

Town of Waitsfield, Austin Parcel

Floodplain restoration plan

The following species were selected based off of the soils identified at the Austin parcel (Rumney fine sandy loam) as well as the predominant native tree species seen in the immediate area. All species are well adapted to floodplain conditions.

The planting area totals 0.8 acres. Planting at a density of 400 trees/acre results in a total of 320 trees for the site. A density of 400 trees/acre translates to a tree planted roughly every 10 feet.

Common	Scientific	Number
Black ash	<i>Fraxinus nigra</i>	20
Black cherry	<i>Prunus serotina</i>	15
Black willow	<i>Salix nigra</i>	50
Boxelder	<i>Acer negundo</i>	50
Choke cherry	<i>Prunus virginiana</i>	20
Red osier dogwood	<i>Cornus sericea</i>	10
Shrub willow	<i>Salix spp</i>	60
Silky dogwood	<i>Cornus amomum</i>	10
Speckled alder	<i>Alnus incana</i>	85
		320

Trees are desired to be at least 4' tall at the time of delivery.

Shrub willow species may include: Pussy willow (*Salix discolor*), Silky willow (*Salix sericea*), Bebb's willow (*Salix bebbiana*), and Woolly-headed willow (*Salix eriocephala*).

Benefits of Riparian Buffers:

Allowing the Austin parcel to revert to a natural riparian buffer will benefit the town of Waitsfield by enhancing flood resiliency along the Mad River and Mill Brook, improving water quality and wildlife habitat, and improving aesthetics.

Improving Flood Resiliency and Water Quality

Riparian buffers improve water quality and enhance flood resiliency. Forested riparian buffers provide superior flood resiliency because of their ability to slow down floodwaters and retain aboveground flows. In addition, forested buffers reduce the amount of runoff a property will experience during a rain event and will correspondingly lessen the amount of water that property

contributes to its watershed during a flood. Tree roots hold soil in place along streambanks and utilize nutrients, reducing erosion and excess nutrient runoff.

Wildlife Habitat

Tree and shrub establishment in riparian areas benefits stream health by providing shade and woody debris. Debris from overhanging trees and shrubs provide food and substrate for aquatic organisms, which in turn provide food for fish. Aquatic organisms and fish also benefit from lowered water temperatures as a result of shade from streamside trees and shrubs. Forested riparian buffers also provide important functions for many migratory bird species. Trees and shrubs are utilized for perching, singing, nesting, and foraging. Pollinators (bees, moths, butterflies) also benefit from an increased availability of flowering trees and shrubs.

Aesthetics

Currently the site is dominated by invasive species (Japanese honeysuckle, Japanese knotweed, reed canary grass). These species serve little function in terms of flood resiliency and are creating a monoculture in the proposed restoration area. This restoration plan incorporates a diverse group of native trees and shrubs, several of which have showy flowers (black cherry, chokecherry, shrub willow, red-osier dogwood, silky dogwood).

Management Recommendations

Because of the invasive species present on the site, particularly reed canary grass, planting large material is recommended. Reed canary grass can reach heights of 6 feet, and can be a fierce competitor for soil nutrients, moisture, and sunlight. Starting with vigorous plant material gives the restoration species a better chance of competing well and surviving their initial phases of establishment.

A mowing regime is recommended for the perimeter of the restoration area, between the plantings and the knotweed that has established along the banks of the Mad River and Mill Brook. Mowing is recommended once a month during the summer growing season, for at least 5-10 years. This will give the plantings time to establish and grow to sufficient heights, such that they will not be overtopped by knotweed.