

A Guide to Native Plants for the Santa Fe Landscape



Lesqueris palmeri
Photo by Tracy Neal

Santa Fe Native Plant Project

Santa Fe Extension Master Gardeners

Santa Fe, New Mexico

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Introduction

“A native species is one that occurs naturally with respect to a particular ecosystem, rather than as a result of an accidental or deliberate introduction into that ecosystem by humans.”

<https://definitions.uslegal.com/n/native-species>

Why native plants? Native plants have evolved over eons in a specific environment. As a result, they have adapted to a particular set of growing conditions, including soil type, moisture levels, fluctuations in temperature, competitors, and pollinators. Many native plants will flourish without soil amendments or supplemental water once established in the landscape. They require a minimum of effort from the gardener, but most important, they contribute essential environmental services. Native plants:

- Provide natural habitat for birds and wildlife,
- Sustain populations of pollinators and attract a variety of other beneficial insects,
- Control storm runoff and erosion,
- Develop a strong relationship with soil fungi and other native microorganisms, and
- Sustain a spiritual, recreational, educational, and cultural heritage.

Over the past 400 years, plants and animals have been introduced into the Americas from Europe and beyond, both intentionally and by accident, and often with unforeseeable consequences. Development, pollution, urbanization, and introduced species all threaten habitat and therefore threaten native species of plants and animals.

Planting native trees, reducing lawn area, and connecting islands of diverse plant life improve the resilience of an ecosystem, and thus the reliability of the essential services it provides. A simple example can be seen in the relationship among plants, insects, and birds. Most birds depend on insects to feed their young. Insects are specialists.

Plants protect themselves with a species-specific mix of chemicals. Insects that have shared a long evolutionary history with particular plants will exhibit physiological adaptations to digest the chemicals. So, introducing a caterpillar-resistant plant may ultimately threaten the livelihood of a chickadee.

In 2012 the U.S. Department of Agriculture revised its hardiness zone map, which shows average annual minimum winter temperatures in 10° F increments, to reflect warmer temperatures observed over the past 30 years. In general, hardiness zones are moving northward and to higher elevations. The implications for climate change are complex, but its effects on rainfall and available moisture are two that should be considered when selecting plants with a long lifespan. Piñon pine, for example, which historically has required no supplemental irrigation at elevations between 4,000 and 9,000 ft., is now showing signs of stress at 7,000 ft. This caveat and others have been noted in the comments accompanying the description of each plant.

The plants described in this guide are native to New Mexico according to Allred (Allred and Ivey, 2012). They are expected to do well in the Santa Fe area with proper siting and care. Most are usually available from local nurseries and mail order businesses. We have included mature height and width for many plants, but these characteristics will vary greatly by site and moisture availability. Santa Fe and the surrounding areas encompass a variety of soil types and microclimates; one cannot predict how a plant will respond to any particular site or care regime. Understanding the native habitat of the plants you choose will inform site selection and ongoing care. *Right plant, right place* can hardly be overemphasized. Bear in mind that all plants, with the exception of cacti, will require supplemental water to establish—a process that, depending on the size of the plant, could take two or three years. Climate change will also affect water requirements. Many plants that require no additional water now may, in decades to come, need more supplemental water than indicated in our notes.

Definitions

Sun

| | |
|----------|---------------------------------|
| Full Sun | At least 6 hours of sun daily. |
| Pt Shade | 2 to 6 hours of sun daily. |
| Shade | Less than 2 hours of sun daily. |

Water

| | |
|----------|--|
| Very Low | No supplemental irrigation required once plants are established. |
| Low | Irrigate every 2 or 3 weeks during the growing season to insure best performance and plant health. |
| Medium | Irrigate every 1 or 2 weeks during the growing season. |
| High | Plants designated as high-water users typically grow in areas of greater rainfall or with more available groundwater than in Santa Fe. Site these plants streamside, or where runoff is available. Irrigate as needed. |

This guide was compiled by Master Gardeners in the Santa Fe Native Plant Project (SNaPP), a certification and public education program of the Santa Fe Extension Master Gardeners. SNaPP's mission is to promote the use of native plants in the local landscape.

Master Gardeners are trained by the New Mexico State University Cooperative Extension Service. New Mexico State University is an equal opportunity/affirmative action employer and educator, in cooperation with the U.S. Department of Agriculture. For more detailed information and plant recommendations, please contact the NMSU Hotline (505-471-4711) or Extension Master Gardeners "Ask a Master Gardener" website (<http://sfemg.org/contact-2>).

Chapter 1 – Annuals and Biennials

Annuals complete their life cycle—germinating, forming flowers, producing seeds, and dying—in one growing season. Biennials take two years to develop, growing only foliage in the first year and forming flowers and producing seeds in the second. Many annuals and biennials compensate for their short lives by leaving a legacy of seeds to germinate the following year, sometimes popping up in locations not that close to the original plant and providing a delightful surprise in spring. Like perennials, they provide color and texture and attract pollinators.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|--|----------|------------|----------------|--------------------------------|-------------|-----------------------|---|
| Aster, Purple | <i>Dieteria bigelovii</i> (synonym <i>Machaeranthera bigelovii</i>) | Full Sun | Low | Insects | Rose-Purple with Yellow center | Fall | 3ft x 2ft | Attracts native bees and other beneficial insects. Annual or biennial, reseeds. Adapts to a variety of soils, including clay. |
| Aster, Purple Tansy (Hoary Aster, Sand Daisy) | <i>Dieteria canescens</i> (synonym <i>Machaeranthera canescens</i>) | Full Sun | Low | Insects | Purple with Yellow center | Fall | 2ft x spreading | Annual, biennial, or possibly perennial. Similar to Purple Aster (<i>Dieteria bigelovii</i>) and difficult to distinguish in the wild. |
| Aster, Tansy | <i>Machaeranthera tanacetifolia</i> | Full Sun | Low | Insects | Purple with Yellow center | May-Oct | 10in x spreading | Fast growing, can tolerate poor soil, popular with home gardeners. Naturalizes in a shortgrass meadow, rocky hillside, or other sites that are difficult to maintain. |
| Bee Plant, Rocky Mountain | <i>Cleome serrulata</i> | Full Sun | Low | Insects, Birds | Purplish Pink | Summer | 2-4ft x 1ft | Attracts native and honey bees and hummingbirds. Flowers produce copious nectar. Larval host to checkered white butterfly. Moderate tolerance of limy soils. |
| Blanketflower, Indian (Firewheel) | <i>Gaillardia pulchella</i> | Full Sun | Low/Medium | Insects | Yellow with Red center | Spring-Fall | 2ft x 1-2ft | Reseeds easily in sandy or well-drained loamy soil. High tolerance of limy soils. |
| Coneflower (Black-eyed Susan) | <i>Rudbeckia hirta</i> | Full Sun | Medium | Insects | Yellow | Summer-Fall | 1-3ft x 3ft | Annual or biennial. Seeds are eaten by birds. Larval host to moths and butterflies. Highly deer resistant. Blooms profusely all summer and fall. Excellent cut flowers. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---------------------------------------|--|--------------------|-------------|----------------|---|-------------|-----------------------|--|
| Cosmos | <i>Cosmos parviflorus</i> (synonym <i>Coreopsis parviflora</i>) | Full Sun | Low/ Medium | Insects | White, Pink, or Violet with Yellow center | June-Oct | 1-3ft x 1ft | Graceful daisy-like flowers on slender stalks give an airy appearance. |
| Daisy, Cowpen (Golden Crownbeard) | <i>Verbesina encelioides</i> | Full Sun | Very Low | Insects, Birds | Yellow | July-Sept | 1-3ft x 1-4ft | Common in disturbed areas, open fields, roadsides. Gray-green foliage, fragrant. Found over a wide range of soils, including clay and limestone. |
| Gaura, Small-flowered | <i>Oenothera curtiflora</i> (synonym <i>Gaura parviflora</i>) | Full Sun | Very Low | Insects | White, turning to Pink, turning to Red | May-July | 6ft x 1ft | Tall, slender, red-stemmed annual or biennial plant of the plains, roadsides, and disturbed ground. |
| Gilia, Scarlet (Skyrocket) | <i>Ipomopsis aggregata</i> | Pt Shade | Medium | Birds | Red | Summer | 1.5ft x 1ft | Trumpet-shaped red flowers with star-shaped blooms attract hummingbirds. Common biennial in mountain meadows. Likes well-drained rocky or sandy soil. |
| Marigold, Desert | <i>Baileya multiradiata</i> | Full Sun/ Pt Shade | Very Low | Insects | Yellow | Summer | 18-20in x 12in | Special value to native bees. The foliage is silvery gray, soft. Lovely in a shortgrass meadow; good cut flower. Found over a wide range of soils, including clay. |
| Primrose, Prairie | <i>Oenothera albicaulis</i> | Full Sun | Low | Insects | White | Spring | 4in x 20in | Special value to native bees. Flowers open at sunset but remain open several days and remain white as they age. Prefers sandy soil. |
| Sunflower, Annual | <i>Helianthus annuus</i> | Full Sun | Low | Insects | Yellow | Summer-Fall | 10ft x 2ft | Attracts native bees. Intermixed with other annuals, provides good cover for many species of wildlife. Birds like the seeds. Found over a wide range of soils, including clay; moderate tolerance of limy soils. |
| Sunflower, Prairie (Lesser Sunflower) | <i>Helianthus petiolaris</i> | Full Sun | Low | Insects | Yellow with Reddish Brown center | Summer-Fall | 4ft x 2-3ft | Attracts native bees. Birds like the seeds. |



Aster, Purple
Dieteria bigelovii (synonym *Machaeranthera bigelovii*)

Joy Mandelbaum



Aster, Purple Tansy (Hoary Aster, Sand Daisy)
Dieteria canescens (synonym *Machaeranthera canescens*)

Barry Breckling



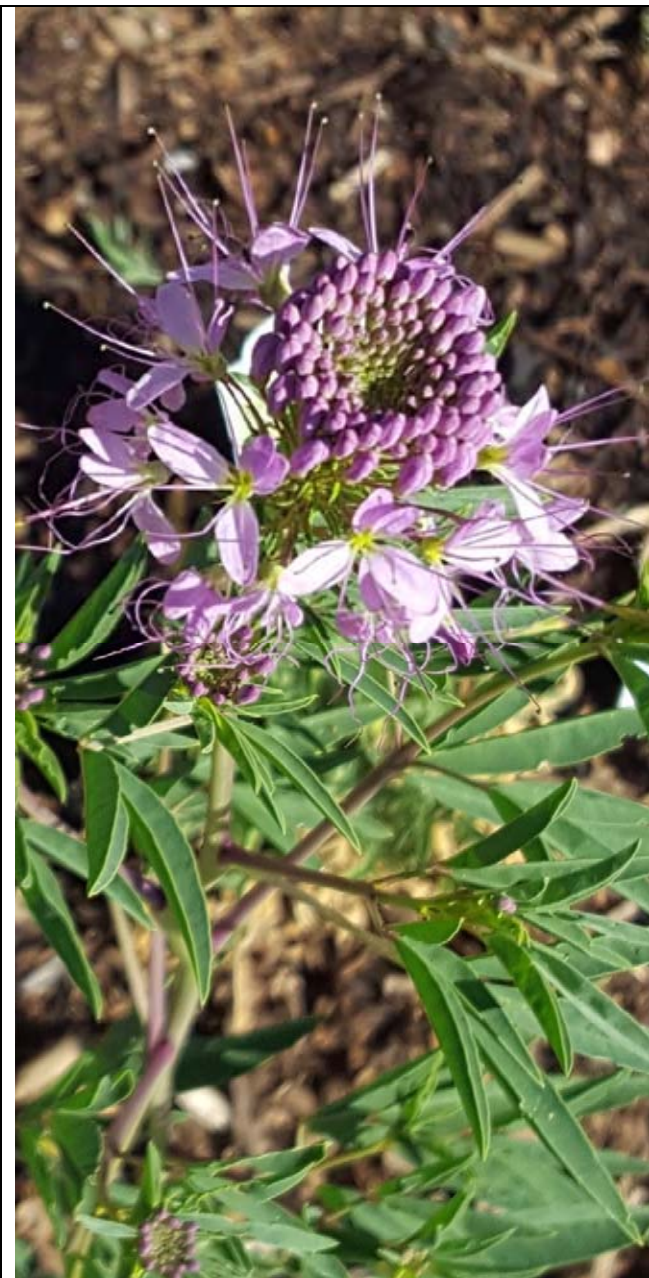
Aster, Tansey *Machaeranthera tanacetifolia*

Max Licher



Tansy Aster, blossom

Max Licher



Bee Plant, Rocky Mountain
Cleome serrulata

Joy Mandelbaum



Blanketflower, Indian (Firewheel) *Gaillardia pulchella*

Joy Mandelbaum



Coneflower (Black-eyed Susan) *Rudbeckia hirta*

Joy Mandelbaum



Cosmos *Cosmos parviflorus* (synonym *Coreopsis parviflora*) Russ Kleinman



Daisy, Cowpen (Golden Crownbeard) *Verbesina encelioides* Joy Mandelbaum



Gaura, Small-flowered
Oenothera curtiflora (synonym *Gaura parviflora*)

Russ Kleinman



Gilia, Scarlet (Skyrocket) *Ipomopsis aggregata*

Joy Mandelbaum



Marigold, Desert *Baileya multiradiata*

Max Licher



Primrose, Prairie *Oenothera albicaulis*

Max Licher



Sunflower, Annual *Helianthus annuus*

Joy Mandelbaum



Sunflower, Prairie (Lesser Sunflower) *Helianthus petiolaris*

Joy Mandelbaum

Chapter 2 – Cacti and Succulents

The most drought tolerant of plants, cacti and succulents have spectacular, though short-lived, blossoms. They are brilliant in rock gardens and are so collectible that many have been collected to the brink of extinction. Wild collecting is now illegal or highly regulated throughout the Southwest; be sure to purchase specimens from a reliable grower, nursery, or cactus rescue organization.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--|--------------------|----------|-------------|------------------------|---------------|-----------------------|--|
| Agave, Parry | <i>Agave parryi</i> | Full Sun | Very Low | Insects | Green, Yellow | Spring-Summer | 2-3ft x 3ft | Family <i>Agavaceae</i> . The plant blooms only once at maturity; the bloom stalk may reach 20 ft. The rosette dies after blooming, but the plant may produce offsets that form a colony. There are two varieties in NM: var. <i>neomexicana</i> in grasslands and desert scrub in the south-central to southwestern regions; var. <i>parryi</i> in desert scrub and oak woodlands of the bootheel region. |
| Bear Grass | <i>Nolina microcarpa</i> | Full Sun | Very Low | Insects | White | Spring-Summer | 3ft x 6ft | Family <i>Nolinaceae</i> . Nectar and pollen attract bees and wasps. Tolerates clay and limestone soils. |
| Cactus, Ball (Spiny Star Cactus, Beehive Cactus) | <i>Escobaria vivipara</i> (synonym <i>Coryphantha vivipara</i>) | Full Sun | Very Low | Insects | Pink | Spring | 4in x 3in | Forms colonies. |
| Cactus, Grama Grass (Paper-spined Cactus, Toumeya) | <i>Sclerocactus papyracanthus</i> (synonym <i>Toumeya papyracantha</i>) | Full Sun/ Pt Shade | Very Low | Insects | White | Spring | 2in x 1in | Very difficult to spot. Spines resemble grama grass. |
| Cactus, Little Nipple | <i>Mammillaria heyderi</i> var. <i>meiacantha</i> | Full Sun | Low | Insects | Pink, Yellow, or Cream | Spring | 1in x 3-6in | Small solitary cactus, can be difficult to spot when not in bloom. Characteristic of the genus, flowers form a circle around the stem at previous year's growth. Bright red fruits. |
| Cactus, Mountain Ball (Pincushion) | <i>Pediocactus simpsonii</i> | Full Sun | Very Low | Insects | Pink | April | 4in x 3in | First cactus to bloom in spring. |
| Cactus, Wright's Nipple | <i>Mammillaria wrightii</i> | Full Sun | Low | Insects | Pink or Magenta | Summer | 1.5-3in x 1.5-3in | Large flowers bloom late summer, followed by grape-sized fruits. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|--|-----------------------|----------|-------------------|----------------------------------|---------------|-----------------------|--|
| Cholla, Club (Devil's Cholla) | <i>Grusonia clavata</i> (synonym <i>Opuntia clavata</i>) | Full Sun | Very Low | Insects | Yellow or Greenish Yellow | Summer | 4in x spreading | Low, spreading habit. Wickedly spiny mats of indeterminate spread. |
| Cholla, Santa Fe | <i>Cylindropuntia viridiflora</i> | Full Sun | Very Low | Insects | Pinkish Apricot | Summer | 3ft x 3ft | Endangered. Flowers are rarely greenish, the species name notwithstanding. |
| Cholla, Tree (Cane Cholla) | <i>Cylindropuntia imbricata</i> | Full Sun/ Pt Shade | Very Low | Insects | Magenta | June | 6ft x 4-10ft | Attracts native bees. Habitat for curve-billed thrasher and cactus wren. |
| Cholla, Whipple | <i>Cylindropuntia whipplei</i> | Full Sun | Very Low | Insects | Yellowish Green | Spring | 2-6ft x 3-6ft | Attracts native bees. Mature fruits are fleshy. |
| Claret Cup | <i>Echinocereus triglochidiatus</i> | Full Sun | Very Low | Birds, Insects | Red | Spring | 10in x clumping | Important food source for migrating hummingbirds. |
| Hedgehog, Claret Cup | <i>Echinocereus coccineus</i> | Full Sun/ Pt Shade | Very Low | Birds, Insects | Red | Spring | 8in x clumping | Similar to Claret Cup (<i>Echinocereus triglochidiatus</i>) but has somewhat shorter stems. Their range overlaps in northern NM and southern CO. |
| Hedgehog, Fendler's | <i>Echinocereus fendleri</i> | Full Sun/ Pt Shade | Very Low | Insects | Purple, Violet, or Magenta | May-Aug | 6in x 3in | Cylindrical stems may form clumps; very showy flowers, edible red fruits. |
| Hedgehog, Golden Rainbow | <i>Echinocereus dasyacanthus</i> | Full sun | Very Low | Insects | Yellow | Spring | 12in x 4in | Cylindrical stems, typically single. Outer flower petals may be tinged with magenta, inner petals streaked with green. |
| Hedgehog, Green Pitaya (NM Hedgehog, Green-flowered Hedgehog) | <i>Echinocereus viridiflorus</i> | Full Sun | Very Low | Insects | Greenish Yellow | Spring | 4in x 3in | Forms small clumps. |
| Prickly Pear, Brown-spined (Tulip Prickly Pear) | <i>Opuntia phaeacantha</i> | Full Sun | Very Low | Insects | Yellow or Pink | Spring | 8-10in x spreading | Attracts native bees, butterflies, and moths. Tolerates well-drained clay soils. |
| Prickly Pear, Plains | <i>Opuntia polyacantha</i> | Full Sun | Very Low | Insects | Yellow | Spring | 8-10in x spreading | Attracts native bees. Wildlife eat fruit and pads. Tolerates well-drained clay soils. |
| Prickly Pear, Western | <i>Opuntia macrorhiza</i> | Full Sun | Very Low | Insects | Yellow | Spring-Summer | 10in x spreading | Attracts native bees. Reddish purple fruits appear late summer. Tolerates well-drained clay soils. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|------------------------------|----------------------|----------|----------|-------------|--|------------|------------------------------|--|
| Yucca, Banana | <i>Yucca baccata</i> | Full Sun | Very Low | Insects | White | Spring | 3ft x 3ft or may form clumps | Family <i>Agavaceae</i> . Pollinated by a small white yucca moth that stays in the flower during the day and carries the pollen from flower to flower at night. Songbirds like the seed pods. Large pendant flowers and banana-shaped fruit. Tolerates limy soils. |
| Yucca, Narrowleaf (Soapweed) | <i>Yucca glauca</i> | Full Sun | Very Low | Insects | White or Cream with Pinkish outer petals | May-June | 4ft x 2ft | Family <i>Agavaceae</i> . Similar to Banana Yucca (<i>Yucca baccata</i>). Tolerates limy soils. |
| Yucca, Soaptree (Palmilla) | <i>Yucca elata</i> | Full Sun | Very Low | Insects | Creamy White | Spring | 12-15ft x 6-8ft | Family <i>Agavaceae</i> . Nectar attracts moths and butterflies. Seeds attract small animals. Flowers are pendant, globular, or bell shaped. Tolerates limy soils. |

