

Supplemental Materials

Table S1. Multi-functional view of planted and reemerging plant species in the restored plots of the myco-phytoremediation pilot at Shelburne Farms. *Carol McGranaghan, from her childhood, family, and grandmothers. P is for planted and M is for Migrated species present. Abenaki use of the plants: m, medicinal; e, edible; a, artisanal; c, ceremonial; u, utilitarian.

Common Name	Scientific Name	Planted Or Migrated	Relevance to Abenaki*	Pollinators
American Elm	<i>Ulmus americana</i> ,	P	a, m *	Birds, Mourning Cloak, Columbia Silk moth, Question Mark, Painted Lady, Comma Butterfly
Basswood	<i>Tilia americana</i>	P	e, a, u *	Native & Honeybees, birds
Bitternut Hickory	<i>Carya cordiformis</i>	P	u *	Luna, funeral dagger, giant regal, Birds, Butterflies
Black Ash	<i>Fraxinus nigra</i>	M	a, c, u *	Birds
Black Willow	<i>Salix nigra</i>	P	m *	Songbirds, waterfowl, Mourning Red Spotted Purple, Tiger Swallowtail
Elderberry	<i>Sambucus Canadensis</i>	P	m *	Native, bumble and Honeybees, birds, butterflies, Titan Sphinx, Hydrangea Sphinx
Maple Seedling	<i>Acer sp.</i>	M	e, m *	Native bees, Honeybees, moths, butterflies,
Meadow Willow	<i>Salix petiolaris</i>	P	a *	Native bees, bumblebees, honeybees, Mourning Cloak, Viceroy
Oak seedling	<i>Quercus spp.</i>	M	a, e *	
Red Maple	<i>Acer rubrum</i>	P	e, m *	Native & honey bees, Cecropia moths, other moth larvae, birds
Shagbark Hickory	<i>Carya ovata</i>	P	e, a *	Insectivorous birds
Silver Maple	<i>Acer saccharinum</i>	P	e, m *	Birds, Cecropia moth
Speckled Alder	<i>Alnus incana</i>	P	m, c *	Songbirds, waterbirds, mammals
Sugar Maple Tree	<i>Acer saccharum</i>	M	e, m *	Birds, Cecropia moth
Swamp White Oak	<i>Quercus bicolor</i> ,	P	e *	Songbirds, ground birds, water birds, mammals
White Ash	<i>Polygonatum biflorum</i>	M	m *	Canada sphinx, Eastern Tiger Swallowtail, Hickory Hairstreak, Mourning Cloak, Viceroy, Birds, Butterflies

Willow	<i>Salix sp.</i>	P	m *	Native bees, flies
Arrowwood	<i>Viburnum dentatum</i>	P	a, u *	Native bees, bumblebees, birds, butterflies, Spring Azure
Buckthorn	<i>Frangula alnus</i>	M	m *	Bees, wasps, flies, beetles
Buttonbush	<i>Cephalanthus occidentalis</i>	P	m	Native bumblebees, honey bees, birds, butterflies, Titan, Sphinx, Hydrangea Sphinx
Common Buckthorn	<i>Rhamnus cathartica</i>	M	m	Bees, Flies
Guelder-rose	<i>Viburnum opulus</i>	M	m	Native bees, bumblebees
Honeysuckle	<i>Lonicera sp.</i>	M	e, m *	Bumblebees, butterflies, hummingbirds
Multiflora rose	<i>Rosa multiflora</i>	M	e, m *	Halictid bees, bumblebees, honeybees, Syrphid flies, Beetles
Nanny Berry	<i>Viburnum lentago</i>	P	e, c, m *	Birds, butterflies, Spring Azure
Red Osier Dogwood	<i>Cornus sericea</i>	P	m, a *	Waterfowl, marsh & shore birds, butterflies, Spring Azure
Rubus species	<i>Rubus sp.</i>	M	e, m	Native bees, Honeybees, bumblebees
Staghorn Sumac	<i>Rhus typhina</i>	M	e, m *	Native bees, honeybees, birds
Winterberry	<i>Ilex verticillata</i>	P	m *	Honeybees, birds, butterflies, Elf larvae host
Bedstraw	<i>Galium boreale</i>	M	e, m *	Bees, flies, beetles, ants, butterflies, moths
Bindweed	<i>Calystegia sp.</i>	M	m	Bees, moths
Bitter Lettuce	<i>Lactuca virosa</i>	M	m *	Bumblebees
Blue Flag Iris	<i>Iris versicolor</i>	P	m *	Birds, hummingbirds
Boneset	<i>Eupatorium perfoliatum</i>	P	m *	Native bees, birds, butterflies
Clammy Ground Cherry	<i>Physalis heterophylla</i>	M	e, m *	Bumblebees
Cow Vetch	<i>Vicia cracca</i>	M	e, m	Bumblebees, Halictine bees, Syrphid flies
Curly Dock	<i>Rumex crispus</i>	M	e, m	Wind pollinated
Dandelion	<i>Taraxacum officinale</i>	M	e, m	Bees, butterflies
Enchanters Nightshade	<i>Circaea canadensis</i>	M	m *	Sweat bees, carpenter bees
Evening Primrose	<i>Oenothera biennis</i>	M	e, m	Birds, hummingbirds
Field Horsetail	<i>Equisetum arvense</i>	M	a, e, m, u *	Does not produce pollen
Fringed Willowherb	<i>Epilobium ciliatum</i>	M	m *	Butterflies, moths, hummingbirds
Gentian sp.	<i>Gentiana sp.</i>	M	m	Bees
Goldenrod	<i>Solidago sp.</i>	M	m *	Bees, butterflies, wasps flies, moth, butterfly

