2015 Interim Performance Report

Project Title: EBTJV Dam Removals to Reconnect Brook Trout Habitat on an Unnamed Tributary to Frankstown Branch, Hollidaysburg PA

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Project Location: Kladder Dam, UNT Frankstown Branch, Frankstown Township, Blair County.
Coordinates: 40.3898, -78.3886

Project Overview: Kladder Dam, owned by Hollidaysburg Borough, provided water supply until 1994 when it was abandoned after updated DEP regulations for public water supplies posed compliance issues. American Rivers was contacted by the owner in 2010 regarding dam removal, and in 2011, a pre-dam removal stream survey conducted by PFBC identified a thriving population of wild brook trout in this unassessed stream. Hollidaysburg Borough's general municipal services engineer completed the first dam removal design, however it was determined by DEP Dam Safety to be insufficient for permitting due to stream stability and gradient issues. American Rivers then used foundation funding to provide a dam removal design and permitting, the plans for which incorporated Large Wood Debris for stream stability and gradient control. During the field work to inform design, an unknown, partially breached dam was discovered about 900 feet upstream of the Kladder Dam. This previously-unknown dam was added to the project scope since our design consultant determined it to be a fish passage barrier. With design complete, American Rivers partnered with PA Fish & Boat Commission for construction funding. When a request for funding from a natural resources damage settlement was declined, PA Fish & Boat Commission provided a portion of the construction funding, and American Rivers applied for EBTJV to provide the construction balance.

Accomplishments to date: Kladder Dam was removed in September 2014 and the tributary through the former impoundment was restored to an appropriate gradient to match the watershed. Stream restoration materials included native soil and rock, clay from the dam's core, sediment from behind the dam, and Large Wood Debris, all originating on the site. In addition, a riparian corridor was planted in the former impoundment, and several rock jack-dams and brick lining in about 100 feet of the stream channel above the former impoundment were removed by hand. The brick were stockpiled for reuse by Hollidaysburg Borough. These activities exhausted the available budget.

American Rivers secured additional funding and returned to the site in 2015 to complete the removal of the upstream unnamed partially breached dam and restore the stream channel through the uppermost former impoundment to provide fish passage.

During the 2015 construction effort, the upper unnamed dam was removed and the impacted stream reach was stabilized using Large Woody Debris techniques. One remaining small brick and stone jack dam located between the two former dams was removed using the excavator. We notched several of the cross-logs in the lower former impoundment area to achieve a more favorable gradient after the stream adjusted a little lower than the designers anticipated. In addition, we visually monitored the riparian corridor plantings for survivability and found 90% of trees and shrubs growing.

Please see attached map for clarifications on project work completed with EBTJV funds in 2014 and the additional project work completed with NFWF funds in 2015.

2012 EBTJV expenditures: The full $25,000 EBTJV grant was expended in September, 2014. Additional funds from NFWF totaling $24,000 were expended in 2015, matched with $6000 in funding from American Rivers, to complete the project.

Photo documentation: Please see photos below.