NOTES:



Agave, Parry *Agave parryi*

Jill Foster



Bear Grass *Nolina microcarpa*

Joy Mandelbaum



Cactus, Ball (Spiny Star Cactus, Beehive Cactus)
Escobaria vivipara (synonym *Coryphantha vivipara*)

Jill Foster



Cactus, Little Nipple
Mammillaria heyderi var. *meiacantha*

Jill Foster



Cactus, Grama Grass (Paper-spined Cactus, Toumeya) Carl Troy
Sclerocactus papyracanthus (synonym *Toumeya papyracantha*)



Cactus, Mountain Ball (Pincushion)
Pediocactus simpsonii

Jill Foster



Cactus, Wright's Nipple *Mammillaria wrightii* P. Wolfe



Cholla, Santa Fe *Cylindropuntia viridiflora* Jill Foster



Cholla, Club (Devil's Cholla) Jill Foster
Grusonia clavata (synonym *Opuntia clavata*)



Cholla, Tree (Cane Cholla) *Cylindropuntia imbricata* Jill Foster



Cholla, Whipple *Cylindropuntia whipplei*

Jill Foster



Hedgehog, Claret Cup *Echinocereus coccineus*

Jill Foster



Claret Cup *Echinocereus triglochidiatus*

Jill Foster



Hedgehog, Fendler's *Echinocereus fendleri*

Jill Foster



Hedgehog, Golden Rainbow
Echinocereus dasyacanthus

P. Wolfe



Prickly Pear, Brown-spined (Tulip Prickly Pear)
Opuntia phaeacantha

Joy Mandelbaum



Hedgehog, Green Pitaya (NM Hedgehog, Green-flowered Hedgehog)
Echinocereus viridiflorus

Jill Foster



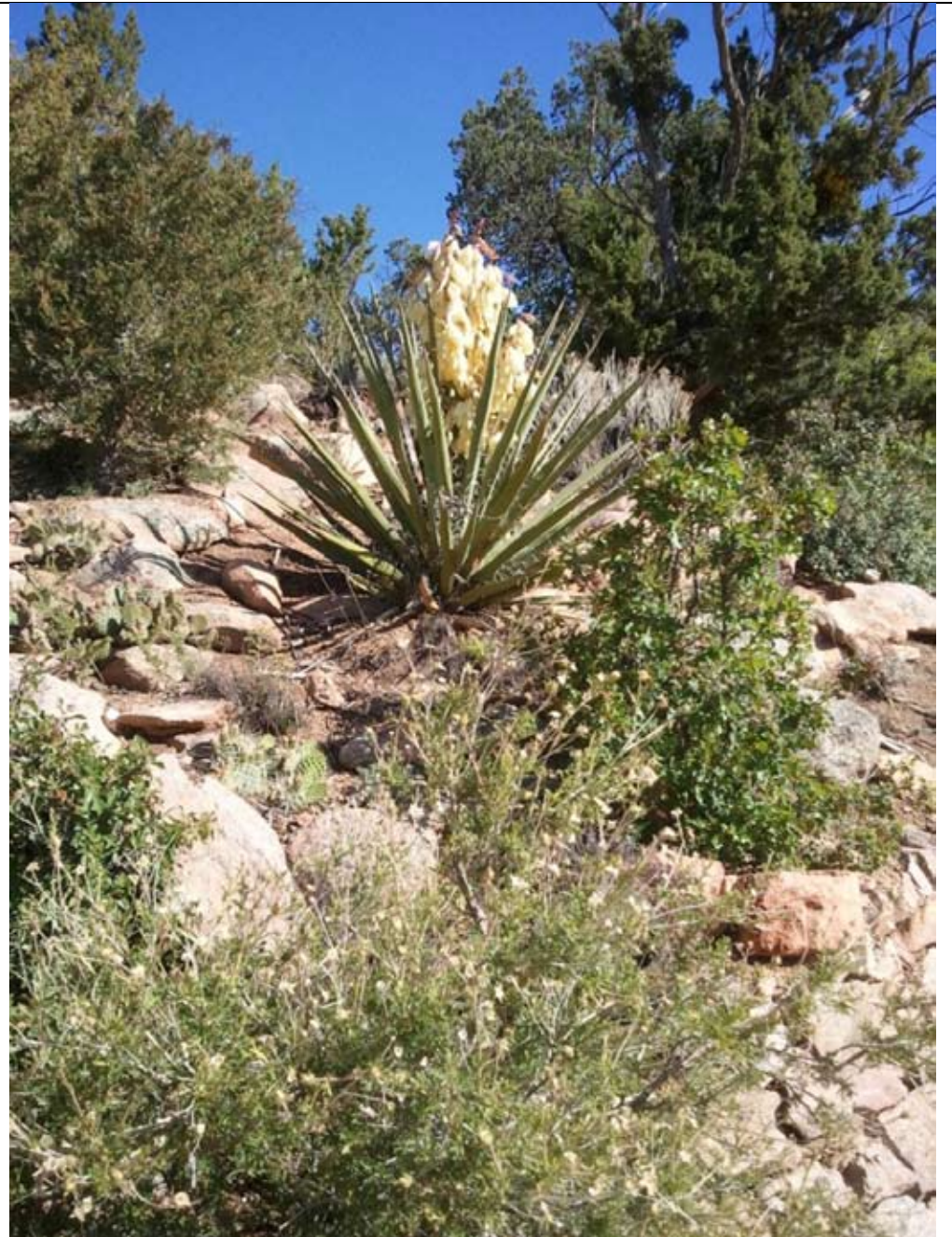
Prickly Pear, Plains *Opuntia polyacantha*

Joy Mandelbaum



Prickly Pear, Western *Opuntia macrorhiza*

Joy Mandelbaum



Yucca, Banana *Yucca baccata*

Joy Mandelbaum



Yucca, Narrowleaf (Soapweed) *Yucca glauca*

Joy Mandelbaum



Yucca, Soaptree (Palmilla) *Yucca elata*

Max Licher

Chapter 3 – Grasses

Grass binds the soil, prevents erosion, and feeds both wildlife and humankind. Most grasses are wind pollinated, so the pollinators column has been omitted. Flowers are inconspicuous, so the bloom color column has been replaced by information about foliage and seed heads. Grasses designated as warm season have evolved a modified photosynthesis that is water conserving. Warm-season grasses will be green (actively growing) at temperatures above 60-65°F (June-August); cool-season grasses will be green when temperatures are 45-70°F (spring and fall). Height and width are provided for bunch grasses; only height is given for turf grasses.

| Common Name | Botanical Name | Sun | Water | Foliage/ Seed Head Color | Bloom Time | Mature Height x Width | Comments |
|--|---|----------|----------------|---|---------------|--|--|
| Bluestem, Big (Turkeyfoot) | <i>Andropogon gerardii</i> | Full Sun | Low/ Medium | Blue-Green foliage turning Red and Orange in fall | August | 4-8ft x 2ft | Wind and drought tolerant but prefers extra water. Tolerates a wide range of soil types, including clay and limestone. Warm-season bunch grass. |
| Bluestem, Little | <i>Schizachyrium scoparium</i> | Full Sun | Low | Blue foliage turning Red and Orange in fall | August | 2-3ft x 1ft | Very deeply rooted and drought tolerant. Leave the silvery seed heads, which appear in late summer, on the plant as winter food for small birds. Adapts to most soil types, including clay and limestone. Warm-season bunch grass. |
| Bluestem, Silver (Silver Beardgrass) | <i>Bothriochloa laguroides</i> ssp. <i>torreyana</i> | Full Sun | Low | Green foliage, Silvery seed heads | Summer | 2-3ft x 2ft | Foliage turns orange in fall, fluffy white seed heads shimmer in fall sunlight. Larval host for skippers, satyrs. Highly deer resistant. Found in sandy or well-drained clay soils. Warm-season bunch grass. |
| Buffalograss | <i>Bouteloua dactyloides</i> (synonym <i>Buchlœe dactyloides</i>) | Full Sun | Low | Gray-Green foliage, Buff seed heads | Summer | 6-10in | Excellent in meadows and as an alternative for lawns. Once established, it tolerates drought and cold and is resistant to pests and diseases. Goes dormant and turns beige in extremely hot, dry summers but bounces back with rain or water. Tolerates a wide range of soil types, including clay and limestone. Warm-season turf grass. |
| Deergrass | <i>Muhlenbergia rigens</i> | Full Sun | Low | Gray-Green to Bright Green foliage, Tan seed heads | Summer | 3ft x 3ft (to 4ft with seed heads) | Once established, deergrass requires little supplementary irrigation and no fertilization. Great value as an ornamental; a low-maintenance, noninvasive, fast-growing, compact alternative to the non-native Pampas Grass. Its bold presence stands out against other grasses; gorgeous seed heads rise above the foliage in late summer, providing winter interest. Adapts to a wide range of soil types but will not tolerate constantly wet soils. Warm-season bunch grass. |

| Common Name | Botanical Name | Sun | Water | Foliage/ Seed Head Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------------|--|-----------------------|----------------|--|-----------------|-----------------------------|--|
| Dropseed, Pine | <i>Blepharoneuron tricholepis</i> | Full Sun/ Pt Shade | Medium | Airy panicles with Bluish Gray spikelets | July-Oct | 13in x 6-8in | Found in and around piñon-ponderosa groves. Slender, erect, and densely tufted. Adapts to a broad range of soil types but is most abundant on rocky, dry soil. Warm-season bunch grass. |
| Dropseed, Sand | <i>Sporobolus cryptandrus</i> | Full Sun | Low | Medium Green/Brown- ish or Purple maturing to Buff | May-July | 2-3ft x 2-3ft | Mature plants have a distinctive 'flag' leaf. Provides fair forage and abundant seeds, which are eaten by small birds and mammals. The dense fibrous root system is good for erosion control. A sand specialist, but adapts to most soil types, readily colonizing disturbed land. Warm-season bunch grass. |
| Feathergrass, New Mexico | <i>Hesperostipa neomexicana</i> | Full Sun | Low | Airy Golden awns to 12in | May- June | 1-3ft x 1ft | Similar to Needle and Thread (<i>Hesperostipa comata</i>), but with a more southerly range. Found in alkaline soils. Cool-season bunch grass. |
| Galleta | <i>Pleuraphis jamesii</i> (synonym <i>Hilaria jamesii</i>) | Full Sun | Low/ Medium | Dull Blue- Green foliage | May-Sept | 12-14in | Forms loose sod. Once established, works well in areas where erosion or heavy traffic occurs. Has vigorous, spreading roots or rhizomes that resprout even when trampled. Found in a variety of soils, including clay. Warm-season turf grass. |
| Grama, Black | <i>Bouteloua eriopoda</i> | Full Sun | Low | Grayish Green foliage maturing to Buff | August- Sept | 8-24in | Seed heads form a delicate eyelash similar to Blue Grama (<i>Bouteloua gracilis</i>), but most of the seeds will not be viable. Provides good forage but has low tolerance for overgrazing and fire. Found in desert grasslands, plateaus, and hills from 3,500-8,500 ft. Reproduces by stolons and adapts to most soil types, including clay and limestone. Warm-season turf grass. |
| Grama, Blue | <i>Bouteloua gracilis</i> | Full Sun | Low | Light Blue- Green foliage maturing to Buff | Late Summer | 6-12in | State grass of New Mexico. Well suited for shortgrass meadow reclamation. Seed heads form a delicate eyelash that persists through the winter. Lovely after a light snow. Found in a wide variety of soils, including clay and limestone. Warm-season turf grass. |
| Grama, Sideoats | <i>Bouteloua curtipendula</i> | Full Sun | Low | Green foliage turns Red and Purple in fall, Purple spikelets | Late Summer | 2ft x 1ft | Easy to establish and drought tolerant. Suitable for meadows and reclamation and as a specimen in perennial beds. The flowering spike hangs off to one side, giving the grass its name. Tolerates clay and limy soils. Warm-season bunch grass. |
| Indiangrass | <i>Sorghastrum nutans</i> | Full Sun | Medium | Blue-Green foliage, Golden plume- like seed heads | Fall | 4-8ft x 2-4ft | Provides good erosion control and is lovely in landscapes and dried arrangements. Fall foliage is orange to purple. Prefers moist, rich soil, sandy loam, or clay. Warm-season bunch grass. |

| Common Name | Botanical Name | Sun | Water | Foliage/ Seed Head Color | Bloom Time | Mature Height x Width | Comments |
|-------------------|-------------------------------|-----------------------|----------|---|-------------------------|-----------------------------|---|
| Junegrass | <i>Koeleria macrantha</i> | Full Sun | High | Gray-Green foliage, dense Silvery seed heads | June | 1-2ft | Its slender, upright form is perfect for a small garden. Lovely when glowing in sunshine. Prefers sandy or rocky soil; tolerates limy soil. Cool-season turf grass. |
| Lovegrass, Sand | <i>Eragrostis trichodes</i> | Full Sun/ Pt Shade | Medium | Light Green foliage, diffuse Buff or Pinkish seed heads | May | 2-4ft x 2-3ft | Provides nesting materials and structure for native bees. Airy seed heads provide fall and winter interest. Good erosion control in sandy soil. Prefers dry, sandy soil; tolerates limy soil. Warm-season bunch grass. |
| Muhly, Bush | <i>Muhlenbergia porteri</i> | Full Sun/ Pt Shade | Medium | Airy seed heads ripen to Pink or Purple in late summer | Summer | 1-3ft x 2ft | Glowes when backlit by the sun. Prefers rocky soil and good drainage. Warm-season bunch grass. |
| Muhly, Mountain | <i>Muhlenbergia montana</i> | Full Sun/ Pt Shade | Medium | Light Green foliage, loose Buff seed heads | Summer | 1-3ft x 1-2ft | Used in gardens as an accent plant, providing year-round texture and interest. Prefers rocky soil; tolerates limy soil. Warm-season bunch grass. |
| Needle and Thread | <i>Hesperostipa comata</i> | Full Sun | Low | Airy Golden awns to 12in | May- June | 1-3ft x 1ft | Seeds form the needle, and 12-in. awns form the thread. Goes dormant in summer, but its pale golden foliage remains ornamental until frost. Seeds may lodge in pets' skin. Cool-season bunch grass. |
| Ricegrass, Indian | <i>Achnatherum hymenoides</i> | Full Sun | Very Low | Pale open branching seed heads | May-Sept | 1-2ft x 1-2ft | Flowering stems provide a beautiful, airy accent in rock gardens or borders. Lovely in dried arrangements. Birds love the nutritious seeds produced in early summer. Prefers sandy or rocky soil; tolerates limy soil. Cool-season bunch grass. |
| Sacaton, Giant | <i>Sporobolus wrightii</i> | Full Sun | Low | Green arching foliage, airy Golden seed heads | Late Summer- Fall | 8-10ft x 5ft | Impressive ornamental grass for a meadow or border. Requires little care. Prefers clay or sandy soil. Warm-season bunch grass. |
| Switchgrass | <i>Panicum virgatum</i> | Full Sun/ Pt Shade | Medium | Yellow-Green/ Pinkish maturing to Buff | Summer | 3-6ft x 2-3ft | Use as an accent plant, wildlife habitat, or for erosion control. Seeds provide food for mammals and birds. Found in moist plains, meadows, and roadsides. Very low maintenance, adapts to any soil. Warm-season bunch grass. |

| Common Name | Botanical Name | Sun | Water | Foliage/ Seed Head Color | Bloom Time | Mature Height x Width | Comments |
|--------------------------------------|---|----------|-------|--|---------------|-----------------------------|---|
| Threeawn, Purple | <i>Aristida purpurea</i> | Full Sun | Low | Yellowish Green foliage, seed heads ripen to Purple | Summer | 1-2ft x 1ft | Good for reclamation; lovely in the garden but reseeds readily and may become a nuisance. Seeds lodge in pets' ears and pedestrians' socks. Prefers dry rocky soil; tolerates limy soil. Warm-season bunch grass. |
| Wheatgrass, Western (Wild Rye) | <i>Pascopyrum smithii</i> (synonym <i>Elymus smithii</i>) | Full Sun | Low | Blue-Green foliage with a Silver cast | May- June | 1-2ft x 1ft | Provides good erosion control but too dense for a wildflower meadow. Spreads aggressively when irrigated. Found in moist clay loam; tolerates limy soil. Cool-season bunch grass. |

NOTES:



Bluestem, Big (Turkeyfoot) *Andropogon gerardii*

Janice Tucker



Bluestem, Silver (Silver Beardgrass) *Bothriochloa laguroides* ssp. *torreyana*

Janice Tucker



Bluestem, Little *Schizachyrium scoparium*

Janice Tucker



Buffalograss *Bouteloua dactyloides* (synonym *Buchlœe dactyloides*)

Paul Rothrock



Deergrass *Muhlenbergia rigens*

Max Licher



Dropseed, Sand *Sporobolus cryptandrus*

Max Licher



Dropseed, Pine *Blepharoneuron tricholepis*

Max Licher



Feathergrass, New Mexico *Hesperostipa neomexicana*

Max Licher



Galleta *Pleuraphis jamesii* (synonym *Hilaria jamesii*) Janice Tucker



Gramma, Blue *Bouteloua gracilis* Janice Tucker



Gramma, Black *Bouteloua eriopoda* Max Licher



Blue Gramma with snow P. Wolfe



Gramma, Sideoats *Bouteloua curtipendula*

Janice Tucker



Junegrass *Koeleria macrantha*

Liz Makings



Indiangrass *Sorghastrum nutans*

Sally and Andy Wasowski



Lovegrass, Sand *Eragrostis trichodes*

Janice Tucker



Muhly, Bush *Muhlenbergia porteri*

P. Wolfe



Needle and Thread *Hesperostipa comata*

Janice Tucker



Muhly, Mountain *Muhlenbergia montana*

Max Licher



Ricegrass, Indian *Achnatherum hymenoides*

Janice Tucker



Sacaton, Giant *Sporobolus wrightii*

Janice Tucker



Threeawn, Purple *Aristida purpurea*

Janice Tucker



Switchgrass *Panicum virgatum*

Peggy Romfh



Wheatgrass, Western (Wild Rye) Janice Tucker
Pascopyrum smithii (synonym *Elymus smithii*)

Chapter 4 – Ground Covers

Ground covers are like an outdoor carpet, providing colorful flowers and attractive foliage at ground or knee level. What they lack in stature they make up for in their ability to compete with nearby plants. They have a range of sun requirements and bloom times, with many growing happily under trees or in other shady areas. They offer a low-maintenance alternative to traditional lawns, help suppress weeds, and look great tucked in between flagstones or pavers.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--|-----------------------|----------------|-------------|--------------------|----------------|-----------------------|---|
| Barberry (Creeping Oregon Grape, Creeping Mahonia) | <i>Berberis repens</i> (synonym <i>Mahonia repens</i>) | Pt Shade/ Shade | Low/ Medium | Insects | Yellow | Spring | 2ft x 3-4ft | Attracts native bees. Provides wildlife cover. Blue berries appear midsummer and are eaten by birds and other wildlife. Deer resistant and drought and cold tolerant. Prefers rich, well-drained sandy, loamy, chalky, limy, or granitic soils. |
| Juniper, Common (Spreading Juniper) | <i>Juniperus communis</i> | Full Sun/ Pt Shade | Medium | Wind | Incon- spicuous | Late Summer | 1-3ft x 10ft | Tiny purple berries in late summer are used to flavor meats, stews, and gin. Also eaten by birds and mammals. Slow growing, very hardy, and shade tolerant. Grows under evergreen forest canopies in moist, well-drained soils but is adaptable; tolerates limy soils. Clump forming, works as impenetrable groundcover. Use as border plant or to stabilize slopes. Elevation 8,000-11,500 ft. |
| Kinnikinnick (Bearberry) | <i>Arctostaphylos uva-ursi</i> | Pt Shade/ Shade | Low | Insects | Pink | Late Spring | 0.5ft x 15ft | Flowers attract hummingbirds, butterflies, and native bees. Red berries appear in summer through winter and are eaten by birds and other wildlife. Thick, leathery leaves are yellow-green in spring, dark green in summer, and reddish purple in fall. Branches form roots at nodes touching the ground forming dense mats (good for erosion control). Prefers rocky or sandy soils with pH lower than 6.8. Tolerates limy soil. Drought, cold, and heat tolerant. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|------------------------------|----------|----------|-------------|-------------|------------|-----------------------|---|
| Pussytoes | <i>Antennaria parvifolia</i> | Full Sun | Very Low | Insects | White | Spring | 6in x 6-9in | Most plants are female and reproduce vegetatively. |
| Pussytoes, Rosy | <i>Antennaria rosea</i> | Full Sun | Very Low | Insects | Pink | Spring | 6in x 6-9in | Similar to Pussytoes (<i>Antennaria parvifolia</i>). |
| Sagebrush, Fringed (Prairie Sagebrush, Prairie Sagewort) | <i>Artemisia frigida</i> | Full Sun | Very Low | Wind | Yellow | Summer | 4-16in x 18in | Provides food for larvae of a number of butterflies, moths, and other insects. Fragrant, silver-gray foliage; taproot (good for erosion control). Found in poor, dry soil; tolerates limy soil. |

NOTES:



Barberry (Creeping Oregon Grape, Creeping Mahonia)
Berberis repens (synonym *Mahonia repens*)

Joy Mandelbaum



Juniper, Common (Spreading Juniper)
Juniperus communis

Joy Mandelbaum



Barberry with ripe fruit

Joy Mandelbaum



Kinnikinnick (Bearberry)
Arctostaphylos uva-ursi

Joy Mandelbaum



Pussytoes, Rosy *Antennaria rosea*

Max Licher



Pussytoes *Antennaria parvifolia*

Joy Mandelbaum



Sagebrush, Fringed (Prairie Sagebrush, Prairie Sagewort)
Artemisia frigida

Joy Mandelbaum

Chapter 5 – Perennials

Perennials provide color, fragrance, and nectar to attract hummingbirds, bees, moths, butterflies, and other pollinators. Select plants that bloom at different times to create interest throughout the growing season. Many native perennials are easy to grow and may require less maintenance than non-natives; they create a living plant community and a sense of place in your yard!