Grass	<i>Poaceae sp.</i>	P	a, c, u *	Birds
Greater Burdock	<i>Arctium lappa</i>	M	e, m	Bumblebees, honeybees, miner bees, leaf cutting Bees
Green Bull Grass	<i>Scirpus atrovirens</i>	P	u *	Birds
Heart leaved Aster	<i>Symphyotrichum cordifolium</i>	M	Unknown	Native bees, butterflies
Hoary Alyssum	<i>Berteroa incana</i>	M	m	Syrphid and other flies, wild bees, wasps
Jewelweed	<i>Impatiens capensis</i>	M	e, m *	Bumblebees, birds, butterflies, hummingbirds
Joe Pye Weed	<i>Eutrochium purpureum</i>	P	m *	Native bees, birds, butterflies
Lady's Thumb	<i>Persicaria maculosa</i>	M	m *	Halictid bees wasps, Syrphid flies, bee flies, bumblebees, butterflies
Lambs Quarter	<i>Chenopodium album</i>	M	e, m	Birds
Long hair Sedge	<i>Carex camosa</i>	P	Unknown	Nesting for insects and birds
Meadow Buttercup	<i>Ranunculus acris</i>	M	m	Bees, flies, beetles, moths, butterflies
Milkweed	<i>Asclepias sp.</i>	M	e, m, u *	Bumble bees, butterflies
moss	?	M	u *	Does not produce pollen
Mugwort	<i>Artemisia vulgaris</i>	M	m	Bees, butterflies
Mustard family	<i>Brassica olerace</i>	M	e, m	Honeybees, solitary bees, hoverflies
New England Aster	<i>Symphyotrichum novae-angliae</i>	P	m *	Birds, butterflies
Night Shade	<i>Solanum dulcamara</i>	M	m *	Native bees, bumblebees
Nodding Burr Marigolds	<i>Bidens ceruna</i>	M	m *	Bees, wasps, butterflies, moths
Plantain	<i>Plantago major</i>	M	m *	Honey and bumble bees
Poison Ivy	<i>Toxicodendron radicans</i>	M	m, u *	Ants, wasps, beetles, flies
Rhomboid Mercury	<i>Acalypha rhomboidea</i>	M	m *	Little value to pollinators
Sedges	<i>Cyperaceae spp.</i>	M	u *	Butterflies, native bees
Solomon Seal	<i>Polygonatum biflorum</i>	M	m *	Bumble bees, Digger bees, Ruby throated Hummingbirds
Sorrel	<i>Rumex acetosa</i>	M	m	Wind pollinated
Sow Thistle	<i>Sonchus arvensis</i>	M	e, m	Bees, flies, blister beetles
Spear Saltbush	<i>Atriplex patula</i>	M	e *	Wind, self fertilizing
St. Johnswort	<i>Hypericum perforatum</i>	M	m *	Bumblebees, Honeybees
Strawberry	<i>Fragaria sp.</i>	M	e, m *	Native bees, butterflies, Gray Hairstreak
Switch Grass	<i>Panicum virgatum</i>	P	u *	Birds, butterflies, Delaware & Dotted Skipper
Thistle	<i>Cirsium sp.</i>	M	m *	Native Bees, Bumblebees, Butterflies, Moths

