

Atkinson Conservation Commission Minutes
Monday, September 9, 2019
Atkinson Town Hall

Approved October 7, 2019

Members Present:

Paul Wainwright, Chair
Denise Legault, Vice Chair
Dan Kimball
Dennis Krause
Jeff Nenart
Scott Kukshel
Bill Steele (Alternate, voting)

Others Present:

Ty Kerem
Dave Kerem

1) Call to Order & Attendance:

Chair Wainwright called the meeting to order at 7:30 PM on Monday, September 9, 2019. Chair Wainwright reviewed the attendance list and declared that a quorum was present.

2) Review & Approval of Minutes:

Chair Wainwright requested a motion to approve the minutes of the August 5, 2019 public meeting of the Atkinson Conservation Commission, as written. Chair Wainwright asked for one spelling correction prior to approval and stated to the new recording clerk that providing less detailed minutes would be preferred.

Member Legault made a motion to approve the minutes of the August 5, 2019 public session of the Atkinson Conservation Commission, with the edits noted above. Member Steele seconded the motion. Seven members of the Atkinson Conservation Commission present at the September 9, 2019 meeting voted in favor. Vote: 7/0/0.

3) Treasurer's Report:

Chair Wainwright presented the latest Treasurer's Report. A copy is attached to these minutes. Invoices submitted for the past month are highlighted in yellow. Chair Wainwright also mentioned that he has not yet submitted the critter camera or the hedge trimmer under the new equipment section; he is holding onto the receipts until the end of the year to ensure there is enough money in the budget to cover those expenses.

4) Report from Barry Conservation Camp – Ty Kerem:

Chair Wainwright opened the floor to Ty Kerem & his father Dave for an update on Ty's sponsored trip to Barry Conservation Camp. Ty stated that he had a great experience at the conservation camp and that he learned a lot. Ty mentioned that his favorite activities at the camp involved target shooting, search & rescue drills, and using an underwater drone camera for search & recovery drills. Ty stated that he would certainly recommend this camp to others in the future.

5) Trails and Grants Working Group Report:

Chair Wainwright asked the Commission how this project was coming along. Member Krause furnished an old Atkinson trail map that member McVay had created in the past. Member Krause also passed around some other samples of maps he's using as guidelines for the new Atkinson trail maps. In speaking with Vincent Antil, of the Trustees of the Reservations of Boston, Member Krause was advised that they use someone outside of the Trustees to have the maps illustrated. Member Krause spoke with a graphic designer by the name of Mary Paquette who is interested in the project and charges \$75.00 per hour – Mary estimated three to four hours for this project. Mary recommended having a base pattern of the area and then she could draw the new map in full color with all necessary labeling. If the base pattern is provided Mary estimated only two or so hours' worth of work for the first map and less time for any subsequent maps because the template would already be set up.

Member Krause recommended hiring Mary to complete this work. Chair Wainwright stated that this work could potentially be done next year as it had not been accounted for in the 2019 budget. Member Krause proposed getting started on this project now by funding the creation of the Woodlock Park trail map himself. Chair Wainwright brought up the clearing on the Merrill Drive end of the Woodlock Park trail and asked Member Krause if he planned to enlist the help of the Boy Scouts. Member Krause agreed to utilizing the Boy Scouts for clearing the area and mentioned that a full clear out (as opposed to just cutting back the overgrowth) would look great for the Conservation Commission in terms of beautifying the area.

Chair Wainwright brought up the big ash tree and asked the Commission their thoughts on publicizing the location of the tree. Member Nenart stated that in the past the Commission didn't push too hard to advertise the tree's location in the interest of protecting it. Member Krause stated that he considered the tree a highlight of the trails and didn't think the trail had enough traffic to be concerned about damage or vandalism to the tree. Member Nenart reiterated his hesitance to advertise the trees location because of the potential damage that could be done to the tree or the surrounding area. Member Nenart continued that he would be in favor of labeling the tree on the new maps but not making any trails that go directly to it. Chair Wainwright stated that he is

inclined to do nothing at this time – leave the trails as is and the Commission can decide when it comes time to print the new maps.

6) Land Conservation Planning – Review & Discuss Grant Proposal:

Chair Wainwright stated that the NH moose plate grant proposal would be submitted later this week to obtain funding for the Land Conservation Plan. Chair Wainwright stated that he would give the Members until Wednesday at noon for any final comments on the grant proposal before he submits it to the State.