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|---|-------------------|------------|----------------|----------------|---------------|-----------------------|---|
| Aster, Baby (Sand Aster) | <i>Chaetopappa ericoides</i> | Full Sun | Low | Insects | White | May-July | 2-8in x spreading | Spreads by stolons and may form clumps in dry rocky areas; lovely in shortgrass meadows with Perky Sue (<i>Tetranneuris argentea</i>) and Verbena (<i>Glandularia bipinnatifida</i>). |
| Aster, Hairy Golden | <i>Heterotheca villosa</i> | Full Sun | Very Low | Insects | Yellow | Summer-Fall | 12in x 6-12in | Long blooming, self-seeding, and spreading from roots. Has a spicy sage fragrance. |
| Beebalm (Bergamot) | <i>Monarda fistulosa</i> | Pt Shade | Low/Medium | Birds, Insects | Purple or Pink | Summer | 1-2ft x 1ft | Very fragrant; attracts bees, butterflies, and hummingbirds. Good in herb or butterfly gardens. Spreads where moisture is present. Keep water off leaves and plant in area with good air circulation to prevent powdery mildew. Found in a wide range of soils, including clay and limestone. |
| Bitterweed, Scapose (Rubberweed) | <i>Tetranneuris scaposa</i> (synonym <i>Hymenoxys scaposa</i>) | Full Sun/Pt Shade | Low | Insects | Yellow | May-Oct | 6-12in x 8in | Deer resistant. Found in high, dry limestone hills; tolerates clay soil. Good for rock garden, border plant, or container garden in any well-drained soil, including clay. |
| Blanketflower, Great | <i>Gaillardia aristata</i> | Full Sun | Low/Medium | Insects | Yellow and Red | Summer | 2ft x 1.5ft | Common in many commercial wildflower mixes. Does well with other low-water wildflowers and with grasses, shrubs, and cacti. Prefers acidic soil; tolerates limy soil. |
| Blanketflower, Yellow (Red Dome Blanketflower) | <i>Gaillardia pinnatifida</i> | Full Sun | Low | Insects | Yellow | Spring-Summer | 1-2ft x 1.5ft | Easy to grow in any soil. Long and profuse bloomer. Good for borders, meadows, butterfly gardens, or naturalizing. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|------------------------------------|-----------------------------|----------|----------|-------------|---------------------------|---------------|-----------------------|--|
| Blazing Star | <i>Mentzelia decapetala</i> | Full Sun | Low | Insects | Cream with Yellow stamens | Summer-Fall | 2-3ft x 1-2ft | Large fragrant flowers open in the afternoon and persist through the night. Found in sandy, coarse soils in arroyos and roadcuts, foothill scrub to ponderosa forests. Barbed hairs on seed pods stick to fabric. Poisonous to livestock. |
| Blue Flax | <i>Linum lewisii</i> | Full Sun | Low | Insects | Blue | Spring-Summer | 8-20in x 8in | Will sometimes rebloom during rains. Fast growing, low maintenance, easy to grow from seed, and reseeds readily. Tolerates limy soil. |
| Buckwheat, James (Antelope Sage) | <i>Eriogonum jamesii</i> | Full Sun | Very Low | Insects | White | Summer | 6in x 24in | Attracts bees and butterflies. Good for rock or butterfly gardens. Spent blooms provide winter interest. Found in sandy or gravelly soil. |
| Buckwheat, Sulphur Flower | <i>Eriogonum umbellatum</i> | Full Sun | Low | Insects | Yellow | Summer-Fall | 2ft x spreading | Attracts bees and other beneficial insects; larval host for Rocky Mountain dotted blue butterfly. Good bee plant for dark, pungent honey. Mat forming, good for meadows and borders. Flowers hold their color when dried. Found in gravelly soil; tolerates limy soil. |
| Chocolate Flower (Chocolate Daisy) | <i>Berlandiera lyrata</i> | Full Sun | Very Low | Insects | Yellow | Summer | 12-18in x 24-36in | Reported to be deer resistant. Fragrant—smells of chocolate! Long blooming; spent blooms are delicate, interesting. Reseeds readily. Good for dry, rock, fragrance, or butterfly gardens. Found in a wide range of soils, including clay and limestone. |
| Clover, Prairie (James Dalea) | <i>Dalea jamesii</i> | Full Sun | Very Low | Insects | Yellow, fading to Orange | Spring-Summer | 4-6in x spreading | Blooms opportunistically with moisture; delightful addition to a rock garden. Fixes nitrogen. |
| Clover, Purple Prairie | <i>Dalea purpurea</i> | Full Sun | Low | Insects | Purple | June-Sept | 2ft x 2ft | Attracts butterflies and beneficial insects. Deer resistant. Plant in meadows or butterfly gardens. Keeps its color when dried. Fixes nitrogen. Drought and wind tolerant. Grows in any soil, including clay. |
| Clover, White Prairie | <i>Dalea candida</i> | Full Sun | Low | Insects | White | June-Sept | 2ft x 2ft | Similar to Purple Prairie Clover (<i>Dalea purpurea</i>). |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------------------|-----------------------------|---------------------------|-------------|----------------|--|---------------|-----------------------|--|
| Columbine, Desert | <i>Aquilegia desertorum</i> | Pt Shade/ Shade | Low | Birds, Insects | Red to Orange with Yellow inner petals | Summer | 18in x 15in | Attracts hummingbirds. Good for borders, containers, and hummingbird or rock gardens. Will tolerate clay, rocky, and limestone soils. All parts of the plant are poisonous. |
| Columbine, Golden Spur | <i>Aquilegia chrysantha</i> | Full Sun/ Pt Shade/ Shade | Low/ Medium | Birds, Insects | Yellow | Summer | 24-36in x 18in | Attracts hummingbirds. Tough and drought tolerant in shade. Fragrant. Deadhead for rebloom or allow to reseed for large colony. Prefers rich, moist soil. All parts of the plant are poisonous. |
| Columbine, Rocky Mountain | <i>Aquilegia caerulea</i> | Pt Shade/ Shade | Medium | Birds, Insects | Blue | Summer | 24in x 15in | Naturalizes and is said to be rabbit resistant. Repeat bloomer, easy to grow. Good for perennial, shade, or hummingbird gardens. The Colorado state flower. Tolerates limy soil. All parts of the plant are poisonous. |
| Columbine, Western Red | <i>Aquilegia elegantula</i> | Pt Shade | Medium | Birds, Insects | Red | Summer | 12-24in x 12-24in | Smallest, most drought tolerant of the Columbines. If different species are planted near each other, columbines will hybridize easily. Tolerates limy soil. All parts of the plant are poisonous. |
| Coneflower, Cutleaf | <i>Rudbeckia laciniata</i> | Full Sun | Low/ Medium | Insects | Yellow | Summer-Fall | 6ft x 3-4ft | Special value to native and honey bees. Attracts butterflies. Seed is eaten by birds. Better for large sites because it spreads rampantly by underground stems. May need staking in the garden. Good background plant. Very hardy. Prefers acidic soil; tolerates limy soil. |
| Coneflower, Prairie (Mexican Hat) | <i>Ratibida columnifera</i> | Full Sun | Low | Insects | Red | Spring-Summer | 1-3ft x 3ft | Special value to native bees. Deer browse the flowers. Hybridizes readily with Yellow Prairie Coneflower (<i>Ratibida columnifera</i>). Can bloom into August and September if moisture is available. Found in various soils, including clay. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|--|-----------------------|----------------|-------------------|------------------------------|-------------------|------------------------|---|
| Coneflower, Purple | <i>Echinacea angustifolia</i> | Full Sun | Low/ Medium | Birds, Insects | Purple | Spring- Fall | 1-3ft x 2ft | Attracts butterflies. Striking color and shape. Great cut flower. Prefers rich soil but will grow in well-drained sand, clay, or limestone. |
| Coneflower, Yellow Prairie | <i>Ratibida columnifera</i> | Full Sun | Low | Insects | Yellow | Spring- Summer | 1-3ft x 3ft | Special value to native bees. Deer browse the flowers. Tolerates poor soil, will adapt to extra water. Good cut flower. Can bloom into August and September if moisture is available. Tolerates clay soil. |
| Daisy, Blackfoot | <i>Melampodium leucanthum</i> | Full Sun | Very Low | Birds, Insects | White | Spring- Fall | 8in x 24in | Beautiful cut flowers. Rich soil and supplemental water will produce abundant flowers but will shorten the life of the plant. Prefers pH less than 6.8; tolerates limy soil. |
| Daisy, Engelmann's (Cutleaf Daisy) | <i>Engelmannia peristenia</i> | Full Sun | Low | Insects | Yellow | Summer- Fall | 18-36in x 15-18in | Excellent in borders or wildflower meadows. A sturdy heat- and drought-resistant plant; birds love the seeds. Will reseed and naturalize. Found in various soils, including clay and limestone. |
| Datura | <i>Datura wrightii</i> | Full Sun | Low | Insects | White | Summer- Fall | 2-3ft x 3ft | Stunning plant! Fragrant trumpet flowers open in evening, pollinated by hawk moths. Thrives in hot, dry gardens. Annual or perennial. Tolerates poor soil, including clay. Toxic to humans and animals. |
| Four O'Clock, Desert (Colorado Four O'Clock, Wild Four O'Clock) | <i>Mirabilis multiflora</i> | Full Sun/ Pt Shade | Very Low | Birds, Insects | Magenta | Spring- Fall | 2ft x 3ft | Dense mound of leaves covered with magenta flowers that open in afternoon. Plant dies back in winter, to reemerge in spring. Low maintenance and will thrive in harsh conditions and a wide range of soils, including clay and limestone. |
| Gaura, Scarlet (Bee Blossom) | <i>Oenothera suffrutescens</i> (synonym <i>Gaura coccinea</i>) | Full Sun | Very Low | Insects | White, turning to Pink | May-Aug | 12-18in x spreading | Attracts butterflies. Spreads by rhizomes in a wide variety of soils, common on disturbed sites. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|---------------------------------|-----------------------|--------|-------------------|------------------|-------------|-----------------------|--|
| Gayfeather, Dotted | <i>Liatris punctata</i> | Full Sun | Low | Insects | Pink or Purple | Summer-Fall | 18in x 18in | More flower stalks develop over time. Beautiful cut or dried flower. Infrequent deep watering produces best display of flowers. Difficult to transplant. Nice addition to a shortgrass prairie ecosystem. |
| Geranium, Purple | <i>Geranium caespitosum</i> | Pt Shade | Medium | Insects | Magenta-Purple | Summer | 3ft x 2ft | Attracts butterflies. Small, rich magenta-purple flowers. Good for naturalizing or in borders. Good for butterfly, woodland, or dry gardens. Beautiful cut or dried flowers. Long-lived, versatile plant that does well in sun or shade. Any soil type. |
| Geranium, Richardson | <i>Geranium richardsonii</i> | Pt Shade | Medium | Insects | White or Pinkish | Summer | 1ft x 3ft | Attracts butterflies. Sprawling habit makes it a good filler or softener. Grows in a variety of conditions and is very cold tolerant. Good for butterfly, mixed conifer, or aspen gardens or high-elevation wildflower meadows. Needs regular water. Tolerates limy soil. Does best at base of tree that is regularly watered. |
| Globemallow, Narrow-leaf (Lobeleaf Coppermallow) | <i>Sphaeralcea angustifolia</i> | Full Sun/ Pt shade | Low | Birds, Insects | Orange | May-Oct | 3-4ft x 2-3ft | <i>Sphaeralcea</i> species are used as food plants by larvae of some moths and butterflies. Flowers all summer. Reseeds readily and may become invasive. Tolerates clay soil. |
| Globemallow, Scarlet | <i>Sphaeralcea coccinea</i> | Full Sun/ Pt shade | Low | Birds, Insects | Orange | May-Oct | 12-16in x 12in | Attracts butterflies and hummingbirds. Long bloomer and easy to establish in hot, dry areas. Needs no care once established. Plant spreads by rhizomes as well as seed and is very long lived. Thrives in poor soil, including sand and limestone. Pioneer on disturbed sites. |
| Golden Banner (Golden Pea) | <i>Thermopsis montana</i> | Pt Shade | Medium | Insects | Yellow | May-Aug | 2ft x spreading | Nitrogen fixer, spreads by rhizomes. Likes rich, well-drained soils. Persists in wet soils or in sites that are wet early and dry out in summer. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|---|-----------------------|--------|----------------|-------------|-------------|-----------------------|--|
| Goldeneye, Showy | <i>Heliomeris multiflora</i> | Full Sun | Medium | Birds, Insects | Yellow | Summer-Fall | 3ft x 3ft | Attracts butterflies and native bees; birds and small mammals like the seeds. Easy to grow, long-lasting cut flowers. Good in wildflower meadow, butterfly, or dry gardens and for naturalizing or mass planting. Occurs in sagebrush, juniper, aspen, cottonwood, and spruce-fir communities. |
| Goldenrod, Canada (Western Prairie Goldenrod) | <i>Solidago canadensis</i> var. <i>lepida</i> | Pt Shade | Medium | Insects | Yellow | Summer-Fall | 3ft x spreading | Attracts butterflies. Special value to native and honey bees. Beautiful in bloom and in seed. Does well in shade. Goldenrods are pollinated by insects so do not have airborne allergens. Good for perennial border or for naturalizing. Any soil but likes extra water. |
| Goldenrod, Narrow | <i>Solidago simplex</i> var. <i>simplex</i> | Full Sun/ Pt Shade | Medium | Insects | Yellow | Aug-Sept | 6-16in x 6-16in | Provides nectar for butterflies and native bees. Found in ponderosa and mixed conifer forests. Clump forming. Any well-drained soil. |
| Goldenrod, Tall | <i>Solidago altissima</i> | Full Sun/ Pt Shade | Medium | Insects | Yellow | Aug- Nov | 2-4ft x spreading | Attracts butterflies and native bees; birds and small mammals like the seeds. Found in prairies, open sites in woodlands, and disturbed areas. Prefers moist soil but is drought tolerant. Grows in sand, loam, clay, or limestone soils. |
| Goldenrod, Wright's | <i>Solidago wrightii</i> | Full Sun/ Pt Shade | Medium | Insects | Yellow | Aug-Oct | 1-3ft x 1ft | Special value to native bees. Tall, erect, found in meadows. |
| Groundsel, Many-headed (Broomlike Ragwort) | <i>Senecio spartioides</i> | Full Sun | Low | Insects | Yellow | Summer-Fall | 2.5ft x 3ft | Small flowers. Grows in semi-desert, sandy open spaces, and shrub lands. Showy silvery-white seed heads (similar to dandelions). All parts of plants are poisonous. |
| Groundsel, Threadleaf | <i>Senecio flaccidus</i> | Full Sun | Low | Insects | Yellow | Summer-Fall | 3ft x 3ft | Attracts butterflies and bees. Low growing. Once established, needs no extra water. Good for naturalizing. Found in meadows and rocky hillsides. All parts of plant are poisonous. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|---|----------|--------|----------------|------------------------|-------------|-----------------------|---|
| Hummingbird Trumpet (Zauschneria) | <i>Epilobium canum</i> var. <i>latifolium</i> (synonym <i>Zauschneria arizonica</i>) | Full Sun | Low | Birds | Red | Summer | 2ft x 2ft | Attracts hummingbirds. Fast growing and one of the few plants to bloom in late summer heat. Cut back tips early in season to encourage fullness and heavy bloom. May die back but comes back bushier the next year. Prefers neutral pH; grows in various soils, including clay. |
| Hyssop, Giant (Licorice Mint) | <i>Agastache rupestris</i> | Full Sun | Low | Birds, Insects | Pink or Orange | Summer-Fall | 3ft x 3ft | Attracts hummingbirds and bees. Deer and rabbit resistant. Licorice mint fragrance. Prefers sandy soil. |
| Hyssop, Purple (Purple Giant Hyssop, New Mexico Giant Hyssop) | <i>Agastache pallidiflora</i> ssp. <i>neomexicana</i> | Pt Shade | Medium | Birds, Insects | Purple | Summer | 2ft x 3ft | Mint family but has no mint fragrance. Grows in mountain forests and meadows but tolerates clay soils. Long flowering, good for cut or dried flowers. |
| Hyssop, Wild (Texas Hummingbird Mint, Mosquito Plant) | <i>Agastache cana</i> | Full Sun | Low | Birds, Insects | Raspberry or Rose-Pink | Summer-Fall | 2-3ft x 3ft | Highly attractive to hummingbirds, butterflies, and bees. Deer and rabbit resistant. Deliciously scented leaves. Long blooming and easy to grow. Let seeds mature and fall to naturalize, then deadhead. |
| Ironweed (Joe Pye Weed) | <i>Vernonia missurica</i> | Full Sun | Medium | Insects | Purple | Fall | 5ft x 3ft | Special value to bees and butterflies. Good for back border or a showy spot. |
| Larkspur, Plains (Organ Mountain Larkspur, Ghost Delphinium) | <i>Delphinium wootonii</i> | Full Sun | Low | Insects | Pale Lavender | May-June | 1-3ft x 1ft | Enchanting delicate bloomer. Good for naturalizing. All members of the genus <i>Delphinium</i> are toxic to humans and livestock. |
| Locoweed, Lambert's | <i>Oxytropis lambertii</i> | Full Sun | Low | Insects | Purple | Summer-Fall | 1ft x 1ft | Larval host for some butterflies. Showy purple flowers, especially in masses. Naturalizes and fixes nitrogen. All parts of plant are poisonous to all classes of livestock. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-------------------------------------|----------------------------|----------|--------|----------------|------------------|---------------|-----------------------|--|
| Lupine | <i>Lupinus caudatus</i> | Pt Shade | Low | Insects | Blue | Summer | 1-2ft x 2.5ft | Host for caterpillars of several butterfly species and a nectar source for others. Special value to bumble bees. Beautiful flowers, especially in masses. Naturalizes and fixes nitrogen, so is nice for meadows. Tolerates limy soil. Seeds can be toxic to humans and animals if ingested. |
| Milkweed, Butterfly (Butterflyweed) | <i>Asclepias tuberosa</i> | Full Sun | Medium | Insects | Orange | Spring-Summer | 1-2ft x 2ft | Special value to butterflies and to native, honey, and bumble bees. Host plant for Monarch butterflies. There are few orange flowers, and this is a beautiful one. Use dried seed pods in dried arrangements. Pruning first flowers in summer prolongs the flowering season. Difficult to transplant. Found in well-drained sandy or limy soils. Species in the genus <i>Asclepias</i> contain cardiac glycosides, poisonous to humans, but most dangerous to grazing animals. |
| Milkweed, Showy | <i>Asclepias speciosa</i> | Full Sun | Medium | Insects | Pink | Summer | 2-3ft x spreading | Attracts butterflies, honey bees, and hummingbirds. Dramatic, with large clusters of unusual star-shaped flowers. Largest of the wild milkweeds. Widespread on damp, open ground. Tolerates clay soil. Species in the genus <i>Asclepias</i> contain cardiac glycosides, poisonous to humans, but most dangerous to grazing animals. |
| Morning-glory, Bush | <i>Ipomoea leptophylla</i> | Full Sun | Low | Insects, Birds | Pinkish Lavender | Summer | 3ft x 5ft | Found on open plains and sandy areas; pioneer on disturbed soil. Good for erosion control. |
| Mule's Ears | <i>Wyethia scabra</i> | Full Sun | Low | Insects | Yellow | Spring-Summer | 2ft x 4ft | Attracts butterflies and birds. Low-growing bold sunflowers with large, rough leaves that provide winter interest. Long blooming, especially showy in masses. Well-drained sandy soil. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--|-----------------------|----------|-------------|---------------|--------------------|-----------------------|--|
| Navajo Tea (Cota, Greenthread) | <i>Thelesperma megapotamicum</i> | Full Sun | Very Low | Insects | Yellow | Spring-Summer | 1-3ft x 1ft | Attracts beneficial insects. Delicate, airy pioneer on disturbed ground and in ditches. Lovely in a shortgrass prairie ecosystem. Needs good drainage. |
| Paintbrush, Indian | <i>Castilleja integra</i> | Full Sun | Low | Birds | Red | May-Sept | 1.5ft x 1ft | Attracts butterflies and hummingbirds. Showy vermilion flowers. Paintbrush is a hemiparasite that grows best planted with grasses, sage, or oaks. Good for naturalizing. |
| Penstemon, Bridges' | <i>Penstemon rostriflorus</i> (synonym <i>P. bridgesii</i>) | Full Sun/ Pt Shade | Low | Birds | Red | Summer | 2ft x 2ft | Attracts butterflies and hummingbirds. Moderately rabbit resistant. Nodding scarlet flowers. Tolerates moderate shade. Very low maintenance. |
| Penstemon, Cardinal | <i>Penstemon cardinalis</i> | Full Sun | Low | Birds | Red | Summer | 2-3ft x 2ft | Attracts hummingbirds. Noted for deep red, drooping tubular flowers. |
| Penstemon, Desert | <i>Penstemon pseudospectabilis</i> | Full Sun | Low | Birds | Deep Pink | Late Spring-Summer | 2-3ft x 2ft | Attracts hummingbirds. Shocking pink flower on bushy plant. Blooms in spring and again lightly in summer. Reseeds readily. |
| Penstemon, Eaton's Firecracker | <i>Penstemon eatonii</i> | Pt Shade | Low | Birds | Red | Summer | 1-3ft x 2ft | Attracts hummingbirds. One of the most dramatic penstemons, with many-flowered tall spikes of thick, fire-engine red flowers. Good cut flower. Very low maintenance. Cut off spent stalks for second, though less dramatic, bloom. Excellent for dry, gravelly banks. Requires well-drained soil; tolerates limy soil. |
| Penstemon, James | <i>Penstemon jamesii</i> | Full Sun | Low | Insects | Purple | June | 1-3ft x 2ft | Attracts native bees. Large showy flowers, drought tolerant. Good for rock gardens. |
| Penstemon, Mat | <i>Penstemon linarioides</i> | Full Sun | Low | Insects | Blue | Summer | 1-2ft x 2ft | Attracts butterflies and hummingbirds. Special value to native bees. Generally considered rabbit resistant. Mat forming, low maintenance, can be used as ground cover. |
| Penstemon, Palmer's (Pink Wild Snapdragon) | <i>Penstemon palmeri</i> | Full Sun | Low | Insects | White or Pink | May-June | 3-6ft x 2ft | Attracts hummingbirds and bees. Tall, very fragrant early bloomer with large flowers. Easy to grow. Good cut flower. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|--------------------------------|-----------------------|----------------|-------------------|---------------------------------|---------------|-----------------------|---|
| Penstemon, Pineleaf | <i>Penstemon pinifolius</i> | Full Sun | Low | Birds | Orange | Spring-Summer | 10-12in x 2ft | Attracts hummingbirds. Resembles a dwarf pine, leaves are evergreen. Good for path or step borders. Tolerates clay soil. |
| Penstemon, Rocky Mountain | <i>Penstemon strictus</i> | Pt Shade | Low | Insects | Blue-Purple | Summer | 2ft x 2ft | Special value to native bees. Brilliant blue-purple flowers. Self-seeds, very hardy, and one of the easiest penstemons to grow. Tolerates heavy soils and moisture. |
| Penstemon, Sand (Pink Plains Penstemon) | <i>Penstemon ambiguus</i> | Full Sun/ Pt Shade | Very Low | Birds, Insects | Pinkish White | Spring | 1-3ft x 2ft | Airy, many-branched, shrubby plant with phlox-like blooms that increase with age. Grows in sandy, open areas. Tolerates clay soil. |
| Penstemon, Scarlet (Scarlet Bugler) | <i>Penstemon barbatus</i> | Full Sun/ Pt Shade | Low | Birds, Insects | Red | May-Sept | 1.5-3ft x 2ft | Special value to native bees. Attracts hummingbirds. Profuse blooms on tall stalks. Sparse second bloom in fall. Needs well-drained soil. |
| Penstemon, Sidebells | <i>Penstemon secundiflorus</i> | Full Sun | Low | Birds, Insects | Pink or Purple | Spring-Summer | 2ft x 2ft | Special value to native bees. Attracts hummingbirds. Older plants sometimes have dozens of flowering stalks. |
| Perky Sue | <i>Tetraneuris argentea</i> | Full Sun | Low | Insects | Yellow | May-Sept | 4-18in x 12in | Earliest-blooming yellow daisy, light rebloom in fall. Found in piñon-juniper woodlands. Does well in rocky, poor soils. Stunning in rock gardens. |
| Phlox, Santa Fe | <i>Phlox nana</i> | Full Sun/ Pt Shade | Low | Insects | Pink, White, or Purple | Spring | 8in x 15in | Low perennial, wonderful rock garden plant. May rebloom with summer rains. Naturalizes. Grows in any soil, including clay. |
| Poppy Mallow (Winecups) | <i>Callirhoe involucrata</i> | Pt Shade | Low/ Medium | Birds, Insects | Purple | Spring-Summer | 5in x 30in | Attracts butterflies. Special value to native bees and hummingbirds. Larval host for moths. Attractive, spreading, drought tolerant. Stunning blooms all summer. Good choice for hot, dry, south- or west-facing beds and areas with reflected heat and sun. Allow seeds to fall and naturalize. Native to sandy soils but seems to thrive everywhere, including clay and limy soils. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--------------------------------|----------|--------|-------------|------------------------|---------------|-----------------------|--|
| Poppy, White Prickly | <i>Argemone pleiacantha</i> | Full Sun | Low | Insects | White | Summer | 1-4ft x 3ft | Mourning doves eat the seeds. Every part of the plant is prickly, except the showy flowers. Thrives on bright sun, heat, and drought. Flowers all summer. Good as a barrier plant and for meadows or naturalizing in dry, sandy, or gravelly soil. All parts of this plant are poisonous. |
| Primrose, Hooker's Evening | <i>Oenothera elata</i> | Full Sun | Medium | Insects | Yellow | Summer-Fall | 5ft x 3ft | Attracts butterflies and hawk moths. Special value to native bees. Hardy and drought resistant with showy flowers. Can form large colonies. Good for naturalizing, as a tall plant for back of border, or for tall wildflower meadow. Low maintenance, tolerates drought but grows larger and lusher with regular water. |
| Primrose, New Mexico | <i>Oenothera speciosa</i> | Full Sun | Low | Insects | White or Pink | Spring-Summer | 1.5ft x 1ft | Special value to native bees. Seed capsules attract birds, especially finches, and various mammals. Found in clay, sand, loam, and limy soils. |
| Primrose, Pale Evening | <i>Oenothera pallida</i> | Full Sun | Low | Insects | White, turning to Pink | Summer | 1.5ft x 2ft | Deer and small animals eat the leaves, birds eat the seeds. Spreads by rhizomes and has reddish stems. Blooms afternoon to mid-morning; repeat bloomer. Good for rock gardens. Lemon fragrance. Found in a variety of soil types, including limestone. |
| Primrose, Pink Evening (Cutleaf Evening Primrose, Crownleaf Evening Primrose, Combleaf Evening Primrose) | <i>Oenothera coronopifolia</i> | Full Sun | Low | Insects | White, turning to Pink | Spring-Summer | 12in x 6in | Attracts hawk moths. Special value to native bees and beneficial insects. Large fragrant white flowers open in afternoon and fade to pink the next day. Long bloomer. Let seeds fall to naturalize. Good for slope planting, dry wildflower meadows, night gardens, or containers. Low maintenance. Any well-drained soil, including clay. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--------------------------------|---|-----------------------|----------------|-------------|-----------------------------------|-------------------|-----------------------|--|
| Primrose, White-tufted Evening | <i>Oenothera caespitosa</i> | Full Sun | Very Low | Insects | White, turning to Pink | Spring-Summer | 8in x 24in | Magnet for hawk moths. Special value to native bees. Seed is eaten by many birds. Fragrant 3- to 4-in. flowers that open in afternoon and fade to pink next day. Plant on slopes, rock or night gardens, or in any dry areas. Low maintenance, prefers well-drained soil. Tolerates clay or limy soil. |
| Prince's Plume | <i>Stanleya pinnata</i> | Full Sun | Very Low | Insects | Yellow | Spring-Fall | 3-6ft x 3ft | Graceful desert plant with a towering flower stalk. Rocky or sandy soil. Toxic to livestock. |
| Sage, Blue | <i>Salvia azurea</i> | Full Sun | Low | Insects | Blue | Summer-Early Fall | 4ft x 2ft | Attracts butterflies and bumble bees. Vigorous aromatic foliage, full of large sky-blue flowers in fall. Low maintenance. Prolific self-seeder. Good for butterfly or fragrance gardens. Very cold hardy. Tolerates clay soil. |
| Sneezeweed, Orange | <i>Hymenoxys hoopesii</i> (synonym <i>Helenium hoopesii</i>) | Full Sun/ Pt Shade | Medium | Insects | Yellow-Orange rays, Orange disk | Summer-Fall | 3ft x 2ft | Attracts bees and butterflies. Important nectar source for pollinating butterflies. Often in large patches in open mountain meadows. Flowers are smaller than those of Western Sneezeweed (<i>Helenium autumnale</i>). All parts of the plant are poisonous. |
| Sneezeweed, Western | <i>Helenium autumnale</i> | Full Sun/ Pt Shade | Low/ Medium | Insects | Yellow rays, Brown disk | Aug-Oct | 3ft x 3ft | Attracts butterflies, birds, bees, and many other insects. Deer resistant. Large, long-lasting daisy-like flowers in loose clusters. Extremely cold hardy. Likes organic matter in soil; tolerates clay and limy soils. All parts of the plant are poisonous. |
| Sundrops, Fendler's | <i>Oenothera hartwegii</i> ssp. <i>fendleri</i> (synonym <i>Calylophus hartwegii</i> ssp. <i>fendleri</i>) | Full Sun | Low | Insects | Yellow, turning to Orange or Pink | Spring-Summer | 1-2ft x 2-3ft | Attracts sphinx moths. Grasshopper resistant. Grows in spreading mound with flowers that open in the morning, turning orange and pink as they fade. Hardy perennial in open meadows and piñon-juniper woodlands. Extremely drought tolerant and easy to grow. Found in sand, clay, and limy soils. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---------------------|----------------------------------|-----------------------|----------------|-------------------|------------------------------------|-------------------|------------------------|---|
| Verbena (Vervain) | <i>Glandularia bipinnatifida</i> | Pt Shade | Low/ Medium | Birds | Purple or Pink | Spring- Summer | 8in x 24in | Attracts butterflies and bees. Long-blooming, rounded clusters of flowers form a low-growing mound. Short lived, drought tolerant. Extra water will extend bloom season. Good for wildflower meadows, butterfly gardens, or containers. Found in a wide range of soils, including clay and limestone. |
| Wallflower, Western | <i>Erysimum capitatum</i> | Full Sun/ Pt Shade | Low/ Medium | Birds, Insects | Yellow, Orange, or Red | Summer | 1-2ft x 1ft | Attracts butterflies, caterpillars, and bees. Masses of blooms, each a cluster of tiny flowers, may sprout secondary blooms well into the season. Well-drained soil, low maintenance, and will self-seed to naturalize. |
| Yarrow, Western | <i>Achillea millefolium</i> | Pt Shade | Medium | Insects | White or Pink | Spring- Summer | 0.5-2ft x spreading | Attracts bees, butterflies, and wasps. Aromatic with clusters of small white or pink flowers and ferny foliage. Cut flower or dried arrangements. Can be mowed and used as low-traffic turf substitute or ground cover. Erosion control or meadow. Can be invasive. Tolerates clay and limy soils. |
| Yerba Mansa | <i>Anemopsis californica</i> | Full Sun/ Pt Shade | Medium | Birds | White | Spring- Summer | 1-2ft x spreading | Beautiful flowers with fragrant leaves. Can be used as groundcover or low-traffic turf substitute. Plant at edge of water feature. Can take light shade. Foliage turns brick red in fall. Tolerates limy soil. |
| Zinnia, Prairie | <i>Zinnia grandiflora</i> | Full Sun | Very Low | Birds, Insects | Yellow with Orange center | Summer- Fall | 6-12in x 6-12in | Attracts butterflies, hummingbirds, and wasps. Rabbit resistant. Forms low mounds of yellow flowers with orange centers. Great bedding and border plant. Disappears in winter, reappears in summer. Found in a wide range of soils, including sand, clay, and limestone. |