Upper dam and impoundment, before

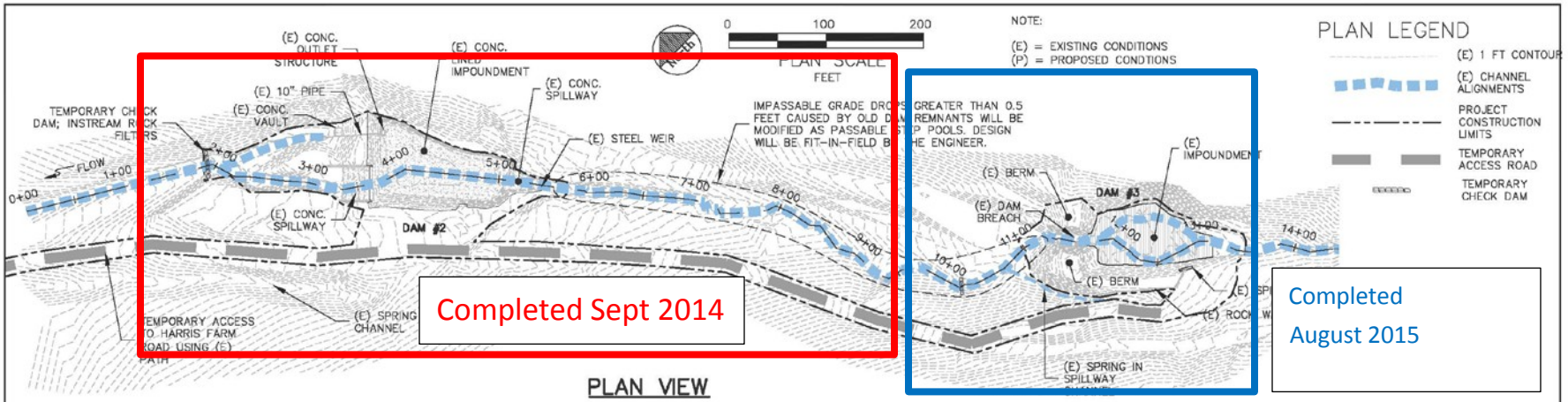
After

Upstream view of impoundment, before

After

Removing jack dam between two former dams

Notched cross-log in downstream former impoundment



PLAN VIEW

SUGGESTED GENERAL CONSTRUCTION SEQUENCING

1.1	VERIFY INGRESS AND EGRESS WITH LANDOWNER AND ENGINEER. DETERMINE ANY TREE REMOVAL THAT MAY BE REQUIRED.
1.2	INSTALL INSTREAM ROCK FILTERS (SEDIMENT TRAP) DOWNSTREAM OF THE DAMS AT THE LOCATIONS SHOWN IN THE PLANS
1.3	EXCAVATE PILOT CHANNEL ALONG ALIGNMENT FROM 2+00 TO 6+00 IN DAM#2 AND 11+00 TO 13+50 IN DAM#3. COMPLETE GRADING AND EXCAVATION TO THE EXTENT POSSIBLE BASED ON MOIST SOIL CONDITIONS. WITH THE FINAL STEP TO DIVERT WATER FROM EXISTING CHANNEL COMPLETELY INTO THE PILOT CHANNEL
1.4	FOLLOWING REMOVAL OF DAM, COMPLETE GRADING ON UPPER, DRY SLOPES WHILE IMPOUNDMENT SEDIMENTS DEWATER.
1.5	REMOVE DAM AND APPURTENANT STRUCTURES IN A MANNER THAT MINIMIZES THE TRANSPORT OF SEDIMENT DOWNSTREAM. ENGINEER WILL BE ON SITE TO PROVIDE DIRECTION. CHECK SEDIMENT TRAP AND CLEAN OUT AS NECESSARY.
1.6	FINISH BUILDING THE RESTORED CHANNEL INCLUDING POOLS AND RIFFLES WITH LARGE WOODY DEBRIS AS DIRECTED BY THE ENGINEER AND AS SHOWN IN PLANS.
1.7	INSTALL SEED, MULCH, VEGETATION, AND FABRIC WHERE NEEDED. CONDUCT FINAL WALK-THROUGH WITH ENGINEER AND OWNER
1.8	REMOVE INSTREAM ROCK FILTERS, STABILIZE DISTURBED AREAS.

GENERAL NOTES

1. ALL SLOPES 3:1 OR STEEPER WILL RECEIVE FABRIC TREATMENT, UNLESS OTHERWISE DIRECTED BY ENGINEER. FABRIC SHALL BE C125BN PRODUCED BY BONTERRA OR APPROVED EQUIVALENT. NO FABRIC WITH PLASTIC GRID OR NETTING WILL BE ALLOWED. FABRIC WILL BE PAID AT THE PER SQUARE YARD INSTALLED UNIT PRICE. 80 SQUARE YARDS ARE ESTIMATED FOR THE PROJECT.
2. ALL AREAS OF INGRESS AND EGRESS OUTSIDE OF THE IMPOUNDMENT FOOTPRINT WILL BE STABILIZED WITH STRAW MULCH AND SEEDED WITH GRASS SEED.
3. PRIOR TO FINAL APPROVAL THE CONTRACTOR AND ENGINEER WILL WALK THE PROJECT AND ENSURE THE PROJECT WAS BUILT ACCORDING TO THE PLAN,
4. EXCAVATED MATERIAL SHALL BE STOCKPILED ONLY IN DESIGNATED AREAS. MATERIAL SHOULD BE SEPARATED AS FEASIBLE INTO DIFFERENT SOIL TYPES ENCOUNTERED. EXCESS CUT WILL BE DISPOSED OF BY CONTRACTOR AT A LOCATION ON SITE. NOTE: THE LANDOWNER WILL ALLOW SOME DISPOSAL ON THE PROPERTY. THIS SHOULD BE COORDINATED PRIOR TO CONSTRUCTION.
5. ELEVATIONS ARE BASED ON A PROJECT DATUM. CONSTRUCTION STAKING WILL BE COMPLETED IN THE FIELD BY THE ENGINEER.
6. EXISTING CONCRETE DAM AND APPURTENANT STRUCTURES TO BE REMOVED BY CONTRACTOR AND DISPOSED OF AT A PRE-APPROVED LOCATION ON SITE.
7. PRIOR TO CONSTRUCTION, WILD BROOK TROUT SHOULD BE CAPTURED AND RELOCATED ABOVE THE UPPERMOST BREACHED DAM TO AVOID POTENTIAL SEDIMENT IMPACTS TO THIS SMALL POPULATION.

