

## Austin Parcel Intensive Invasive Species Management Plan, Annual Impact Report 2018



Prepared by:

Mandy St. Hilaire, Intervale Conservation Nursery  
Corrie Miller, Friends of the Mad River  
Ned Farquhar, Mad River Path Association

Submitted: December 12<sup>th</sup>, 2018

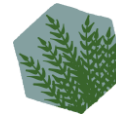
Dates stewarded: June 26<sup>th</sup>, July 27<sup>th</sup>, August 24<sup>th</sup>, & October 27<sup>th</sup>

Zones stewarded: Zone 1, Roadside trail & Mill Brook; Zone 2, Reed canary grass; Zone 4, Mow/trail zone

On-site Labor hours: ICN, 126.25 hrs; FMR, 10 staff hrs; Path Association, 55 hrs

Date for next visit: May Community Stewarding Day, Date TBD





## Review of 2018 Invasive Management Season at the Austin Parcel

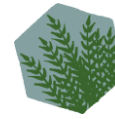


Photo 1. Group photo during Community Stewarding Day in October.

Over the course of the 2018 season, the Austin Parcel has been stewarded and transformed thanks to the efforts of many Vermont community members. In April 2018, the Waitsfield Conservation Commission selected Intervale Conservation Nursery (ICN), Friends of the Mad River (FMR), and Mad River Path Association (Path Association), to manage the invasive species within the Austin Parcel for two years with the ultimate goal

to facilitate re-establishment of a native floodplain forest in the parcel. In 2018, ICN stewarded with their seasonal planting crew three times and hosted a community planting and stewarding event; FMR coordinated among partners and the Waitsfield Conservation Commission and organized outreach to the community; and the Path Association mowed a new loop trail to create a buffer between the forest restoration area and the aggressively invasive knotweed outside the mowed buffer area, tackled interior knotweed patches in the floodplain, and organized outreach to the community. These efforts have received positive feedback from community members and encouraged a community wide approach to invasive species management.

During the initial visit to the Austin Parcel, ICN manager Mike Ingalls pointed out the healthy degree of natural regeneration in the riparian and wetland zones within the Austin Parcel, making it in an ideal position to manage the invasive species now—before they dominate the landscape. Even with a vast amount of invasive plants in the Parcel, there was vigorous native woody perennial plant growth along Zone 1, Roadside trail & Mill Brook. Native woody species identified include: Chokecherry, American hazelnut, Red osier dogwood, Hawthorne, Grey birch, Yellow birch, Sugar maples, Basswood, White ash, Speckled alder, Shrub willow, Wild Apples, American Elm, Black cherry, and Elderberry. Many of the young native woody perennials were freed from the invasive pressure by removing the invasive understory. Now that they have been relieved of the invasive pressure, there is more potential for the native woody perennials to thrive, although the campaign against knotweed in particular needs steady, repetitive pressure almost weekly during the growing season to prevent re-infestation. To minimize invasive woody plant spread, ICN plans to continue pulling up invasive shoots and enhancing the disturbed areas with native plant stock in 2019.



As shown in Table 1, there were three invasive species that have been this management plans area of focus: Honeysuckle, Buckthorn, and Japanese knotweed. These three invasive species were determined to be the largest threats to the native woody perennials at the Austin Parcel. Other invasive species removed throughout the season that do not pose an immediate threat to the ecosystem included: oriental bittersweet, barberry, and burning bush. Of the two woody invasive perennial species—Honeysuckle and Buckthorn—nearly 1,000 plants were manually uprooted or sawed down in 2018. The debris can be found in piles along the trail on either side, breaking down and providing habitat for wildlife. There is an opportunity to chip the woody debris along the roadside. This could create mulch for the Parcel that can suppress invasive plant sprouting and add organic matter to the disturbed land. Due to the amount of woody debris, this is a recommendation that was not included in the initial management plan budget. This requires further deliberation with the Waitsfield Conservation Commission.



Photo 2. ICN crew member, Patrick, stands with a brush pile of the mother honeysuckle's removed with chainsaws around a black cherry during Stewarding Day #1 in Zone 1.