Aster, Baby (Sand Aster) *Chaetopappa ericoides*

Max Licher



Beebalm (Bergamot) *Monarda fistulosa*

Joy Mandelbaum



Aster, Hairy Golden *Heterotheca villosa*

P. Wolfe



Bitterweed, Scapose (Rubberweed)
Tetaneuris scaposa (synonym *Hymenoxys scaposa*)

Joy Mandelbaum



Blanketflower, Great *Gaillardia aristata*

Sally and Andy Wasowski



Blazing Star *Mentzelia decapetala*

Campbell and Lynn Loughmiller



Blanketflower, Yellow (Red Dome Blanketflower)
Gaillardia pinnatifida

Joy Mandelbaum



Blue Flax *Linum lewisii*

Joy Mandelbaum



Buckwheat, James (Antelope Sage) *Eriogonum jamesii* Joy Mandelbaum



Chocolate Flower (Chocolate Daisy) *Berlandiera lyrata* Joy Mandelbaum



Buckwheat, Sulphur Flower *Eriogonum umbellatum* Joy Mandelbaum



Chocolate Flower, back of petals

P. Wolfe



Clover, Prairie (James Dalea) *Dalea jamesii* Frankie Coburn



Clover, White Prairie *Dalea candida* P. Wolfe



Clover, Purple Prairie *Dalea purpurea* Peter Gorman



Columbine, Desert *Aquilegia desertorum*

Patrick Alexander



Columbine, Golden Spur *Aquilegia chrysantha*

Joy Mandelbaum



Columbine, Western Red *Aquilegia elegantula*

Joy Mandelbaum



Columbine, Rocky Mountain *Aquilegia caerulea*

Eric Beckers



Coneflower, Cutleaf *Rudbeckia laciniata*

Joy Mandelbaum



Coneflower, Prairie (Mexican Hat) *Ratibida columnifera*

Joy Mandelbaum



Coneflower, Yellow Prairie *Ratibida columnifera*

Max Licher



Coneflower, Purple *Echinacea angustifolia*

Joy Mandelbaum



Daisy, Blackfoot *Melampodium leucanthum*

Joy Mandelbaum



Daisy, Engelmann's (Cutleaf Daisy)
Engelmannia peristenia

Patrick Alexander

Four O'clock, Desert (Colorado Four O'Clock, Wild Four O'Clock) Max Licher
Mirabilis multiflora



Datura *Datura wrightii*

Max Licher



Gaura, Scarlet (Bee Blossom) Joy Mandelbaum
Oenothera suffrutescens (synonym *Gaura coccinea*)



Gayfeather, Dotted *Liatris punctata*

Patrick Alexander



Geranium, Richardson *Geranium richardsonii*

Joy Mandelbaum



Geranium, Purple *Geranium caespitosum*

Max Licher



Globemallow, Narrow-leaf (Lobeleaf Coppermallow)
Sphaeralcea angustifolia

Patrick Alexander



Globemallow, Scarlet *Sphaeralcea coccinea* Max Licher

Goldeneye, Showy *Heliomeris multiflora* Max Licher



Golden Banner (Golden Pea) *Thermopsis montana* Joy Mandelbaum

Goldenrod, Canada (Western Prairie Goldenrod) Joy Mandelbaum
Solidago canadensis var. *lepida*



Goldenrod, Narrow *Solidago simplex* var. *simplex*

Max Licher



Goldenrod, Wright's *Solidago wrightii*

Frankie Coburn



Goldenrod, Tall *Solidago altissima*

Paul Rothrock



Groundsel, Many-headed (Broomlike Ragwort) Joy Mandelbaum
Senecio spartioides



Groundsel, Threadleaf *Senecio flaccidus* Max Licher



Hummingbird Trumpet (Zauschneria) Joy Mandelbaum
Epilobium canum var. *latifolium* (synonym *Zauschneria arizonica*)



Hyssop, Purple (Purple Giant Hyssop, New Mexico Giant Hyssop) Russ Kleinman
Agastache pallidiflora ssp. *neomexicana*



Hyssop, Giant (Licorice Mint) Tracy Neal
Agastache rupestris



Hyssop, Wild (Texas Hummingbird Mint, Mosquito Plant) Joy Mandelbaum
Agastache cana



Ironweed (Joe Pye Weed) *Vernonia missurica* Joy Mandelbaum



Locoweed, Lambert's *Oxytropis lambertii* Joy Mandelbaum



Larkspur, Plains (Organ Mountain Larkspur, Ghost Delphinium)
Delphinium wootonii Max Licher



