

AMP P2: TREES, SHRUBS AND VINES

Strategic Management Opportunity Category(s): Primarily **FDCV11**

Primary Objective: Plant a variety of trees, shrubs and vines to establish a more reliable source of year-round foods in MZ2 and MZ3.

This information leaflet addresses the challenges and opportunities associated with establishing trees, shrubs and vines on rocky sites. It does not cover the how-to-do-its of planting, grafting, fertilizing, and weed control. Instead these aspects are referenced under "More Information."

The rockrat has a varied diet. Major food categories include: 1) hard mast (mainly acorns), 2) soft mast (fleshy fruits), 3) ferns, 4) herbaceous matter (tree, shrub and vine leaves, forbs, hemlock needles), and 5) fungi and lichens. Food variety is important for this species because when one or two food categories are scarce (e.g. no crop of acorns), other categories will serve as a buffer food supply. Droughts, however, adversely affect all categories.

Also problematic, and rock gardens notwithstanding, there's little history of foresters or anyone else attempting to plant trees, shrubs and vines on rock covered, often dry sites. This kind of work introduces special challenges and is why record keeping and results-monitoring (how many planted trees survived?) are important. A major consideration (more so if a timber sale is not involved) is accessibility to the management compartment. Can you get there with the necessary materials and can you maintain and monitor the plantings without undue expenditure of time?

Looking at the glass half full, larger rocks per se can at once inhibit and promote plant growth. For instance, a mosaic of "surface" rock and soil results in a substantial amount of "edge" between rock and soil; natural mulch accumulates in crevices. Rain runs off and seeps into this mulch and under the rocks. Seeds accumulate in these crevices and seedlings benefit from the natural seedbed and extra moisture. Roots reaching under rocks for moisture may give some ridge-side plants the edge they need to survive droughts. Planting a seedling on the north (shadow) side of a large boulder rather than on the south (sunny) side may be the difference the seedling needs to survive. Another positive associated with working near the core of a management compartment is that deer are reluctant to traverse onto sites where rocky crevices abound. The rocks are a form of deer-proof fencing for planted seedlings.



Figure 1 Look for clumps of common trees species like these black birch marked with an "X." Replace the birch with hybrid chestnut, red oak or pignut hickory.

It follows that for MZ2 your planting opportunities will likely be limited to sites where something common is already growing.

When a management compartment includes the crest of a ridge or narrow valley bottom, consider planting on

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contrasting aspects to compensate for the drought differential between southerly and northerly aspects. This could be important, given predictions of an increasing frequency of severe droughts as a result of climate change.

Planting in the buffer zone (MZ3), essentially a site where rocks don't predominate, is mainly done in conjunction with an adjacent tree harvest; refer to AMP C2 for site preparation guidance. If the tree harvest area is fenced to exclude deer this is an excellent opportunity to introduce diversity plantings in MZ3 (see Table 1 examples), more so given that haul roads provide initial access to the planting site. The extension publication on oak enrichment planting (8 pages) introduces important considerations relative to establishing oak trees. Among them, plant trees both before and after the harvest; and "Large container oak seedlings can be expensive, but should provide better survival and growth after planting." Given the difficulty accessing habitat sites, it may be more important to use fewer but larger seedlings or container stock. For similar reasons, an experienced planting crew should be used rather than volunteers. Tree protectors will help deter rodents and signal the location (for monitoring) of a planted seedling.

Table 1. One example of a native tree (T), shrub (S) and vine (V) combination inclusive of species that survive on rocky, dry sites and that provide food at different times of the year including storable mast.

T	S	V	PLANT	FRUIT POTENTIALLY AVAILABLE												
				J	F	M	A	M	J	J	A	S	O	N	D	
X			American Chestnut <i>Castanea dentata</i> *													
X			Chestnut Oak <i>Quercus montana</i> *													
X			Red Oak <i>Quercus rubra</i> *													
X			Pignut Hickory <i>Carya glabra</i> *													
X			American Mountain Ash <i>Sorbus americana</i>													
X			Sassafras <i>Sassafras albidum</i>													
	X		Dwarf Sumac <i>Rhus copallina</i>													
	X		Red-berried Elder <i>Sambucus racemo</i>													
	X		Wild Gooseberry <i>Ribes rotundifolium</i>													
	X		Scrub Oak <i>Quercus ilicifolia</i> *													
	X		Dwarf Chinkapin Oak <i>Quercus prinoides</i> *													
		X	American Bittersweet <i>Celastrus scandens</i>													
		X	Common Greenbrier <i>Smilax rotundifolia</i>													
		X	Virginia Creeper <i>Parthenocissus quinquifolia</i>													
		X	Summer Grape <i>Vitis aestivalis</i>													
		X	Frost Grape <i>Vitis vulpina</i>													

* The greatest quantities of hard mast are consumed in late summer and throughout the fall, but rockrats cache hard mast (primarily acorns) and consume storable foods in every season.

MORE INFORMATION

A good desk-top reference is: Trees, Shrubs and Vines for Attracting Birds: A manual for the Northeast. Especially pertinent is a section on how to propagate each plant species.

- Enrichment Planting of Oaks: <http://www.ces.purdue.edu/extmedia/FNR/FNR-225.pdf>
- MA Native shrubs for planting as wildlife food
http://www.mass.gov/dfwele/dfw/nhesp/conservation/plants/native_shrubs.htm
- VA Tree and shrub planting guidelines <http://www.pubs.ext.vt.edu/430/430-295/430-295.html>
- PA Sources Of Native Trees, Shrubs, Wetland Plants And Wildflowers, Natural Lands Trust
<http://conserveland.org/lpr/download/9957/Nativetrees.pdf> and
http://www.plantnative.org/nd_patova.htm