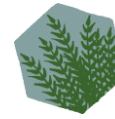
When walking through the wetland and floodplain areas of the Austin Parcel, it has been very apparent that the Japanese knotweed invasion has been growing and taking over, competing with perennial wildflowers and grasses. This season, Path Association spent 15 hours mowing, clearing, and piling Japanese knotweed within the interior sections of the Austin Parcel, and 40 hours on the perimeter. ICN spent 40 of 126.25 labor hours over the course of two stewarding days weed whacking, raking, and piling the large interior patches of Japanese knotweed. The first 36 hours were spent hacking down the



Photo 3. ICN manager, Mike Ingalls, weed whacks large interior patches of Japanese knotweed on Stewarding Day #2 in Zone 2, Reed canary grass zone.

large sections to the ground and piling, and clearing the area around the Mill Brook. The next visit, the suckering shoots were weed whacked down to control the re-growth within the interior patches. After working on the knotweed interior patches in 2018, ICN will continue weed whacking next year, with the suggestion to continue managing the knotweed by beating it back multiple times per year until it is much less vigorous, which could take 10-15 years of regular mechanical suppression. The Path Association will also move knotweed piles to the upper edge of the Austin Parcel and create a heating process by wrapping most of the cuttings in black plastic during the summer. This quarantine section can





be found on Maps 1-3.

The Path Association's trails and projects manager, David Hodgson, commenced whacking the area before the project contract was consummated because the early knotweed season is critical for subsequent growing season growth. Knotweed grows most vigorously in late spring and early summer, quickly growing to heights of 5-7', with daily growth that can approach four inches. Attacking it early in the growing season is critical to mechanical treatment. David used an industrial-duty tri-blade Stihl weed-whacker that can, if held close to the ground, bring the plants down quickly and methodically. He then created large piles of knotweed cuttings which he also whacked through the summer in case there was regrowth from the piles. Knotweed is remarkably prolific and can regrow from small clippings, and it must be watched for regrowth even if moved to a new site. The object of the burrito wrap on the upper section of the Parcel will be to actually kill off the regrowth potential in the clipped knotweed material, with attention that it does not establish itself in the burrito area, which is presently not infested.



Photo 4. ICN crew member, Owen, stands in front of a large interior knotweed pile.

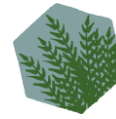


Photo 5. ICN educational signage at the Austin Parcel.

With noticeable work being done to the Austin Parcel in 2018, it was important to install educational signage throughout the trail system to inform community members on why their trail system looked different than previous years. ICN installed four educational signs along Zone 1, Roadside Trail & Mill Brook, explaining the invasive species being removed, why this work is being done, and the partners involved. These were placed in areas that were most disturbed by the invasive removal, such as the large sections cleared of mother honeysuckle bushes. ICN also occasionally interacted with trail users interested

in learning more about the work being done. The reaction was positive and encouraging.

On October 27<sup>th</sup>, the partners joined forces with additional community volunteers for a Community Stewarding Day, where 110 native trees and 90 native shrubs (Materials cost = \$630, to be split equally between FMR and US Fish and Wildlife Service Partners for Fish and Wildlife Program) were planted in Zone 2, Reed canary grass area, and Zone 1, along the Mill Brook. Even with a shortened day due to weather conditions, it was a great success. The October 27<sup>th</sup> date was chosen because, for safety's sake, it was expected that the most effective knotweed work not involving the steel-blade whacker would be done after the end of the growing season, and because it is an ideal time to plant bare-root trees;



however, public participation was probably affected by the fact that there was an early snowstorm and the weather was bitterly cold and windy. 11 volunteers planted while 4 volunteers tackled the woody invasives in Zone 1, Roadside trail. In just three and a half hours, with wet snow and cold temperatures, the volunteer prevailed and planted these 200 stems with smiles on their faces. In addition, all the trees received plant protection. 110 tree tubes and oak stakes were installed to protect the trees from vole and beaver damage throughout the winter and spring. During the stewarding days in 2019, ICN will continue to monitor the effectiveness of this tree protection.



Photo 6. Mike explains the step-by-step process of bareroot tree and shrub planting to the group.

Friends of the Mad River's staff time invested in the project since May 2018 was 39.75 hours, with a value over \$1,000. Friends' work focused on coordinating work among partners and the Waitsfield

Conservation Commission and organizing community outreach. On 9/14, Friends hosted a meeting to align partner efforts and discuss shared expectations. Friends worked to coordinate messages to the community and contributed to two press releases (Figures 2 & 3), sent an email to its members, organized a Facebook event page for the Community Stewarding Day (Figure 1), and included an update in its Fall 2018 newsletter.