Member Kukshel made a motion to direct the Chair to submit the Moose Plate Grant Application by the September 13, 2019 application deadline, and to use his judgement about any last-minute comments he receives prior to noon on Wednesday, September 11, 2019. Member Kimball seconded the motion. Seven members of the Atkinson Conservation Commission present at the September 9, 2019 meeting voted in favor. Vote: 7/0/0.

7) Sawyer Invasive Plant Mitigation – Charlie Moreno’s Proposal:

Chair Wainwright asked for comments on Charlie Moreno’s proposal to which they replied, “sticker shock!” due to the high cost of the proposal. Member Nenart stated that the Commission decided that the entrance area was too far gone and could only be maintained as opposed to completely remediated. Chair Wainwright pointed out the map attached to the proposal which indicates which areas will be focused on versus which areas will be left alone.

Chair Wainwright asked to table this until the October meeting so the Commission has enough time to read and digest the content of the proposal. Chair Wainwright also stated that Charlie will soon need some direction in regard to whether or not he should be securing bids to move forward with the project but could probably wait another month.

A copy of Charlie’s proposal is attached to these minutes.

8) Brief Reports & Other Business:

a. 3rd Saturday walks in the woods:

- August 17: Greg Jordan – Sawyer – Successful
- September 21: Marshall Land – Guided Nature Walk
- January 18, 2020: Wildlife Tracking – Emma Tutein (UNH Co-op. Ext.)

Chair Wainwright stated that the walk in the woods in August was a great success and a good time was had by all. The turnout was less than the July walk but that was

due to less advertisement by Chair Wainwright because he was unsure of the parking situation on Sawyer Avenue which turned out to be a non-issue.

A resident raised concerns about holding nature walks during the current EEE (Eastern Equine Encephalitis) concerns to which Chair Wainwright stated that as long as people are taking the proper precautions to protect against mosquito bites (bug spray, long sleeves, etc.) there shouldn't be an issue. Member Kimball stated that if people use bug spray it was more likely that someone would be killed in a car accident while driving to the event than contract EEE during the walk.

b. Office Hours to Resume October 19

Chair Wainwright stated that he reserved the room in the library for the third Saturdays in October, November & December. Times will be from 10:00 to 12:00.

c. Brush Dump Invasive Plant Mitigation – Work Done on September 3

Chair Wainwright stated that work was done by the Rockingham County Conservation District on September 3 and mentioned that a chemical called Glyphosate was used. Chair Wainwright was initially pleased to use something other than "Roundup" due to its recent bad publicity until he realized that Glyphosate is the active ingredient in Roundup and most other similar herbicides. Chair Wainwright stated that the RCCD also utilized an additive called "Bullseye" which was a blue dye that helped avoid respraying areas that have already been sprayed.

d. Foley Property Line

Chair Wainwright stated that he & Member Legault are trying to ensure that the property line between the Foley's subdivision and the Town's strip of land along Big Island Pond is well delineated. Member Legault visited the area via kayak and was able to find the stone wall denoted in the original land survey, but was unable to find any intermediate markers in areas where the stone wall no longer exists. Chair Wainwright had asked Jim Lavelle to place an intermediate pin to mark the area but he is unsure if that pin has yet been placed.

e. ATVs on Marshall Land – Use Critter Camera?

Chair Wainwright asked the Commission their thoughts on placing one of the critter cameras on the Marshall Land in order to catch riders and/or deter further ATV use on that land. Chair Wainwright stated that his new critter camera is currently in use on the Page Farm land in an effort to capture a picture of a bobcat that has been spotted in the area but he plans on using Member Dziechowski's new camera on the Marshall Land. Chair Wainwright continued that his old critter camera, which is not in great working order, will be used as a decoy to deter the use of ATVs and other off-road vehicles in that area.

f. Upcoming Wetland Setback Variances: Library (parking) and 72 Maple Avenue

Chair Wainwright reported that he and a group of the members went out and investigated the status of a couple of different wetland areas. Member Kukshel stated that the first area investigated was 72 Maple Avenue in which the homeowner is thinking about building an addition onto her house which would extend very close to the lot line. Although the Commission isn't positive, they noted that the lot line and beyond appeared to be very wet when they were out there. Chair Wainwright advised the homeowner to get the land flagged as well as the surrounding areas so everyone can see what the land is connected to. Member Steele stated that he and Member Krause checked and found a culvert underneath the road which may indicate that it is part of a larger drainage system off of Maple Avenue.

