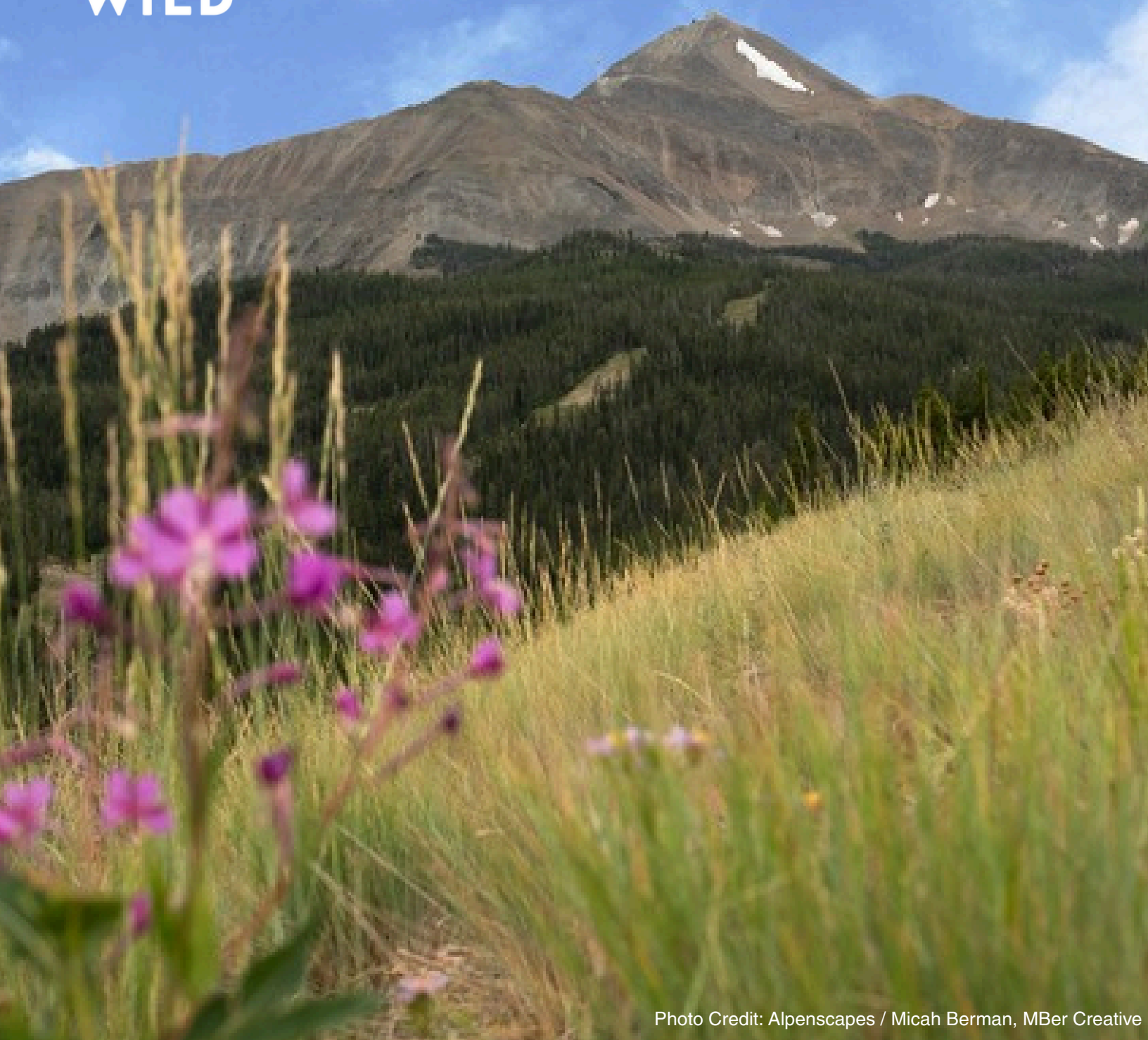




Grass Seed & Establishment Guide





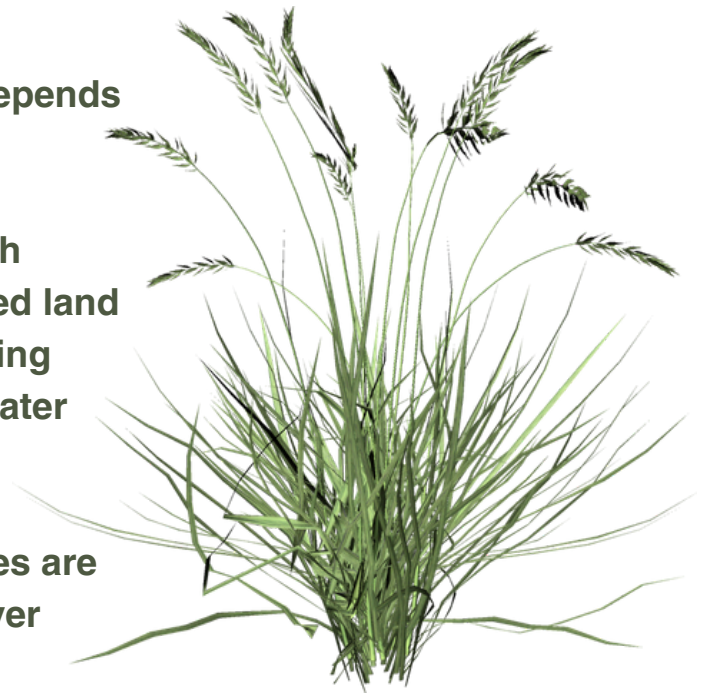
Grass Seed & Establishment Guide

At Grow Wild, we believe healthy landscapes begin with the right plants in the right place—and a clear path to successful establishment and long term function. Our work supports landowners in stewarding resilient, sustainable land through thoughtfully designed grass and wildflower seed mixes paired with practical and appropriate care and maintenance.

Successful seeding in southwest Montana depends on more than species selection alone.

It requires aligning plant species choices with climate, soils, moisture, sunlight, and intended land use—while also preparing sites properly, timing seeding to local conditions, and managing water and weeds during establishment.

When these pieces come together, landscapes are far more likely to establish quickly, persist over time, and function as intended.



Native grasses play a central role in this process. Adapted to local conditions, they develop deep, drought-resilient root systems that stabilize soils, improve water infiltration, and support wildlife and ecosystem services. Over time, they require fewer inputs than conventional plantings while contributing to biodiversity and overall ecosystem health.

Each mix in this guide is composed of commercially available species and designed at a one-acre scale, with flexibility to adjust for project size. Seeding rates assume broadcast application—the most common method for landowners—while also being compatible with drill seeding or hydroseeding where appropriate. Mixes are intentionally streamlined, typically including five to nine species, to balance diversity with reliable establishment and manageable maintenance.

The following seed mixes are tailored to common environmental conditions, landscape types and goals in the Big Sky region—from forested settings to open meadows, restoration sites to managed lawns. Paired with the included establishment guidance, they provide a practical foundation for creating landscapes that are durable, functional, and rooted in place.

Seed Establishment

Successful seeding comes down to knowing your site and objectives, proper site prep, correct timing, good seed-to-soil contact, and correct timing to capitalize on moisture, good seed-to-soil contact and competition management.

