

Creating a Wild Yard

Or Making the Natural System Home

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- ◆ Plant the native trees, shrubs and wildflowers of your region
- ◆ Add large rocks and an old log or two to your landscape
- ◆ Mulch appropriately, soil is the foundation of all (See Mulch guide)
- ◆ Plant species specifically for pollinators and natural bird food
- ◆ Plant wild and native food plants; learn to eat them in creative ways
- ◆ Create levels of canopy, mid-story, and under-story with trees, shrubs and flowers
- ◆ Plant communities or guilds, not just individual plants
- ◆ Plant native grass for turf. Protest non-native and ornamental grasses!
- ◆ March on Washington to stop the use of pesticides
- ◆ Be skeptical and fully educated about any chemical you have an urge to put on the land
- ◆ Keep plastics and landscape cloth off the land. Landscape cloth selects for the most persistent weeds and retards nutrient exchange with the soil. Plastic is a petrochemical product.
- ◆ No drip irrigation. Aside from watering food plants, excessive watering is not living in the system.
- ◆ Stop watering so much and minimize soil disturbance and you also minimize weeds.
- ◆ Don't feed the pretty deer. By the way, they prefer heavily watered plants and many non-natives.
- ◆ Reduce or turn off outdoor lighting. It confuses a host of nighttime pollinators.
- ◆ A birdbath does wonders
- ◆ Have a sunny patch filled with or adjacent to flowers for butterflies
- ◆ Create a mud patch for insects to draw moisture and minerals from
- ◆ Add a patch of prickly pear or cholla for nesting birds
- ◆ Build a sandy and rocky cactus garden for nesting lizards
- ◆ Build a contained cattery if you must keep your cat outdoors
- ◆ Learn permaculture techniques and grow your own food
- ◆ Install a bat house
- ◆ Wear only loincloth and body paint at least one day each week
- ◆ Did I mention plant more, mulch more, and water less?
- ◆ Get a neighbor to do the same thing

Mycorrhiza: A symbiotic relationship between fungi and vascular plants.

- ▣ Over 90% of plant species are mycorrhizal
- ▣ Plants provide fungi with carbohydrate; fungi provide plants with a host of nutrients and protection from pathogens.
- ▣ Plants and their mycorrhizal partners (fungi) are interlinked with other microorganisms and plants throughout whole plant communities.
- ▣ Plants that grow in a community support the same fungi and vice versa. They suppress the same pathogens and share the same resources and stresses.
- ▣ Water can be moved uphill and over great distance in plant communities via mycorrhizal networks
- ▣ New plants in a system will be supported and integrated if they have the matching mycorrhiza.
- ▣ If the plant has the wrong or no mycorrhiza it may be excluded from the community and will struggle or likely not survive.
- ▣ Plants native to a particular community fit in and thrive
- ▣ Alien plants or plants placed in an incorrect location (incorrect exposure, drainage, etc.) will not fit or thrive
- ▣ Plants may have many fungal associations that change to adapt to environmental conditions and plant development.

Implications

- ▣ Plant species close to or matching the members of your specific native plant community.
- ▣ When razing land for construction, saving a few “teacher” plants will help with revegetation later.
- ▣ Established adult plants will increase success when seeding areas.
- ▣ New native plantings that have *not* been treated with fungicides etc. can help return a damaged site to healthier condition.
- ▣ Established plants assist new plantings when they match mycorrhiza.
- ▣ Don’t worry so much; just plant what is supposed to be there.
- ▣ Mycorrhiza lives in the top 2-3 inches of soil – **MULCH don’t TILL!**
- ▣ Our neighbor’s landscape practices affect the plants in our yards and vice versa.
- ▣ We humans could all learn from mycorrhizal plant communities!

Native Plants for Pollinators of S.W. New Mexico

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Trees	Nursery Plant	Nectoring Plant
Desert Willow – <i>Chilopsis linearis</i>	X	X
Western Soapberry - <i>Sapindus saponaria</i>	X	X
Oaks – <i>Quercus</i> sp.	X	
Cottonwoods – <i>Populus</i> sp.	X	
Arizona and Flowering ash – <i>Fraxinus</i> sp.	X	X
Hoptree – <i>Ptelea trifoliata</i>	X	
Arizona and other Alders – <i>Alnus</i> sp.	X	
Chokecherry – <i>Prunus virginiana</i>	X	X
Netleaf Hackberry – <i>Celtis reticulata</i>	X	
Mesquites – <i>Prosopis</i> sp.		X
Mexican Elder – <i>Sambucus</i> sp.		X
New Mexican Locust	X	X
Shrubs		
Four Wing Saltbush – <i>Atriplex canescens</i>	X	
Wolfberry – <i>Lycium</i> sp.	X	X
Sumacs – <i>Rhus</i> sp.		X
Manzanita - <i>Arctostaphylos</i>	X	X
Ceanothus sp.		X
Creosote – <i>Larrea tridentata</i>		X
Rabbitbrush - <i>Chrysothamum nauseosum</i>		X
Salvia sp.		X
Mahonia – <i>Berberis</i> sp.		X
Turpentine Bush – <i>Ericameria laricifolia</i>		X
False Indigo - <i>Amorpha fruticosa</i>		X
Acacias	X	X
Herbaceous/Wildflowers		
Milkweeds – <i>Asclepias</i> sp.	X	X
Parsley Family – <i>Apiaceae</i> sp.	X	X
Penstemons.	X	X
Buckwheats – <i>Eriogonum</i> sp.	X	X
Mallows – <i>Malvaceae</i> sp.	X	X
Aster and Sunflower Families	X	X
Hummingbird Mints – <i>Agastache</i> sp.		X
Nettles – <i>Urticaceae</i> sp.	X	X
Mustards – <i>Brassicaceae</i> sp.	X	X
Legumes (clovers, lupines, etc.)	X	X
Primroses – <i>Primulaceae</i> sp.		X
Verbinas – <i>Verbenaceae</i> sp.		X
Salvia sp.		X
Cacti, Yuccas, Agaves, Ocotillo	x-yucca	X
Native Grasses	X	
Mistletoes - <i>Phoradendron</i>		X