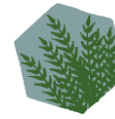


Photo 7. Bruno, of the Waitsfield Conservation Commission, plants a shrub willow during the Fall Community Stewarding Day.

In addition to contracted field activity (mostly whacking knotweed as part of the forest restoration project), the Path Association contributed approximately 60 volunteer/non-field staff hours to the project in 2018, including attendance at Commission meetings, drafting content and press releases for the Valley Reporter (including pre- and post-stewardship day on October 27), providing project information in its email newsletters, creating posts for its email list of more than 1400 people, and developing informational material such as the attached sheet that was available to volunteers on October 27<sup>th</sup> and was posted by the Commission (Figure 5).

### Looking forward

After a full season observing the ecosystem and problem-solving at the Austin Parcel property, ICN, FMR, and MRPA are poised to begin the 2019 season strong.



Initially, a full scope of the management required was difficult to comprehend due to the first on-site visits occurring in winter. ICN witnessed the prolific growth of Japanese knotweed in the first two stewarding days in 2018, and formed a better understanding of the understory growth along the trail. With this knowledge, ICN will continue offering the Waitsfield Conservation Commission with expert guidance and action steps as the Austin Parcel continues to transform.

With most of the mother invasives removed, ICN can begin to focus on the smaller invasive species shoots, and continue stressing the mother plant stumps. There will be time for native plant enhancement planting with ICN native tree and shrub stock to replace the disturbed areas that have undergone intensive removal treatments.

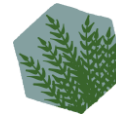
ICN will continue focusing on Zone 1, Roadside trail & Mill Brook, Zone 2, Reed canary grass, and Zone 4, Mow/trail during the three crew stewarding days in June, July, and August (exact dates to be determined). After a full season of observation, ICN has concluded these three zones as the invasive species hot zones within the Austin Parcel (see Map 2). It is where the most mother invasives were found, and where there will be the most regrowth in 2019. With continued stressing, the management of these invasive hot zones will be reduced. ICN is also incorporating Zone 3, Wetland/Beaver corridor, plans into 2019 as stated in the original proposal.

The Austin Parcel will have two Community Stewarding Days in 2019 (May and October), and 3 ICN crew stewarding days (June, July, and August). ICN learned from the 2018 season that the interior patches of Japanese knotweed are more prolific than initially diagnosed. These patches will be weed whacked during each of the 5 visits to the Parcel, on top of the work by the Path Association. In addition, there will be more native plant stewarding and enhancement throughout the season.

The May 2019 Community Stewarding Day will be broken up by Zones 1-4, with options for volunteers to choose where they work. In Zone 1, Roadside trail & Mill Brook, volunteers will be removing invasives (small shoots & mothers), following up on 2018 invasive removal, and installing the native plant enhancements in the disturbed areas. In Zone 2, Reed canary grass, volunteers will be stewarding the native tree and shrub planting from Fall 2018, which includes clearing grass from around the plants, fixing tree protection, and marking any mortality. Zone 2 will also have the interior Japanese knotweed weed whacked. In Zone 3, Wetland/beaver corridor, volunteers will be removing woody invasives, and collecting shrub willow livestock on-site to install as a native plant enhancement. In Zone 4, Interior knotweed mow zone, ICN crew members or experienced volunteers will be weed whacking interior patches of Japanese knotweed and patches around trail and mow areas. The Fall 2019 Community Stewarding Day plans will develop more throughout 2019, with an emphasis on native plant enhancement and invasive removal.

Any community member going for a stroll, a swim, or a bike ride can see: the Austin Parcel is in the middle of a transformation. The Intensive Invasive Species Management Plan is going to establish the Parcel as a model for organic invasive species removal methods, the importance of native plant enhancements, and the power of active community participation.





