



Enhancing the Edibility of Conserved Landscapes with Native Species
Presented by Russ Cohen at the [2018 Massachusetts Land Conservation Conference](#), Worcester Technical High School, Worcester, Massachusetts ✕ Saturday, March 24, 2018. [PART ONE](#)





Talking about **Wild Carrot** on a foraging walk at The Trustees of Reservations' Old Town Hill Reservation in Newbury, MA



Teaching about the edibility of **Japanese Knotweed** at an Army Corps' flood control project on the Quinebaug River in West Thompson, CT as part of a wild edible-themed canoe/kayak paddle trip



Talking about **Burdock** during one of my annual foraging walks at Blue Hill Organic Farm in Lincoln, MA (the land is owned by the Lincoln Land Conservation Trust)



Talking about **Curly Dock** on a foraging walk at Essex County Greenbelt's Cox Reservation, Essex, MA

A Guide to Invasive Plants in Massachusetts, a booklet published in 2008 by the Mass. Division of Fisheries and Wildlife in partnership with The New England Wild Flower Society and The Nature Conservancy, is a user-friendly field guide to 66 of the most ecologically-disruptive, non-native plant species found in the Commonwealth.

Of these 66 species, at least 20 of them are edible, and as far as most ecologists are concerned, ► they'd be happy if we picked and ate as many of them as we possibly could, provided we don't spread them around in the process (which is easily avoidable.)

Tasty invasive species include:

- Autumn Olive (*Elaeagnus umbellata*)
- Japanese Knotweed (*Fallopia japonica*)
- Dame's Rocket (*Hesperis matronalis*)
- Black Locust (*Robinia pseudoacacia*)
- Wineberry (*Rubus phoenicolasius*)
- Barberry, Common/European (*Berberis vulgaris*)

A Guide to **INVASIVE PLANTS** in Massachusetts



\$3.00

Autumn Olive (*Elaeagnus umbellata*) bushes blooming in May



Close-up of Autumn Olive (*Elaeagnus umbellata*) flowers - they give off a sweet smell, very similar to that of the unrelated native species Sweet Pepperbush (*Clethra alnifolia*) flowers (which bloom over a month later).



Ripe Autumn Olive Berries - pea-sized, with silvery-white speckles





Close-up of Autumn Olive fruits (Didi Emmons photo)

