

# Chaumont Barrens Alvar Restoration

## The Nature Conservancy, CWNV Chapter

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Spring-Fall, 2017

### Background:

In the summer of 2015 The Nature Conservancy received a sub-award of \$10,000 from the SLELO PRISM to perform invasive brush removal from Chaumont Barrens Preserve. European Buckthorn and Honeysuckle have become dominant around the edges of the globally rare alvar grasslands, and is steadily encroaching into these meadows. We focused on one of the higher quality grassland meadows along the preserve's trail system for our treatment area, and contracted a local landscaping company to apply herbicide to the thick patches around the edges and to the individual plants within the interior. Roughly 30 acres were treated.

SLELO awarded another \$10,000 this year to perform follow-up ecological restoration work within the treated area. The concern was that without intervention the invasive brush would quickly regrow, rendering the previous efforts pointless. The buckthorn and honeysuckle had been dropping seeds for years, so we wanted to give the natives species an advantage by seeding and direct planting the treated areas.

In the spring, we were able to determine that the treated areas within the grassland meadows, including dead patches that resulted from overspray the year before, were responding well on their own with healthy native natural growth. The brushy meadow edges, however, that were comprised of buckthorn monocultures 10-15 yards deep in places had little growth beyond buckthorn sprouts. The mortality rates of the brush in these dense patches were also lower than expected, as many of the plants that didn't receive complete coverage were recovering.

We decided to focus our restoration work on the meadow edges, using a combination of direct seeding and nursery transplants.

**Restoration included direct seeded and nursery transplants if native species.**

### Contract Services

It was a necessary first to prep the planting site by removing the dense thickets of brush, for which we contracted a local tree removal service (Elliott & Sons Tree Services LLC). A five person hand crew operating chain and pole saws, charging \$2,000 per day (minimum of eight hours) worked for four days cutting brush (primarily buckthorn) for a total of \$8,000. They cleared an area of approximately 5 acres.

Several other local companies were contacted for competing quotes, but it was difficult to find another hand crew of qualified sawyers.

It would have been much more efficient to bring in a large brush-mower or skid steer with a forestry head, but due to the ecological fragility of the alvars, we sought the least impactful option.

### Follow-up

The majority of plants cut down were still alive, so TNC staff treated stumps with Garlon 4 herbicide to prevent regrowth.

We decided against chipping the cut brush. Dragging in a wood chipper would have been impactful, and would have significantly reduced the amount of acreage the saw crew would have been able to cover. Also, the cut brush will act as both wind-breaks and barriers to deer as the native plants take hold. It was more important to break up the dense thickets and to re-expose ground and soil to sunlight.

### Plantings

The original plan was to harvest new shoots from several brush species (choke cherry, downy arrowwood, fragrant sumac, buffalo berry), and contract with a local nursery to propagate them. It proved much too difficult and time consuming to find and harvest quality shoots at the numbers we required. We decided to focus more on direct seeding, supplemented by choke cherry plantings from nursery stock. In the fall of 2017, TNC staff collected seeds on site and distributed them throughout the cut areas. Seeds collected included juniper, downy arrowwood, gray dogwood, choke cherry, and golden rod and some grass seed heads as supplemental. Approximately 5 gallons of seeds were collected and distributed. 500 choke cherry plants have been purchased from Nannyberry Native Nursery for planting in the spring.

By the time our choke cherry are ready to transplant next spring, we should have some idea of how effective the combination of clearing and direct seeding has been. If we find that buckthorn sprouts are dominating the cleared areas, additional herbicide treatments may be necessary to give the natives the advantage required to restore the area.



Dense monocultures of buckthorn between meadow and tree line were targeted.



Dense buckthorn thickets prevent sunlight from reaching the ground.



Mix of native seeds collected for spreading in restoration area.