Native Trees and Shrubs For Creating Habitat

SW New Mexico

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Plant Name	Plant Type	Food	Shelter
All the Oaks, Quercus sp.	Tree	X	X
All the pines, Pinus Sp.	Tree	X	X
The Elderberries, Sambucus	Tree/Shrub	X	
Four Wing Saltbush, Atriplex	Shrub	X	X
The Sumacs, Rhus sp.	Tree/Shrub	X	X
Western White Honeysuckle	Shrub/Vine	X	
Mahonia sp.	Shrub	X	X
Snowberry,	Shrub	X	
Western Chokecherry,	Tree	X	
The Cottonwoods, Populus sp.	Tree		X
Arizona Sycamore, Platinus	Tree		X
Prickly Pear and Cholla, Opuntia sp.	Shrub	X	X
The Mesquites	Tree	X	X
The Junipers, Juniperus sp.	Tree	X	X
Western Sand Cherry	Shrub	X	
Manzanita sp.	Shrub	X	X
Native Blackberry	Shrub	X	X
The Wolfberries, Lycium sp.	Shrub	X	X
Coffee Berry	Shrub	X	
Western Soapberry	Tree	X	X
Arizona Alder	Tree		X
Wright's Silktassel	Shrub	X	
Buffalo Berry	Shrub	X	

MULCH

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Mulch is applied to the surface of the soil. It *does not* need to be dug into the soil.

✦ **Rock mulch for desert (Xeric) and many stress tolerant plants.** Xeric plants will often die within 1-2 years or sooner from root crown rot or other issues when exposed to excessive organic matter. A mixture of large rocks, hand sized cobbles and gravel is ideal. Place a large rock next to a new planting to hold appropriate moisture and provide thermal mass for regulating soil and air temperatures near the plant. Larger rocks also provide habitat for beneficial invertebrates, lizards, and soil microbes. Mulch is habitat; gravel beds are for parking. Xeric plants should *never* be planted in mulch basins and need high drainage with root crowns being slightly elevated from surrounding soil. Rock should cover the soil; gravel patches from 2-4 inches deep.

✦ **Wood mulch for forest and riparian plants.** These are plants built for systems with relatively high moisture content, organic material, and available nutrients. Woodland plants need mulch that protects and encourages micorrhizal growth. Most riparian plants need an accessible water table and deep mulch to retain surface moisture. Many of these plants benefit from mulch basins when planted outside of their native system. Fruit trees fall into this category. Mulch should be 4-6 inches deep (or more), avoid mulch around the root crown.

✦ **Rock and wood for woodland, savannah, and grassland plants.** Many native plants found in the regional nursery trade prefer this technique. The benefits of rock are supplemented by additional benefits of wood chips or shavings. I like to place larger rocks first, then fill in wood mulch and top off with cobbles and gravel to hold mulch in place. Again, larger rocks placed next to new plantings give plants a boost. Mulch 2-4 inches deep. Lesser depth for more xeric, lower elevation plants and greater for plants from higher elevation that may require cooler soils temps and higher moisture.

✦ **Sheet mulch for veggies.** Wet soil, slash existing vegetation, cover with cardboard or paper, wet that, cover with 2-4 inches of compost, wet that, cover with 4-6 inches of straw. Poke holes and plant. This mulch is geared more towards increasing bacteria levels while reducing or eliminating micorrhizal fungi. This could mean death to many draught tolerant, long-lived, and micorrhizal natives! Most veggies are annuals built for short life spans and fast growth; they love the high living bacterial lifestyle.

CAUTION: If you plant veggie gardens in close proximity to native xeric and micorrhizal plantings it could be detrimental or deadly to the natives. They can suffer symptoms of over-watering at a distance through the micorrhizal network of the parent community. Veggies and fruit trees have become native to human systems and should be woven thoughtfully into the parent natural systems in which we choose to live.