A couple of the delicious products you can make from Autumn Olive

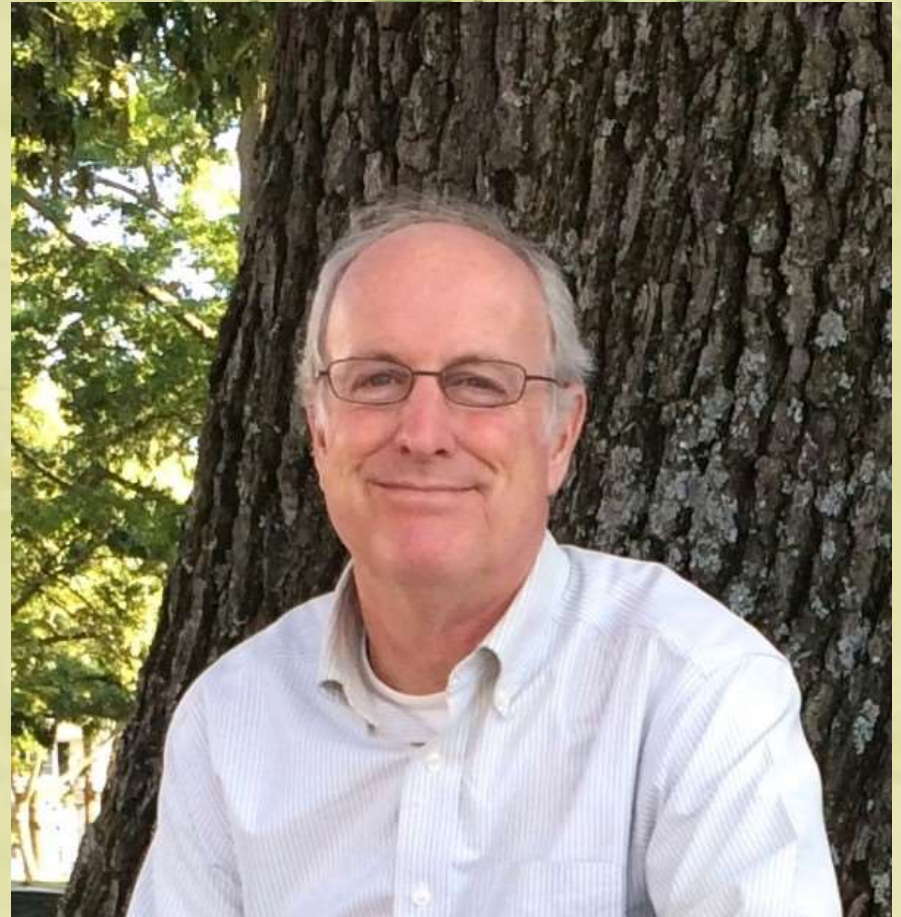


• There has been a burgeoning interest in recent years in restoring native plants to our gardens, yards and landscapes (e.g., as evidenced by the 2010 formation of the group Grow Native Massachusetts).

• This movement got a major boost a decade ago from the publication of the book *Bringing Nature Home: How Native Plants Sustain Wildlife in our Gardens*.

• In *Bringing Nature Home*, author and University of Delaware Entomology Professor Doug Tallamy makes a compelling case for the key role that native plant species play in supporting our native species of wildlife, particularly insects (such as butterflies and moths), which (in addition to their intrinsic value) serve as a major source of nourishment for nestling birds.

BRINGING



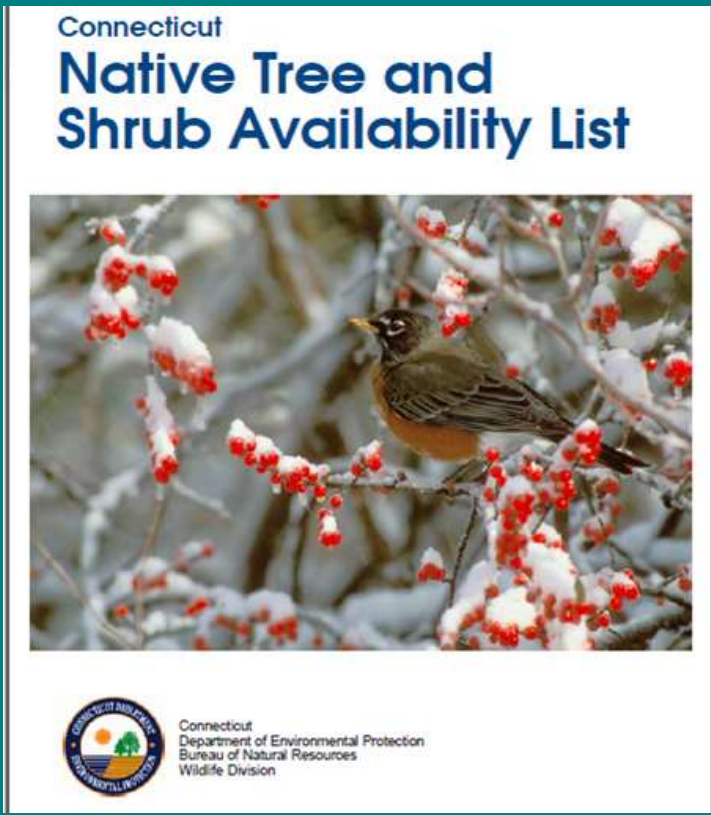
DOUGLAS W. TALLAMY

Hometown Habitat, a documentary film that extols the virtues of native plants, and features Tallamy, was released in the spring of 2016



Volunteers planting native plant species along the banks of the Housatonic River just east of downtown *Great Barrington*, MA as part of the [River Walk](#) community project

A few examples of outreach materials intended to promote and facilitate the planting of native species --



Native Plant Site Solutions for Backyard Habitat

A how-to guide for designers and homeowners interested in enhancing wildlife habitat value in urban and suburban areas



Native Shrubs for Plantings as Wildlife Food (Mass. Division of Fisheries + Wildlife)

Recommended Native Species for Planting in Lexington, MA

Mass. Coastal Zone Management's Coastal Landscaping with Native Species

Excerpt from [Rhode Island Coastal Plant Guide](#) - while extremely informative and user-friendly, note the lack of an "edible by humans" column

