Hunterdon Land Trust
PROTECTING THE PLACES YOU LOVE

WCAS Holden Grant
Report from Hunterdon Land Trust
Dvoor Farm Habitat Improvement
October 15, 2023

Grantee Contact Information:

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Project Description:

This project's objective was to complete the final stage of the Walnut Brook stream restoration project by planting and protecting native trees and shrubs in the floodplain and installing live stake plantings in the streambanks.

Project Deliverables and Progress Report:

Overview

The work funded by the 2023 Holden Grant brought the multi-year Walnut Brook stream restoration project to its completion. Hunterdon Land Trust is grateful for the backing of many partners, including Washington Crossing Audubon Society and their generous support of this large initiative for several years in 2017 and 2020-2023. This restoration project has brought significant improvements to the ecology of the Walnut Brook floodplain, including:

- Streambank stabilization, floodplain widening, and creation of cross-vanes, pools, and ripples across more than 1,100 linear feet of the Walnut Brook
- Creation of 5 vernal pools within the Walnut Brook floodplain
- Planting of 1,300 native trees and shrubs, including:
    - 700 containerized seedlings in the floodplain
    - 600 live stakes in the restored streambanks
- Invasive species removal in more than 2 acres of the floodplain

Together, this work has created a healthier and more resilient ecosystem along the Walnut Brook, both providing critical habitat for local birds and other wildlife and ensuring the stream's integrity in the face of severe weather events.

Live Stakes

The 2023 Holden Grant funded the acquisition of the final 300 dogwood live stakes that were installed in March 2023 in the Walnut Brook streambanks, with the help of a local Boy Scout troop and other dedicated volunteers. While live stakes do not always show leaf growth in the first growing season, Hunterdon Land Trust has seen significant leaf growth on these live stakes and is encouraged by the rate of success so far. As these stakes continue to establish, their expanding root systems will provide

beneficial reinforcement to the restored streambanks. With time, these dogwoods will grow into trees that provide cover, nesting habitat, and food resources for birds and other wildlife, as well as shade that cools the stream and improves conditions for fish and aquatic invertebrates.

Invasive Species Treatment

Using the funds provided by the 2023 Holden Grant, Hunterdon Land Trust worked with a qualified contractor to complete mechanical and chemical treatment of a 2.2-acre stand of Callery pear (*Pyrus calleryana*), a non-native invasive species that rapidly overtakes primary successional habitat. This stand was a monoculture of the invasive tree, severely detrimental to biodiversity and providing little to no benefit for local wildlife. Chemical treatment (via foliar application) was completed first in early June, followed by mechanical removal (via forestry mower) in late July. Both treatments were extremely successful.

Hunterdon Land Trust will continue to follow up with targeted control of resprouting Callery pear by staff in future years, through both mechanical removal using the brush cutter acquired through WCAS funding in 2021 and chemical treatments. After 3 years of treatments, plans to replant these 2.2 acres with native trees and shrubs, expanding the riparian buffer and creating a transitional area into the meadow habitat to the north.

Budget Report (see attached Transaction Detail):

Item	Funds granted from WCAS	Actual expenditures of WCAS funds to date	Matching funds
Live willow/dogwood stakes planted in streambank – spring 2023 (300 count)	$526	$526	$0
Mechanical and chemical treatment of invasive species (contractor)	$2,474	$2,474	$1,076
Trees and shrubs planted in restored floodplain – spring 2023 (350 count)	$0	$0	$1,967
Plant protection tubes and stakes – spring 2023 (350 count)	$0	$0	$1,820
Staff time	$0	$0	$14,000
Volunteer time	$0	$0	(in-kind) $4,200
TOTAL	**$3,000**	**$3,000**	**$23,063**
REMAINING	**$0**	**$0**	**$0**

Attachments

- Transaction Detail
- Photos

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Washington Crossing Holden Grant - Transaction Detail By Account

3:46 PM
09/27/2023

Type	Date	Num	Name	Source Name	Memo	Amount
6600 · Professional & Contractor Fees						
6640 · Contractors						
Check	06/09/2023	18141	Washington Crossing Audubon Society:2209N23 Washington Crossing Holden	James Irish, Inc.	Chemical treatment of pear trees, hydraulic pumper, 150 gal	1,900.00
Check	08/01/2023	18176	Washington Crossing Audubon Society:2209N23 Washington Crossing Holden	James Irish, Inc.	Mow cut north meadow, left bank Mine Brook, pear tree forest	574.00
Total 6640 · Contractors						2,474.00
Total 6600 · Professional & Contractor Fees						2,474.00
7300 · Stewardship Excl. Dvoor Office						
7334 · Tools and Supplies						
Credit Card Cha	01/10/2023		Washington Crossing Audubon Society:2209N23 Washington Crossing Holden	Ernst Conservation Seeds Inc	silky dogwood and red osier dogwood live stake 3'	526.00
Total 7334 · Tools and Supplies						526.00
Total 7300 · Stewardship Excl. Dvoor Office						526.00
TOTAL						**3,000.00**

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Photos

Former Callery pear stand after successful mechanical and chemical control

Dogwood live stake exhibiting new leaf growth

One section of the completed stream restoration project, showing rebuilt streambanks, tree plantings, and live stakes.

An example of the completed stream restoration project, before (left) and after (right) project completion.