Lupine *Lupinus caudatus* Joy Mandelbaum



Milkweed, Butterfly (Butterflyweed)
Asclepias tuberosa

Joy Mandelbaum

Morning-glory, Bush *Ipomoea leptophylla*

Robert Sivinski



Milkweed, Showy *Asclepias speciosa*

Joy Mandelbaum



Mule's Ears *Wyethia scabra*

Joy Mandelbaum



Navajo Tea (Cota, Greenthread) *Thelesperma megapotamicum* Joy Mandelbaum



Penstemon, Bridges' *Penstemon rostriflorus* Joy Mandelbaum



Paintbrush, Indian *Castilleja integra* Joy Mandelbaum



Penstemon, Cardinal *Penstemon cardinalis* Joy Mandelbaum



Penstemon, Desert *Penstemon pseudospectabilis* Joy Mandelbaum



Penstemon, James *Penstemon jamesii* Joy Mandelbaum



Penstemon, Eaton's Firecracker *Penstemon eatonii* Sally and Andy Wasowski



Penstemon, Mat *Penstemon linarioides* Max Licher



Penstemon, Palmer's (Pink Wild Snapdragon) *Penstemon palmeri* Tracy Neal



Penstemon, Rocky Mountain *Penstemon strictus* Joy Mandelbaum



Penstemon, Pineleaf *Penstemon pinifolius* Joy Mandelbaum



Penstemon, Sand (Pink Plains Penstemon) *Penstemon ambiguus* Joy Mandelbaum



Penstemon, Scarlet (Scarlet Bugler) *Penstemon barbatus* Joy Mandelbaum



Perky Sue *Tetranneuris argentea* Joy Mandelbaum



Penstemon, Sidebells Joy Mandelbaum
Penstemon secundiflorus



Phlox, Santa Fe *Phlox nana* Joy Mandelbaum



Poppy Mallow (Winecups) *Callirhoe involucrata* Joy Mandelbaum



Primrose, Hooker's Evening *Oenothera elata* Joy Mandelbaum



Poppy, White Prickly *Argemone pleiacantha* Joy Mandelbaum



Primrose, New Mexico *Oenothera speciosa* Liz Makings



Primrose, Pale Evening *Oenothera pallida*

Tony Frates



Primrose, White-tufted Evening *Oenothera caespitosa*

Joy Mandelbaum



Primrose, Pink Evening (Cutleaf Evening Primrose)
Oenothera coronopifolia

Joy Mandelbaum



Prince's Plume *Stanleya pinnata*

Patrick Alexander



Sage, Blue *Salvia azurea*

Joy Mandelbaum



Sneezeweed, Western *Helenium autumnale*

Tony Frates



Sneezeweed, Orange

Joy Mandelbaum

Hymenoxys hoopesii (synonym *Helenium hoopesii*)



Sundrops, Fendler's *Oenothera hartwegii* ssp. *fendleri*

Joy Mandelbaum

(synonym *Calylophus hartwegii* ssp. *fendleri*)



Verbena (Vervain) *Glandularia bipinnatifida*

Joy Mandelbaum



Yarrow, Western *Achillea millefolium*

Joy Mandelbaum



Wallflower, Western
Erysimum capitatum

Joy Mandelbaum



Yerba Mansa *Anemopsis californica*

Max Licher



Zinnia, Prairie *Zinnia grandiflora*

Joy Mandelbaum

Chapter 6 – Shrubs

Shrubs can provide shelter and food for wildlife. Use them to define areas in the garden, to provide a backdrop for perennials and smaller plants, or to provide barriers. Select plants that have a variety of bloom time, height, and texture. Some shrubs are evergreen, and many have persistent fruit that provides winter interest. Some plants are described as shrub or small tree; look under Trees if you don't find the shrub you're looking for here.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--------------------------|-----------------------|--------|-------------|-------------|-------------------|-----------------------|--|
| Apache Plume | <i>Fallugia paradoxa</i> | Full Sun/ Pt Shade | Low | Insects | White | Spring- Summer | 3-5ft x 4-6ft | Pollinated by an amazing assortment of native bees and beetles. Birds eat the seeds. Small, white, rose-like flowers with yellow stamens all summer, appearing with pinkish feathery seed heads. Tolerates clay and limestone soils. Elevation 4,500-7,500 ft. |
| Ash, Cascade Mountain (Rocky Mountain Ash) | <i>Sorbus scopulina</i> | Pt Shade | Medium | Insects | White | Summer | 3-15ft x 8ft | Small berries range from orange to scarlet, and leaf color ranges from yellow to peach in fall. Berries are sometimes used in pies, preserves, or wine-making; they are also eaten by birds and mammals. Shrub or small tree, usually growing in small clumps in rich soil. Elevation 6,500-10,000 ft. |
| Barberry, Fendler's | <i>Berberis fendleri</i> | Full Sun/ Pt Shade | Medium | Insects | Yellow | Spring | 6ft x 6ft | This fragrant, thorny ornamental provides year-round interest. All related barberries (<i>Berberis</i> species) produce edible berries and attract birds and wildlife for food and shelter. Elevation 5,900-8,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------|--|-----------------------|--------|-------------|-------------|---------------|-----------------------|--|
| Barberry, Fremont's | <i>Berberis fremontii</i> (synonym <i>Mahonia fremontii</i>) | Pt Shade | Low | Insects | Yellow | Spring | 5-10ft x 5-10ft | Profuse, fragrant yellow flowers in spring; large bright red fruits in summer. Blue evergreen foliage. Deer, rabbit, and drought resistant. |
| Barberry, Red | <i>Berberis haematocarpa</i> (synonym <i>Mahonia haematocarpa</i>) | Full Sun/ Pt Shade | Low | Insects | Yellow | Spring-Summer | 3-8ft x 10ft | Fragrant, roundish shrub. Showy yellow flowers in spring, then coral red berries in fall that attract songbirds. Found in dry, rocky soil. Elevation 4,500-6,800 ft. |
| Bitterbrush, Antelope | <i>Purshia tridentata</i> | Full Sun | Low | Insects | Pale Yellow | Spring | 4-5ft x 5-6ft | Special value to native bees. Found on dry slopes in foothills in NW New Mexico. Good for erosion control. Elevation 4,000-9,000 ft. |
| Buckbrush, Fendler's | <i>Ceanothus fendleri</i> | Full Sun | Medium | Insects | White | Spring-Summer | 1-3ft x 3ft | Attracts native bees and many species of butterflies. Small clusters of nectar-rich, mildly fragrant flowers are likely to appear off and on all summer. Elevation 5,500-9,500 ft. |
| Buffaloberry, Silver | <i>Shepherdia argentea</i> | Full Sun/ Pt Shade | Low | Insects | Yellow | March | 8-12ft x 8-12ft | Attracts birds and native bees. Tolerates clay and limy soils. Elevation 4,500-6,000 ft. |
| Chamisa (Rabbitbrush) | <i>Ericameria nauseosa</i> (synonym <i>Chrysothamnus nauseosus</i>) | Full Sun | Low | Insects | Yellow | Fall | 3-5ft x 4-7ft | Pollinated by pairs of mating bugs. Browsed by rabbits and deer. Attractive year-round (silver-green stems and fluffy seed heads in winter, fresh foliage in summer, and pungent yellow flowers in fall). Tolerates clay and alkaline soils. Elevation 4,000-8,000 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|---|-----------------------|--------|-------------------|-------------------------------|-------------------|-----------------------|--|
| Cherry, Black | <i>Prunus serotina</i> var. <i>rufula</i> | Full Sun | Medium | Insects | White | Spring | 12-25ft x 10-15ft | Similar to Chokecherry (<i>Prunus virginiana</i>). Naturally thicket forming but can be pruned into a small tree. Found in a wide range of soils; prefers pH above 7.2. Elevation 4,500-7,500 ft. Leaves and pits contain cyanide. |
| Chokecherry | <i>Prunus virginiana</i> | Full Sun | Medium | Insects | White | Spring | 12-25ft x 10-15ft | Attracts butterflies (to flowers) and songbirds and mammals (to fruit). White flowers cluster in fat fingers 3-5 in. long in May followed by small dark cherries in elongated clusters in June. A favorite food of Native Americans. Tolerates clay and limy soils. Elevation 5,500-8,000 ft. Leaves and pits contain cyanide. |
| Cinquefoil, Shrubby (Potentilla) | <i>Dasiphora</i> <i>fruticosa</i> | Full Sun/ Pt Shade | Medium | Insects | Yellow | Summer | 3ft x 3ft | Covered by small yellow flowers all summer. Tolerates clay and limestone soils. Elevation 6,000-11,000 ft. |
| Cliffrose | <i>Purshia</i> <i>stansburiana</i> (also <i>P. stansburyana</i>) | Full Sun/ Pt Shade | Low | Insects | White, Yellow, or Cream | Spring- Summer | 4-6ft x 5-8ft | Evergreen shrub with reddish bark turning gray and shredding with age; fragrant flowers, seed heads similar to Apache Plume (<i>Falugia paradoxa</i>). Elevation 3,000-8,000 ft. |
| Currant, Golden | <i>Ribes aureum</i> (synonym <i>Ribes</i> <i>odoratum</i>) | Full Sun/ Pt Shade | Low | Birds, Insects | Yellow | Spring | 3-6ft x 3-5ft | Attracts bees (to nectar) and birds and mammals (to fruit). Fragrant yellow flowers in early spring. Orange or black currants in summer (leave on bush to dry to raisins and hope birds don't get them first). Maple-like leaves with lovely fall color. Tolerates limy soil. Elevation 6,500-9,000 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|---|-----------------------|-----------------|-------------------|---|-------------------|-----------------------|---|
| Currant, Wax | <i>Ribes cereum</i> | Full Sun/ Pt Shade | Low | Birds, Insects | Pink | May-July | 3ft x 3ft | Attracts native bees. Birds love the berries. Clusters of light pink, bell-shaped flowers give way to bright-red, fuzzy, cluster-like currants. Light green foliage turns yellow in fall. Found in a wide variety of soils, including clay and limestone. Harbors a stage of white pine blister rust, a fungus that requires two hosts. Elevation 6,000-9,000 ft. |
| Dalea, Feather (Feather Plume, Feather Indigo) | <i>Dalea formosa</i> | Full Sun | Low | Insects | Purple or Rose, with Yellow banner | Spring- Summer | 2ft x 3ft | Forms low, spreading mounds with silvery leaves. Found in rocky or sandy soil. Clusters of fuzzy blooms cover the plant in spring, followed by shaggy seed pods. Special value to native bees. A drought-tolerant, nitrogen-fixing shrub. Tolerates clay and limy soils. Elevation 3,500-7,000 ft. |
| Dogwood, Red- osier (Red Twig Dogwood) | <i>Cornus sericea</i> | Pt Shade | Medium | Insects | White | Spring | 4-7ft x 4-5ft | Attracts birds and butterflies. Larval host to spring azure moth. Pea-sized white fruit in clusters on red stems in September attract birds and bears. Browsed by deer and rabbits. Prefers moist, circumneutral soil (pH between 6.8 and 7.2). Elevation 5,500-9,000 ft. |
| Elderberry, New Mexico | <i>Sambucus caerulea</i> var. <i>neomexicana</i> | Full Sun/ Pt Shade | Medium | Insects | White or Cream | Summer | 12-17ft x 8ft | Shrub or small tree. Blue berries attract birds and mammals. Grows along streams in alkaline soil. Elevation 7,000-9,000 ft. Stems, roots, and leaves reported to be poisonous. |
| Elderberry, Red | <i>Sambucus racemosa</i> var. <i>microbotrys</i> | Full Sun/ Pt Shade | Medium/ High | Insects | White or Cream | Spring- Summer | 10ft x 5-6ft | Shrub or small tree. Red berries attract birds and mammals. Grows along stream banks. Elevation 6,000-12,000 ft. Fruit may be toxic. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|--------------------------|----------|-------|-------------|---------------|---------------|------------------------------|--|
| Ephedra, Green (Joint-fir, Mormon Tea) | <i>Ephedra viridis</i> | Full Sun | Low | Wind | Yellow | Spring | 3ft x 4ft | Skeleton-like appearance, with cones instead of fruits. Bright green branches in vertical broom-like clusters. Found on dry, sandy, rocky slopes; tolerates limy soil. Elevation 3,300-7,500 ft. Contains pseudoephedrine, an alkaloid that may be toxic. |
| Ephedra, Longleaf (Longleaf Joint-fir, Mormon Tea) | <i>Ephedra trifurca</i> | Full Sun | Low | Wind | Yellow | Spring | 15ft x 3ft | Good cover for birds and small mammals; nut-like seeds are eaten by quail. Evergreen shrub, similar to Torrey Ephedra (<i>Ephedra torreyana</i>) but much taller. Found in gravelly or sandy soils; tolerates limy and alkaline soils. Elevation 3,000-6,000 ft. Contains pseudo-ephedrine, an alkaloid that may be toxic. |
| Ephedra, Torrey (Torrey's Joint-fir, Mormon Tea) | <i>Ephedra torreyana</i> | Full Sun | Low | Wind | Yellow | Spring | 3ft x 4ft | Inconspicuous leaves; photosynthesis accomplished through the much-branched blue-green or olive-green stems. Yellowish cones persist into winter. Unusual habit with year-round interest. Spreads readily and will fill an empty spot if conditions are favorable. Found in a wide range of soils, including clay; tolerates limy and saline soils. Elevation 3,000-6,600 ft. Contains pseudoephedrine, an alkaloid that may be toxic. |
| Fendlerbush, Cliff | <i>Fendlera rupicola</i> | Full Sun | Low | Insects | White or Pink | Spring-Summer | 4-7ft x 3-6ft (forms clumps) | Fragrant shrub, browsed by deer. Heat tolerant, fond of rocky ground and limy soil. Elevation 5,500-7,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-------------------------------------|-------------------------------|-----------------------|----------------|----------------------------------|---------------------------|-------------------|-----------------------|---|
| Gooseberry | <i>Ribes leptanthum</i> | Full Sun/ Pt Shade | Low | Insects | White with Red centers | Spring- Summer | 4-6ft x 3-4ft | Attracts birds and mammals. Half-inch trumpet flowers with red centers appear in May, followed in August by small dark purple berries with dried trumpet still attached. Berries are fairly sweet and not too seedy—good for cooking or eating. Found in coniferous forest sand in montane and semi-desert ecosystems. Elevation 6,500-10,000 ft. |
| Indigo Bush, False | <i>Amorpha fruticosa</i> | Full Sun/ Pt Shade | Medium | Insects | Purple | Spring- Summer | 4-8ft x 4-8ft | Stalks of small purple flowers with gold stamens attract butterflies. Tolerates clay and limy soils. Elevation 4,500-6,000 ft. |
| Leadplant | <i>Amorpha canescens</i> | Full Sun | Low/ Medium | Insects | Indigo | Summer- Fall | 2-4ft x 3-5ft | Attracts insects, including butterflies and native bees. Small, soft gray leaves run up each stem in bean formation. Spikes of indigo flowers with tiny yellow stamens are stunning in early summer. A drought-tolerant, nitrogen-fixing shrub. Tolerates limy soil. Elevation 4,000-6,000 ft. |
| Mahogany, Littleleaf Mountain | <i>Cercocarpus intricatus</i> | Full Sun | Low | Wind, occasionally Insects | Incon- spicuous | May | 6-8ft x 4-6ft | Evergreen leaves. Sunny slopes and dry hillsides in pinon-juniper and mixed coniferous forests. Feathery silver seed plumes in October. Slow-growing, compact. Most heat and drought tolerant of all the mahoganies. Elevation 5,500–10,000 ft. |
| Mahogany, Mountain | <i>Cercocarpus montanus</i> | Full Sun/ Pt Shade | Low | Wind, occasionally Insects | White or Greenish | Spring | 8-12ft x 4-8ft | Flowers are inconspicuous but yield showy seed pods with feathery, silvery-white plumes that persist into December. Deciduous small tree or shrub with dark green foliage that turns red in fall. Similar to Southern Mountain Mahogany (<i>Cercocarpus breviflorus</i>) but with a more northerly distribution. Elevation 5,500-8,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------------|----------------------------------|-----------------------|----------------|----------------------------------|----------------------|------------|-----------------------|--|
| Mahogany, Southern Mountain | <i>Cercocarpus breviflorus</i> | Full Sun/ Pt Shade | Low | Wind, occasionally Insects | White or Greenish | Spring | 8-12ft x 4-8ft | Evergreen shrub with showy, feathery fruits. Grows in dry, rocky, volcanic, or limy soil among Piñon Pine (<i>Pinus edulis</i>) and Alligator Juniper (<i>Juniperus deppeana</i>). Elevation 5,000-7,500 ft. |
| Manzanita, Greenleaf | <i>Arctostaphylos patula</i> | Full Sun/ Pt Shade | Low/ Medium | Birds, Insects | Pink | Summer | 2ft x 4ft | Teardrop-shaped flowers in spring, followed by pea-sized fruits. Upright growth habit and beautiful smooth tan bark, growing in open coniferous forest. Evergreen. Tolerates limy soil. |
| Manzanita, Pointleaf | <i>Arctostaphylos pungens</i> | Full Sun/ Pt Shade | Low/ Medium | Birds, Insects | Pink or White | Spring | 3-10ft x spreading | Small mammals and ground birds eat the berries. Thicket forming, evergreen. Elevation 4,500-8,000 ft. |
| Mockorange, Littleleaf | <i>Philadelphus microphyllus</i> | Full Sun | Low | Insects | White | Spring | 3-4ft x 3-4ft | Fragrant flowers with four white petals and a mass of golden stamens in early June. Tolerates limy soil. Elevation 6,000-9,500 ft. Plant might be somewhat toxic. |
| Ninebark, Mountain | <i>Physocarpus monogynus</i> | Pt Shade/ Shade | Medium | Insects | White | Spring | 3ft x 3ft | Good orange to reddish fall color. Leaves are similar to <i>Ribes</i> species, but the bark is exfoliating. Great shrub for a low hedge or mass planting. Grows on rocky slopes and in mixed shrub communities. Elevation 6,500-10,000 ft. |
| Oak, Scrub Live | <i>Quercus turbinella</i> | Full Sun | Low | Wind | Incon- spicuous | Spring | 6-16ft x spreading | Holly-like leaves unfold reddish, mature to shiny lime green, then become bluish. Thicket forming shrub or small tree. Grows in most soil types, including clay, with good drainage. Elevation 2,500-6,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------------------|--|-----------------------|--------|----------------------------|--|---------------------|-----------------------|---|
| Plum, Chickasaw (Sandhill Plum) | <i>Prunus angustifolia</i> | Full Sun/ Pt Shade | Low | Insects | White | Spring | 12ft x 15ft | Provides cover, nesting sites, and food for birds and wildlife. Thicket-forming shrub or small tree. Fruit can be eaten fresh or made into jams and jellies. Elevation 4,500-6,500 ft. |
| Privet, New Mexico (Desert Olive) | <i>Forestiera pubescens</i> (synonym <i>Forestiera neomexicana</i>) | Full Sun/ Pt Shade | Low | Insects | Yellow | Spring | 12-18ft x 12ft | Attracts early spring butterflies, particularly hairstreaks. Birds and small mammals like the bluish fruit in summer; plant both sexes to ensure fruit. Deciduous small tree or large shrub. Can be pruned to a multi-stemmed tree. Hardy, fast growing, suckers. Use as small patio tree; let it grow into a screen or background or shear into a hedge. Leaves turn yellow in fall. Grows in any well-drained soil, including clay. Elevation 4,000-7,000 ft. |
| Raspberry (Thimbleberry) | <i>Rubus parviflorus</i> | Full Sun/ Pt Shade | Medium | Insects | White | Spring-Summer | 3-6ft x spreading | Thornless shrub with showy flowers and exfoliating bark. Raspberry-like fruit attracts birds and small mammals. Elevation 7,000-10,000 ft. |
| Raspberry, New Mexico | <i>Rubus deliciosus</i> var. <i>neomexicanus</i> | Pt Shade/ Shade | Low | Insects | White | Spring | 4-6ft x 5-8ft | Very attractive shrub with exfoliating bark. Fruit attracts birds. Elevation 4,500-9,000 ft. |
| Raspberry, Red | <i>Rubus idaeus</i> var. <i>strigosa</i> | Full Sun/ Pt Shade | Medium | Insects | White | Spring | 3-9ft x 3-9ft | This thorny raspberry attracts wildlife; this is not the species usually grown for fruit production in the home garden. Elevation 6,500-10,000 ft. |
| Rose, Desert (Sacramento Rose) | <i>Rosa stellata</i> | Full Sun/ Pt Shade | Low | Wind, Insects, Birds | Deep Pink, Maue or Purple blend | Spring or Summer | 2-3ft x 2.5ft | Large flowers with single medium-sized blooms, followed by broad-mouthed hips in fall. Stems covered with yellowish white prickles. Experimental in Santa Fe; plant in a protected spot. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|------------------------|---------------------------------|--------|----------------------------|--------------------------------------|---------------------|-----------------------|--|
| Rose, Nootka (Wild Rose) | <i>Rosa nutkana</i> | Full Sun/ Pt Shade | Low | Wind, Insects, Birds | Light Pink/Lilac | Spring or Summer | 2-6ft x 4ft | A bushy shrub with large single, very fragrant blossoms, followed by large hips in fall. Unlike most species roses, Nootka Rose will rebloom. Leaves are small, matte and light green. Curved prickles cover the stems. Rapid growth and extensive rhizomes and suckers make this an ideal plant for revegetation and erosion control. |
| Rose, Prairie | <i>Rosa arkansana</i> | Full Sun/ Pt Shade | Low | Wind, Insects, Birds | Light to Deep Pink to Red Rose | Spring or Summer | 0.5-1.5ft x 1-4ft | An arching, bushy, upright shrub with a vigorous spreading habit. Has matte green foliage and small, solitary clusters of single blossoms, followed by red hips in fall. Ideal for stabilizing soil and providing wildlife habitat. Found in a wide range of soils, including clay. |
| Rose, Prickly (Bristly Rose, Arctic Rose) | <i>Rosa acicularis</i> | Full Sun/ Pt Shade | Low | Wind, Insects, Birds | Deep Pink | Spring or Summer | 3-7ft x spreading | A usually low shrub with small to medium single blossoms and one to three flowers in small clusters. Has light green leaves; thin spines cover the stems. Dark canes in spring and red hips in fall. Excellent in harsh, exposed sites. |
| Rose, Woods (Mountain Rose) | <i>Rosa woodsii</i> | Full Sun/ Pt Shade/ Shade | Medium | Insects | Pink | June | 3-6ft x spreading | Small, fragrant flowers followed by red hips in clusters of three or more in early fall. Hips eaten by birds and mammals. Spectacular fall foliage, turning vivid shades of dark red, scarlet, deep orange, and gold. Suckers aggressively, can be invasive. Good as a hedge; grows in difficult locations. Do not overwater. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---------------------------------------|------------------------------|-----------------------|----------|--------------------------|----------------|-------------|-----------------------|--|
| Sagebrush, Big | <i>Artemisia tridentata</i> | Full Sun | Low | Wind or Self-pollinating | Yellow | Fall | 3-4ft x 3-4ft | Browsed by sage grouse and deer, particularly in winter. Provides nest and den sites for birds and small animals. Tolerates limy soil. Elevation 4,500-8,500 ft. |
| Sagebrush, Sand (Threadleaf Sage) | <i>Artemisia filifolia</i> | Full Sun/ Pt Shade | Low | Wind | Yellow | Summer-Fall | 4ft x 4ft | Semi-evergreen shrub with silvery or gray-green foliage. Elevation 3,500-6,000 ft. |
| Sagebrush, Silver | <i>Artemisia cana</i> | Full Sun | Low | Wind | Yellow or Pink | Summer | 1-3ft x 1-3ft | Graceful wispy appearance, fragrant flowers. Provides nesting materials for native bees. Tolerates limy soil. Elevation 5,500-7,800 ft. |
| Sagebrush, White (Louisiana Wormwood) | <i>Artemisia ludoviciana</i> | Full Sun | Very Low | Wind | Yellow | Fall | 2-3ft x spreading | Semi-evergreen, attractive silvery foliage. Adaptable to most soils, including clay and limestone. Provides nesting material for native bees. |
| Saltbush, Four-wing | <i>Atriplex canescens</i> | Full Sun | Very Low | Wind | Yellow | Spring-Fall | 4-6ft x 4-6ft | Provides food and cover for birds, rabbits, and small mammals. Larval host for butterflies and moths. Used as a wildlife habitat (loved by quail), screen, or windbreak. Needs no extra water once established. Provides excellent erosion control and is used extensively for reclamation of disturbed sites. Found in well-drained alkaline, saline soils; tolerates clay. Elevation 3,000-6,800 ft. Toxic to livestock where soil selenium levels are high. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|-------------------------------------|-----------------------|--------|-------------------|------------------|---------------|-----------------------|--|
| Serviceberry, Utah | <i>Amelanchier utahensis</i> | Pt Shade | Medium | Insects | White | Spring-Summer | 6-15ft x 10ft | Flowers attract native bees, birds like the purplish or blue fruit. The juicy sweet fruit can be used for making jelly and wine. Deciduous small tree or a common shrub above 8,000 ft. Can be thicket forming. Yellow to reddish fall leaf color. Grows in a wide range of soils, including clay and limestone. Elevation 6,000-9,800 ft. |
| Serviceberry, Western (Saskatoon Serviceberry) | <i>Amelanchier alnifolia</i> | Pt Shade | Medium | Insects | White | Spring | 15-20ft x 6-8ft | Attracts native bees and butterflies. Fragrant spring flowers, followed by small purplish or blue berries in late summer. Leaves eaten by browsing animals and insects. Fruit attracts birds and mammals. Deciduous. Grows farther north than Utah Serviceberry (<i>Amelanchier utahensis</i>). Yellow to reddish fall leaf color. Common in forest understory, on stream banks, or drier hillsides in well-drained soil; tolerates limy soil. Elevation 6,000-9,000 ft. |
| Snowberry, Roundleaf | <i>Symphoricarpos rotundifolius</i> | Full Sun/ Pt Shade | Medium | Birds, Insects | White or Pink | Spring-Summer | 3ft x 3ft | Waxy white fruit attracts birds and small mammals; dense foliage provides cover and is browsed by deer. Spreads by root suckers, making this shrub a good choice for erosion control. Elevation 4,000-10,800 ft. |
| Snowberry, White | <i>Symphoricarpos albus</i> | Full Sun/ Pt Shade | Medium | Insects | Pink | July-August | 3-4ft x 3-4ft | Showy white fruit persists into winter. Exfoliating bark adds to winter interest. Tends to sucker, so allow space to form a thicket. Good for reclamation and erosion control on slopes. Susceptible to anthracnose, leaf spot, powdery mildew, and rust. Found on loose, gravelly soil; tolerates limy soil. Elevation 5,500-7,800 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|-----------------------------|-----------------------|----------|-------------------|--------------------------|---------------|-----------------------|---|
| Spirea, Rock (Cliff Spirea, Mountain Spray) | <i>Holodiscus dumosus</i> | Full Sun | Medium | Insects | Pinkish White | Spring-Summer | 4-6ft x 3-6ft | A good wildlife browse plant. Intricately branched shrub with reddish twigs and aromatic foliage. Small pinkish white flowers form a branching cluster (panicle) midsummer. |
| Sumac, Littleleaf | <i>Rhus microphylla</i> | Pt Shade | Very Low | Insects | White or Green | Spring | 6-12ft x 4-6ft | Provides food and cover for birds and small mammals. Foliage is orange or red in fall. May be tender at 7,000 ft.; plant in a protected spot. Tolerates clay and limy soils. |
| Sumac, Smooth | <i>Rhus glabra</i> | Full Sun/ Pt Shade | Low | Insects | White or Yellowish Green | Late Spring | 4-5ft x 2-3ft | White or yellowish green flowers, followed by clusters of red berries. Attracts bees, butterflies, and mammals. Seeds remain attached for a long time, often used in decorative arrangements. Rich red leaf color in fall. Deciduous shrub or small tree that generally grows in masses in dry clay or sandy soil. Fast growing, generally pest and disease resistant. Good for erosion control. The only tree or shrub species native to all contiguous 48 states. Elevation 5,500-8,000 ft. |
| Sumac, Three-leaf (Skunkbush) | <i>Rhus trilobata</i> | Full Sun/ Pt Shade | Low | Insects | Yellow | Spring-Summer | 3-10ft x 3-12ft | Yellow flowers in small clusters in spring. Small orange-red berries early summer. Fruit is eaten by birds and some mammals but is relatively deer and rabbit resistant. Foliage is yellow, orange, or red in fall. Elevation 5,000-7,500 ft. |
| Twinberry | <i>Lonicera involucrata</i> | Full Sun/ Pt Shade | Medium | Birds, Insects | Yellow, tinged with Red | Spring-Summer | 3-8ft x 3-8ft | Attracts hummingbirds. Shiny black fruit, surrounded by fuzzy red bracts (modified leaves), are eaten by birds, chipmunks, and bears. Flowers and fruit come in pairs. Elevation 7,500-10,000 ft. Fruits may be toxic to humans; foliage and other plant parts may be mildly toxic to cattle. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------------|---------------------------------|---------------------------|--------------|-------------|-----------------------|---------------|-----------------------|---|
| Waxflower (Cliffbush) | <i>Jamesia americana</i> | Pt Shade/ Shade | Medium | Insects | White or Pink | June-July | 6ft x 8-9ft | Small oval leaves are green on top, whitish and fuzzy underneath. Reddish brown exfoliating bark. Common in canyons and mountainous regions. Elevation 6,500-9,500 ft. |
| Willow, Coyote | <i>Salix exigua</i> | Full Sun/ Pt Shade/ Shade | Medium/ High | Insects | Inconspicuous catkins | Spring | 1.5-9ft x 4-6ft | Fast growing, sometimes forms small trees about 18 ft. tall. Forms thickets along streams and ditches, important in riparian areas. Typically found in sandy soils but adapts anywhere. Feathery foliage. Use as an accent plant, in a mass planting, or clip into a hedge. Most common and widespread of NM willows. Elevation 3,500-7,500 ft. |
| Winterfat (White Sage) | <i>Krascheninnikovia lanata</i> | Full Sun | Low | Wind | White | Spring-Summer | 1-3ft x 3ft | Inconspicuous flowers in fall, followed by white fluffy fruit in thick spikes fall through winter. Protein-rich winter browse for elk, deer, and rabbits. Found in clay, limy, or saline soils. Elevation 4,700-6,500 ft. |
| Wolfberry, Pale (Tomatillo) | <i>Lycium pallidum</i> | Full Sun | Low | Insects | Greenish Yellow | Summer-Fall | 3-6ft x 3-6ft | Fragrant flowers pollinated by hawk moths. Red tomato-shaped, seedy fruits in fall. Thorny thicket-forming shrub with an extensive root system, which suggests good erosion control. Adapts to most soils. Elevation 3,000-7,000 ft. |