RHODE ISLAND COASTAL PLANT GUIDE



50 of 231 Species

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[Select from dropdown list to filter plant list by attributes]


Species	Common Name	Zone	Plant Type	Native Status	Full Sun	Shade Tolerant	Drought Tolerant	Wet Sites	Wind Tolerant	Na:Spray Tolerant	Na:Soil Tolerant	Acid Tolerant	pH Adapt	Rain Gardens	Dune Plant	Height	Width
<i>Alnus incana ssp. rugosa</i>	Speckled Alder	1	Shrub	+	+	+	+	+	+	-	+	-	-	-	-	>10'	6-12'
<i>Alnus serrulata</i>	Common Alder	1	Shrub	+	+	+	+	+	+	-	+	-	-	-	-	>10'	6-12'
<i>Amelanchier arborea</i> !	Serviceberry	1	Tree	+	+	+	+	-	+	+	-	+	-	+	-	>10'	15-25'
<i>Amelanchier canadensis</i> !	Shadbush	1	Shrub	+	+	+	+	+	+	+	+	+	+	+	+	>10'	variable
<i>Amelanchier laevis</i> !	Allegheny Serviceberry	1	Tree	+	+	+	+	-	+	+	+	+	+	+	-	>10'	15-25'
<i>Amelanchier stolonifera</i> !	Running Serviceberry	1	Shrub	+	+	+	+	+	+	+	+	+	+	-	-	2-6'	variable
<i>Ammophila breviligulata</i>	American Beach Grass	1	Grass	+	+	-	+	-	+	+	+	-	-	-	+	2-6'	-
<i>Andropogon gerardii</i>	Big Bluestem	1	Grass	+	+	-	+	-	+	+	+	-	-	-	-	6-10'	2'
<i>Andropogon glomeratus</i>	Bushy Bluestem	2	Grass	+	+	-	+	+	-	-	-	-	-	-	-	<2'	-
<i>Andropogon virginicus</i>	Broomsedge	1	Grass	+	+	-	+	-	+	+	+	+	-	-	-	2-6'	1-2'
<i>Arctostaphylos uva-ursi</i>	Bearberry	1	Shrub	+	+	+	+	-	+	+	+	+	-	+	-	<2'	variable
<i>Asclepias tuberosa</i>	Butterfly Milkweed	2	Per.	+	+	-	+	-	-	-	-	-	-	+	-	2-6'	2'
<i>Atriplex sp.</i>	Salt Bush	1	Shrub	+	+	-	+	-	-	+	+	-	-	-	+	<2'	6'
<i>Baccharis halimifolia</i>	Groundsel-bush	1	Shrub	+	+	-	+	-	+	+	+	+	+	-	-	>10'	5-12'
<i>Baptisia tinctoria</i>	False Indigo	1	Per.	+	+	-	+	-	+	+	-	-	-	-	-	2-6'	2-3'
<i>Betula populifolia</i>	Gray Birch	2	Tree	+	+	+	+	+	+	-	-	-	+	-	-	>10'	10-20'
<i>Carex flaccosperma</i>	Thin Fruit Sedge	2	Grass	+	+	+	+	-	-	-	-	+	+	-	-	<2'	6-12"
<i>Carex pensylvanica</i>	Pennsylvania Sedge	1	Grass	+	+	+	+	-	+	-	-	+	-	-	-	<2'	6-9"
<i>Carex platyphylla</i>	Broadleaf Sedge	2	Grass	+	-	+	+	-	+	-	-	+	+	-	-	<2'	10"
<i>Carex stricta</i>	Tussock Sedge	2	Grass	+	+	+	+	+	-	-	-	+	-	+	-	<2'	1.5-2'
<i>Carya ovata</i>	Shagbark Hickory	2	Tree	+	+	+	+	-	-	-	-	+	+	-	-	>10'	-
<i>Ceanothus americanus</i>	New Jersey Tea	2	Shrub	+	+	+	+	-	-	-	-	+	+	-	-	2-6'	3-5'
<i>Celtis occidentalis</i>	Common Hackberry	2	Tree	+	+	-	+	+	-	-	-	+	+	-	-	>10'	40-60'

The *RI Native Plant Guide* (<http://web.uri.edu/rinativeplants>) now does include information on each species' edibility (see the "ED" column below), and the list is sortable by category (i.e., the image below is the beginning of an alphabetical listing of all the edible plants in the database.) Also note the related "[Rhody Native](#)" program, which informs people about local nurseries where many of these plants are ethically propagated, and are available for purchase.