Chair Wainwright brought up the parking lot expansion that is being planned by the Library Trustees and their intention to push the lot into an area that has been acting as a sump for all the run-off in that part of town. Member Steele stated that if this expansion were to happen, it would raise concerns about where that water will be redirected and what would happen with the wetland area just beyond the parking lot. Member Nenart asked whether that area was a habitat for any wildlife or if it was just for drainage to which Member Kukshel replied that this drainage area was a man-made swale. Member Nenart stated that redirecting the water would be possible with an underground drainage system that could lead out to a retention pond or just leach back into the earth. Chair Wainwright stated that whatever is to be done in that space, the big question would be whether or not they need a State permit to move forward since there is a section of what appears to be wetland in that area. However, Chair Wainwright followed up by stating that they would not need a variance from the Town since no structures will be built on that space and therefore the Commission wouldn't be involved with the ZBA.

g. Page Farm – Alteration of Terrain Permit Denial – Being Appealed

Chair Wainwright stated that Page Farm's AoT permit denial is being appealed and NH DES has agreed to enter into "settlement discussions." Generally, in these situations the developer may make adjustments to their plan in order to appease NH DES, although Chair Wainwright isn't sure that will work in this case given the nature of the scope of the proposed work. Member Steele asked if this is now beyond the Commission's scope to which Chair Wainwright responded affirmatively but stated that he is sending information to his contact at the NH DES to possibly aid in the appeal process.

h. East Road Pumping Station

Chair Wainwright stated that as part of the Southern New Hampshire Water Project that will supply water to Windham, Derry, Salem, Atkinson & Plaistow, the piping will enter into Plaistow at which point a pressure boost will be necessary so a pumping station is being planned for installation on East Road near Bryant Road. According

to the developer, statute RSA 674:54 states that a municipality does not need to follow its own zoning practices when completing a municipal project. The developer is claiming that this project falls under that statute. To make matters worse, the Atkinson Town Attorney has recused himself from this matter due to conflicts, so the Town does not have ready access to legal advice on this matter.

Chair Wainwright stated that this water project is very important to the region in terms of water supply but he hasn't seen much consideration given to the other natural resources that may be disturbed by the developer working on this project. He asked the Commission how they felt about this matter. After looking up the statute, Member Steele stated that he didn't think it would apply in this situation because the statute is only for "governmental use" and his understanding was this water supply project is being done for a private company. Chair Wainwright asked his contact at NH DES about the one-hundred-foot buffer zone around prime wetlands that the State enforces, to which their response was that this buffer would need a Dredge & Fill permit if work is proposed in that area.

Member Nenart stated that the Commission's intention is not to stop the project but to find any viable alternatives or better locations for the pumping station. Chair Wainwright offered his editorial opinion that if people had been paying attention to our natural resources over the last fifty years, we would not need this water project.

Member Nenart made a motion to request that the Town seek its own legal counsel concerning the applicability of RSA 674:54 to the East Road Pumping Station Project, and to advocate that all Town and State Prime Wetland buffer requirements be adhered to. Member Legault seconded the motion. Seven members of the Atkinson Conservation Commission present at the September 9, 2019 meeting voted in favor. Vote: 7/0/0.

i. Collins Field Parking

Chair Wainwright stated that the Collins Recreational fields on East Road are on conservation land in which the Commission granted a deed amendment to allow the building of fields and parking for the recreation area. Chair Wainwright continued that the issue that has come up that students from the High School are now parking there. Police Chief Crowley recently approached Town Administrator Cressman about complaints of people parking in that area. Chair Wainwright explained to Chief Crowley that the Recreation Committee is being allowed to use that land through deed amendments.

Chair Wainwright stated that, personally, he doesn't care if the High School students park there, but the Recreation Committee should be concerned about the effects of more cars parked there during damp weather. Chair Wainwright continued, though, that this is still conservation land and he feels as though someone should have at least discussed this matter with the Commission. Member Steele stated that the High School students park there because this is the closest legal spot where they

can park if the High School lots are full. Chair Wainwright stated that although he hasn't yet spoken to Noriko or the Recreation Commission, he believes she would rather not have people parking there unless they are using the recreation area. Chair Wainwright stated finally that his intention is that the Commission should have been involved in this discussion.

