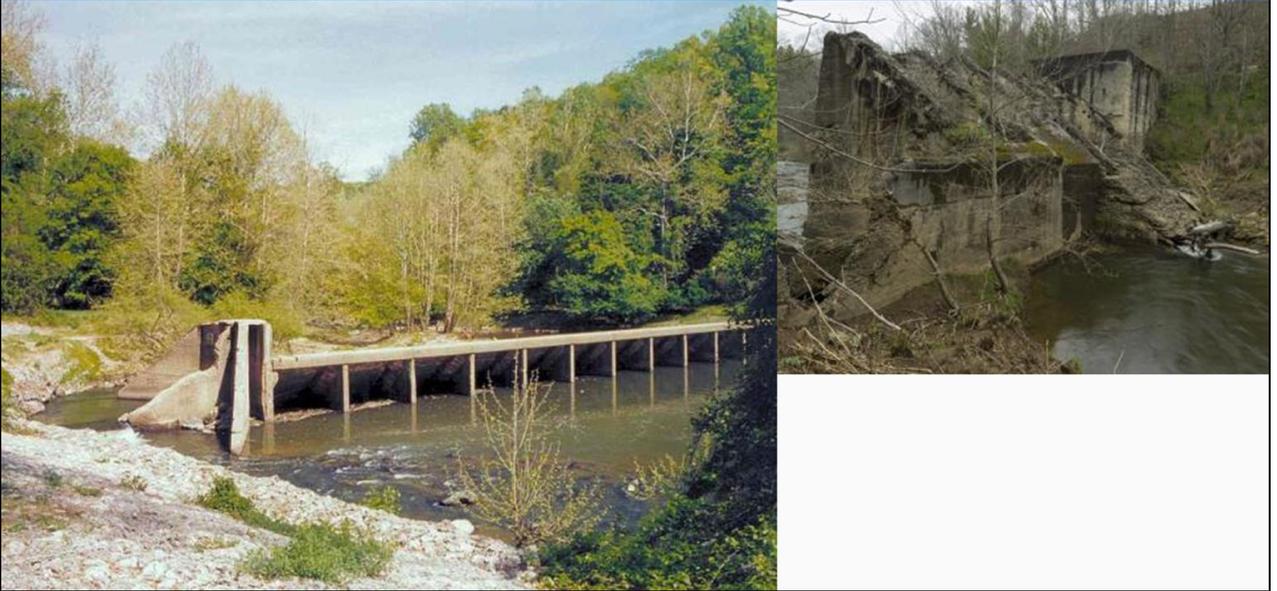
Thanks so much for having us here today. It's exciting to see so many people interested in hearing more about the newly issued nationwide permit for low-head dam removal. This is probably obvious to many of you, but I know that Jim and I both feel that it's worth mentioning that what we are presenting today is only our interpretation of NWP 53 based on our reading of the materials and early conversations with the Corps. This is an untested permit whose various associated documents sometimes seem to contradict each other. I'm sure there are people on here who will disagree with my interpretation. I'm pretty sure Jim and I may even have different reads of certain things. That's okay. This is the first of (I'm sure) many conversations that will happen as different districts test and work through its utility.

Agenda

- Background
- Overview of NWP 53, Removal of Low-head Dams
- Areas of Concern and the Public Comment Period
- Considerations for Regional Review

Today, I want to provide a quick background and overview of NWP 53, as I understand it. Then we're going to spend more time digging into some of the areas of concern identified in the public comments, as I suspect that's where many of the questions and concerns lie. I will wrap up with some things to keep in mind when thinking about regional review.

Why the push for a “dam removal” NWP?



