

Annual Report





Committed to Stewardship

Clean, clear, cold waters of the Gallatin River. South facing hillsides covered in yellow Arrowleaf Balsamroot. Bees, moths, and butterflies buzzing among wildflowers. Elk grazing bluebunch wheatgrass with newborn calves at their sides. Young grizzlies flipping logs to find a morning snack.

This is what we work to protect.

Our Mission

Protect natural resources from the threats of invasive species.

Our Vision

Healthy and resilient ecosystems in the upper Gallatin Watershed.



Invasive Species Education

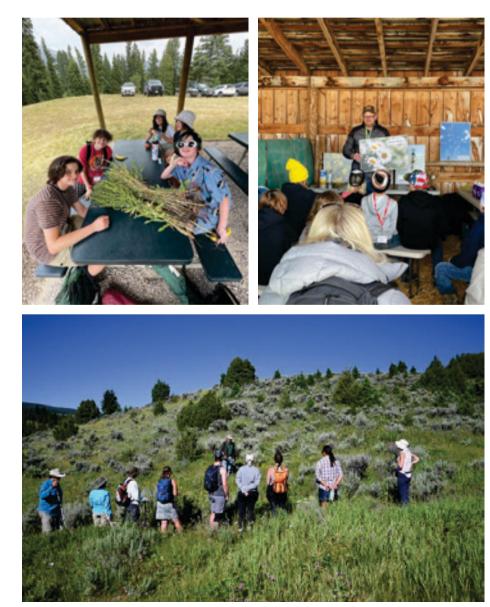
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We inspire youth and adults to become champions of conservation to help ensure that the places we love are not destroyed by our pursuit to experience them.

2008-2022 By the #'s 15 Years Kids 12,527 2,470 Adults 207 Classes & Events

Big Sky Farmers Market · Camp Big Sky Jack Creek Preserve Outdoor Skills Camp Gateway Youth Group · Earth Day Summit @ Flying D Ranch · Gallatin Valley Farm Fair · One Montana's Master Hunter Courses · Small Acreage Pasture Management Classes · Streamside Series Walk · Wildflower & Weed Hikes

Presentations to Big Sky Landscaping, Gallatin Canyon Women's Club, Gallatin Conservation District, Montana Weed Control Association, Sacajawea Audubon Society, and Stillwater Watershed Council.



Clean Recreation **K**i





Recreationists spread invasive species, both by land and by water.



By adhering to clean recreation practices, we can prevent the spread of invasive species to our beloved public lands and waters. Since 2016, the Alliance has promoted nationally adopted campaigns to protect our lands and waters.

2016-2022 By the #'s

- 0 7 ∜ PCG Trailhead Si
 - 7 🥤 PCG Trailhead Signs
- 555 PCG Kids Kits Distributed
- 4.9M Media Impressions
- 5.3M Billboard Views
- 9.5K R Items Distributed



Landowner Stewardship Program

Active stewardship by landowners is critical to ensure the health of both private property and public lands in and around Big Sky.

Our cornerstone Landowner Assistance Program provides landowners with the tools and resources to address invasive plants using best management practices and adaptive strategies.

> In 2022, the Alliance inspected 61 properties encompassing 527 acres.



2008-2022 By the #'s

949

15 Years Property Inspections 12,060 Acres Inspected 1 Weed Free Property



Bighorn Sheep Winter Range

In 2010, we identified the winter range of the Spanish Peaks bighorn sheep herd as critical wildlife habitat compromised by invasive species. Since then, the Alliance has been managing noxious weeds and experimenting with native plant restoration.

Partners

- Dr. Jane Mangold, Montana State University Professor and Extension Invasive Plant Specialist
- Monica Pokorny, Plant Materials Specialist USDA-NRCS
- Mike Jones, Senior Assistant Coordinator, Gallatin County Weed District & Alliance Board Member
- Danielle Jones, Assistant Coordinator, Gallatin County Weed District & Alliance Board Member
- Larry Holzworth, retired Soil Conservationist, Plant Materials Center Manager and Plant Materials Specialist USDA-NRCS & Alliance Board Member



- 2015 In 2015, we built vegetation test plots to determine what native plants (grass and forbs) could compete with cheatgrass on the steep hillside and its shallow soils.
- 2018 After three years of monitoring, test plots showed low establishment of native species, and we looked for another way to suppress the abundant cheatgrass so that natives could compete.
- 2020 Partners developed a plan to test a promising new herbicide shown to successfully suppress cheatgrass germination for five years, giving native plants the room to establish and thrive. With the onset of COVID, plans were on hold.
- 2022 Partners reconvened and laid out test plots in June. Three sites representing different canopy cover of cheatgrass were selected and plotted. Treatments were applied on September 29th and October 4th.
- 2023 + We will monitor test plots for the next three years. If successful, plans will be developed to expand and improve more of the bighorn sheep's winter range.