Member Steele stated that the Commission should let the Recreation Commission handle this matter since there is not much conservation value to the parking lot. Member Kukshel brought up the idea of a permitting system in which students would pay something to the tune of \$100.00 per year for parking rights in that area, which would be a good way to control the amount of parking as well as putting some extra money into the Conservation Fund. Chair Wainwright stated that this is not feasible for liability reasons.

Member Kukshel made a motion to reaffirm our deeded authority to administer and control the use of the Collins Recreation Land, as documented in the Rockingham County Registry of Deeds, Book 4663 Page 0950, and to reaffirm our position that the parking on that land be for the exclusive use of the Recreation Fields, as documented in the Deed Restrictions contained in Book 4882 Page 0099 of the Registry of Deeds. Member Nenart seconded the motion. Seven members of the Atkinson Conservation Commission present at the September 9, 2019 meeting voted in favor. Vote: 7/0/0.

j. Tree Farm Inspections

Chair Wainwright stated he received a post card from the New Hampshire Tree Farm Administrator stating that the Town has been selected by the American Tree Farm System as part of a required tree farm inspection sample. Chair Wainwright emailed the Administrator asking which Town forests they'd like inspected and it seemed as though they didn't care which, as long as one was inspected. Chair Wainwright stated that Charlie Moreno will be contracted and paid by the State to complete this work and asked the Commission if there was any land that they think should be targeted for this inspection. Member Krause suggested the Slade property because of the old forest growth contained within. Chair Wainwright asked the Commission if it would be alright for him to ask Charlie to inspect a piece of land that he has not recently been on, to which the Members agreed.

k. Other business

Chair Wainwright asked the Commission if anyone had other business to discuss at this meeting.

Member Krause inquired about the status of the Schafer Trails. Chair Wainwright stated that the deal is currently on hold but to fully address this matter, the Commission would need to hold a non-public meeting.

Member Kukshel brought up the free seedling program that had been done in Town in the past, and stated that they company that sells the seedlings send out a catalog in early December to obtain orders that will be delivered the following April. Member Kukshel stated that this is something he'd like to add to the budget for next year if possible. Chair Wainwright stated that he already submitted the budget but this project could potentially fall under the special programs line item. Member Kukshel also stated that the seedlings are usually about \$0.80 each but there are also programs in which free seedlings can be given to schools, governmental agencies, Boy Scout troops and for other educational purposes. Chair Wainwright asked Member Kukshel to follow up on this and return to the next meeting with more information.

9) Next Meetings:

The next two regular Conservation Commission meetings will be Mondays October 7, 2019 and November 4, 2019

10) Registration Coming Soon: NH ACC Annual Conference Saturday, November 2

11) Adjournment:

Chair Wainwright requested a motion to adjourn.

Member Legault made a motion to adjourn the September 9, 2019 meeting of the Atkinson Conservation Commission. Member Nenart seconded the motion. Seven members of the Atkinson Conservation Commission present at the September 9, 2019 meeting voted in favor. Vote: 7/0/0.

The meeting adjourned at 8:55PM.

Respectfully Submitted,

Zachary Gilberti, Recording Clerk

Attachments:

- a) Treasurer's Report
- b) Charlie Moreno's proposal for invasive plant mitigation on the Sawyer Town Forest