Apache Plume *Fallugia paradoxa*

Joy Mandelbaum



Barberry, Fendler's *Berberis fendleri* Joy Mandelbaum



Ash, Cascade Mountain (Rocky Mountain Ash) Joy Mandelbaum
Sorbus scopulina



Barberry, Fremont's *Berberis fremontii* Joy Mandelbaum
(synonym *Mahonia fremontii*)



Barberry, Red *Berberis haematocarpa*
(synonym *Mahonia haematocarpa*)

Joy Mandelbaum



Buckbrush, Fendler's *Ceanothus fendleri* Max Licher



Bitterbrush, Antelope *Purshia tridentata*

Tracy Neal



Buffaloberry, Silver *Shepherdia argentea*

Joy Mandelbaum



Chamisa (Rabbitbrush) Joy Mandelbaum
Ericameria nauseosa (synonym *Chrysothamnus nauseosus*)



Chokecherry *Prunus virginiana* Joy Mandelbaum



Cherry, Black *Prunus serotina* var. *rufula* Sally and Andy Wasowski



Cinquefoil, Shrubby (Potentilla) *Dasiphora fruticosa* Joy Mandelbaum



Cliffrose *Purshia stansburiana* (also *P. stansburyana*)

Joy Mandelbaum



Currant, Wax *Ribes cereum*

Joy Mandelbaum



Currant, Golden *Ribes aureum* (synonym *Ribes odoratum*)

Tracy Neal



Dalea, Feather (Feather Plume, Feather Indigo) *Dalea formosa*

Max Licher



Dogwood, Red-osier (Red Twig Dogwood) *Cornus sericea* Joy Mandelbaum



Elderberry, Red *Sambucus racemosa* var. *microbotrys* Joy Mandelbaum



Elderberry, New Mexico *Sambucus caerulea* var. *neomexicana* Max Licher



Ephedra, Green (Joint-fir, Mormon Tea) *Ephedra viridis* Max Licher



Ephedra, Longleaf (Longleaf Joint-fir, Mormon Tea) *Ephedra trifurca*

Thomas Van Devender

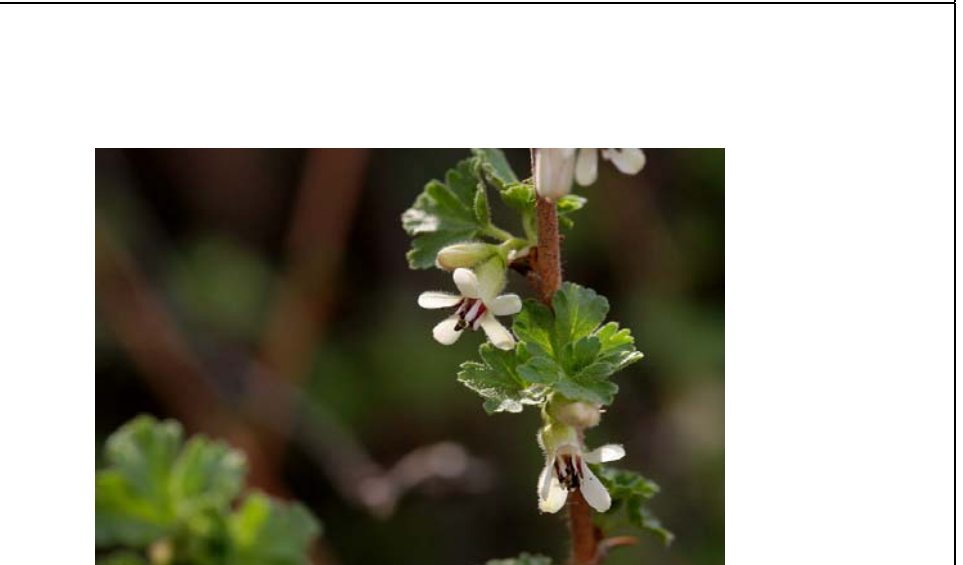


Fendlerbush, Cliff *Fendlera rupicola* Joy Mandelbaum



Ephedra, Torrey (Torrey's Joint-fir, Mormon Tea) *Ephedra torreyana*

Max Licher



Gooseberry *Ribes leptanthum* Patrick Alexander



Indigo Bush, False *Amorpha fruticosa* Joy Mandelbaum



False Indigo Bush, blossoms Sky Jacobs



Leadplant *Amorpha canescens*

Joy Mandelbaum



Mahogany, Littleleaf Mountain *Cercocarpus intricatus* William Gray



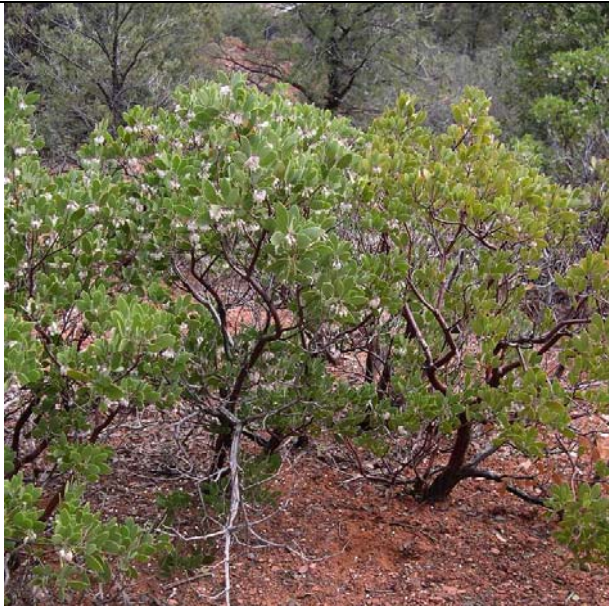
Mahogany, Southern Mountain *Cercocarpus breviflorus* Sue Carnahan



Mahogany, Mountain *Cercocarpus montanus* Joy Mandelbaum



Manzanita, Greenleaf *Arctostaphylos patula* Tony Frates



Manzanita, Pointleaf *Arctostaphylos pungens*

Max Licher



Mockorange, Littleleaf *Philadelphus microphyllus*

Joy Mandelbaum



Pointleaf Manzanita, blossoms

Max Licher



Ninebark, Mountain *Physocarpus monogynus* P. Wolfe



Oak, Scrub Live *Quercus turbinella*

Joy Mandelbaum



Oak, Scrub Live *Quercus turbinella*

Max Licher



Plum, Chickasaw (Sandhill Plum) *Prunus angustifolia* Sally and Andy Wasowski



Chickasaw Plum, blossoms Alan Cressler



Privet, New Mexico (Desert Olive) Joy Mandelbaum
Forestiera pubescens (synonym *Forestiera neomexicana*)