Those of us who have been managing projects for the last 10-15 years have watched as projects around the country struggled through permitting. We heard about, and experienced, horror stories of projects spending years stalled in permitting. The Union Dam in the upper left portion of the screen is rumored to have spent more than a decade navigating Maryland’s regulatory process. This low-head dam (my definition) was breached by Hurricane Agnes in 1972, stored virtually no sediment, and was contributing to the undermining of an adjacent utility line. States across the country have felt like they don’t have appropriate guidance to review restoration projects and some have struggled with reviewing them with guidance and codes intended for development projects. Groups like AR and The Nature Conservancy have been talking about mechanisms for addressing this for a few years through vehicles like the Corps’ Environmental Advisory Board. How can we provide district engineers and other regulatory staff a way to take intent into consideration and the flexibility to determine what’s right? In some regions, the NWP 27 is being used to that effect, but its application is varied.

NWP 53, Removal of Low-head Dams

Removal of Low-Head Dams. Structures and work in navigable waters of the United States and discharges of dredged or fill material into waters of the United States associated with the removal of low-head dams.

Will this nationwide accomplish this? Honestly, I don't know. Depending on my read of it, it's either fairly limited in the type of dams it will apply to or, at another turn, broad enough to allow for some that flexibility. The permit, itself, is brief.

It defines "low-head dam" as a dam built across a stream to pass flows from upstream over all, or nearly all, of the width of the dam crest on a continual and uncontrolled basis. In general, a low-head dam does not have a separate spillway or spillway gates but it may have an uncontrolled spillway. The dam crest is the top of the dam from left abutment to right abutment, and if present, an uncontrolled spillway. A low-head dam provides little storage function. [Do you know what 'little' means? I tend to contextualize it based on the size of the stream and discharge area.]

The removed low-head dam structure must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. [In other words, unless otherwise approved, haul dam debris away. Did you have plans to use some of the material on site (this is not an endorsement)? Not happening under this authorization.]

Because the removal of the low-head dam will result in a net increase in ecological functions and services provided by the stream, as a general rule compensatory mitigation is not required for activities authorized by this NWP. However, the district engineer may determine for a particular low-head dam removal activity that compensatory mitigation is necessary to ensure the authorized activity results in no

more than minimal adverse environmental effects.

It requires pre-construction notification.

It includes some specific caveats within the text of the actual permit.

This NWP does not authorize discharges of dredged or fill material into waters of the United States or structures or work in navigable waters to restore the stream (NWP 27) in the vicinity of the low-head dam, including the former impoundment area. Nationwide permit 27 or other Department of the Army permits may authorize such activities. This NWP does not authorize discharges of dredged or fill material into waters of the United States or structures or work in navigable waters to stabilize stream banks (NWP 13).

That's it. I'm guessing you have questions. We have questions. In the presentation you'll hear Jim give in a bit, I think he plans to raise the question of the language that indicates "does not authorize discharges of dredged or fill material.." Where does need to haul in stone or other material for stream access fall? I have my opinions [hint: permitting under this NWP if associated with only the removal, needs a separate NWP is associated with restoration or other activity], but I'll leave the bulk of that discussion to him.

Areas of Concern

Public Comment Period

- Definition
- Pre-construction Notification
- Adverse Effects
 - species of concern
 - wetland mitigation
 - 401 WQ certifications and sediment, sediment, sediment

I want to look at this permit through the decision document and summary of some of the public comments contained therein. Most of the concern and questions generated by the draft permit are about the definition of low-head dam and what exactly qualifies as one. There was also a lot of concern that projects would be able to slip by without giving pre-construction notification. Both of these are addressed in the revised permit and expanded upon in the decision document and general conditions. Jim is going to do a deep dive into these issues, so I'll leave that discussion to him.

Instead, I want to focus on the last category, which I've dubbed "adverse effects". This category reflects a multitude of comments focused on the potential for the NWP to do adverse harm if unchecked. The three I want to discuss are species of concern, wetland mitigation, and 401 water quality certifications.

Species of concern: There was some concern in reviewing the original draft that these type of projects could have a negative effect—through activities like lowered water levels and the release sediment that buries downstream habitat—on state or federally listed species. Similarly, there was some concern about projects whose removal could exacerbate the spread of non-native species.