Town of Atkinson Conservation Commission 2019 Budget Tracking

Account Number	Description	TM Approved 2019 Budget	What	Amount	Date Prepared	Date Submitted	Amount Submitted	YTD Total	YTD Unspent
40.46111.110.00	RECORDING CLERK	\$ 998.00	Minutes: Sep - Dec (estimate 7h/mo) Minutes, Aug 5, 2019 Minutes, Jan 7, 2019 Budget Adjustment - removed	\$560.00 \$160.00 \$82.50	8/9/2019 8/9/2019 1/14/2019	8/9/2019 8/9/2019 8/12/2019	\$160.00 \$82.50	\$ 242.50 \$195.00	\$ 560.50
40.45111.220.00	FICA .062	\$ 1.00	Minutes: Sep - Dec (estimate) Minutes, Aug 5, 2019 Budget Adjustment - added	\$34.72 \$9.92	8/9/2019 8/9/2019	8/9/2019 8/12/2019	\$9.92	\$ 9.92 (\$44.00)	\$ 35.08
40.45111.225.00	Medicare .0145	\$ 1.00	Minutes: Sep - Dec (estimate) Minutes Budget Adjustment - added	\$8.12 \$2.32	8/9/2019 8/9/2019	8/9/2019 8/12/2019	\$2.32	\$ 2.32 (\$10.00)	\$ 8.68
40.46111.390.00	OTHER PROF SERVICES	\$ 2,500.00	Charlie Moreno - Sawyer Invasive Planning Julie Labranche - Cons Plan Part 1 Sum: \$2,213.00 Minutes, July 1, 2019 Lavelle - Merrill Drive Survey Charlie Moreno - Chadwick inspection Minutes, June 3, 2019 Minutes, May 6, 2019 Minutes, Apr 1, 2019 Registry of Deeds (Tim) Minutes, Mar 3, 2019 Minutes, Feb 4, 2019 Budget Adjustment - added	\$1,463.00 \$750.00 \$2,213.00 \$84.00 \$787.50 \$450.00 \$90.00 \$36.00 \$132.00 \$3.00 \$120.00 \$156.00	7/26/2019 7/8/2019 6/20/2019 6/18/2019 5/27/2019 4/24/2019 3/26/2019 3/26/2019 2/21/2019	7/26/2019 7/8/2019 6/20/2019 6/18/2019 5/27/2019 4/26/2019 3/26/2019 3/26/2019 2/22/2019	\$84.00 \$787.50 \$450.00 \$90.00 \$36.00 \$132.00 \$3.00 \$120.00 \$156.00	\$ 1,858.50 (\$1,570.00)	\$ 2,211.50
40.46111.550.00	PRINTING AND BINDING	\$ 1.00	Budget Adjustment					\$ - \$ -	\$ 1.00
40.46111.560.00	DUES/SUBS/MEMBERSHIPS	\$ 400.00	NH ACC Dues (estimate) NH Ass'n of Natural Resource Scientists Budget Adjustment - added	\$425.00 \$20.00	3/26/2019	3/26/2019 8/12/2019	\$20.00	\$ 20.00 \$ (70.00)	\$ 450.00
40.46111.620.00	OFFICE SUPPLIES	\$ 1.00	Budget Adjustment					\$ - \$ -	\$ 1.00
40.46111.625.00	POSTAGE	\$ 1.00	Somebody charged postage Budget Adjustment				\$ 0.71	\$ 0.71 \$ -	\$ 0.29
40.46111.650.00	CARE OF GROUNDS	\$ 3,000.00	Mowing - Dan Supplies for gates - Dan Gates and Posts - Dan Sign Posts (from late December) Registry of Deeds (Tim)- moved to Other Prof. Svcs Terrain Navigator Pro License Replacement float for Town Dock, -2% Ebner reimbursement: Junction Markers Budget Adjustment - removed	\$900.00 \$98.94 \$595.03 \$37.18 \$361.00 \$126.89 \$103.68	8/6/2019 5/13/2019 3/26/2019 3/26/2019 1/24/2019 1/2/2019	8/6/2019 5/13/2019 3/26/2019 1/25/2019 1/7/2019 8/12/2019	\$98.94 \$595.03 \$37.18 \$361.00 \$124.35 \$103.68	\$ 1,320.18 \$ 729.00	\$ 950.82
40.46111.740.00	NEW EQUIPMENT	\$ 300.00	New Critter Camera - Tim New Critter Camera - Paul Stihl Hedge Trimmer, battery, and charger Sum: \$593.61 Budget Adjustment	\$77.93 \$143.65 \$449.96 \$593.61	8/6/2019	8/6/2019	\$77.93	\$ 77.93 \$ -	\$ 222.07
40.46111.820.00	MILEAGE	\$ 74.00	Meeting w/ Eben Lewis 1/2/19 - 98 mi + \$4 Budget Adjustment	\$60.84	3/26/2019	3/26/2019	\$60.84	\$ 60.84 \$ -	\$ 13.16
40.46111.840.00	SPECIAL PROGRAMS	\$ 1,000.00	Eagle Project - Adam (estimate) Eagle Project - Adam Torres Barry Conservation Camp Budget Adjustment - removed	\$87.40 \$315.00	3/26/2019	3/26/2019 8/12/2019	\$315.00	\$ 315.00 \$ 575.00	\$ 110.00
40.46111.850.00	EDUCATION & CONFERENCES	\$ 250.00	NH SCC Annual Conference Budget Adjustment					\$ - \$ -	\$ 250.00
40.46111.875.00	SIGNS	\$ 500.00	Conservation Easement Boundary Markers Budget Adjustment - removed	\$304.77	1/28/2019	1/29/2019 8/12/2019	\$304.77	\$ 304.77 \$ 195.00	\$ 0.23
TOTALS		\$ 9,027.00						\$ 4,212.67	\$ 4,814.33
			Committed but not paid:	\$4,821.85					\$ (7.52)