Turtlehead	<i>Chelone glabra</i>	P	m *	Hummingbirds, butterflies, Baltimore Checkerspot
Velvet Leaf	<i>Abutilon theophrasti</i>	M	e, u	Self pollinating
Violets	<i>Viola sp.</i>	M	e, m *	Birds
Virginia Copper leaf	<i>Acalypha virginica</i>	M	m *	Wind pollinated
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	M	m *	Virginia Creeper sphinx, Abbot's sphinx moth, Pandora sphinx moth, White lined sphinx moth
White Avens	<i>Geum canadense</i>	M	e, m *	Butterflies
White Vervain	<i>Verbena urticifolia</i>	M	e, m *	Bumblebees, Wasps, Butterflies
White wood Aster	<i>Eurybia divaricata</i>	M	e, m *	Butterflies
Wild Carrot	<i>Daucus pusillus</i>	M	e, m	Bees, wasps, flies, beetles
Wild Ginger	<i>Asarum canadense</i>	P	m *	Butterflies, Pipeline Swallowtail
Wild Grape	<i>Vitis labrusca</i>	M	e *	Bees, bumblebees, birds
Wood Sorrel	<i>Oxalis stricta</i>	M	e *	Bees, ants, butterflies
Virginia Wild Rye	<i>Elymus virginicus</i>	P	e *	Birds, Butterflies, Branded Skippers and Satyr Larval Hosts
Red Fescue	<i>Festuca rubra</i>	P	Unknown	Birds
Fox Sedge	<i>Carex vulpinoidea</i>	P	u *	Birds
Wool Grass	<i>Scirpus cyperinus</i>	P	u *	Birds, Dion Skipper
Green Bull grass	<i>Scirpus atrovirens</i>	P	u *	Birds, waterfowl, songbirds, shorebirds
Nodding Bur-Marigold	<i>Bidens cernua</i>	P	m *	Birds, native bees
Soft Rush	<i>Juncus effusus</i>	P	u *	Birds
Sensitive Fern	<i>Onoclea sensibilis</i>	P	m *	Birds, salamanders, frogs
Blue Vervain	<i>Verbena hastata</i>	P	m *	Native Bees
Fungi				
Turkey Tail	<i>Trametes versicolor</i>	M	m *	Unknown
Trembling crust	<i>Merulius tremellosus</i>	M	Unknown	Unknown
Trametes pubescens	<i>Trametes pubescens</i>	M	m	Unknown
Mossy Maze Polyore	<i>Cerrena unicolor</i>	M	m *	Unknown
Thin-Walled Maze Polypore	<i>Daedaleopsis confragosa</i>	M	Unknown	Unknown
Common Bonnet	<i>Mycena galericulata</i>	M	Unknown	Unknown
Dryads Saddle	<i>Cerioporus squamosus</i>	M	e, m *	Unknown

([1–5]; Moerman, 1998; Rubin and Görres, 2022b; Webmaster, 2023; “Botanical Garden,” 2023; “*Rhamnus cathartica*, *R. davurica*,” 2023)

Mehlich-3-extractable P

There was a statistically significant difference ($p < 0.001$) in treatment and date over the three years for Mehlich-3-extractable phosphorous. The means of data pooled for the time period were 6.73 (mg/kg) for OIV, 8.99 (mg/kg) for RV, and 6.59 (mg/kg) for RVM.