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RI NATIVE PLANT GUIDE

COLLEGE OF THE ENVIRONMENT AND LIFE SCIENCES



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RI Native Plant Guide developed in collaboration with the Rhode Island Natural History Survey and their Rhody Native Initiative.



Promoting Ecosystem Science and Information



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Database Search Results:

Latin Name	Common Name	I	FS	SH	ED	MD	BD	PL	DT	WT	GT
<i>Acer rubrum</i>	red maple	T	X	X	X	X	X	X	X	X	X
<i>Acer saccharinum</i>	silver maple	T	X	X	X			X		X	
<i>Acer saccharum var. saccharum</i>	sugar maple	T	X	X	X	X	X	X			
<i>Allium canadense</i>	meadow garlic	P		X	X				X	X	
<i>Allium tricoccum var. tricoccum</i>	ramps, wild leek	P		X	X	X					
<i>Amelanchier arborea</i>	common serviceberry, downy shadbush	T	X	X	X		X	X	X	X	X
<i>Amelanchier canadensis</i>	Canadian serviceberry, eastern shadbush	S	X	X	X		X	X	X	X	X
<i>Amelanchier laevis</i>	smooth serviceberry, smooth shadbush	S	X	X	X	X	X	X	X	X	X
<i>Amelanchier spicata</i>	dwarf serviceberry, dwarf shadbush	S	X	X	X		X	X	X	X	X
<i>Angelica atropurpurea</i>	purple-stemmed angelica	P	X	X	X	X		X		X	X
<i>Apios americana</i>	common groundnut	V	X	X	X	X			X	X	
<i>Arctostaphylos uva-ursi</i>	kinnikinnick, red bearberry	P	X		X	X			X		X

► Take-home message from this talk: the “you can eat it too” attribute of many native species offers a powerful incentive for people and organizations to “go native” in their landscaping, that were insufficiently swayed to do so by the ecological rationale alone.



- The places to plant natives I'm focusing on in this talk: parks and open space lands where the natural plant communities have been significantly disrupted and native species diversity reduced through past and/or current human activity (e.g., farming, mowing, land clearing)

Precaution regarding introducing new plants to conserved lands

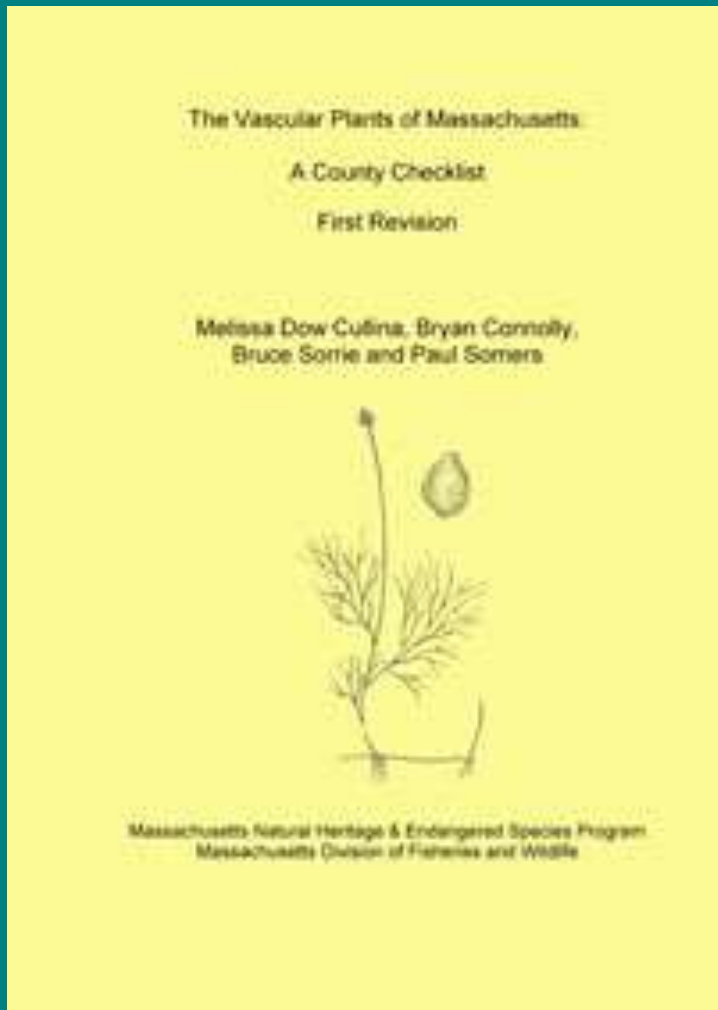
- If you know or suspect that the property in question contains rare species and/or a relatively pristine and intact native plant community, do not add new plants or seeds to those sensitive, ecologically significant sites