1) Identify your site characteristics and objectives.

Successful seeding begins with understanding your site conditions and landscape goals. Factors such as sunlight, soil type, drainage, moisture availability, slope, elevation, and existing vegetation all influence how well a planting will establish and persist over time. Disturbed or compacted soils, heavy weed pressure, and varying moisture conditions should also be considered before seeding. Matching the right seed mix to the right place improves germination, reduces long-term maintenance needs, and creates a more resilient landscape adapted to local climate and growing conditions.

2) Site Preparation (Most Important Step)

Healthy seedlings begin below ground. Avoid over-compaction—deep rip disturbed soils to improve root growth and water infiltration. After grading, lightly roughen (don't smooth) the soil surface to slow runoff and provide safe sites for seed catchment.

Create a firm, weed-free seedbed by controlling competing vegetation—this is critical. Seeds establish best when pressed into soil that is firm (not fluffy) and free of competing vegetation.

Utilize available topsoil from the site.

3) Seeding Methods

- Broadcast Seeding (DIY): Most common for landowners. Spread evenly, then rake/pack. Increase rates slightly to account for lower broadcast germination efficiency.
- Drill Seeding: Most accurate method—places seed at proper depth with excellent soil contact; best for larger, accessible sites.
- Hydroseeding: Good for slopes and erosion control; It requires two operations. First, apply the seed with a trace amount of mulch to ensure good seed-to-soil contact. Second apply the remaining mulch and moisture application.
- DIY Tip: Mix seed with sand or similar material for even distribution.



*Volunteer seeding Idaho fescue
at Crail Gardens, 2020*

Seed Establishment (continued)

4) Timing (Critical in Montana)

- Fall (Preferred): Late fall/dormant seeding (after Oct 15th) allows natural cold stratification and often improves germination for native species.
- Spring (Secondary): Seed after snowmelt, after treating weeds, and no later than May 15th. Requires more active watering and may delay germination for some natives.
- Avoid mid-summer seeding unless irrigation is reliable.