Raspberry, New Mexico Max Licher
Rubus deliciosus var. *neomexicanus*



Raspberry (Thimbleberry) *Rubus parviflorus* Terry Glase



Raspberry, Red *Rubus idaeus* var. *strigosa* Joy Mandelbaum



Rose, Desert (Sacramento Rose) *Rosa stellata*

Patrick Alexander

Rose, Prairie *Rosa arkansana*

Peter Gorman



Rose, Nootka (Wild Rose) *Rosa nutkana*

Tony Frates



Rose, Prickly (Bristly Rose, Arctic Rose) *Rosa acicularis*

Barry Breckling



Rose, Woods (Mountain Rose) *Rosa woodsii*

Joy Mandelbaum



Sagebrush, Sand (Threadleaf Sage) *Artemisia filifolia*

Joy Mandelbaum



Sagebrush, Big *Artemisia tridentata*

Joy Mandelbaum



Sagebrush, Silver *Artemisia cana*

Gary A. Monroe



Sagebrush, White (Louisiana Wormwood) *Artemisia ludoviciana* P. Wolfe

Serviceberry, Utah *Amelanchier utahensis* Joy Mandelbaum



Saltbush, Four-wing *Atriplex canescens* Max Licher

Serviceberry, Western (Saskatoon) *Amelanchier alnifolia* Max Licher



Snowberry, Roundleaf *Symphoricarpos rotundifolius* R.W. Smith



Snowberry, White Gerald and Buff Corsi
Symphoricarpos albus



Joy Mandelbaum



Spirea, Rock (Cliff Spirea, Mountain Spray) *Holodiscus dumosus*



Joy Mandelbaum



Sumac, Littleleaf *Rhus microphylla*

Robert Sivinski



Sumac, Three-leaf (Skunkbush) *Rhus trilobata*

Joy Mandelbaum



Sumac, Smooth *Rhus glabra*

Joy Mandelbaum



Twinberry *Lonicera involucrata*

Joy Mandelbaum



Waxflower (Cliffbush) *Jamesia americana* P. Wolfe



Winterfat (White Sage) *Krascheninnikovia lanata* Joy Mandelbaum



Willow, Coyote *Salix exigua* Max Licher



Wolfberry, Pale (Tomatillo) *Lycium pallidum* Joy Mandelbaum

Chapter 7 – Trees

Planting a tree is an act of faith; trees grow slowly and, depending on the site, we may never sit in the shade of a tree we plant today. Take note of the mature height and width of the trees listed below, especially the variability; much depends on site and maintenance. Given the current rate of climate change, the basic water requirements listed below may be inadequate 30 years from now. Some plants are described as shrub or small tree; look under Shrubs if you don't find the tree you're looking for here.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|---|---|-----------------------|--------|-------------|---------------|--------------|-----------------------|---|
| Ash, Velvet | <i>Fraxinus velutina</i> | Full Sun/ Pt Shade | Medium | Wind | Inconspicuous | Early Spring | 25ft x 25ft | Riparian tree of washes and canyons in southern mountains, foothills, and desert. Commonly planted for shade and ornament. Most common native ash in southern third of the state. Flowers appear before leaves in spring. Seeds provide food for birds and animals. Consider this tree experimental in the Santa Fe area; plant in a protected spot. Adaptable to most soils, including clay. Elevation 4,500-8,000 ft. |
| Aspen, Quaking | <i>Populus tremuloides</i> | Full Sun | Medium | Wind | Inconspicuous | Spring | 20-35ft x 10-20ft | Grows in moist, well-drained, rich soils and cool temperatures. Reproduces by seed or spreads by suckers arising along lateral roots resulting in genetically identical trees called clones. Susceptible to pests and diseases, especially in confined spaces. Bark is greenish white, yellowish white, yellowish gray, or almost white. Leaves turn yellow in the fall, "quake" in the breeze. Good shade, accent, or patio tree. Will require additional irrigation with climate change. Elevation 6,500-12,000 ft. |
| Cottonwood, Eastern (Rio Grande Cottonwood) | <i>Populus deltoides</i> <i>ssp. wislizeni</i> <i>Populus deltoides</i> <i>ssp. monilifera</i> | Full Sun | High | Wind | Inconspicuous | Spring | 45-60ft x 50-70ft | All parts used by birds and mammals. Great shade tree for large landscape. Beautiful yellow-gold leaves in fall. Nice leaf rustle sound in wind. Cottony seeds on female. Two similar subspecies distinguished by minor differences in the leaves, leaf stalks, and fruit. Grows in any soil, including clay and limestone. Elevation 2,500-7,000 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--|---|-----------------------|--------|-------------|---------------|------------|-----------------------|--|
| Cottonwood, Lanceleaf (Smooth-barked Cottonwood) | <i>Populus x acuminata</i> | Full Sun | High | Wind | Inconspicuous | Spring | 40-60ft x 30-40ft | A naturally occurring hybrid between Eastern Cottonwood (<i>Populus deltoides</i>) and Narrowleaf Cottonwood (<i>Populus angustifolia</i>). Tolerates clay and limy soils. Elevation 4,500-8,000 ft. |
| Cottonwood, Narrowleaf (Mountain Cottonwood) | <i>Populus angustifolia</i> | Full Sun | High | Wind | Inconspicuous | Spring | 35-60ft x 40-70ft | Fast-growing shade tree for large landscape. Looks like a willow. Beautiful yellow-gold leaves in fall. Cottony seeds from female blown by wind. Tolerates any soil, including clay and limestone. Elevation 5,000-8,000 ft. |
| Cypress, Arizona | <i>Cupressus arizonica</i> (synonym <i>Hesperocyparis arizonica</i>) | Full Sun | Low | Wind | Inconspicuous | Spring | 35-40ft x 20-30ft | Good specimen or windbreak tree. Only cypress native to NM. Found in canyon bottoms and southwestern NM mountains. Grows in any soil, including clay and limestone, faster with more water. Elevation 5,000-7,300 ft. |
| Fir, Douglas | <i>Pseudotsuga menziesii</i> | Full Sun | High | Wind | Inconspicuous | Spring | 50-130ft x 30-50ft | Seeds eaten by small mammals. Slow-growing, fragrant tree for any well-drained soil. Will require additional irrigation with climate change. Can live to be over 1,000 years old. Susceptible to Cooley gall. Elevation 6,500-11,000 ft. |
| Fir, White | <i>Abies concolor</i> | Full Sun/ Pt Shade | Medium | Wind | Inconspicuous | Spring | 30-90ft x 15-30ft | Seeds eaten by birds and small mammals. Fragrant tree with soft needles. Very slow growing in any well-drained organic soil. More drought tolerant than other true firs. Grows slowly on upper riparian slopes. Elevation 7,500-9,400 ft. |
| Hackberry, Netleaf (Western Hackberry) | <i>Celtis reticulata</i> | Full Sun | Medium | Insects | Greenish | Spring | 25ft x 20ft | Provides cover for wildlife and nesting sites for birds, which also love the orange berries. Foliage is caterpillar food for butterflies. Good tree for small areas. Taproot provides good erosion control. Susceptible to nipple gall and witches' broom. Grows in dry, rocky, limestone hillsides and canyon slopes at 3,500-7,300 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-------------------------|------------------------------|-----------------------|--------|-------------|--------------------------------|----------------|-----------------------|--|
| Hoptree (Wafer Ash) | <i>Ptelea trifoliata</i> | Full Sun/ Pt Shade | Medium | Insects | White or Greenish Yellow | Late Spring | 10-20ft x 7ft | Deciduous, slow-growing small tree that forms clump or thicket. Needs good drainage. Flowers have a spicy fragrance; leaves have a citrus smell when crushed. Lime-green papery ornamental fruit, drying to ivory by winter. Seeds have been used like hops to make beer. Lovely tree, good selection for a courtyard. Elevation 4,000-8,000 ft. |
| Juniper, Alligator | <i>Juniperus deppeana</i> | Full Sun | Low | Wind | Incon- spicuous | Spring | 30-40ft x 30-50ft | Long lived and slow growing; bluish green berries take two years to ripen. Tolerates clay soil. Elevation 2,500-8,500 ft. |
| Juniper, One-seed | <i>Juniperus monosperma</i> | Full Sun | Low | Wind | Incon- spicuous | Spring | 8-15ft x 9-12ft | Purple berries provide winter food for birds and mammals. Yellow pollen from cones on male trees. Fragrant, clump-forming shrub or small tree that grows on semiarid rocky slopes in any dry, well-drained soil, including limestone. Elevation 5,000-8,000 ft. |
| Juniper, Rocky Mountain | <i>Juniperus scopulorum</i> | Full Sun | Low | Wind | Incon- spicuous | Spring | 10-24ft x 12-15ft | Bluish berries provide food and cover for birds and mammals and are used to flavor meat. Yellow pollen from cones on male trees. Slow growing, drought tolerant, and very hardy. Good in windbreaks. In winter the graceful drooping foliage turns gray-green. Susceptible to insect damage. Grows in any well-drained soil, including clay and limestone. Elevation 6,500-9,000 ft. |
| Juniper, Utah | <i>Juniperus osteosperma</i> | Full Sun | Low | Wind | Incon- spicuous | Spring | 10-20ft x 15-25ft | A slow grower, conical in form but may become contorted with age. Berry-like seeds are purple to reddish brown and are eaten by birds and small mammals. Susceptible to parasitic mistletoe. Found on rocky slopes. Elevation 6,200-7,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------------|------------------------------|----------|-----------------|------------------|-----------------------------------|------------------------|-----------------------|--|
| Locust, New Mexico | <i>Robinia neomexicana</i> | Full Sun | Low | Insects | Pink | Late Spring/ Summer | 20ft x 10ft | Attracts native and honey bees and hummingbirds (to flowers), insects (to nectar), and birds and mammals (to fruit). Larval host to golden banded-skipper and funereal duskywing butterflies. Deciduous, fast growing, and hardy. Thorny and can be invasive. Prune and remove suckers to tame for landscape use and enjoy its blooms. Good for windbreak, screen, or erosion control. Adaptable to a variety of well-drained soils, including clay and limestone. Elevation 4,000-8,500 ft. Seeds are poisonous. |
| Maple, Bigtooth | <i>Acer grandidentatum</i> | Pt Shade | Low/ Medium | Wind | Yellowish Green | Spring | 10-25ft x 15ft | Shrubby, slow growing, and hardy. Leaf shape a nice contrast with evergreens. Beautiful red-orange fall color. Good accent in shady area. Good substitute for non-native Japanese Maple. Prefers shade, limy soils, and good drainage; tolerates clay soil. Elevation above 6,000 ft. |
| Maple, Rocky Mountain | <i>Acer glabrum</i> | Shade | Medium/ High | Wind, Insects | Inconspicuous, Greenish Yellow | Spring | 20-25ft x 10-15ft | Seeds provide food for birds and mammals. Slow growing, often multi-trunked shrubby tree or tall shrub. Leaf shape provides a nice contrast with evergreens. Pale yellow or peachy orange leaves in fall. Used as small accent tree, good substitute for non-native Japanese Maple. Grows best in shade and well-drained organic soil; tolerates limy soil. Elevation 7,000-9,500 ft. |
| Oak, Chinkapin | <i>Quercus muehlenbergii</i> | Full Sun | Medium | Wind | Inconspicuous | Spring | 40-50ft x 30-45ft | Wildlife eat the acorns. Interesting toothed leaf shape. Colorful autumn foliage. Attractive and relatively fast growing. Grows in well-drained rocky or sandy soil. Elevation 5,000-7,200 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|-----------------|-------------------------|-----------------------|--------|-------------|------------------------------|------------|--|--|
| Oak, Gambel's | <i>Quercus gambelii</i> | Full Sun/ Pt Shade | Low | Wind | Inconspicuous, in catkins | Spring | Can reach 25ft x variable width | Acorns provide food for birds and mammals. Host for Colorado hairstreak butterfly. Generally shrubby and thicket forming; may become a small tree. Leaf shape provides a nice contrast with evergreens. Brown, orange, and red leaves in fall. Slow growing, tough. Prefers rich soils but tolerates clay and limestone. Elevation 5,000-8,000 ft. |
| Oak, Gray | <i>Quercus grisea</i> | Full Sun/ Pt Shade | Low | Wind | Inconspicuous, in catkins | Spring | 15-25ft x 20ft | Good cover for birds, small mammals, and deer. Elk and white-tailed and mule deer eat the leaves. Acorns provide food for birds and mammals. Grows as shrub or tree with gray-green leaves. Good for landscapes with limited space. Adapts to acidic or alkaline soils with good drainage. Elevation 4,500-7,800 ft. |
| Pine, Piñon | <i>Pinus edulis</i> | Full Sun | Low | Wind | Inconspicuous | Summer | 15-20ft x 15-20ft | State tree of New Mexico. Birds and mammals compete for the nuts, provides good cover for wildlife. Slow growing, long lived, and aromatic. Cones contain delicious edible nuts that ripen in fall and are a commercial crop. Susceptible to piñon needle scale and bark beetle; more pest resistant with regular water. Needs good drainage; found in a variety of soils, including clay. Elevation 5,000-8,000 ft. and higher with climate change. |
| Pine, Ponderosa | <i>Pinus ponderosa</i> | Full Sun | Medium | Wind | Inconspicuous | Spring | 30-100ft x 30ft | Larval host for butterflies and moths. Seeds eaten by birds and small mammals. Chipmunks store seeds in their caches, thus aiding dispersal. Majestic tree with long, fragrant needles; bark can smell like vanilla. Decorative pinecones. Grows in any well-drained soil. Elevation 6,500-9,500 ft. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | Comments |
|--------------------------|---------------------------|-----------------------|--------|-------------|------------------------|----------------------------|-----------------------|--|
| Pine, Southwestern White | <i>Pinus strobiformis</i> | Full Sun | Medium | Wind | Inconspicuous | June | 80ft x 40-50ft | Smooth, whitish gray bark on younger trees becomes dark brown and furrowed with age. Seeds are eaten by wildlife. Common in montane forests. May hybridize with Limber Pine (<i>Pinus flexilis</i>) where their ranges overlap. Tolerates clay soil. Elevation 6,500-10,000 ft. |
| Soapberry, Western | <i>Sapindus saponaria</i> | Full Sun/ Pt Shade | Low | Insects | White | Spring | 10-50ft x 20-30ft | Deciduous tree, host for larvae of soapberry hairstreak moth. Adapts to limy soil. Elevation 3,500-5,500 ft. Fruit contains the alkaloid saponin; roots and leaves are also toxic. |
| Spruce, Blue | <i>Picea pungens</i> | Full Sun/ Pt Shade | High | Wind | Inconspicuous | Spring | 50-70ft x 15-20ft | Symmetrical, handsome, slow-growing evergreen tree. Shades of green or blue, with 4-in. light brown seed cones. Used as lawn tree, evergreen accent, or Christmas tree. Susceptible to Cooley gall. Low maintenance, long lived. Prefers moist, rich, slightly acidic soil but will adapt to other soil types. Elevation 7,500-10,500 ft. |
| Spruce, Engelmann's | <i>Picea engelmannii</i> | Full Sun | High | Wind | Inconspicuous | Spring | 50-80ft x 15ft | Evergreen tree that requires supplemental water at elevation of 7,000 ft. Similar to Blue Spruce (<i>Picea pungens</i>) but generally has a thinner form and branches lower to ground. Slow growing. Planted as an ornamental, good winter background, or specimen tree. Attractive cones. Susceptible to Cooley gall. Grows in montane to subalpine forests. Prefers moist, rich, loamy soil. Elevation above 8,500 ft. |
| Willow, Desert | <i>Chilopsis linearis</i> | Full Sun | Low | Insects | White, Pink, or Purple | Late Spring- Early Fall | 10-25ft x 15-25ft | Fragrant orchid-like blooms attract hummingbirds, butterflies, and other insects. Seeds attract birds. Host to larvae of white-winged moth. Deciduous large shrub or small tree, good patio tree. Fast growing in any well-drained soil but prefers limestone. Allow to dry out between watering. Elevation 4,000-6,000 ft., but range is expanding with climate change. |



Ash, Velvet
Fraxinus velutina

Sue Carnahan



Cottonwood, Eastern (Rio Grande Cottonwood)
Populus deltoides

Joy Mandelbaum



Aspen, Quaking
Populus tremuloides

Joy Mandelbaum



Cottonwood, Lanceleaf (Smooth-barked Cottonwood)
Populus x acuminata

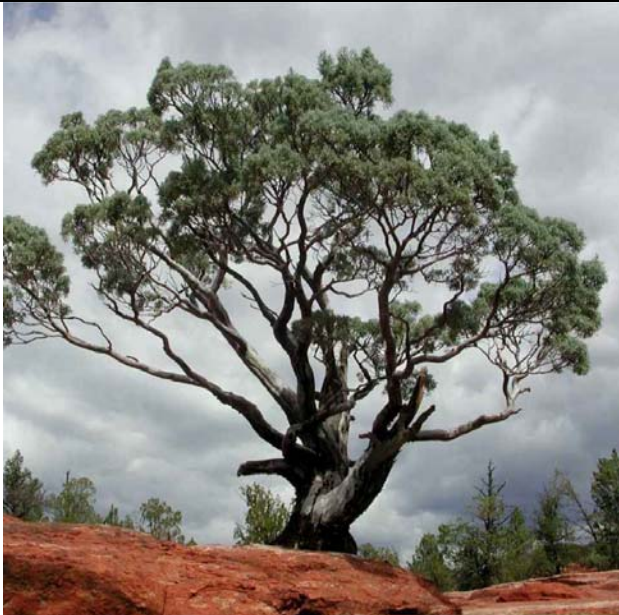
P. Wolfe



Cottonwood, Narrowleaf (Mountain Cottonwood) Joy Mandelbaum
Populus angustifolia



Fir, Douglas Max Licher
Pseudotsuga menziesii



Cypress, Arizona Max Licher
Cupressus arizonica (synonym *Hesperocyparis arizonica*)



Fir, White Joy Mandelbaum
Abies concolor



Hackberry, Netleaf (Western Hackberry) *Celtis reticulata* Tracy Neal



Juniper, Alligator *Juniperus deppeana* Joy Mandelbaum



Hoptree (Wafer Ash) *Ptelea trifoliata* Joy Mandelbaum



Juniper, One-seed *Juniperus monosperma* Joy Mandelbaum



Juniper, Rocky Mountain *Juniperus scopulorum*

Joy Mandelbaum



Locust, New Mexico *Robinia neomexicana*

Joy Mandelbaum



Juniper, Utah *Juniperus osteosperma*

Max Licher



Maple, Bigtooth *Acer grandidentatum*

Joy Mandelbaum



Maple, Rocky Mountain *Acer glabrum* Joy Mandelbaum



Oak, Gambel's *Quercus gambelii* Joy Mandelbaum



Oak, Chinkapin *Quercus muehlenbergii* Tracy Neal



Gambel's Oak, fall color Joy Mandelbaum



Oak, Gray *Quercus grisea* Leslie Landrum



Pine, Ponderosa *Pinus ponderosa* P. Wolfe



Pine, Piñon *Pinus edulis*

Max Licher



Pine, Southwestern White *Pinus strobiformis* Max Licher



Soapberry, Western *Sapindus saponaria* Max Licher



Spruce, Engelmann's *Picea engelmannii* P. Wolfe



Spruce, Blue *Picea pungens* Joy Mandelbaum



Willow, Desert *Chilopsis linearis*



Joy Mandelbaum

Chapter 8 – Vines

Vines have a small footprint and are perfect for small garden spaces but provide great interest at impressive heights. Plant them against a wall, ramble over a fence, or let them grow up a post or trellis. Vines are fast growing and long lived, meaning that they will flower more abundantly each season. The blossoms are often fragrant; they attract bees, butterflies, and other insects.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height | Comments |
|--|--|---------------------------|--------|-------------|----------------|-------------|---------------|---|
| Clematis, Rocky Mountain | <i>Clematis columbiana</i> | Pt Shade | Medium | Insects | Pale Violet | Spring | 12ft | Attracts bees and butterflies. Grows in dry to moist soils. |
| Clematis, Western White (Virgin's Bower) | <i>Clematis ligusticifolia</i> | Pt Shade (roots in Shade) | Medium | Insects | White | July-Sept | 40ft | Fragrant white flowers. Very showy seed heads. Mulch well to keep roots cool. Prefers rich, well-drained soil. |
| Creeper, Thicket | <i>Parthenocissus inserta</i> (synonym <i>Parthenocissus vitacea</i>) | Full Sun/ Pt Shade | Medium | Insects | Greenish White | June-August | 40ft | Birds love the dark blue berries. Leaves turn red in fall. Similar to Virginia Creeper (<i>Parthenocissus quinquefolia</i>), which is native to the eastern U.S., but cannot climb smooth walls. Berries are toxic to humans. |
| Grape Vine, Canyon | <i>Vitis arizonica</i> | Full Sun/ Pt Shade | Medium | Insects | White | April-July | 6-12ft | Sprawling or weakly climbing; gold-orange leaves in fall, black fruit. |
| Hops | <i>Humulus lupulus</i> | Full Sun/ Pt Shade | Medium | Insects | Green to Tan | July | 15-20ft | The flowers produce the characteristic bitter flavor in beer. |

NOTES:



Clematis, Rocky Mountain *Clematis columbiana*

Joy Mandelbaum



Clematis, Western White (Virgin's Bower) *Clematis ligusticifolia* Max Licher



Creeper, Thicket *Parthenocissus inserta* (synonym *Parthenocissus vitacea*) Joy Mandelbaum



Grape Vine, Canyon *Vitis arizonica*

Joy Mandelbaum



Hops *Humulus lupulus*

Joy Mandelbaum

Appendix: Neighboring Natives and Cultivars

Are some of your favorite plants missing in the Native Plant Guide? It is probably because they are not listed in *Flora Neomexicana III* as native to New Mexico or they are a cultivar of a native species. So, we are adding a few cultivars and southwest natives that do well in our landscapes and are usually available in local nurseries. Named cultivars appear as Genus species 'Cultivar Name'. Several sources were used for the list of states where the plants are native: U.S. Department of Agriculture's PLANTS Database, Missouri Botanical Garden, and the Lady Bird Johnson Wildflower Center's Native Plants Database.

