



Why Remove The Dams?

The **Ohio Environmental Protection Agency (Ohio EPA)** has determined that Alum Creek is not meeting water quality standards in the area of the Nelson and Wolfe Park Dams...



Nelson and Wolfe Park Dam Pools

“Low-head” dams like the ones in Nelson and Wolfe Parks create long pools behind the dams that are low



Nelson Park Dam Pool

From: *Biological and Water Quality Study of the Big Walnut Creek Basin*, Ohio EPA, 2003

Friends of Alum Creek and Tributaries (FACT) has obtained a grant from Ohio EPA to remove the dams under Section 319 of the Clean Water Act. FACT is working with **Burgess & Niple** and **The Righter Company** to remove the dams in the coming year...

in dissolved oxygen (DO), high in nutrients such as nitrogen, and very monotonous in terms of habitat conditions for fish and other aquatic organisms. They are also a safety hazard because of the turbulent flow conditions at the base of the dams.



BURGUSS & NIPLE

For more information, check out the FACT website at www.friendsofalumcreek.org or contact FACT Watershed Coordinator **Kim Williams** at kwilliams@friendsofalumcreek.org or 614-409-0511.



Nelson Park / Jeffrey Dam



Legend

- Low-head Dam
- Greenway Trail
- Alum Creek
- 2ft Contours
- Parks



Wolfe / Academy Park Dam



Legend

-  Low-head Dam
-  Greenway Trail
-  Alum Creek
-  2ft Contours
-  Parks



Dam Removal Alternatives

NO ACTION – Don't remove the dams

If the dams are not removed, water quality conditions will remain the same and this segment of Alum Creek will remain in nonattainment of water quality standards.

PARTIAL REMOVAL – Cut a “notch” in the dam, but don't remove it all the way

Sometimes, a dam can just be “notched” to lower the water level and provide a way through for fish. Usually though, just notching a dam is not enough to accomplish a real return to free-flowing conditions. Plus, the notch and remaining dam structures remain a safety hazard. A temporary notch is usually cut early in the removal process to gradually lower water levels even if the whole dam is ultimately removed.

REMOVE THE DAMS - Just remove the dams

It may be possible to just remove the dams and “let nature take its course”. Low-head dams are usually less than 15 feet high (in this case only 4 to 6 feet high) and typically do not disrupt normal flow patterns or accumulate as much sediment as higher dams like those used for reservoirs or flood control. Some things to consider with this alternative are the amount and kind of sediment that has accumulated behind the dam, whether there are buried channel features under the dam that would naturally stabilize the new channel, and whether the new channel will have sufficient access to a floodplain at its new, lower level.

REMOVE THE DAMS and put in STABILIZING STRUCTURES

Stabilizing structures may need to be constructed in the stream bed to stabilize the new channel after dam removal. Two common types of structures used for this are cross vanes and constructed riffles. Both are constructed at strategic points in the stream bed to maintain the desired stream slope and flow direction. Cross vanes are constructed of large, closely-fitted boulders and are intended to imitate a naturally occurring bedrock “sill” in the stream. Constructed riffles are placed where gravel riffles might occur naturally, but are made of larger rock.

Cross vanes tend to require less material to construct overall and direct flows away from banks to give time for newly planted vegetation to stabilize. They also provide several habitat zones for fish and other aquatic life, from quieter shallows between the vane “arms” and the bank to the deep scour pool that forms just downstream of the vane. Cross vanes could possibly be constructed from the large boulders now piled up at the face of the dams. Constructed riffles typically require more material overall, but can be easier to construct and more economical if a source of large boulders is not available nearby.



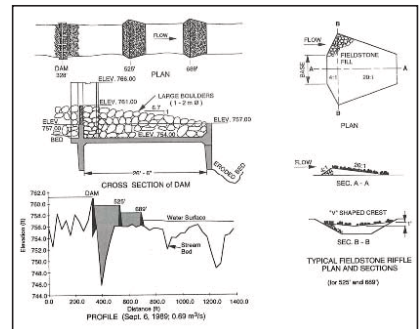
Wolfe Park Dam Pool as it appears today



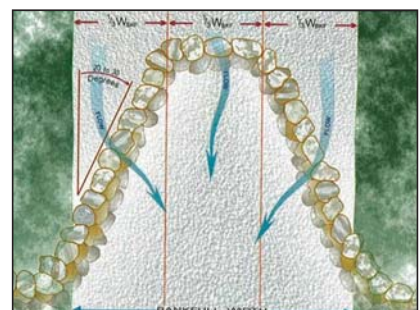
Cutting a notch in the River Street Dam on the Olentangy River



St. John's Dam on the Sandusky River soon after removal



Newbury Riffle



Cross Vane