5) Seeding Depth & Soil Contact

- Most grass and wildflower seed should be placed very shallow ($\frac{1}{4}$ – $\frac{1}{2}$ inch deep or less).
- Do not bury seed deep—this is a leading cause of failure.
- After seeding, pack or roll the soil to ensure firm contact.

6) Watering During Establishment

Water is often the deciding factor for success.

- Keep the top layer of soil consistently moist through germination.
- Use light, frequent watering rather than deep, infrequent irrigation.
- Continue watering through the first growing season as needed.
- After establishment, most native mixes require little to no irrigation.



Our Executive Director has found alfalfa hay mulch especially effective—the sturdy stems help anchor soil and seed, while the leaves break down quickly to support soil health.

7) Mulch & Erosion Control

Apply a light mulch layer (weed-free straw or hydromulch) to:

- Retain moisture
- Reduce erosion
- Protect seed from wind and birds
- Avoid covering seed too heavily—light penetration is important for seed germination.

8) Early Maintenance (Often Overlooked)

- Expect weeds in year one—this is normal.
- Mow at 4-6 inches (or above desired species) or use a labeled broadleaf herbicide to reduce weed competition and allow light to reach seedlings in grass stands.
- Native plantings may take 2–3 years to fully establish.
- Establish wildflowers after 1st or second year when broadleaf weeds are controlled in grass stand. There are no selective herbicides available for weed control in mixed grass-wildflower plantings.

Case Study: Establishing Idaho Fescue at Crail Gardens

Fall 2020

- Treated weeds and smooth brome twice
- Removed dead plant material
- Added ¼" topsoil
- Seeded with Idaho fescue



Spring 2021

- Record-dry spring limited germination
- Treated remaining non-native grasses



Summer 2021

- Re-prepped site; added ¼" topsoil
- Seeded perimeter area in late-summer, strong germination under temporary irrigation



Late Summer 2021

- Delayed seeding around Cabin due to lack of irrigation
- Installed erosion control mats



Spring 2022

- Wet spring improved germination around cabin

Success!



Summer 2022

- Weed-whacked and hand-pulled nuisance weeds
- Ongoing weed control until grass establishment



Summer 2024

- Idaho fescue firmly established without supplemental watering
- Wildflowers beginning to spread between bunchgrasses as intended
- Continued hand-pulling weeds, with declining maintenance needs



Canyon to Mountain Native Grass Mix

Developed for U.S. Forest Service restoration projects, this mix is designed for canyon bottoms to mid-mountain elevations where weed control has been implemented prior to seeding. It supports long-term soil stability, site resilience, and native plant community establishment across variable moisture and slope conditions.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Mountain Brome	Garnet or Bromar	25%	10.0
Thickspike Wheatgrass	Critana	25%	7.0
Big Bluegrass	Sherman	25%	2.0
Slender Wheatgrass	Pryor	10%	2.8
Bluebunch Wheatgrass	Anatone or Goldar	15%	4.2
Total Seeding Rate: (broadcast application assumed):			26 PLS lbs per acre

This simplified five-species mix balances early establishment with long-term persistence. Slender wheatgrass and mountain brome provide quick initial cover, while bluebunch wheatgrass, thickspike wheatgrass, and big bluegrass contribute durability, drought tolerance, and lasting stand structure.

Low Meadow Seed Mix

Designed for lower-elevation meadow settings with deeper soils and moderate moisture, this mix is well suited for open fields, pasture edges, homesites, and rehabilitated disturbed areas where a durable, adaptable vegetative cover is desired. It performs especially well in sunny locations with seasonal soil moisture and supports erosion control, soil health, and a stable perennial stand.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Sheep Fescue	Covar	20%	0.8
Canada Bluegrass		20%	0.6
Orchardgrass	Potomac	20%	1.0
White Clover	Ladino	20%	1.6
Western Wheatgrass	Rosana	20%	2.8
Total Seeding Rate: (broadcast application assumed):			6.8 PLS lbs per acre

This balanced five-species mix combines fine-textured turfing grasses, productive bunchgrasses, and a nitrogen-fixing legume to create a resilient meadow planting. Sheep fescue and Canada bluegrass provide dense, low-growing cover and drought tolerance, while orchardgrass adds vigor and biomass production. Western wheatgrass contributes persistence and soil-stabilizing roots, and white clover enhances pollinator value while naturally improving soil fertility. The result is a versatile mix that establishes readily, remains attractive, and performs well under a variety of lower meadow conditions.