INVASIVE PLANTS MITIGATION PLAN
for the Town of Atkinson's
SAWYER CONSERVATION AREA

Atkinson, New Hampshire

133.6± acres



Prepared for Landowner:

Town of Atkinson (Conservation Commission)

21 Academy Avenue, Atkinson NH 03811 // town-atkinsonnh.com // 603-362-5266

Prepared by:

Charles Moreno, LPF

Moreno Forestry Associates

PO Box 60, Center Strafford, NH 03815 // (603) 234-0444



Landowner

Charles Moreno, NH LPF #115

Consulting Forester

TSP #09-6203

September 2019



INVASIVE PLANTS MITIGATION PLAN

for the Town of Atkinson's

Sawyer Conservation Area

Atkinson, New Hampshire

133.6± acres

September 2019



Above: The field near the Sawyer Avenue access is completely overtaken by Oriental bittersweet.

Cover Page: A variety of invasive species fully occupy the understory of a forested area.

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The author of this forest plan, Charles A. Moreno, NH LPF #115, certifies that the contents of the plan, except where footnoted, but including all written material, maps (base information referenced), plan format and organization, are original to the author.

The purpose of this plan is to provide natural resources information and forest management recommendations to the landowner, the Town of Atkinson, NH. This document is a work for hire done by Charles A. Moreno for the landowner, and may be used by same for any purpose. Copying of this plan by any other individual or organization, including any written material, plan content and/or format, requires appropriate citation and/or the written permission of Charles A. Moreno, Consulting Forester. Any revisions to the plan cannot be made under the author's name without the author's written permission.



Charles Moreno, Consulting Forester, Ecologist
Strafford, New Hampshire // (603) 234-0444

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Map of the
SAWYER AVE. TOWN FOREST

133.6± Acres --- Atkinson, New Hampshire

Showing Invasive Species Strategic Zones

- Heavily Invaded - 35 acres
- Transitional - 26 acres
- Scattered / Incipient - 73 acres

0 250 500 750 1000 ft

1:6000

Feature locations are approximate. Boundary from NH GRANIT tax parcel mosaic. Roads from NH DOT. All other physical features from field surveys and photo interpretation. Map is not a legal description nor to be used for legal purposes. Map drawn August 2019.

Map researched and drawn by:

Moreno Forestry Associates
PO Box 60
Center Strafford, NH 03815



Invasive Plant Mitigation Plan

Sawyer Conservation Area

Atkinson, NH

INTRODUCTION

Overview

Owned by the Town of Atkinson, the Sawyer Conservation Area is a largely forested, 133.6± acre* tract situated in south-central Atkinson, lying between Sawyer Avenue, North Broadway Road, and the New Hampshire-Massachusetts state line. The Sawyer Avenue access point is situated about 1.5 miles south of the Atkinson town center.

The Conservation Area's recreational trails are popular with dog walkers, hikers, snowshoers, cross-country skiers, bird watchers, and others. A variety of habitats are found on the property. While the central expanse is wholly forested, two fields are found within the forest in the tract's east and west.

Invasive plants (non-native species which compete with native vegetation) dominate the property's eastern and western ends. In the remainder of the property, conditions range from intermixed natives and exotics, lightly scattered invasives, to invasive-free areas, as described below.



Tangled vines and shrubs characterize heavily invaded forest in the Sawyer Conservation Area's northeast.

*Calculated from Tax Map data. Historic surveys suggest total acreage is 140.4 acres.

Project Scope

The purpose of this document is to outline a mitigation strategy for invasive plants in the Sawyer Conservation Area by:

1. Determining the degree and nature of invasion, area by area;
2. Differentiating management zones based on character/density of invasion, and;
3. Presenting control methods and strategies, with corresponding costs.