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | (Native to) Comments |
|--|---|-----------------------|----------|----------------|----------------------|---------------|-----------------------|---|
| Cacti and Succulents | | | | | | | | |
| Cholla, Snow Leopard (Whipple Cholla) | <i>Cylindropuntia whipplei</i> 'Snow Leopard' | Full Sun | Very Low | Insects | Yellow, Yellow-Green | May-July | 24in x clumping | Cultivar of native species <i>Cylindropuntia whipplei</i> notable for its dense silvery spines. Stunning in the winter cactus garden. |
| Yucca, Beaked | <i>Yucca rostrata</i> | Full Sun | Very Low | Insects | White | Spring-Summer | 10-15ft x 6-8ft | (TX, Mexico) Treelike and slow growing, a dramatic accent plant in the dry garden. The cultivar 'Sapphire Skies' has stunning blue foliage. |
| Yucca, Red (Texas Red Yucca) | <i>Hesperaloe parviflora</i> | Full Sun | Low | Insects, Birds | Coral | Spring/Summer | 2-3ft x 2-3ft | (TX) Not a yucca, this member of the <i>Agavaceae</i> family has yucca-like leaves and showy tubular flowers that attract hummingbirds. |
| Perennials | | | | | | | | |
| Columbine, Dwarf (Rocky Mountain Blue Columbine) | <i>Aquilegia saximontana</i> | Full Sun/ Pt Shade | Medium | Insects | Blue and White | Spring | 6in x 8in | (CO) Rare, subalpine to alpine, endemic to several locations in the Colorado Rockies; found on cliffs and rocky slopes above 9,000 ft. All parts of the plant are poisonous. |
| Gaura, Whirling Butterfly | <i>Gaura lindheimeri</i> 'Whirling Butterfly' | Full Sun | Low | Insects | Pink, Pinkish White | May-August | 2-3ft x 1-2ft | Does well in extreme heat and is cold hardy in dry soil. Tends to be short lived. Flowers look like pink-tinged white butterflies. Drought tolerant. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | (Native to) Comments |
|-----------------------|-------------------------------|-----------------------|--------|-------------|---|-----------------|--------------------------|--|
| Phlox, Moss | <i>Phlox subulata</i> | Full Sun/ Pt Shade | Medium | Insects | Purple, Violet, Pink, or White | Spring | 6in x 24in, spreading | (UT, much of North America) Good ground cover for sandy or rocky soil, nice tumbling over rocks. Needs pH lower than 6.8; low tolerance for limy soil. |
| Sunflower, Maximilian | <i>Helianthus maximiliani</i> | Full Sun | Low | Insects | Yellow | August- Sept | 4-6ft x 2-4ft | (Much of North America) Very showy in the fall garden. The heavy crop of seeds attracts goldfinches. |

Shrubs

| | | | | | | | | |
|-------------------------------------|--|-----------------------|----------|---------|--------|-----------------|-------------------|--|
| Brittlebush, Antelope | <i>Encelia farinosa</i> | Full Sun | Very Low | Insects | Yellow | March-May | 2-3ft x 3-4ft | (AZ, CA, UT) Also blooms after summer rains. Sun and dryness determine how silver-white the hairy leaves become. Short life span but re-seeds. Grows in rocky, well-drained soil. Will not survive below 20 degrees Fahrenheit. Loses leaves in extreme drought. |
| Fernbush | <i>Chamaebatiaria millefolium</i> | Full Sun | Low | Insects | White | June- August | 5-6ft x 6-8ft | (AZ, CA, ID, NV, OR, UT) Semi-evergreen shrub adaptable to poor or limy soil; especially attractive to native bees. |
| Hawthorn, Cockspur | <i>Crataegus crus-galli</i> | Full Sun/ Pt Shade | Medium | Insects | White | Spring | 20-25ft x 15ft | (Eastern Canada and United States to KS, OK, TX) The most drought-tolerant hawthorn; host to several species of hairstreak butterflies; special value to native bees. Large thorns and showy, persistent fruit. Tolerates a wide range of soils. |
| Hawthorn, Thornless Cockspur | <i>Crataegus crus-galli var. inermis</i> | Full Sun/ Pt Shade | Medium | Insects | White | Spring | 20-25ft x 15ft | (Eastern Canada and United States to KS, OK, TX) Similar to Cockspur Hawthorn (<i>Crataegus crus-galli</i>), but without the thorns. |
| Mahogany, Curl-leaf | <i>Cercocarpus ledifolius</i> | Full Sun/ Pt Shade | Low | Insects | Yellow | March-April | 12-20ft x 15ft | (AZ, CA, CO, ID, MT, NV, OR, UT, WA, WY) Slow-growing, broadleaf evergreen. |
| Sage, Mojave (Giant Purple Sage) | <i>Salvia pachyphylla</i> | Full Sun | Low | Insects | Purple | Summer- Fall | 2-3ft x 2-3ft | (AZ, CA, NV) Spectacular in bloom, good for erosion control and restoration; a favorite of hummingbirds. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | (Native to) Comments |
|----------------------|--|-----------------------|-------|-------------|-------------|---------------|-----------------------|--|
| Sand Cherry, Western | <i>Prunus pulmilla</i> var. <i>besseyi</i> | Full Sun | Low | Insects | White | Spring-Summer | 3-6ft x 4-6ft | (CO, MT, OR, UT, WY) Fragrant in bloom, special value to native bees; spreading and suckering habit. Fruits are attractive to wildlife. |
| Sumac, Autumn Amber | <i>Rhus trilobata</i> ¹ 'Autumn Amber' | Full Sun/ Pt Shade | Low | Insects | Yellow | Spring | 3ft x 7ft | Prostrate form of Three-leaf Sumac (<i>Rhus trilobata</i>). Spectacular fall color. Good ground cover in difficult spots. Tolerates clay and limy soil. |
| Sumac, Gro-Low | <i>Rhus aromatica</i> ¹ 'Gro-Low' | Full Sun/ Pt Shade | Low | Insects | Yellow | Spring | 3ft x 7ft | Orange-red fruit is enjoyed by wildlife. Fragrant. Spectacular fall color. Good ground cover in difficult spots. Grows in any well-drained soil, including clay. Good for erosion control. |

1. U.S. Dept. of Agriculture distinguishes between eastern (*Rhus aromatica*) and western (*Rhus trilobata*) Three-leaf Sumac. They overlap in AR, IA, KS, ND, NE, OK, SD, TX.

Trees

| | | | | | | | | |
|-----------------------------|--|----------|--------|------|---------------|--------|-------------------|--|
| Cypress, Arizona 'Blue Ice' | <i>Cupressus arizonica</i> var. <i>glabra</i> 'Blue Ice' | Full Sun | Low | Wind | Inconspicuous | Spring | 20-30ft x 12-15ft | A compact conical selection of Arizona Cypress (<i>Cupressus arizonica</i>). The frosty, silver-blue foliage is very attractive, making this a good substitute for Blue Spruce (<i>Picea pungens</i>) in the landscape. Heat and drought tolerant. Requires well-drained soil. |
| Oak, Burr | <i>Quercus macrocarpa</i> | Full Sun | Medium | Wind | Inconspicuous | Spring | 30-70ft x 30-70ft | (Saskatchewan east to New Brunswick, southwest to Texas, and north to Montana) Good shade tree. Large annual acorns loved by wildlife. Adapts to sandy, clay loam, and clay soils. Tolerates limy soil better than other oaks. |
| Oak, Texas Red | <i>Quercus buckleyi</i> | Full Sun | Medium | Wind | Inconspicuous | Spring | 50ft x 30ft | (KS, OK, TX) Gorgeous red color in late fall! Good shade tree. Biennial acorns loved by wildlife. Tolerates alkaline, neutral, and slightly acidic soil. |

| Common Name | Botanical Name | Sun | Water | Pollinators | Bloom Color | Bloom Time | Mature Height x Width | (Native to) Comments |
|-----------------|--------------------------|-----------------------|--------|-------------|-------------------|------------|---------------------------|---|
| Plum, American | <i>Prunus americana</i> | Full Sun | Medium | Insects | White | Spring | 15-25ft x thicket forming | (AZ, CO, MT, NM, UT, WA, WY) Fragrant blossoms, attractive to native bees. Small tart plums for birds and other wildlife. |
| Redbud, Eastern | <i>Cercis canadensis</i> | Full Sun/ Pt Shade | Medium | Insects | Pinkish Purple | April | 20ft x 25ft | (Eastern United States and into Canada) Attracts large numbers of butterflies and native bees and provides them with nesting materials. Purple seed pods attract birds and remain into winter. Beautiful blossoms! Provides fall color. Good tree for smaller spaces and for naturalizing. Tolerates clay soil. Elevation 4,500-6,000 ft. |

NOTES:

Cacti and Succulents



Cholla, Snow Leopard (Whipple Cholla)
Cylindropuntia whipplei 'Snow Leopard'

Joy Mandelbum



Yucca, Red (Texas Red Yucca)
Hesperaloe parviflora

Tracy Neal



Texas Red Yucca blossoms
Hesperaloe parviflora

Liz Makings



Yucca, Beaked *Yucca rostrata*

Tracy Neal

The Hot Box at Santa Fe Botanical Garden. Piñon Pine in the background, Apache Plume and Agave on far side of walkway. In the gravel around the Yucca are various Hedgehog cacti, Cholla, Prickly Pear and heat-loving perennials.

Perennials



Columbine, Dwarf (Rocky Mountain Blue Columbine)
Aquilegia saximontana

Gary A. Monroe



Phlox, Moss
Phlox subulata

Peter Gorman

Image not available

Gaura, Whirling Butterfly
Gaura lindheimeri 'Whirling Butterfly'



Sunflower, Maximilian
Helianthus maximiliani

Joy Mandelbaum

Shrubs



Joy Mandelbaum

Brittlebush, Antelope
Encelia farinosa



Joy Mandelbaum

Fernbush
Chamaebatiaria millefolium



Joy Mandelbaum

Cypress, Arizona 'Blue Ice'
Cupressus arizonica 'Blue Ice'



Joy Mandelbaum

Mahogany, Curl-leaf
Cercocarpus ledifolius



Sage, Mojave (Giant Purple Sage)
Salvia pachyphylla

Joy Mandelbaum



Sumac, Autumn Amber Joy Mandelbaum
Rhus trilobata 'Autumn Amber'



Sand Cherry, Western Joy Mandelbaum
Prunus pulmilla var. *besseyi*



Sumac, Gro-Low Joy Mandelbaum
Rhus aromatica 'Gro-Low'

Trees



Hawthorn, Cockspur
Crataegus crus-galli

Sally and Andy Wasowski



Oak, Burr Joy Mandelbaum
Quercus macrocarpa



Hawthorn, Thornless Cockspur

Joy Mandelbaum



Oak, Texas Red

Joy Mandelbaum

Crataegus crus-galli var. *inermis*

Quercus buckleyi



Plum, American
Prunus americana

Homer Edward Price

Redbud, Eastern
Cercis canadensis

Joy Mandelbaum

Glossary

annuals. Annual plants complete their life cycle—germinating, forming flowers, producing seeds, and dying—in one growing season. Compare with **biennials** and **perennials**.

awn. A stiff, slender, bristle-like appendage.

biennials. Biennial plants take two years to develop, growing only foliage in the first year and forming flowers and producing seeds in the second. Compare with **annuals** and **perennials**.

bunch grass. Any of various grasses, especially those of the western United States, that grow in clumps.

catkin. A flower cluster (on willow or oak trees, for example) in which the flowers grow in close circular rows along a slender stalk.

colony. A population of plants or animals in a particular place that belong to one species.

cool-season grasses. Grasses that will be green (that is, actively growing) when temperatures are 45-70 degrees Fahrenheit (spring and fall).

endangered. Defined by The Endangered Species Act (1973) as “a species ... in danger of extinction throughout all or a significant portion of its range.” See also **threatened**.

genus. A group of species with common features or ancestry. In botanical nomenclature, genus is the first element. For example, in the botanical name for purple coneflower—*Echinacea angustifolia*—*Echinacea* is the genus and *angustifolia* is the species.

hemiparasite. A plant that photosynthesizes to produce some of its own nutritional needs but relies on parasitizing another organism for the remainder.

inflorescence. A cluster of flowers.

limy. The parent material for many southwestern soils is limestone (CaCO_3), which is usually the source of high pH in our soils. High pH inhibits the uptake of minerals such as iron, leading to chlorosis (an abnormally yellow color of plant tissues) in plants that have not adapted. Synonymous with chalky.

panicle. A branched flower cluster (on lilac bushes or some grasses, for example) in which each branch from the main stem has one or more flowers; a pyramidal, loosely branched flower cluster.

perennials. Perennial plants live more than two years, blooming year after year. Compare with **annuals** and **biennials**.

pH. A measure of the activity of hydrogen ions in an aqueous solution. It is an important variable in soil because it affects the availability of nutrients to plants. Soils with pH between 6.8 and 7.2 are circumneutral; soils with lower pH levels are acidic; soils with higher levels are basic, or alkaline.

prickle. A small, hard, sharp-pointed outgrowth of the epidermis of plants such as roses. A prickle has no vascular tissue and can be easily broken off. Compare with **spine** and **thorn**.

rhizome. A somewhat elongated root-like and usually horizontal underground plant stem that produces shoots above and roots below. A rhizome is often thickened by deposits of reserve food material and is distinguished from a true root in that it has buds, nodes, and usually scale-like leaves. Compare with **stolon**.

riparian. Relating to or living or located on the bank of a natural watercourse, such as a river or lake.

root sucker. A shoot growing from the base or roots of a plant (such as wild plum or raspberry) and giving rise to a new plant that is a clone of the plant from which it comes. The growth of suckers is a form of asexual reproduction.

seed head. The dried flowering or fruiting part of a plant containing seeds. The basic unit of the seed head in grasses is called the spikelet, which is made up of the grass's flowers, the small stalks that support them, and bracts (small, papery leaves that cover the flowers). There are three types of seed heads—panicle, spike, and raceme—based on the arrangement of the spikelets:

panicle-type seed heads have spikelets that are borne on branches arranged along the central or main stem, which is basically an extension of the flower stem

spike-type seed heads have spikelets that are borne directly on the main stem. Perennial ryegrass is a turf grass with a spike-type seed head.

raceme-type seed heads have spikelets that are borne on very short branches along a main stem. True raceme seed heads are rare in grasses, and none of the cool-season turf grasses produce them.

seed pod. A pouch-like form on a plant that encloses the seeds.

softener. A plant that provides contrast with spiky or linear foliage.

soil texture. The texture of soil determines its water-holding capacity, permeability, and workability. Texture is classified according to the size of the soil particles, as follows:

sand—Coarse (2.0 – 0.05 mm). Water infiltrates quickly, and nutrients tend to leech away; water retention is poor.

silt—Medium (0.05 – 0.002 mm). Holds more water than sand, less than clay.

clay—Fine (smaller than 0.002 mm). Water infiltrates slowly and retention is good. Clay soils are sticky when wet, and the fine particles allow less space for oxygen in the root zone than do particles of silt or sand. Clay is the source of most chemical reactions and the fertility of the soil.

loam—A mixture of 20% clay, 40% sand, and 40% silt. Other combinations are named based on the relative proportion of

each: loamy sand, sandy loam, sandy clay loam, sandy clay, and so on.

species. A plant or animal with distinct features that can only reproduce with individuals of a similar nature. In botanical nomenclature, species is the second element. For example, in the botanical name for purple coneflower—*Echinacea angustifolia*—*Echinacea* is the **genus** and *angustifolia* is the species.

specimen. A plant grown by itself for ornamental effect rather than being massed with others in a bed or border.

spikelet. The smallest flower cluster in an inflorescence.

spine. A sharp-pointed structure originating from or related to a leaf, as in most species of cacti. A spine has vascular tissue. Compare with **prickle** and **thorn**.

stolon. Similar to a rhizome except that the elongated, horizontal stems are above ground. Stolons root at the nodes or tips and give rise to a new plant. Compare with **rhizome**.

subspecies (ssp., subsp.). A grouping within species that usually indicates a geographically separate or morphologically distinct population. Taxonomically **ssp.** ranks above **variety** and below **species**.

sun requirements. Full Sun is at least 6 hours of sun daily. **Part Shade** is 2 to 6 hours of sun daily. **Shade** is less than 2 hours of sun daily.

taproot. A large main root that grows straight down to a considerable depth and gives off many, smaller side roots.

thorn. A sharp-pointed structure formed by a modified branch or stem of, for example, a hawthorn. A thorn is woody and contains vascular tissue. Compare with **prickle** and **spine**.

threatened. Defined by The Endangered Species Act (1973) as “a species ... likely to become endangered within the foreseeable future.” See also **endangered**.

turf grass. Narrow-leaved grass species that form a uniform, long-lived ground cover that can tolerate traffic and mowing.

variety (var.). A taxonomic category that ranks below **species** or **subspecies**, where individuals within a population differ from those in the species or subspecies in minor, heritable characteristics.

warm-season grasses. Grasses that will be green (that is, actively growing) at temperatures above 60-65 degrees Fahrenheit (June-August).

water requirements.

Very Low—No supplemental irrigation is required once plant is established.

Low—Irrigation is required every 2 or 3 weeks during the growing season.

Medium—Irrigation is required every 1 or 2 weeks during the growing season.

High—Plants with high water needs typically grow in areas of greater rainfall or with more available groundwater than in Santa Fe; site these plants streamside or where runoff is available and irrigate as needed.

Resources

REFERENCES

- Allred, Kelly W. 2005. *A Field Guide to the Grasses of New Mexico*. Las Cruces, NM: Department of Agricultural Communications, New Mexico State University (Available in pdf format: http://aces.nmsu.edu/pubs/sale/documents/GrassesNewMexico_2016).
- Allred, Kelly W. and Robert DeWitt Ivey. 2012. *Flora Neomexicana III: An Illustrated Identification Manual*. Morrisville, NC: LuLu Press.
- Busco, Janice, and Nancy R. Morin. 2010. *Native Plants for High-Elevation Western Gardens*, 2nd ed. Golden, CO: Fulcrum Publishing.
- Carter, Jack L. *Trees and Shrubs of New Mexico*. 2012. Silver City, NM: Mimbres Publishing.
- Carter, Jack L., Martha A. Carter, Donna J. Stevens. 2009. *Common Southwestern Native Plants; An Identification Guide*. 2nd ed. Silver City, NM: Mimbres Publishing.
- Chance, Leo J. 2012. *Cacti and Succulents for Cold Climates*. Portland, OR: Timber Press.
- Finley, Willa. 2013. *Land of Enchantment Wildflowers*. Lubbock, TX: Texas Tech University Press.
- Fischer, Pierre C. 1989. *70 Common Cacti of the Southwest*. Tucson, AZ: Southwest Parks and Monuments Association.
- Ivey, Robert DeWitt. 2003. *Flowering Plants of New Mexico*. Albuquerque, NM: R. D. Ivey.
- Littlefield, Larry. 2015. *Wildflowers of the Northern and Central Mountains of New Mexico*. Albuquerque, NM: University of New Mexico Press.
- Miller, George Oxford. 2007. *Landscaping with Native Plants of the Southwest*. St. Paul, MN: Voyageur Press.
- Morrow, Baker H. 2016. *Best Plants for New Mexico Gardens and Landscapes*. Albuquerque, NM: University of New Mexico Press.
- Stubbendieck, James L., Stephan L. Hatch and Kathie J. Kjar. 1982. *North American Range Plants*. 2nd ed. Lincoln, NE: University of Nebraska Press.
- Wasowski, Sally. 2003. *Native Gardening in Northern New Mexico: Taos, Santa Fe, Los Alamos and other N.M. Highlands*. Albuquerque, NM: Native Plant Society of New Mexico. (*Out of print*)

WEBSITES

- Lady Bird Johnson Wildflower Center. Native Plant Database: <https://www.wildflower.org/plants/>
- National Audubon Society. Native Plants Database: <http://www.audubon.org/native-plants/>
- Native Plant Society of New Mexico: <http://npsnm.unm.edu/>
- Santa Fe Botanical Garden. Garden Explorer and Plant Database: <http://santafebotanicalgarden.org/explore-nature/plant-database/>
- SFEMG cactus demonstration garden plant list: <https://sfemg.org/wp2016/wp-content/uploads/2018/05/CactusGardenPhotoList-6-2017.pdf>
(Cactus Demonstration Garden Plants - Pictures and Descriptions, not all are New Mexico natives.)

The Plant List: <http://theplantlist.org/> A collaboration between the Royal Botanic Gardens, Kew Gardens, and Missouri Botanical Garden. (Used to resolve accepted botanical names.)

U.S. Department of Agriculture, Agricultural Research Service. Poisonous Plants List:

<https://www.ars.usda.gov/is/np/poisonousplants/poisonousplants.pdf>

U.S. Department of Agriculture, National Resources Conservation Service. The PLANTS Database: <http://plants.usda.gov/>

U.S. National Plant Germplasm System: <https://npgsweb.ars-grin.gov/> (Used to resolve accepted botanical names.)

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