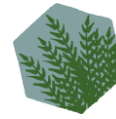
**Table 1. AMOUNT OF INVASIVE PLANTS REMOVED BY ICN AND VOLUNTEERS**

	Honeysuckle	Buckthorn	Japanese knotweed	Type Totals
"Mother" plants	157	36		193
Small shrubs	587	209		796
Sq. footage			(12,519 sq ft) x 2 weed whacking sessions	12,519sqft = 0.287acres weed whacked twice
<b>Species Totals</b>	<b>744</b>	<b>245</b>		

*A "mother" plant is considered the largest fruit bearing plant found in the area.*

**Table 2. ICN LABOR HOURS ON-SITE AUSTIN PARCEL**

	Hours on Site	Crew members	Total Hours
Stewarding Day #1	6	8	48
Stewarding Day #2	6	6	36
Stewarding Day #3	5.5	5.5	30.25
Community Stewarding Day Fall 2018	4	3	12
<b>TOTALS</b>	<b>21.5</b>	<b>22.5</b>	<b>126.25</b>



**Map 1. AUSTIN PARCEL INTENSIVE INVASIVE MANAGEMENT ZONES.**

# Austin Parcel

## Zones



1. Roadside trail and Mill Brook Buffer



1. Roadside trail and Mill Brook site



2. Interior flood plain/ Reed Canary Grass



3. Wetland/Beaver corridor



4. Mow zone/trial



4. Interior knotweed mow zone



5. Mad river bank zone

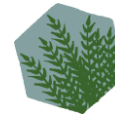


quarantine area

Intensive Invasive  
Management Plan 2018-2019







**Map 2. AUSTIN PARCEL ZONES STEWARDED 2018 WITH INVASIVE SPECIES HOT ZONES.**

# Austin Parcel

## 2018 Stewarding Performed & Invasive Species Hot Zones



Honeysuckle Mother's Hot Zone



Honeysuckle Hot Zone



Honeysuckle Mother Hot Zone



Honeysuckle Hot Zone



Buckthorn Mother Hot Zone



Buckthorn Mother Hot Zone



Buckthorn Mother Hot Zone



Japanese Knotweed patch



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile - Small



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile



Japanese Knotweed Pile

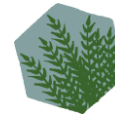


Community Planting - 200 Stems

Intensive Invasive  
Management Plan 2018-2019







### Map 3. AUSTIN PARCEL ZONES TO BE STEWARDED 2019.

## Austin Parcel

#### 2019 Zones to be Stewarded



1. Roadside trail and Mill Brook: Removing invasives (small shoots & mothers), following up on 2018 invasive removal, and installing the native plant enhancements in the disturbed areas



1. Roadside trail and Mill Brook: Removing invasives (small shoots & mothers), following up on 2018 invasive removal, and installing the native plant enhancements in the disturbed areas



2. Interior floodplain/Reed canary grass: Stewarding the native tree and shrub planting from Fall 2018, which includes clearing grass from around the plants, fixing tree protection, and marking any mortality.



3. Wetland/Beaver corridor: Removing woody invasives, and collecting shrub willow livestakes on-site to install as a native plant enhancement.



4. Interior knotweed mow zone: Weed whacking interior patches of Japanese knotweed and patches around trail and mow areas.



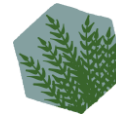
Quarantine area: Continue building out a Japanese knotweed quarantine area outside the floodplain.



Intensive Invasive Management Plan 2018-2019

4. Mow zone/trail: Continue mowing and weed whacking interior knotweed patches





**Figure 1. Facebook event page.**

INSIGHTS SINCE 10/19/2018

288 Reached

30 Viewed



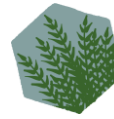
**OCT 27** Austin Parcel Community Stewardship Day  
Public · Hosted by Intervale Conservation Nursery and Friends of the Mad River · 2 co-hosts pending [?]

★ Interested   ✓ Going   ...

Saturday, October 27, 2018 at 9 AM – 3 PM  
about 1 month ago

Lareau Swimming Hole  
5684 MAIN St, Waitsfield, Vermont 05673   [Show Map](#)

**About**   Discussion



**Figure 2. *Mad River Matters* Newsletter Story Fall 2018**

## Riparian Restoration

Together with the Waitsfield Conservation Commission, Intervale Conservation Nursery, and Mad River Path Association, Friends began floodplain forest restoration at Waitsfield's 5-acre Austin parcel in 2018. Because Japanese knotweed and a handful of other invasive plants threaten the success of any seedlings we plant, the team chose to pair tree planting with invasive plant removal. And,



because the community strongly opposed the use of herbicide, the invasive removal is by hand and machine only. On a snowy Saturday in October, 20 hearty volunteers helped remove invasives and plant 200 trees and shrubs! We aim to create a more natural floodplain that will absorb floodwaters, help clean water, support migratory birds, and feed pollinators. This project's success and the future of this floodplain forest depend on many more people investing their sweat equity – stay tuned for more Community Stewarding Days in 2019!



