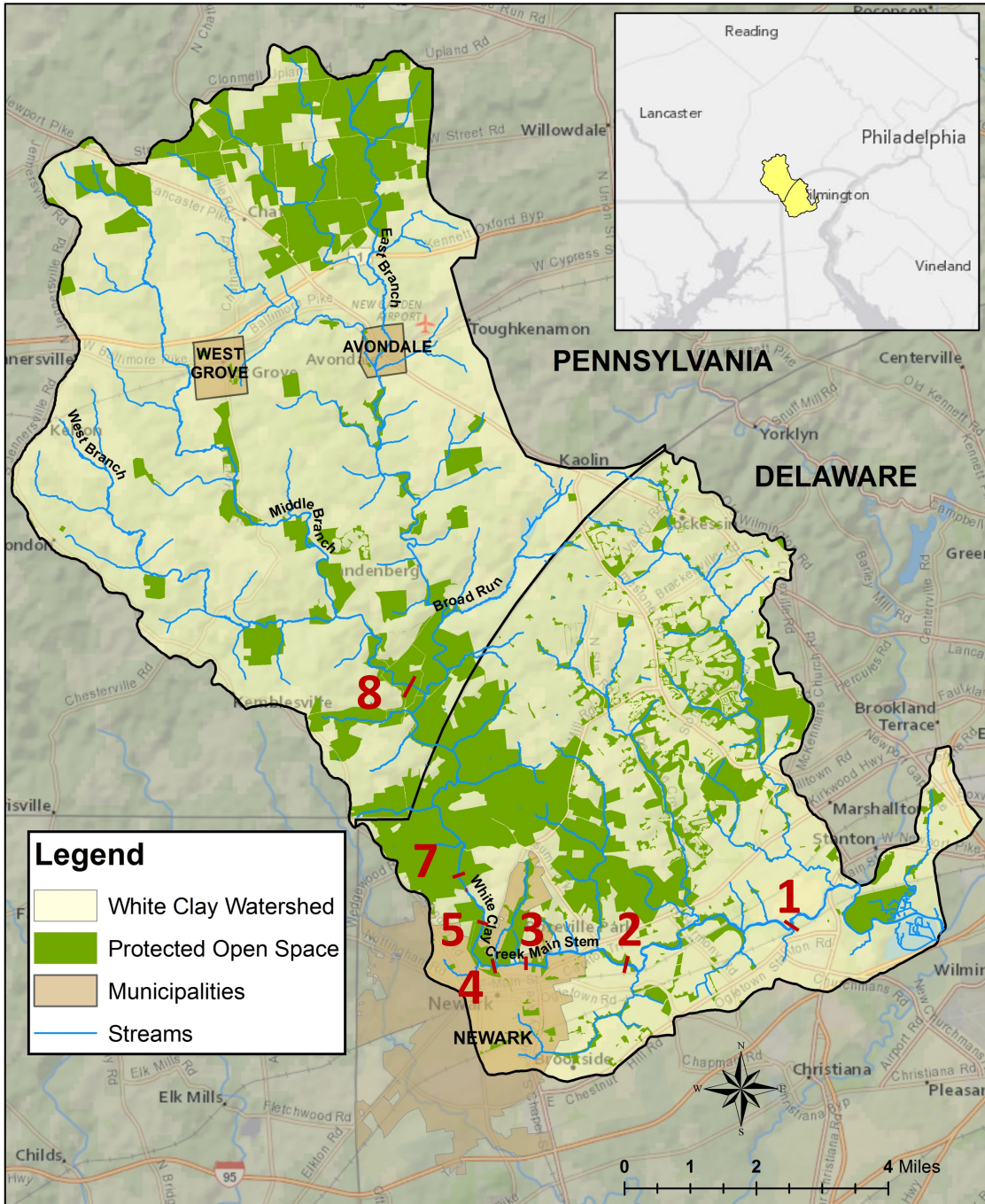


Location of Dams on the White Clay Creek



Dams on the White Clay Creek

Dam 1: removed in 2014

Dam 2: removal planned summer 2021

Dam 3: City of Newark Sewer Main, on priority list to address

Dam 4: removal planned fall 2021

Dam 5: City of Newark water intake

Dam 6: fully breached in Hurricane Floyd 1999

Dam 7: Deerfield Golf Course water intake

Dam 8: White Clay Creek State Park, PA. Removal by DCNR 2021

Dam 7 is a six-foot-high stone block dam constructed in 1955 by DuPont to supply irrigation water for Louviers Country Club. Delaware State Parks now owns the country club and uses the dam to pump up to 400 gpm of water during the spring and early summer. Deerfield Country club is open to modifying the dam if it does not impact their withdrawals, which account for less than 1% of the streamflow. Such small demands mean the storage capacity of the current dam is unnecessary. We propose to lower the dam height to 2 ft and reuse the excavated material to build a rock ramp (gently sloping riffles) to allow shad to pass the remaining portion of the dam.

Dams change the hydrology of piedmont streams. During high-flow events, sediment deposited in the dam pool scours and is deposited downstream. The Deerfield Dam is an extreme case of this with gravel bars extending 1,000 ft downstream. The attached aerial photo shows the unnatural braided stream channel below the dam. Altering the dam will improve stream health, allow aelosines to spawn, lower water temperatures, and increase dissolved oxygen.

Dam 7 was chosen over 3 & 5 as these two dams are owned by the City of Newark. The city made a generous contribution to the removal of dam 4 and we want to finish this project before embarking on another dam removal with them. Dam 3 is a sewer main that has scoured on the downstream side. The city is working with New Castle County to install a siphon carrying the line under the streambed, eliminating the dam and associated risks of the exposed sewer line.

Dam 5 is the former Curtis Paper Mill Dam. Newark uses the mill race as an intake for their drinking water. Due to their current financial straits, we figured it is easier to remove the Deerfield Dam first and then apply for funding to remove dam 5 next year. PA DCNR is removing their dam off London Tract Rd this year, which is the next upstream from Deerfield. The White Clay is a high-priority watershed for NFWF, and with the removal of the two dams upstream, we will have a strong case for funding a bypass or rock ramp for dam 5 in 2022.

Deerfield Dam, 2007



The location of the Deerfield Dam (7) is shown by the yellow bar. Below this, the White Clay exhibits a braided channel an unnatural artifact caused by the dam.

[Google Location of the dam](#)

Deerfield Dam Rock Ramp Budget				
Materials and Supplies				
Trees and plantings	Stream habitat restoration	Individual plants	150 plants @ \$35/	\$ 5,250.00
Contractual Services				
New Castle Conservation District (NCCD)	Construction mobilization			\$ 18,000.00
NCCD	Lowering dam height and construction of rock ramp			\$ 100,000.00
NCCD	Site Restoration			\$ 10,000.00
NCCD/Duffield Associates Inc.	Engineering designs & obtain federal, state and county environmental and flood plain permits			\$ 34,385.00
NCCD	Field and bathymetric survey			\$ 7,000.00
Projected Costs				\$174,635.00

***Requesting \$7500 from WCWS**