That said --

- If you are restoring a disturbed plant community (through, e.g., the removal of invasive plants), it is OK to reintroduce members of that plant community that are missing, or to enhance the numbers of plants of species that are already there (wintergreen and partridgeberry, e.g.)
- It's also OK to introduce native plants to other highly-disturbed, human-influenced sites, such as plantings in gardens and around buildings, parking lots, farms or playing fields

Precaution regarding picking edible plants on conserved properties

- Importance of respecting applicable policies and regulations ("no collecting" policy at Audubon sanctuaries, e.g.)
- Importance of foraging in an environmentally-responsible manner (fruits vs. roots)



► You may want to consult appropriate reference works to determine which plant species are deemed to be native to your area. See, e.g., [The Vascular Plants of Massachusetts: A County Checklist, First Revision](#) (2011) (a.k.a., the “yellow book”). Below is an example of what the info inside the yellow book looks like (the two-letter abbreviations stand for the county names).

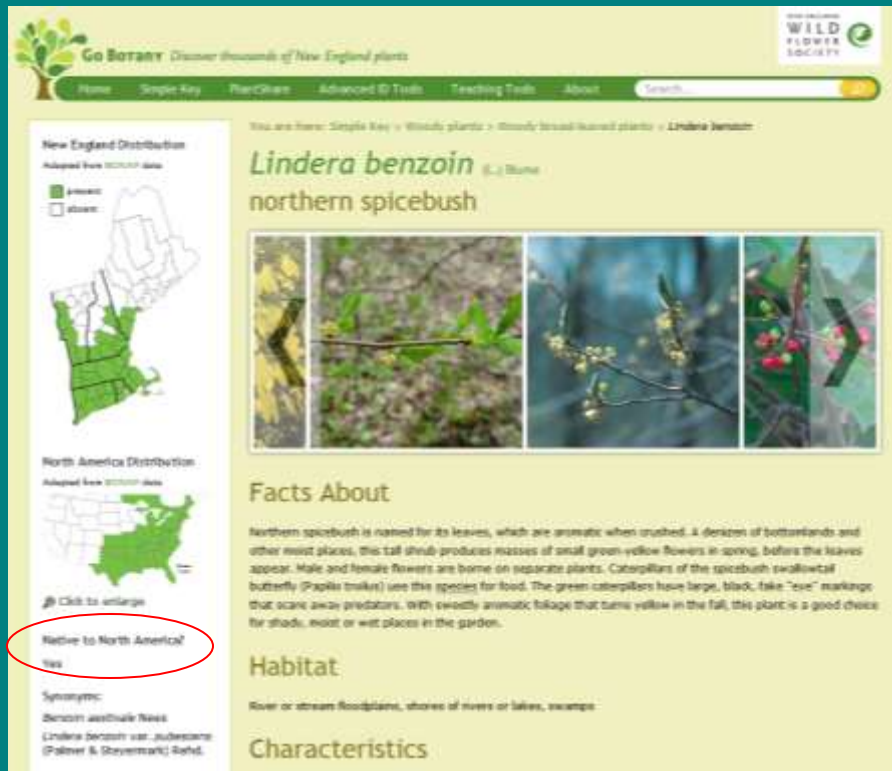
Tricolpates		<i>The Vascular Plants of Massachusetts - 2011</i>														173
		Status S-Rank														
		BE	FR	HS	HD	WO	MI	ES	SU	NO	BR	PL	BA	DU	NA	
JUGLANDACEAE																
WALNUT FAMILY																
Juglans																
cinerea L.		WL	S4?	N	N	N	N	N	N	N	N	N	N	*	*	*
Butternut																
nigra L.		SNA		I	*	*	I	I	*	*	I	*	*	I	*	*
Black Walnut																

See also the MA Natural Heritage Program's info on [Natural Plant Communities](#).