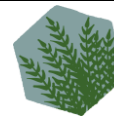


Figure 3. Press Release by Conservation Commission with Partner Input.

JULY 26, 2018

THE VALLEY REPORTER

3

## Knocking out the Japanese knotweed



Photo: Lisa Loomis.

A pile of Japanese knotweed is drying on the Austin parcel in Waitsfield as part of a knotweed management program undertaken by the Waitsfield Conservation Commission.

By Lisa Loomis

On a blisteringly hot Friday afternoon, two members of the Waitsfield Conservation Commission offered a tour of the town's fledgling efforts at controlling knotweed on a portion of the town-owned Austin parcel.

Accessible via the Lareau swim hole parking lot, the Austin parcel is a long, thin piece of land with a lollypop-like bulb at the end. Conservation commission chair Phil Huffman and commissioner Mark Haberle, who is head of the Conservation Commission's Invasive Species Working Group, led the way to the knotweed work, through a canopied walk notable for the piles of invasive buckthorn that had been cut and left to dry. In addition to the buckthorn, which is laden with berries right now, invasive honeysuckle is also being cut.

On the long, skinny parcel of the property there's a wall of knotweed between the river and the other invasives by the walkway. On the rounded part of the top of the lollypop, there's a moved loop cut through it and there are large piles of knotweed drying in the sun. The contractor, Intervale Conservation Nursery (ICN), has done an initial round of knotweed cutting and is now cutting again. On the circular trail, it's plainly visible where the knotweed has been cut several times and is pushing right back up.

### ORIGINAL PLAN

Haberle said that the original plan for the cut knotweed is to wrap it in black cloth on a platform to steam it to death. Another option is to truck it somewhere else, but that increases the chances of small pieces of knotweed falling off and taking root elsewhere.

Knotweed is an issue throughout the watershed and this project is a trial to

see if the knotweed can be contained enough to allow a riparian forest to be re-established.

The Waitsfield Conservation Commission is working with ICN on the invasive plant control demonstration program on the Austin parcel, which borders the Mad River and Mill Brook just north of the Lareau swim hole. The program consists of cutting to remove several kinds of nonnative invasive plants (including Japanese knotweed, honeysuckle, and buckthorn) and, ultimately, replace them with native trees and shrubs. These activities are coupled with site survey work to monitor progress and are complemented with public education and outreach elements.

**COMMUNITY VOLUNTEERS**  
Huffman said that the success of the effort will hinge in part on community volunteers being interested in learning about invasive management best practices and being willing to lend a hand. The holistic program also leverages matching funds and assistance from two local organizations – the Mad River Path Association (MRPA) and Friends of the Mad River (FMR) – to provide additional capacity, expertise and Valley-based experience.

"The goal is to re-align the trajectory of the Austin parcel toward a healthy native flood plain forest, realize the ecological and social benefits of that, and provide an opportunity for local citizens to learn about the challenges of stewarding town lands while engaging in hands-on learning and volunteering," said Haberle. "This fall a Community Stewardship Day will be held providing an opportunity to tour the site, see the work being done, ask questions, learn from the professionals, and – critically – help remove

invasives and plant native species. Please reach out to the commission at any time if you have questions or can simply lend a hand."

### CULMINATION OF SEVERAL YEARS

The project is the culmination of several years of work by the commission and partners to identify an approach for dealing with the infestation of invasive plants on the Austin parcel and re-establish a more natural condition. An initial proposal to combat the invasives using a best practice of targeted, low-dosage herbicides met with considerable community resistance a year ago. As a result, the commission rebid the project last winter with a focus only on mechanical and manual approaches, in keep-

ing with the community's preference.

"Led by our Invasive Species Working Group, the commission has worked hard to identify a methodology that would prove effective and educational, leverage volunteer engagement, and align with

the community values," said Huffman. "We are pleased to be moving forward with a capable and committed team of professionals from ICN, MRPA and FMR, and are counting on strong community involvement to help make the project a success."



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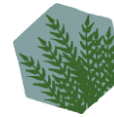


Figure 4. Press release after Community Stewarding Day Fall 2018.