Tall Meadow Seed Mix

Designed for open meadow settings where a taller, more vigorous plant community is desired, this mix is ideal for larger properties, scenic open spaces, wildlife areas, and sites where visual screening, forage value, or enhanced biomass production are priorities. Best suited to full sun and moderate soil moisture, it creates a robust meadow stand with seasonal movement, texture, and ecological value.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Mountain Brome	Garnet or Bromar	20%	4.0
Big Bluegrass	Sherman	20%	0.8
Orchardgrass	Potomac	20%	1.0
Slender Wheatgrass	Pryor	10%	1.4
Bluebunch Wheatgrass	Anatone or Goldar	20%	2.8
Alsike or White Clover		10%	0.8
Total Seeding Rate: (broadcast application assumed):			10.8 PLS lbs per acre

This six-species mix emphasizes height, structure, and long-term resilience. Mountain brome and orchardgrass establish quickly and provide early canopy development, while big bluegrass adds upright stature, warm-season productivity, and strong summer presence. Bluebunch and slender wheatgrass contribute drought tolerance, deep roots, and persistence across variable conditions. Alsike or white clover will improve pollinator value and naturally enhances soil nitrogen. Together, these species form a dynamic tall meadow planting that offers beauty, habitat, and dependable performance over time.

Mowed Lawn Seed Mix

Designed for managed landscapes where a clean, uniform appearance is desired, this mix is ideal for residential lawns, common areas, and spaces that will be regularly mowed. It performs well in full sun to partial shade and is suited to sites where irrigation or periodic moisture is available to support a consistently green, low-growing turf.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Sheep Fescue	Covar	100%	8.0
Total Seeding Rate: (broadcast application assumed):			8.0 PLS lbs per acre

This single-species mix emphasizes simplicity, durability, and low-input performance. Sheep fescue forms a fine-textured, dense turf that remains naturally short and requires less frequent mowing than conventional lawn grasses. Its drought tolerance and modest nutrient needs make it well suited to mountain environments like Big Sky, where water conservation and reduced maintenance are priorities. The result is a soft, cohesive lawn surface that balances aesthetics with ecological practicality.

Wildflower (Native) Seed Mix

Designed to restore vibrant, ecologically functional landscapes, this mix is ideal for meadows, open spaces, roadsides, and naturalized areas where supporting native pollinators and biodiversity is a primary goal. It performs best in full sun to partial shade across a range of mountain and valley conditions, particularly where long-term habitat value and seasonal bloom diversity are desired.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Bluebunch Wheatgrass	Anatone or Goldar	15%	2.1
Sticky Geranium		10%	4.0
Rocky Mountain Beeplant		15%	4.1
Northern Sweet Vetch	Timp	10%	5.0
Silver or Bigleaf Lupine		15%	2.6
Blue Flax	Maple Grove	10%	0.7
Prairie Coneflower	Stillwater	15%	0.6
Blanketflower	Meriwether	10%	1.2
Total Seeding Rate: (broadcast application assumed):			20.2 PLS lbs per acre



This diverse eight-species mix blends native grasses, legumes, and flowering forbs to create a resilient, pollinator-rich planting with continuous seasonal interest.

Bluebunch wheatgrass provides a durable structural base and drought tolerance, while lupine contributes nitrogen fixation and soil health benefits.

A wide range of flowering species—including beeplant, geranium, coneflower, flax, and blanketflower—ensures blooms from early through late season, supporting a diversity of pollinators.

The result is a dynamic, self-sustaining native planting that enhances ecological function, visual appeal, and long-term landscape resilience.



Wildflower (Introduced/Native) Seed Mix

Designed for colorful, pollinator-friendly plantings, this mix is ideal for garden spaces, small meadows, roadsides, and residential landscapes where seasonal bloom and habitat value are priorities. It performs best in full sun with moderate moisture and is well suited to sites where visual appeal and ecological function are equally important.

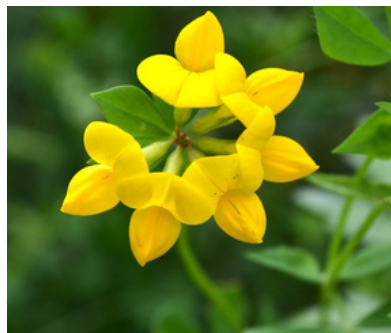
Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Orchardgrass	Potomac	20%	1.0
Alsike Clover		20%	0.6
Birdsfoot Trefoil		20%	1.2
Rocky Mountain Beeplant		15%	4.1
Blue Flax	Appar	10%	1.8
Blanketflower	Meriwether	15%	0.7
Total Seeding Rate: (broadcast application assumed):			9.4 PLS lbs per acre

This six-species mix blends grasses, legumes, and flowering forbs to create a dynamic and visually engaging planting.