Exotic, Invasive Plants Observed

- Japanese barberry – *Berberis thunbergii*
- European barberry – *Berberis vulgaris*
- Oriental (Asiatic) bittersweet – *Celastrus orbiculatus*
- Burning bush – *Euonymus alatus*
- Honeysuckle (various) – *Lonicera spp.*
- Glossy buckthorn – *Frangula alnus*
- Autumn olive – *Elaeagnus umbellata*
- Multiflora rose – *Rosa multiflora*

Control Methods

- **Heavy mechanical (“Brontosaurus” or “Brush Mulcher”)** - \$1,500 per day (1 – 2 acres treated daily, depending on severity of invasion). A coarse cutting head, typically mounted on a tracked excavator or skid steer, mows vegetation. Mostly *non-selective*, brontosauruses and mulchers are well-suited for heavily invaded areas where few, if any, native plants are present to save. Herbicide can be applied (at additional cost, see below) as a follow-up to control invasive plant re-sprout. It is necessary to engage contractors for both tasks.
- **Moderate mechanical (“Bush hog”)** - \$800 - \$1,000 per day. Deck mower pulled by a tractor. Well-suited for old fields with 1 to 3 years of herbaceous/early-successional growth. Also used to maintain re-sprouting shrub areas that were previously cleared by a brontosaurus or mulcher. Site must be rock-free and mostly level. Mowing may provide a substitute for herbicide treatment of invasives if site is accessible *and* can be annually mowed prior to seed production. Unfortunately, desirable saplings and shrubs are also lost.
- **Light mechanical** - \$500 to \$1,000± per acre. A chainsaw or brush saw is used to sever the stems of unwanted species. This method can be either broad-based or selective, the latter to save desirable native saplings and shrubs. Can be used in conjunction with herbicide (at additional cost), which is more cost effective if applied immediately after cutting. It is necessary to engage one or more contractors for this work.
- **Grazing** - \$600 to \$1,000± per acre. Goats are typically corralled within portable electric fencing and allowed to graze understory vegetation. This method is non-selective, with nearly all vegetation browsed. (Desirable small trees should be protected to prevent stripping of their bark). Follow-up herbicide (at additional cost) treatment is needed to prevent invasive re-sprout.
- **Herbicide** - \$600 to \$1,000± per acre. Targeted application with several herbicide and method options depending on intended vegetation, stem size, and season. Kills unwanted vegetation. Can be used in conjunction with brontosaurus work or other mechanical control, or can be employed singly depending on conditions. It is necessary to engage a licensed herbicide applicator.
- **Pulling** – \$50 to \$200± per acre, depending on size and density of plants, and availability of volunteers to assist experts. Small plants are removed by hand, with or without mechanical aid (e.g., weed wrench or mattock). Intended for low-density areas. Trained volunteers or contracted forest technicians can complete this work.



Treatment Areas

See the map on page 3 for the locations of the areas described below.

Heavily invaded (35± acres) - These areas feature 1,000 to 20,000 (or more) stems of non-native species per acre. Invasive plants typically outnumber desirable native plants, both by count and amount of biomass. Heavily invaded areas tend to self-perpetuate; the prolific seed production of exotics accelerates the invasion, with invasive plant regeneration outpacing native plants in a feedback loop. Though not a lost cause, heavily invaded areas such as those in the eastern and western sections of the Sawyer Conservation Area require considerable effort and funds which are better allocated elsewhere, at least initially. Cost per acre for remediation of heavily invaded conditions may exceed \$2,000, as a combination of heavy mechanical treatment (e.g., brontosaurus) and herbicide are often needed to sufficiently suppress non-native regeneration. Several years of follow-up treatments are required after the first, intensive treatment activity.

Transitional (26± acres) – A 100 to 200± foot buffer adjacent to the property’s heavily invaded areas and along residences near the property’s northern boundary shields the relatively invasive-free center of Sawyer Conservation Area from the wider invasion. This transitional area generally contains less than 1,000 non-native stems per acre, with substantial native vegetation intermixed, though a density gradient exists where invasive concentrations are higher near heavily invaded areas and becomes lighter near the scattered/incipient zone. A mixed treatment approach in this zone is likely needed, with hand-pulling, herbicide treatment, and light-mechanical removal used in combination. *Any treatment scheme should begin at the boundary with the scattered/incipient zone and proceed outward toward the residential boundary or heavily invaded areas.*



A milder invasive presence is found at the “leading edge” between the Transition and Scattered/Incipient zones.