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THE VALLEY REPORTER

NOVEMBER 1, 2018

## Volunteers plant 200 trees in a snowstorm

It was snowy and it was blowy, but about 20 volunteers showed up last weekend to help restore native forest conditions at Waltsfield's Austin flood plain parcel near the Lareau swim hole on Route 100. The October 27 event was the first Community Stewardship Day for volunteers to be involved in management of the property.

"We're excited with this important headway in our efforts to knock back the onslaught of invasive plants on the Austin Parcel and to jumpstart the re-establishment of a native flood plain forest," said Phil Huffman, chair of the Waltsfield Conservation Commission. "We're grateful to our partners and the community volunteers who persevered

through chilly conditions to get so many native shrubs and seedlings in the ground before winter sets in for real. And we hope more folks from around The Valley will lean in to help out as the effort continues next year."

The commission is implementing recommendations for flood plain forest management and restoration that were part of the 2015 Wu Ledges Town Forest Management Plan, which was augmented by studies and reports from the Vermont Land Trust and the U.S. Fish and Wildlife Service. Earlier this year the commission contracted with Intervale Conservation Nursery (ICN) to lead restoration planting and invasive plant removal and control without chemical treatments. ICN's Mike Ingalls and Mandy St. Hilaire helped lead the work on Saturday, bringing 200 trees and shrubs, dozens of tools, and an educational mindset to show volunteers how to do the work.

Restoring native habitat will encourage native wildlife (including birds, pollinators and small mammals that use the area), improve flood resilience, and help create better fish habitat and recreation opportunities along the Mill Brook and the Mad River.

Friends of the Mad River has worked with its local partners and ICN to share information about the Austin

Parcel's restoration with the community.

"Twenty hearty people came out on a cold, wet morning with snow falling and in the forecast to help steward

the town-owned parcel toward a functioning flood plain forest. It was great fun and great camaraderie," said Corrie Miller, executive director

*Continued on Page 15*

### Senator Ann Cummings



### Knows What's Important

*"The world we  
leave our children."*

Filed for by Cummings for Senate, Paige Cummings, Treasurer P.O. Box 550 Montpelier, VT 05601



*Photo: Corrie Miller.*

Bob Cook installs a protective tube around a native tree species. Volunteers worked on the Austin Parcel on October 27.



## **Figure 5. Path Association Community Stewarding Day Handout.**

The Austin Parcel:  
 Removing Invasive Plant Species and Restoring Floodplain Forest  
 October 2018  
 Waitsfield Conservation Commission  
*Contributors: Intervale Conservation Nursery,  
 Friends of the Mad River, Mad River Path Association*

### **Background**

The history of the Austin parcel is in many respects the history of the Valley. As towns were established in the late 1700's, human use of Valley resources increased, leading in the 19<sup>th</sup> century to the establishment of a sawmill near what is now Irasville, with the use of the river to float logs to it. Intensive agriculture occurred on richer, level soils on the Valley floor. Forestry activities occurred all the way from the Mad River up through accessible upland woods. The old bobbin mill was an early and lasting effort to manufacture useful products from the plentiful timber. The Waitsfield Historical Society created a video, "As We Were" (<https://www.youtube.com/watch?v=zu4JAY4V3UQ&feature=youtu.be>), to present the Town as it was during the period of perhaps its most intense activity, 1870-1915. The Society also manages a portfolio of glass negative reproductions, available from its website (<https://www.waitsfieldhistoricalsociety.com/>), that show vividly how open and unforested the Town's lands were 100 years and more ago.

Timber on the Austin Parcel, at the southwest corner of Mill Brook and the Mad River, was extracted and the acreage became a meadow for animal grazing and haying. As the river moved and changed, these uses changed as well; floods can carry stone cobble and debris into riparian (riverside) meadows and floodplains, interfering with human uses. Eventually, in recent history, haying ended at the Austin Parcel after Hurricane Irene devastated much of central Vermont in 2011. By 2015, the Town of Waitsfield, which had acquired the property, developed and published a plan for the Wu Ledges Town Forest ([http://waitsfieldvt.us/wp-content/uploads/2017/08/Wu\\_Ledges\\_Forest\\_Management\\_Plan\\_Feb2015\\_approved.pdf](http://waitsfieldvt.us/wp-content/uploads/2017/08/Wu_Ledges_Forest_Management_Plan_Feb2015_approved.pdf)), which extends uphill across the Mad River from the Austin Parcel. This plan includes valuable information and management objectives for the Austin Parcel.

