

Bee Happy Lands

A Project of Turtle Lake Refuge
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Organic Integrated Weed Management

Purpose: Bee Happy Lands' mission is to provide organic integrated weed management practices that create healthy ecosystems for the wild pollinators, the collective watershed and local community inhabitants. Our goal is to nourish the wild landscape while taking into account the state regulations for weed control on private and public lands. We aim to restore an ecological harmony on the land that brings the weed populations into balance. A three-year timeframe for organic integrated weed management is recommended for optimal long-term weed reduction. Our intention is to support the health and beauty of the pristine environment with least impact to the natural ecosystem.

Methods:

- Manual removal of plants
- Minimal disturbance in management practices (foot traffic only)
- Applying native grass seeds in areas of focus
- Compost top dressing and mulch applied to seeded areas
- Biodynamic ash remedy application with backpack sprayers
- Education of the value of wild weeds
 - a. Regenerate topsoil fertility
 - b. Maintain moisture in soil
 - c. Valuable forage for insect pollinators
 - d. Extensive edible and medicinal uses

Bee Happy Lands' professional team works with minimal impact on the land in order to encourage optimal land stability. We manually remove the weeds targeted for control while spreading seeds and soil amendments along the way. We intentionally travel across the land by foot, treading lightly to discourage further weeds from taking hold. We do not use motorized travel such as ATV's, because they have a large impact and create heavy compaction to the soils. We do not use herbicides because they act as another disturbance to the soils and ecosystem and have documented harmful side effects to the community members, pollinators, waterways and soil microorganisms. We use methods that increase soil

fertility, plant diversity and ecosystem stability; these are the keys to decreasing the weed populations over time.

We aim to harvest the plants in their younger growth stage prior to flowering, however, if the plants are in seed, we focus our efforts on collecting the seed heads to reduce further propagation the following season. We prefer the option of creating a compost pile on site for the harvested plants, although we can remove the plants off site for breakdown in another location if necessary.

In addition to manually removing the weed species, we sprinkle a native grass seed mix into the weeded areas and apply a composted soil amendment and mulch to fertilize and regenerate the soils.

We utilize a biodynamic ash remedy, applied in backpack sprayers to discourage specific species of plants from proliferating. The biodynamic remedy is a European formula made from burning the seeds or the roots of the plants (depending on how they best reproduce) into ash. The ash is diluted in water, activated through aeration through a homeopathic technique and applied to the land. This diluted and potentized ash water works systemically to support the re-stabilization of the ecosystem. The ash water is an alchemical treatment that discourages the weeds from growing as prolifically the following year and thereafter unless there is new disturbance that interferes with the landscape.

Our goal is to create a stabilized ecosystem of native habitat that will continue to thrive on its own in future seasons and thereby decreasing the weed populations in the long term while supporting the health of the land.

Documentation Reports: We work with Mountain Studies Institute for providing detailed documentation of the weeds for specific areas. However, we also document our work and progress each visit to the site in an observation journal. Our purpose is to observe and record the change of weed species over time. Throughout the years, we have noted significant success with our methods. This information may prove important for future decisions for land owners regarding land management. It may also be a good record for the county and other public or private lands that may want to utilize organic integrated weed management practices in the future.

Cost Summary: The cost for managing the land organically includes the manual labor, transportation, and materials costs. The staff will be paid \$15/hour for manually harvesting the plants, applying the grass seeds, compost top dressing and weed remedy. Materials include: native grass seed mix, organic soil amendments such as compost, mulch, vermaculture (worm castings), EM1 (effective microorganisms), micronutrients and the biodynamic ash remedy.

Summary: Bee Happy Lands provides organic integrated weed management practices to public and private lands with a goal to increase of health of the ecosystem. With low impact removal, re-vegetating and soil enhancing practices, the weeds will decrease substantially over time restoring the legacy of pristine healthy land for enjoyment, recreation and future production.

Don't worry, Bee Happy!