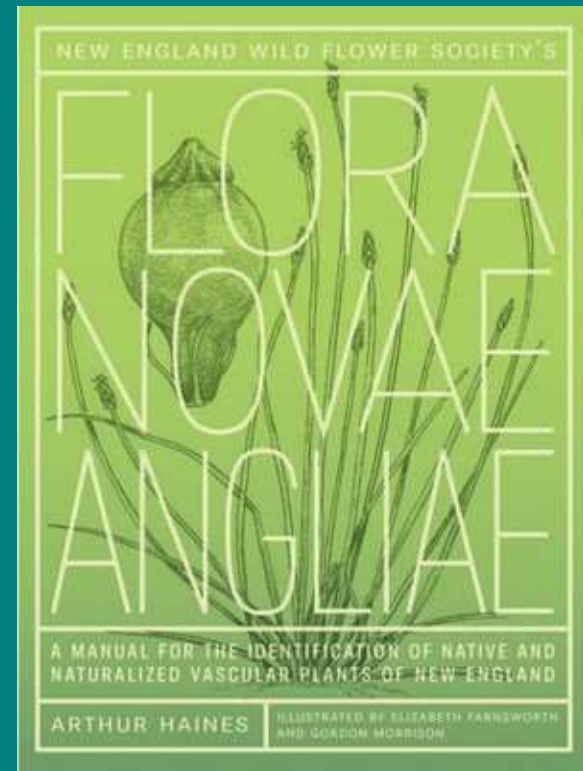
Documents like this exist for other states, so it is advisable to consult them as well to be informed about which plant species are considered to be native to which locations (counties, states, regions).

Two other resources helpful in figuring out which species are/are not native to your region:

- the “Go Botany” website (<http://gobotany.newenglandwild.org>), set up and maintained by the [New England Wild Flower Society \(NEWFS\)](#); and
- the book [Flora Novae Angliae](#), by NEWFS research botanist Arthur Haines.



The screenshot shows the Go Botany website interface. At the top, it says "Go Botany Discover thousands of New England plants" and "WILD FLOWER SOCIETY". Below the navigation bar, the breadcrumb trail reads "You are here: Simple Key > Woody plants > Woody forest/shrub plants > Lindera benzoin". The main heading is "Lindera benzoin (L.) Blume" with the common name "northern spicebush". There are four photographs of the plant: a branch with yellow flowers, a branch with green leaves, a branch with small white flowers, and a branch with red berries. Below the photos is a "Facts About" section with text: "Northern spicebush is named for its leaves, which are aromatic when crushed, & derives of bogs/lowlands and other moist places, this tall shrub produces masses of small green-yellow flowers in spring, before the leaves appear. Male and female flowers are borne on separate plants. Caterpillars of the spicebush swallowtail butterfly (Papilio troilus) use this species for food. The green caterpillars have large, black, fake "eye" markings that scare away predators. With sweetly aromatic foliage that turns yellow in the fall, this plant is a good choice for shade, moist or wet places in the garden." Below this is a "Habitat" section: "River or stream floodplains, shores of rivers or lakes, swamps." and a "Characteristics" section. On the left, there are two distribution maps: "New England Distribution" and "North America Distribution". The "North America Distribution" map shows the species' range in green, with a red circle around the text "Native to North America?" and "Yes" below it.



Now it's finally time to share the delicious details about some

Edible Plant Species Native to Massachusetts



Ostrich Fern (*Matteuccia struthiopteris*) - cooked fiddleheads are edible - note "U"-shaped groove in stem, vase-shaped clump and brown papery scales (aka bracts) on the curled-up part



Alluvial (silty) floodplain soil - ideal Ostrich Fern habitat



Note vase-shape of unrolling fronds, plus pair of fertile fronds (see arrows)

If you've bought fiddleheads at the store (where they are often several days or even weeks old), and haven't liked them, you might want to try preparing them "sweet corn" style, i.e., as soon as possible after picking. Here Beth Bazler took a camp stove to a patch of Ostrich fern fiddleheads along the Connecticut River and cooked them up just 10 minutes after we picked them. They were yummy!