Habitat Owners Association Program

In the Big Sky area, habitat fragmentation and loss are fundamental threats to wildlife survival.

The threats of invasive species to wildlife habitat

✤ forage reduction

🗴 changes in water quality and availability

✤ disruption of seasonal migration patterns is fast increasing as Big Sky continues to grow.

In response, the Alliance initiated our Habitat Owners Association program to manage invasive plants in open space for the benefit of wildlife.

Partnering with individual homeowner associations and the Gallatin County Weed District, the Alliance aims to enhance wildlife habitat in open space by leading an invasive species management effort for a three-year period. The goal is to educate and provide technical assistance to kick start habitat improvement. At the end of the three years, HOAs have the tools and knowledge to continue protecting wildlife habitat.

2022 Partners

Gallatin Invasive Species Alliance Gallatin County Weed District Porcupine Landowners

2014-2022 By the #'s Years 5 HOAs 65 Landowners Acres 264 \$90,440 Value to HOAs

All land is habitat,

and all habitat is critical

Conserve Our Canyon



The Upper Gallatin Watershed encompasses some of the most ecologically and economically important resources in our county, which provide vital habitat and water for fish, plants, wildlife, and the people who live and recreate in the area.

Conserve Our Canyon cooperative project aims to facilitate effective management of noxious weeds in the Gallatin Canyon and protect its natural resources for the benefit of all who enjoy and rely upon them.

2019-2022 By the #'s 4 🌱 Years 66 Sites 1,356 | Acres \$14,700 Contributed Funds \$47,223 🙏 Matching Funds

The Alliance secures and provides funding to Custer Gallatin National Forest to hire the Montana Conservation Corps Wildlands Restoration Team, who are trained in noxious weed management.

We identify areas of concern and work closely with our partners to treat heavily used public lands, such as trailheads, fishing access sites, campgrounds, national forest system roads, and river restoration sites.





2022 Treatment Locations

- Storm Castle Road
- Shenango Helibase
- Storm Castle Trailhead
- Spire Rock Campground
- Rat Lake Flat Camping Area
- Upper Rat Lake Trailhead
- Karst Rd / Asbestos Mine Trailhead
- Portal Creek Flats
- Deer Creek Meadow
- Elkhorn Trailhead
- Porcupine Trailhead
- Deer Creek Trailhead
- Moose Creek River Restoration Site
- Upper Deer Creek River Restoration Site

Community Weed Pulls

Stewardship in Action

Removing noxious weeds from public lands and parks, trailheads, and river access sites helps protect the places we love.

- 2008-2022 By the #'s
 - 15 [↓] Years 45 | Weed Pulls
 - 1,364 Volunteers
 - 20,859 👃 Pounds of Noxious Weeds





Conserve · Educate · Inspire

In 2019, the Alliance built a demonstration garden at Crail Ranch using native plants that are wildlife friendly, water wise, and preserving of the historic landscape.

This is our garden's story three years later.





Why Plant Native?



Because animals directly or indirectly depend on plants for their food, the diversity of animals in a particular habitat is very closely linked to the diversity of the plants in that habitat.

Native plants:

- are adapted to local conditions, requiring less fertilizer and pesticides
- improve air quality by reducing mowing and sequestering carbon
- require less water to thrive and help control stormwater runoff
- provide food and shelter for wildlife and supports pollinators.

Chamerion angustifolium, Fireweed, is nutritious because it's high in digestible energy.

As a late season bloomer, fireweed is an important resource for many pollinators.



Native plants are the foundation of the terrestrial food web.

When fireweed is abundant, elk and moose have greater reproduction rates and bigger calves at weaning.







Crail Gardens are a Pollinator Buffet



\checkmark Bees are not the only pollinators.

The list is long and includes hummingbirds, moths, wasps, flies, beetles, ants, bats, and butterflies – just to name a few!