### **Today's environment at the Austin Parcel**

The five-acre parcel is characterized by rich loamy soils, but also by wetland and swampy areas. Invasive plant species such as Japanese knotweed, buckthorn, and honeysuckle have taken over much of the parcel's perimeter, with the Mad River obscured by a tall growth of Japanese knotweed. As haying ended after Hurricane Irene, the core area of the parcel also yielded to Japanese knotweed, which is an aggressive, fast-moving invasive that is quick to establish itself, quick to

dominate the vegetative structure, and challenging to control or eradicate. Animal species such as beaver prefer leafy trees along riparian areas and these have been hard to reestablish against the knotweed infestation. In sum, knotweed, reed canary grass, and other invasive species have come to dominate the parcel.

#### Planning and management objectives

In 2015, as mentioned above, the Town of Waitsfield adopted a management plan that incorporates the Austin Parcel. The plan presents some history of the area, its environmental conditions, and goals for management. Primarily, as it relates to the Austin Parcel, the plan triggered further site analysis by 1) the Vermont Land Trust, which created a thorough report about invasive species management on lands including the Austin Parcel ([http://www.waitsfieldvt.us/wp-content/uploads/2017/07/Austin\\_Tardy\\_Invasives\\_Plan\\_VLT\\_2016.pdf](http://www.waitsfieldvt.us/wp-content/uploads/2017/07/Austin_Tardy_Invasives_Plan_VLT_2016.pdf)) and 2) the US Fish and Wildlife Service – a 2017 Floodplain Restoration Plan ([http://waitsfieldvt.us/wp-content/uploads/2017/07/Austin\\_US\\_Fish\\_and\\_Wildlife\\_Service\\_Recommendations\\_Sept2014.pdf](http://waitsfieldvt.us/wp-content/uploads/2017/07/Austin_US_Fish_and_Wildlife_Service_Recommendations_Sept2014.pdf)) that includes planting recommendations for the core 0.8 acres of the parcel.

Taken together, these analyses supported an initiative by the Waitsfield Conservation Commission to restore floodplain forest, requiring control and removal of invasive plant species, at the Austin Parcel. The Commission requested proposals for invasive species management and tree planting in January 2018, followed by a contract with the Intervale Conservation Nursery that features invasives management and forest restoration, in cooperation with Friends of the Mad River and the Mad River Path Association, in 2018-19. The plan and the contract also include the maintenance of a mowed buffer area around the restored floodplain forest. The mowed area, as recommended by restoration experts such the Fish and Wildlife Service, should (if maintained over the course of decades) reduce the viability and aggressiveness of the Japanese knotweed that is established on the banks of Mill Brook and the Mad River.

The plan is expected to help improve downstream flood resiliency by creating a more natural floodplain that will absorb floodwaters, restore native plant species that help maintain clean water and support native fauna, support migratory birds, feed pollinators, and improve instream conditions for fish and other aquatic biota. The list of native shrub and tree species can include species of willow, birch, alder, dogwood, cherry, oak, and maple which help reduce the vigor of invasive species and provide flood resiliency characteristics that invasive species lack.

The public is invited to walk the mowed buffer, to explore the Austin Parcel, and to help with invasive species management and tree planting and maintenance. The Waitsfield Conservation Commission is dedicated to long-term management that will involve Valley residents, and that will provide a demonstration project for landowners who are interested in control of invasive species and regeneration of native floodplain forest condition.

**Figure 6. ICN “How to Plant a Bareroot Tree and Shrub” handout. (next page)**





## How to plant a Bareroot Tree or Shrub

- 1 Use the spade tip from your shovel for planting measurements. Make sure to scrape off the grassy layer and break up sod clump for back filling.
- 2 Dig the hole a shovels width and depth, typically 1' by 1'. Keep the soil close to the hole; you don't want to go searching for it when planting!
- 3 Find the root crown or soil level line on the plant. Make sure you don't plant deeper than that line to avoid girdling and rot.
- 4 Pack the soil around the plant really well to avoid air pockets that could try out the roots. Water in the plant.

**Spacing** – 10 to 12' apart, in zig zag or triangle formation—we are trying to recreate nature's chaos.