MATERIAL NOTES

1. EROSION CONTROL, REPAIR OF INGRESS AND EGRESS, AND MAINTENANCE OF THE SEDIMENT TRAP ARE CONSIDERED INCIDENTAL TO MOBILIZATION.
2. STAKES SHALL BE 12" ECO-STAKES, PRODUCED BY NORTH AMERICAN GREEN OR APPROVED EQUIVALENT. STAKES WILL BE CONSIDERED INCIDENTAL TO FABRIC PLACEMENT.
3. TREES FOR HABITAT INSTALLATION SHALL BE A MINIMUM OF 12" DIAMETER AND 30' IN LENGTH AS MEASURED FROM THE BOTTOM OF THE ROOT BALL TO THE TOP OF THE MAIN TRUNK. TREES SHALL BE HARVESTED WITH THE ROOT BALL INTACT AND CROWN REMOVED. ONLY LIVE HARVESTED TREES WILL BE ACCEPTED. CONIFER SPECIES ARE PREFERRED OVER HARDWOOD SPECIES. CONSULTATION IS REQUIRED WITH THE ENGINEER PRIOR TO HARVESTING ANY TREES. TREES WILL BE PAID ON A PER TREE BASIS FOR THE HARVESTING, TRANSPORT, AND INSTALLATION OF THE TREE OF UP TO 35 INDIVIDUAL TREES.
4. THE DESIGN ASSUMES THAT NATIVE STREAM BED MATERIAL WILL BE ENCOUNTERED ONCE THE FORMER IMPOUNDMENT SEDIMENT IS EXCAVATED. IF THIS ASSUMPTION IS FALSE, THE CONTRACTOR WILL NEED TO SUPPLY MATERIAL OF THE SIZE AND NATURE OF WHAT IS CURRENTLY IN THE STREAM. THIS MATERIAL SHOULD BE PRE-APPROVED BY THE ENGINEER PRIOR TO DELIVERY. PAYMENT FOR THIS BED MATERIAL WILL BE ON A PER TON BASIS FOR ROCK TRANSPORTED AND INSTALLED ON SITE AS MEASURED BY QUARRY TICKETS.
5. SEED AND MULCH WILL BE REQUIRED IN THE SITE ALONG ALL DISTURBED GROUND. A RIPARIAN SEED MIX FROM A LOCAL SOURCE WILL BE REQUIRED. THE ENGINEER WILL PRE-APPROVE ANY MIX BEFORE IT IS BROUGHT ON SITE. THE MIX SHOULD INCLUDE A COVER CROP CONSISTENT WITH THE SOWING RATE SUGGESTED BY THE SUPPLIER. SEED WILL BE PAID FOR BY THE POUND OF PURE LIVE SEED AS MEASURED BY THE MANUFACTURER INSTALLED ON THE SITE.
6. LIVE POTTED TREES FROM A LOCAL SUPPLIER WILL BE USED IN THE FORMER IMPOUNDMENT. THE SPECIES SHOULD BE HEMLOCK, GROWN TO A HEIGHT OF 2-4' AND RESIDING IN DISPOSABLE POTS. POTTED TREES WILL BE PAID FOR ON A PER TREE BASIS, INSTALLED. TREES SHOULD CARRY A REPLACEMENT WARRANTY FOR A MINIMUM OF 1 YEAR FOLLOWING INSTALLATION.
7. TREE PROTECTION – POTTED HEMLOCK SHALL BE PROTECTED FROM BROWSE UP TO 4'. PROTECTION SHALL BE HARDWIRE CLOTH

NO.	BY	DATE	REVISION DESCRIPTION

DRAWN	DESIGNED	CHECKED
GSO	GSO, MJM	MJM
APPROVED	DATE	PROJECT
x	04/01/14	

American Rivers
Kladder Reservoir
Blair, PA

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Existing Conditions, Staging, Access Plan, and Notes

SHEET 2 OF 9

dwg: x.dwg