Corps response: This will be a theme through this section. "We recognize that the removal of low-head dams will have both positive and negative adverse impacts, generally with short-term adverse environmental effects and long-term beneficial environmental effects. Ecological restoration activities are intentional interventions

intended to bring back ecological processes that were impaired, usually by human actions, to restore the historic continuity or ecological trajectory of the impaired ecosystem (Clewell and Aronson 2013). For this NWP, the intentional intervention is the removal of the low-head dam that has been impairing river and stream structure, functions, and dynamics. The removal of the low-head dam allows the structure, functions, and dynamics of the river or stream to recover in its contemporary watershed condition. The construction of the low-head dam resulted in long-term impairment of the river or stream by altering its hydrology and hydrodynamics, sediment transport processes, the movement of aquatic organisms through the stream network, and other ecological processes. The changes to river and stream structure, functions, and dynamics caused by the low-head dam resulted in losses or reductions of riverine functions and services. The adverse effects caused by the removal of low-head dams will be temporary, and the river or stream where the low-head dam was located will recover from those temporary adverse effects. Over time, as ecosystem development processes take place in the absence of the removed low-head dam, the structure, functions, and dynamics of the river or stream will recover.”

They also go on to indicate that this permit does not preclude the need to additional municipal, state, and federal authorizations. For example, general condition 32 requires “...the listed species that might be affected by the proposed NWP activity or utilizes the designated critical habitat in which the NWP activity is proposed to occur.” Similarly, gc 20 (and 32) prohibits any activity until the district engineer has determined there will be no adverse effect to historic properties or has conducted Section 106 of the NHPA.

Discretion of engineer, can add regional conditions

Wetland mitigation: At least one commenter also brought up the need to require compensatory mitigation for wetland losses resulting from the changed hydrology.

Corps: The Corps addresses this one in the actual text of the permit in addition to elaborating on it in the decision doc. “Because the activities authorized by this NWP are intended to restore river and stream structure, functions, and dynamics, we do not believe that for most cases wetland compensatory mitigation should be required for losses of wetlands that were established as a result of the water stored by the low-head dam. However, there may be cases where the wetlands associated with the low-head dam impoundment provide high levels of ecological functions and services and the district engineer may determine that compensatory mitigation should be required to ensure that the wetland losses caused by the NWP activity result in no more than minimal adverse environmental effects. River and stream functions provide important ecological services, and one of the objectives of this NWP is to facilitate the restoration of those ecological functions and services. Wetlands that were present before the low-head dam was constructed may recover if local hydrology has not changed substantially since the low-head dam was constructed. For these reasons, the PCN should not include a wetland compensatory mitigation proposal.”

Sediment/401: There were a number of comments based on the language in the original draft that brought up questions about the handling of sediment, potential for contaminants and habitat impacts, requirements to assess, etc., some coming from American Rivers. My general observation seems to be that many worried the original justification understated the potential for sediment concern at low-head dam sites and wondered what protections, if any, would allow reviewers and others to protect ecological resources.

The Corps addresses this in a couple of different ways. They refer back to the definition and the fact that the dams they intend for this NWP will have little storage capacity. Trust me...we're all wondering about how they define "little". Jim will discuss the types of applicable dams in a bit, but if you think about my comment near the top of the presentation about a desire to provide agency staff the flexibility to determine appropriate courses of action, this is the kind of statement that allows for that.

The Corps also discusses natural processes and long-term gains versus short-term impacts using some of the language I read a bit ago.

Finally, they do require 401 WQ certs since it authorizes dredge and fill into waters of the U.S. They also indicate that "agencies with responsibility for implementing section 401 of the Clean Water Act are the appropriate authorities for deciding whether sediment releases comply with applicable water quality standards. When evaluating water quality concerns during the PCN review process, the district engineer should also consider water quality in a watershed context, specifically adverse effects to water quality caused by non-point sources of pollution and stormwater discharges in that watershed." GC 25 may require water quality management measures

Pending Guidance and Other Tools

Draft Dam Removal Analysis Guidelines for Sediment
(prepared by the Bureau of Reclamation for the Subcommittee on Sedimentation)

