

## **Allen's Meadow Restoration Project Plan** **By Joe Bear**

### **Objective:**

To eradicate approximately 1 acre of *Artemisia vulgaris* (aka Mugwort) located just west of the community gardens in Wilton's Allen's Meadow Park, and replace it with a native pollinator meadow.

### **Phase 1- Site Reclamation**

The site was largely a monoculture of Mugwort. Numerous tall mounds of town road sweepings accumulated over the years, giving non-native invasives like Mugwort, Multiflora Rose, Russian Olive, and Phragmites the perfect opportunity to take hold. **Phase 1 efforts focused on reclaiming the site to a manageable landscape to work with:**

- In mid-Winter 2021, before the deep snow arrived, we used various hand-held tools to cut down 2,800 square feet of the woody Mugwort stalks and raked it out.
- String trimmers were used to "scalp" whatever Mugwort stubble was left to avoid tarps being punctured later in the process.
- In Spring 2021, a brush hog was used to mow down the entire meadow (except the hard-to-access mounds).
- In Summer 2021, an excavator leveled the mounds and graded the site; a wood chipper was used to deal with heavier brush (multiflora, russian olive, etc) that was removed. This was the final step in Site Reclamation [see image right].

### **Phase 2- Eradicating the Mugwort**

Although studies have shown that aggressive mowing (i.e. every week for 2 years) only reduced the plant's biomass by 20%, it was the best option



to employ during this first year (2021) while getting the site under control throughout the Spring and Summer. In addition, it made sense that reducing the plant's surface area (i.e. it wants to be 6' tall) from which it is able to photosynthesize must have some negative impact on its overall viability. So, with that in mind, I adopted an eradication plan that consisted of mowing every couple of weeks for the first season (2021) followed by tarping with 6mil black plastic sheeting for a then undetermined period of time (i.e. no light no life, but for how long?).

- In March 2021, after clearing the 2,800 sq' section mentioned above, this section was tarped, see right.



- The rest of the 1-acre meadow was mowed short, every 1-2 weeks, throughout the Spring and Summer as we made successive progress clearing/leveling different sections of the meadow. A push mower was used for each mow which took approx. 1 1/2 - 2hrs. A few flowering Milkweeds had to be avoided! (see left)
- After a season of mowing, in Dec 2021 the rest of the 1-acre meadow was tarped- this took 6 days with 2-3 people. (Note- given the use of the excavator which created a lot of soil disturbance and turned up a lot of weed seed (not what you want typically), that actually worked to our advantage as the weed seeds that germinated were then tarped over thus killing that population of weeds).
- Another important eradication management aspect is “managing the edge”. If there is Mugwort growing on the other side of the tarp- even if it’s being mowed- it will supply the Mugwort under the tarp with enough nutrients to survive so as best you can you should sever that rhizome connection.

- The \$64,000 question was/is...*for how long does a tarp need to be down to render the Mugwort's rhizome/root system unviable, or at least weakened enough for native pollinator seedlings to take hold and dominate ? I ended up testing 7mos, but was prepared for a lot more.*

### Phase 3- Establishing a Native Pollinator Meadow

Despite my immediate desire to see flowering Wild Bergamot, Purple Coneflower, Partridge Pea, Mountain Mint, Cardinal Flower, and so many other species, haste makes waste in this Mugwort equation and if we don't properly get rid of it or at least tip the scale sufficiently, we'll just be chasing our tails with a lot of time, effort, and money spent for little gain. Therefore, time and patience are essential as is a strategic approach. Following is the sequence I plan on implementing:

- there are various approaches on when to seed, but based on my own research, consultation, and mirroring what Mother Nature does, the plan is to sow a native pollinator seed mix (includes grasses such as Little Blue Stem and Indian Grass, too) in early Nov after the first frost. The vast majority of these perennial seeds need to go through a period of cold/moist stratification before they're able to germinate, which being in the ground throughout the Fall/Winter will give them. If planted in the Spring only the fast germinating *Rudbeckia hirta* and a couple of others will germinate- the rest won't until the following Spring.
- Referring once again to the 2,800 sq' section I tarped in March 2021, after 7+ months (late Oct 2021) I removed an 800 sq' section of it and using a handheld garden weasel for this smaller job, I scratched the soil, sowed a native pollinator seed mix, rolled it with a heavy water-filled roller, and mulched with Semican Mulch (see image below). This was largely a test to prove that 7mos is not long enough, and it isn't. There was good native seed germination come Spring/Summer 2022 but the Mugwort, although significantly knocked back, was still present throughout the test section (I'd estimate 10%). This left me with a critical decision- do I seed the rest of the meadow in Nov 2022 (11mos being tarped) or Nov 2023 (23mos being tarped). Knowing that 7mos proved to not be long enough, would an additional 4mos do the trick? Given the amount of work put into this project and Mugwort's tenacity and resiliency, the answer was easy- **23 mos**.



- When seeding the rest of the meadow in Nov 2023, I will be using a tractor drawn Truax seed drill which cuts small grooves in the soil (you don't want to till!), drops in the seed, then uses a roller to ensure good seed-to-soil contact.
- Xerces Society refers to creating a meadow, as a Sleep, Creep, Leap process with the Sleep year being Year 1 when the seeds first germinate in late Spring and spend this first year establishing their root systems. It was counterintuitive to me at first but now makes perfect sense to mow your meadow that first year down to 4-6" when plant growth reaches 8-10". The reasons for doing this are:
  - 1) pollinator seedlings are busy establishing strong root systems and shouldn't be spending energy Year 1 producing spindly flowers anyhow
  - 2) weeds grow more quickly and taller so mowing them down to 4-6" allows sunlight to penetrate and hit the pollinator seedlings
  - 3) mowing weeds short keeps them from producing seeds. I will be using a rough-cut mower (typical lawn mowers do not have a 6" high setting) and anticipate having to mow 5 or six times Year 1 (Spring/Summer).

- In either the early Fall of 2024 (after mowing is finished) and/or Spring of 2025, I intend on supplementing with native plugs from Planter's Choice or The Hickories. This will allow me to fill in gaps and selectively choose which plants to introduce (i.e. Mountain Mint or Wild Bergamot to cover larger gaps quickly).

#### **Phase 4- Ongoing Management**

It's impossible to get rid of every weed, especially as surrounding areas are full of them, so there's a certain amount of annual upkeep that will be required but hopefully this will become less and less as desirable native meadow plants become established and thrive.