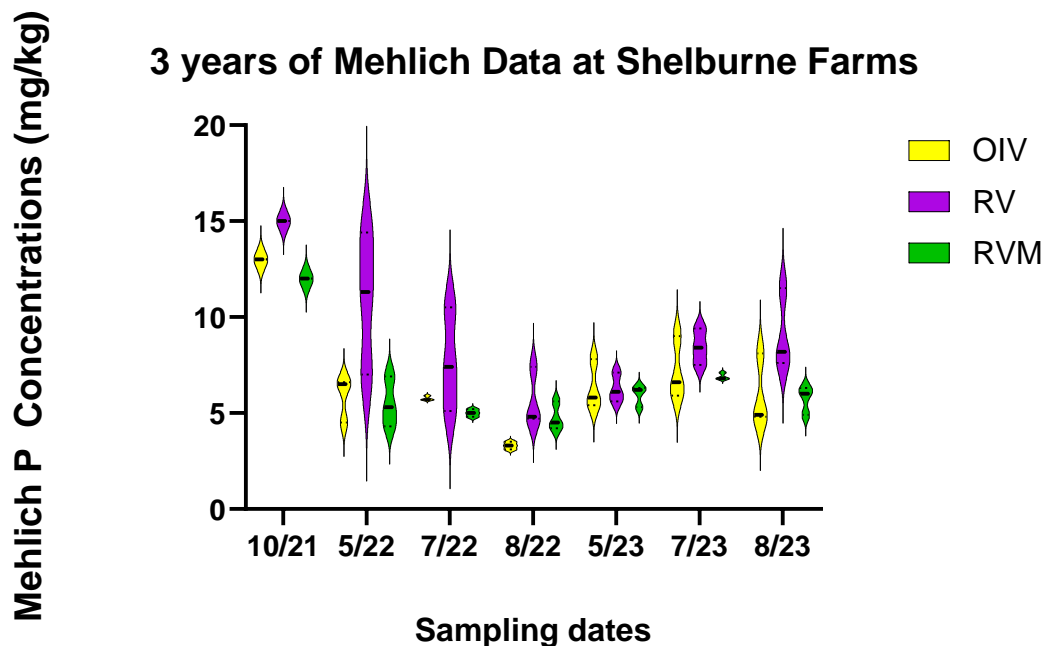


Figure S1. Mehlich-3 extractable P concentrations over the three years it was gathered during the four-year study period.

Water-extractable P (WEP-SRP)

There was statistically significant difference for date ($p = 0.042$) but not for treatment ($p = 0.115$) in SRP concentrations over the last 2 years. The means of data pooled for the study period were 0.136 (mg/L), 0.115 (mg/L), and 0.106 (mg/L) for OIV, RV, and RVM respectively.

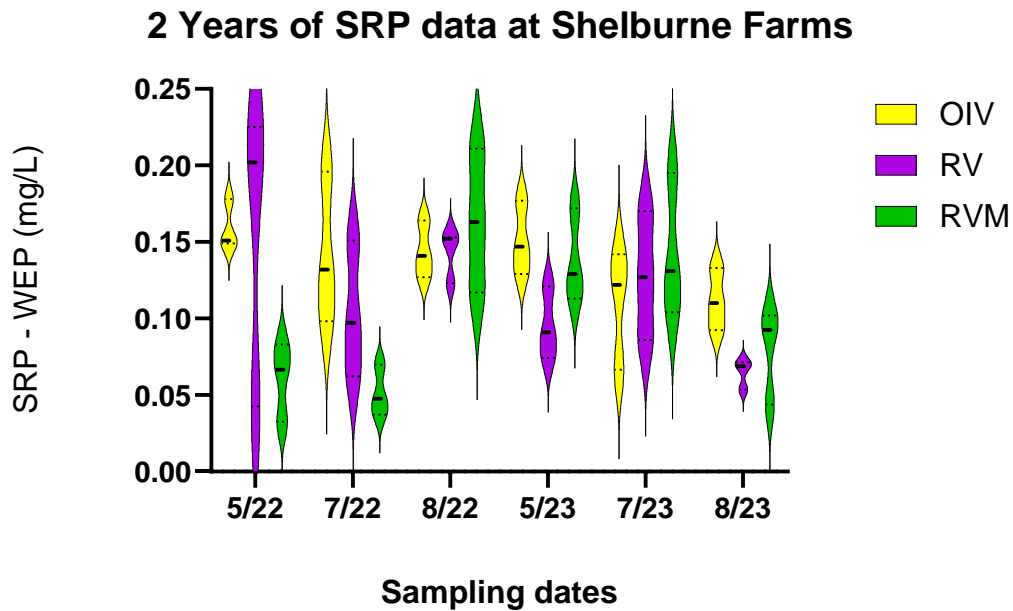


Figure S2 Water extractable soil phosphate concentrations for the two growing seasons we collected it.

Citations

1. Hutchens, A.R. *A Handbook of Native American Herbs: The Pocket Guide to 125 Medicinal Plants and Their Uses*; Shambhala Publications, 1992; ISBN 978-0-8348-2422-5.
2. Moerman, D.E. *Native American Ethnobotany*; Timber Press, 1998;
3. Rubin, J.A.; Görres, J.H. The Effects of Mycorrhizae on Phosphorus Mitigation and Pollinator Habitat Restoration within Riparian Buffers on Unceded Land. *Restor. Ecol.* **2022**, *31*, e13671, doi:10.1111/rec.13671.
4. Webmaster, D.R. (Kingdom) Plants - Montana Field Guide Available online: <https://fieldguide.mt.gov/displayPhyDiv.aspx?Kingdom=Plantae> (accessed on 15 December 2023).
5. *Rhamnus Cathartica*, R. *Davurica* Available online: <https://www.fs.usda.gov/database/feis/plants/shrub/rhaspp/all.html> (accessed on 15 December 2023).