Wild Leek (Ramps) - *Allium tricoccum*





Close-up of several Wild Leek (Ramp) plants

Commercial harvesting and sale of wild leek (ramp) bulbs, or whole plants dug up with the bulbs attached, on a large-scale basis, is of questionable sustainability, at least in some locations where the plant grows - click [here](#) for more details



Photo taken at the Blue Hill at Stone Barns Restaurant, Pocantico Hills, NY



Photo taken in the produce section of the Berkshire Food Co-op, Great Barrington, MA

The good news: Wild Leeks/Ramps can be propagated (e.g., in a stockbed, such as the one at Garden in the Woods pictured below); and if only one leaf/per plant is harvested, and the bulb is left undisturbed, the plants can be harvested sustainably





Carrion Flower (*Smilax herbacea*) - the young shoots can be harvested, cooked + eaten like Asparagus (a distant relative) .



Spherical clusters of inedible Carrion Flower berries come out in September; I am attempting to grow it from seed.



Steamed Carrion Flower shoots, ready to be folded into an omelet

Common Milkweed (Asclepias syriaca) - the
"procrastinating forager's dream food"



Boiled Milkweed
Flower buds - ready
to eat as is or
incorporate into
other dishes, like
Milkweed Egg Puff
(see below)



Milkweed pods at the edible stage (up to 1.5 inches long and nice and firm to the touch, not "springy" or "spongy")



Monarchs also munch on Milkweed

Basswood (*Tilia americana*) - the young leaves from all *Tilia* species are edible raw, and the fresh or dried flowers make a pleasant-tasting tea with multiple medicinal properties



Juneberry/Shadbush/Serviceberry, *Amelanchier* spp. - an early-blossoming tree (a week or two before apples/crabapples) - flowering time is also a good time to spot (and remember) the trees for later fruit-picking opportunities



Juneberry (Shadbush/Serviceberry) - *Amelanchier canadensis* and other species - fruit is purple when ripe and tastes like a cross between a cherry and an almond





Juneberry -
Mulberry
strudel

Beach Plum
Strudel

One of the fun (and yummy) items to make from, Juneberries, Beach Plums and other wild fruit - strudel

Juneberry (*Amelanchier* spp.) seed, obtained via the "extraction by mouth" method (i.e., I ate the sweet pulp surrounding the seeds), after collecting the ripe fruit the last week of June.



Following this process, the seeds were stored in small plastic bags, mixed with a little moist vermiculite, and then placed in my stratification fridge. At least half of the seed "woke up" (i.e., radicles emerged) in January, though, so I had to sow those seeds right away. By February, the first true leaves had emerged.



Wild Strawberry (*Fragaria virginiana*) - while the berries are small, they are exceptionally tasty. The leaves (when fresh or thoroughly dried) can be used for tea. While wild strawberry plants can tolerate some shade, the fruit production will be better in sunny, grassy areas. This species certainly has great potential for adding to many home and other landscapes, including (natural) lawns.

Wild strawberries propagate easily from seed, sown indoors or outdoors.



Photo by Donald Cameron



Photo by Arthur Haines

Flowering Raspberry (*Rubus odoratus*) - an attractive, thornless bramble -
Has flavorful fruit (though a bit on the dry side)



Flowering Raspberry
fruit - the pulp on the
ripe fruit (see arrows)
is thin and a bit on the
dry side, but has a
decent flavor and can be
eaten raw or used in
cooking



Black Raspberry (*Rubus occidentalis*) - not a showy flower, but tastier fruit, and its purplish-colored canes add "off-season" interest to the landscape



May Apple (*Podophyllum peltatum*) - the fully ripe fruit (available August-September) is edible and delicious raw and can be made into marmalade, sorbet, chiffon pie and other desserts. The plants tolerate shade well and spread naturally, so they are a good choice for planting along woodland pathways*. Another plus: deer are not fond of them.