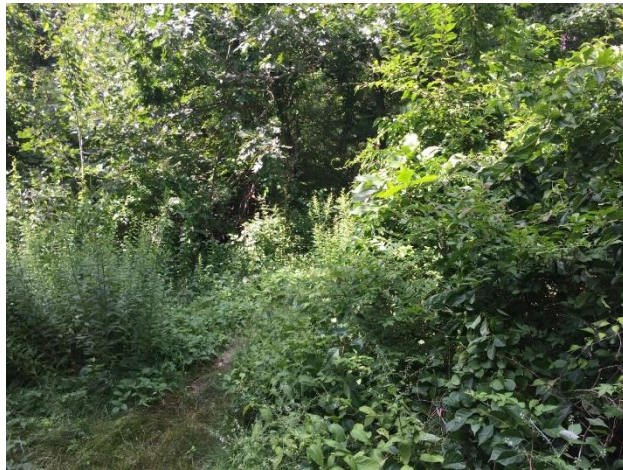
Scattered/Incipient (73± acres) – The forested interior of the Sawyer Conservation Area is largely free of invasive species, though clusters and scattered individual stems are present (generally fewer than 100 stems per acre). This area should be the focus of initial removal efforts, as the cost/effort per acre is minimal compared to more heavily invaded zones. Removing one plant often makes a significant ecological difference, preventing the spread of propagules and further colonization. A “seek & remove” strategy is appropriate here, where volunteers and/or contractors canvas the entire area in two directions (e.g., on north-south transect lines, and again along east-south transects), uprooting smaller specimens by hand and noting the locations (with flagging and GPS) of deeply rooted specimens or those too large to pull. These larger specimens are then removed with mechanical and/or chemical means.



Logistics

Treatment Phases. Three treatment phases are recommended corresponding to the treatment areas.

- **1st Phase** treatments include: A) Canvassing and removing all invasives from the 73± acre interior area (Scattered/Incipient), and B) Heavy-mechanical removal of invasives along the main Sawyer Avenue trail into the tract interior. Follow-up mowing or herbicide treatment is needed after re-sprout but before the plants reseed.
- **2nd Phase** treatments, covering 26± acres, are to occur in the Transition Zones, the leading edges between heavily invaded areas and the already treated Scattered/Incipient interior area. Mixed methods are used, including light mechanical, hand pulling, and herbicide. Follow-up treatment is necessary.
- **3rd Phase** treatments involve restoring the Heavily Invaded sections in the tract's east (near Sawyer Avenue) and west (beyond the western field). These treatments will involve broad-based treatments such as brontosaurus or forestry mulcher, with follow-up light mechanical and herbicide (by a licensed applicator). Field areas that are currently heavily invaded can be mowed annually with a bushhog before seeds ripen.



Removing the invasive thicket along the main access trail from Sawyer Avenue is recommended as a first phase activity.

Scheduling.

Method	Optimal Time of Year
Brontosaurus/Brush Mulcher	Anytime of year, especially early summer prior to seed production.
Bushhog	Summer, prior to seed production.
Grazing	After leaf-out, but prior to seed production.
Herbicide	Spring through fall. Optimally, September.
Brushsaw w/ Herbicide	Summer, with immediate herbicide application (same day).
Uprooting (Pulling)	Spring through fall. Optimally, late October to early November when plants are easier to detect.

Trail Closures. The main Sawyer Avenue trail should be closed on the day that brontosaurus work occurs. Interior trails should be closed for the day when herbicide work occurs.



PROJECT SUMMARY / SCHEDULING / METHODS / COST

Year	Season	Activity	Acres	Method	Projected Cost
First Phase					
2019 or 2020	Fall	Remove all invasives in Scattered/Incipient Zone.	73±	Canvass, locate, and hand-pull. Return to uproot large plants.	\$15,000±. ~\$200±/acre.
2019 or 2020	Fall	Improve vegetation along trail from Sawyer Avenue access	1±	Heavy mechanical, with follow-up herbicide or continued bush hogging.	\$1,500± initially, Follow-up, \$1,000±. (\$2,500± total).
Second Phase					
2020 to 2021	Spring/ Summer/Fall	Treat Transition Zone (the leading edge”) to expand clean interior.	26±	Light mechanical, uprooting, and herbicide (stumps).	\$25,000±. ~\$1,000±/acre.
Third Phase					
2021 to 2023	Spring/ Summer	Treat Heavily Infested Areas.	35±	Heavy mechanical, with follow-up herbicide and/or continued brush mulcher and bush hogging.	\$70,000±. ~\$2,000±/acre.