✦ **Plastic Mulch for protecting lawn furniture, grills, and statuary.** How healthy would you be covered in plastic and left in the sun for a season? This can benefit some veggies for the short term, but how about the health of the soil over time? The toxins leaching out make me nervous. It actually makes gravel beds look even uglier when it shreds to the surface the year after installation. Not living in the system!

✦ **Rubber mulch for people who hate plants.** If the plants don't die I'm sure they will at least suffer tremendous humiliation. Colored wood mulches fit here as well.

Watering Native Plants

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With the exception of cacti, ocotillo, and some succulents all plants should be kept fairly wet for the first week to ten days after planting.

- ☞ Wet the planting hole. Plant the plant. Water heavily for a long time!
- ☞ After that, quit watering as much as you think you should! (See caution)
- ☞ Get rid of the drip irrigation. It's long tubes of petrochemical plastics, electric pumps and timers, and more manufactured products period. There is a carbon footprint here and it is likely on the seat of our pants. This kind of irrigation is a fairly recent and well-marketed product. How have we lived so long without it? Native plants don't need it. Come to think of it, get rid of all that landscaping weed cloth as well! But I digress.
- ☞ While plants are becoming established, water every 10 to 14 days as needed during hot/dry weather. If it rains well in that time, wait another 10 to 14. Infrequent, deep watering is essential. It favors aggressive root growth and establishment of mycorrhizal relationships. Frequent, shallow watering promotes shallow and weak root growth and suppresses mycorrhiza. Soil kept too wet also favors bacteria over fungal growth. This deprives the soil and native microbes of oxygen and displaces other important gas and biochemical elements in native soil. Constantly wet soil is for some veggies as well as pond and marsh plants.
- ☞ It may take two years for many nursery grown natives to fully establish the root to stem and leaf ratio necessary to do well without occasional supplemental water. This is often a function of the micorrhizal connection to the fungal network of the native soil and the accompanying connection to the parent plant community.
- ☞ When the right native is planted in an established plant community with matching micorrhiza, the need for extra support and water will be greatly reduced if not altogether unnecessary after the first season of growth. A nursery grown native that should fit with the system may need more early watering care if the micorrhiza is out of balance with the community.
- ☞ When establishing many natives in disturbed areas and/or backfilled soils it will take time before plants need less help. Planting established plants will provide the "guide plants" to establish a micorrhizal community sooner. Mulch heavily!
- ☞ A plant that is not a native to a particular community, or a community close in characteristic to the parent system may never link with the systems micorrhiza and will need constant watering and possible nutritional care. Have mercy, dig it up and plant a native. If it is a fruit tree or other food plant please disregard the previous snide remark

CAUTION: When establishing natives, let the top of the root ball dry out between watering. Too much and frequent water will keep it from becoming mycorrhizal. If it dries out too much while becoming established it will not have the 20% energy reserve required to commit to mycorrhizae.

Infrequent, deep watering mimics nature. Stop watering so much!

P.S. - Mulch to keep the water in place.

Native Plant Guilds

SW New Mexico

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Broad Plant Groups by Life Histories: (Grime's Disturbance Stress Model)

Stress Tolerant – These plants are adapted to undisturbed yet stressed environments low in water, nutrients, and competition between species. They tend to be long lived, conserve resources, and have low reproduction rates. They are often highly micorrhizal, relying on a communal system to survive. These often are plants of climax successional systems.

Ruderal – These are the pioneers of succession. They need disturbed habitats and low environmental stress. They grow and reseed quickly and abundantly. These are often early succession plants that digest unavailable nutrients from the soil, making them available for plants in later succession by replenishing the soil as mulch. Unenlightened folk tend to call many of them weeds. These are many of our vegetables, annuals, and bi-annuals and some short-lived perennials. Many riparian plants, including riparian trees may fall into this category. Riparian habitats are built for regular disturbance.

Circumventers or Competitors - These are the plants found between the extremes of Stress Tolerants and Ruderals. They are often the intermediates and transitional plants of succession. They tend to be found in habitats that support greater competition and less stress and disturbance. They tend to become more competitive as they age. These are many of the world's perennials. These plants can be a natural transition between different gardens and plant communities. Many can be great buffers between stress tolerant plants and more disturbed sites.

What does this mean when planning guilds?

Most stress tolerants and ruderals will not do well together, the circumventers can tolerate either to an extent. They will all do better if planted in association with plants with similar life histories, energy budgets, nutrient requirements, and stress tolerance. Nature creates guilds we call plant communities. Hike around a native area close to home and see what grows in association with what. What are the two to three dominant trees? What three or four shrubs are dominant? Several species of wildflowers may be in bloom at any one time. What trees, shrubs, or open areas do they share space with? This is where you start.

Our area is home to: Ponderosa, Gamble's Oak, Alligator Juniper forest - Oak, Pinon, and Juniper woodland - Pinon, One Seed Juniper, and Oak Savannah – Various riparian groups, desert grassland and more. With our wealth of plant communities there are too many guild possibilities for one piece of paper. Your local native plant growers will be happy to help you!