State-specific guidance

Water Quality Variances

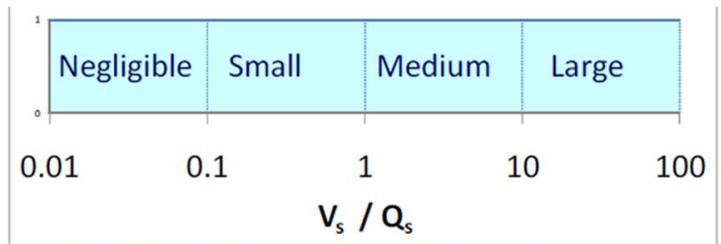


Figure 25. Probability of sediment impact based on ratio of reservoir sediment volume or mass (V_s) to mean annual sediment load (Q_s).

Table 6. The relationship of probability of sediment effects with time and distance downstream.

Probability Table	Probability of impact tends to decrease with time and distance downstream		
	Short-term in the reservoir and the near reach below the dam	After additional time or additional distance downstream	After additional time or additional distance downstream
Small →	Small →	Negligible	
Medium →	Medium →	Small →	Negligible
Large →	Large →	Medium →	Small →

I want to stay on the topic of 401 water quality certs and sediment a bit longer because I know this can be a major concern when thinking through how to handle this NWP and whether to require regional conditions to address these issues. There are more and more tools and guidance available to help states think through these things. BuRec is currently finalizing draft Dam Removal Analysis Guidelines for Sediment that they've been developing many other federal, state, and private partners for the last several years. We could do a whole presentation on this, so I just want to introduce you to the idea that it exists and will be available soon. It's chock full of information on things like analyzing risk (ie, what's the ration of reservoir sediment volume to a mean annual sediment load), testing, case studies, and includes a decision-tree to help guide your sediment management decisions. They also do a really good job of framing how to think about sediment impacts and, as you can see from the tables I included here, they have begun to think about these thresholds in bulk categories.

Several states have also develop specific guidance for assessing and managing sediment behind dams. There is a lot of valuable information you can crib from these publications if you're interested in beginning to develop your own state guidance.

Finally, the EPA finaled rulemaking a couple of years ago to update the national water quality standards (WQS) regulation (specifically WQS variances). Within this document, they discuss the applicability of WQS variances to provide cover for short-term (i.e., maximum allowable of 10 years with re-evaluation requirements after five)

water quality violations can be experienced in restoration projects. In fact, the EPA explicitly calls out restoration and dam removal as potentially justifiable factors in requesting a WQS variance and goes on to say that these variances may be used to allow states or tribes to issue 401 water quality certs in conjunction with a federal permit.

Condit Dam Removal: The 401 water quality certification (401) issued for the Condit Dam removal asserts that the dam removal directly meets, "...the objectives of the Clean Water Act, "to restore and maintain the chemical, physical, and biological integrity" of the nation's waters (CWA 101(a))." It goes on to say that the most notable benefits will be for fish and aquatic organisms that will make use of the free-flowing river. The 401 acknowledges that the project will result in, "brief exceedances of water quality criteria in the White Salmon River and the Columbia River" and that these may be longer in duration in certain segments of the river. However, it goes on to indicate that the permanent benefits provided to fish, aquatic organisms, and recreational users outweigh these exceedances. Finally, the 401 establishes plans for adaptively managing and monitoring the White Salmon River and proposes that water quality standards will be within compliance within 10 years.

Obviously, these type of projects aren't meant to be permitted under the NWP; but the language used by these regulators and the EPA is useful to think about when considering application of your own 401 program.



“District engineers have the discretion...”

This NWP provides regulators a lot of exit ramps for adding requirements to permits, shifting the project to an IP, etc. I urge you to think about that flexibility built in before moving to revoke this permit outright.



Individual Permit vs NWP 27

Thank you!

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What this permit, and much of the other guidance that has come out in recent years, begins to do is foster a regulatory environment that is more conducive to these type of restoration projects and a more open dialogue among regulators and an applicant about project components.