Orchardgrass provides a structural base and helps stabilize soils, while alsike clover and birdsfoot trefoil contribute extended bloom periods and natural nitrogen fixation.

Rocky Mountain beeplant, blue flax and blanketflower add vibrant seasonal color and strong pollinator attraction, supporting bees, butterflies, and other beneficial insects.

Together, these species establish a lively, diverse planting that enhances biodiversity while delivering reliable performance and aesthetic value.



Forested Seed Mix

Developed for partially shaded woodlands, forest openings, lodgepole pine understories, and mountain properties with filtered sunlight, this mix is designed for sites where cooler temperatures, variable moisture, and tree competition influence establishment. It is well suited for restoring disturbed forest soils, stabilizing slopes, improving understory diversity, and creating a naturalized ground layer compatible with surrounding woodland ecosystems.

Species	Suggested Cultivar	Composition	Pounds / Acre (lb/ac)
Bluebunch Wheatgrass	Anatone or Goldar	15%	2.1
Orchardgrass	Potomac	15%	0.75
Thickspike Wheatgrass	Critana	20%	2.8
Nevada Bluegrass	Opportunity	10%	0.4
Slender Wheatgrass	Pryor	10%	1.4
Mountain Brome	Garnet or Bromar	20%	4.0
Silver or Bigleaf Lupine		10%	1.7
Total Seeding Rate: (broadcast application assumed):			13.2 PLS lbs per acre

This diverse seven-species mix balances shade tolerance, early establishment, and long-term persistence in forested settings. Orchardgrass and mountain brome provide dependable early cover and biomass, while thickspike, bluebunch, and slender wheatgrasses contribute deep rooting, drought tolerance, and soil stabilization. Nevada bluegrass adds fine-textured cover adapted to cooler mountain climates, and silver lupine enhances biodiversity, seasonal bloom, and nitrogen fixation. Together, these species create a resilient understory planting that blends naturally into forest landscapes while improving ecological function.

Key Takeaways

Establishment takes planning, patience, and maintenance but the payoff is lasting. With the right approach, these seedings grow into durable, low-input landscapes that hold soil, manage water, and support life above and below ground.

Start with good site preparation, follow through with consistent early care, and allow time for the system to develop. What begins as seed becomes a landscape that works—for your property and the broader ecosystem.

Let It Grow Wild!

Shared Knowledge, Shared Stewardship

With deep gratitude to **Larry Holzworth and Monica Pokorny**, whose combined decades of experience, stewardship, and love of the land helped shape this guide.

Larry Holzworth, a Grow Wild board member, dedicated 37 years to the Natural Resources Conservation Service as an Agronomist, Plant Materials Center Manager, and Plant Materials Specialist, working alongside landowners across the Mountain West on conservation, restoration, and resilient working landscapes.

Monica Pokorny, Plant Materials Specialist with the Natural Resources Conservation Service in Bozeman, Montana, continues this work through leadership in conservation plant materials, native plant establishment, and invasive species management.

Together, their knowledge reflects a lifelong commitment to understanding, restoring, and caring for the landscapes that sustain both people and wildlife.



Land Stewardship & Conservation

We work to conserve native species in the Upper Gallatin Watershed through education, habitat restoration, and collaborative land stewardship.

Resources You'll Find at [GrowWildMT.org](https://growwildmt.org)

Explore practical tools and local expertise to help you care for your land and support healthy landscapes.

- **Landowner Toolkit** — Practical guides for revegetation, native plants, weed management, and habitat restoration to help landowners care for healthy, resilient landscapes.
- **Native Plants** — Learn about native grasses and wildflowers that thrive locally and support pollinators, wildlife, and resilient landscapes.
- **Noxious Weeds** — Access species-specific fact sheets, weed ID tools, and management tips to help control invasive plants effectively.
- **Our Work** — Learn how Grow Wild restores habitat, manages invasive species, supports native wildlife, and engages the community through conservation and education projects.
- **Events** — Join guided hikes, educational workshops, volunteer weed pulls, and community stewardship events in the Upper Gallatin Watershed and beyond.
- **Volunteer** — Give a little time to protect the places you love!
- **Donate** — Support local conservation, education, and restoration efforts that keep southwest Montana's landscapes healthy for future generations.



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