May Apple flowers (and, eventually, the fruit) are located in the crotch between the double-branched stalks (see arrow).

* A couple good examples: large patches of May Apples have been established along woodland pathways running through [Lincoln Park](#) in Lexington and in the [Acton Arboretum](#).

Common or Black Elderberry (*Sambucus canadensis*), at (edible) blossom stage



Two examples of commercial beverages flavored with wild-harvested Elderberry blossoms:

A non-alcoholic



*Elderberry Borer Beetle (*Desmocerus palliatus*)*

liqueur, called St. Elder;

I don't (yet) know where they source their elder flowers from, but I am concerned

Elderberry (*Sambucus canadensis*) - ripe fruit is edible after cooking or drying



Rose Mallow (*Hibiscus moscheutos*) - one of our showiest native wildflowers (the flowers are 6" in diameter). The species likes to grow in swampy areas alongside rivers, streams and coastal waterbodies . It can tolerate growing amongst invasive species like Purple Loosestrife (left photo) and Phragmites (right photo).



Wild Bergamot or Bee-Balm
(*Monarda fistulosa*) - A savory-flavored (sage or thyme-like) native wild mint, popular with bees and other pollinators. Like most mints, this species can spread assertively, a desirable trait when you are reclaiming a site from invasive species. This species also grows readily from seed.



Bayberry (*Morella caroliniensis*) - its aromatic leaves may be substituted for commercial bay leaves in cooking. While this species is typically associated with sandy, open areas near the coast, it does occur in similar habitats inland (like the edge of sand and gravel pits). Like members of the Pea family (Fabaceae), this plant can produce its own nitrogen



Photo courtesy of Cory Janiak

Sweet Fern (*Comptonia peregrina*) - not a true fern, but related to Bayberry (and shares its aromatic nature and tolerance of poor soils, due to its roots' ability to fix nitrogen) - one of the native species the American Colonists turned to to make tea from during the Revolutionary War era - the seeds inside the burrs (see arrows) are also edible



Sweet Goldenrod (*Solidago odora*) - the leaves and flowers have a licorice-like flavor. This is another of the native species the American Colonists made tea from when they were boycotting the British tea during the Revolutionary War era.



A good place to spot a large population of this species is along the trail segment running under the high-voltage power line at the Cranberry Pond Conservation Area in Braintree.

Sweet Goldenrod (*Solidago odora*) grows readily from seed; no stratification is required. Here I have just transplanted baby *S. odora* plants that self-sowed in the summer, from a plug I obtained and potted up from the New England Wild Flower Society.





Spicebush (*Lindera benzoin*) - yet another of the "Revolutionary tea" plants - the dried berries make a fine Black or Szechuan Pepper-like substitute

- Migrating birds like these high-energy berries, though, so be sure to leave some on the plant
- Spicebush likes to grow as an understory plant in hardwood forests, often near streams

As Spicebush is dioecious (male and female flowers are borne on separate plants), make sure you plant at least one female if you want to get berries

Spicebush (along with Sassafras) also serves a host plant for the cool-looking Spicebush Swallowtail (*Papilio troilus*) caterpillar - another reason why you might want to consider adding this species to your property if it isn't already there.



Mary Anne Borge photo

At an earlier instar (younger stage), the caterpillar seeks to imitate a bird dropping



Photo taken at my native plant nursery

Wintergreen
(*Gaultheria*
procumbens),
also called
Teaberry or
Checkerberry

Berries are
edible year-
round, and the
leaves can be
used for tea
(the new,
reddish-
green, tender
leaves are
best for this -
look for them
in late spring)



Black or Sweet Birch (*Betula lenta*) - can be nibbled or drunk





◀ Wintergreen-flavored "sun tea" made from peeled Black Birch twigs and peelings

Black birch trees (indeed, any good-sized tree of any Birch species) can also be tapped for sap, which can be drunk as is or boiled down to make a molasses-like syrup ▶



The seed of Black and Yellow Birch trees is borne in structures called **strobiles**. The trees shed their ripe seed from these strobiles throughout the winter. One good time to collect this seed is after a snowfall; you can pick the seed right off the surface of the snow. The seed is then sown on the surface of the growing medium (it needs light to germinate), and kept indoors or planted directly outdoors.



End of Part One