- Potter Wasp on Sulfur Buckwheat 1
- Sand Wasp on Showy Fleabane 2
- Carrot Wasp on Pearly Everlasting 3
- Edwards' Fritillary on Blanketflower 4
- Red-belted Bumblebee on Harebell 5

Diversity of species is a sign of a healthy ecosystem.



Keystone Species

Keystone plants have a disproportionately large effect on the abundance and diversity of other species, like insects, in an ecosystem.

Keystone Plants at Crail Gardens

Helianthus maximiliani, Maximilian Sunflower

Symphyotrichum laeve, Smooth Blue Aster

Solidago rugosa, Goldenrod

Erigeron compositus, Cutleaf daisy





Life at Crail Gardens



"If something is not eating the plants, then the garden is not part of the ecosystem." – Crail Garden Rabbit

Early morning visits in the late summer reveal native bees sleeping under flowers, clasping the stem to stay secure.

> "In the past, we have asked one thing of our gardens: that they be pretty. Now they have to support life, sequester carbon, feed pollinators and manage water." – Dr. Doug Tallamy

Rocky Mountain Penstemon makes for a great sleeping spot for this pollen wasp.







Lessons from the Garden







Nature is Messy

We seeded native grasses in the fall of 2020. The following spring was one of the driest on record, resulting in little to no germination. With persistence and effort the fall 2021 seeding was successful. However, as with any restoration effort, nuisance and noxious weeds will be managed for the next few years to ensure the successful establishment of idaho fescue.

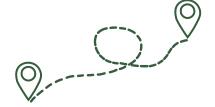
Invasive Species are Aggressive

In 2020, we planted a variety of noxious weeds for educational purposes in a metal stock water tank. After 2 years, Canada thistle dominated the planting and even punched through the metal tank and crept outward, getting a foothold in our native grass area. The thistle was managed and will continue to be monitored as its creeping root systems are notoriously persistent.

Image to the right shows 2 years of root growth!



Natives Travel



Both Buttercup and Many Flowered Stickseed were found in the gardens this year. They were not planted, but found their own way to our gardens.

Crail Gardens - A Gathering Place





11 Events

192 People

Big Sky

Wildflower

Festival

Native Plant Sale · Open Houses **Educational Tours & Workshops** Bag the Peak Cornhole Tournament Summer Wine Down

Flower Arranging Workshop Crail Garden Open House Wildflower Sidewalk Chalk Art @ BASE Noxious Weed Bouquet Contest Weed & Wildflower Hike Creating Native Landscapes Workshop Wildflower Photography Workshop

Thank You Volunteers!



48 volunteers

116 hours

















Bag the Peak Cornhole Tournament Fundraiser



The competition was spirited, the food was delicious, and the weather was perfect!



2022 Champions Jim & Bradley!

"This is hands down the best event, the best vibes, the best crew, the best crowd to serve of all of the events I do. Thanks for making it so awesome!" – Lindsie Hurlbut, Butter & Salt

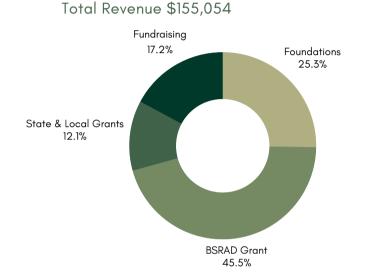
Thank you participants & sponsors!





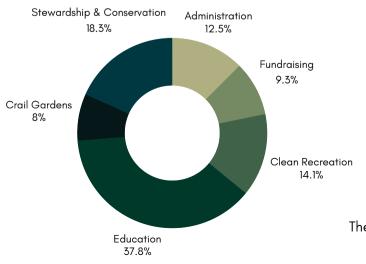
FY 1.1.2022 - 12.31.2022

Revenue by Source



Expenses by Program

Total Expenses \$166,443* *Includes 20,143 for completion of projects funded in 2021.



Not included in the revenue or expenses are:

\$50,722 of In-Kind Donations

\$7 average project match to every \$1 of resort tax grant funding

Thank you Volunteers!

For helping us protect and restore our natural resources!

172 volunteers + 2 dogs · 445 hours



The Gallatin Invasive Species Alliance is a 501c3 Charitable Nonprofit. Donations are tax-deductible and our Tax ID # is 46-5544351

Thank you donors & sponsors!

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