

ZERO SPREAD



Gallatin / Big Sky
Weed Committee

Gallatin/Big Sky Weed Committee

www.bigskyweeds.org

901 N. Black Bozeman, MT 59715

(406) 209-0905

bigskyweeds@gmail.com

2015 Annual Report

The Gallatin/Big Sky Weed Committee is a community driven non-profit organization working to protect and conserve native ecosystems from invasive exotic plant species in the Big Sky community and the Gallatin River watershed. These invasive plants affect all Montanans directly or indirectly through impacts on resources such as fish, wildlife habitat, recreation, and overall watershed health. Working collaboratively with federal, state, county, and local partners, the Committee promotes the management of invading noxious weeds by focusing on education, prevention, early detection, and rapid and timely response.

*The health and prosperity of Big Sky is
intimately & irrevocably linked to the health and prosperity
of the surrounding ecosystem.*



From Our Vice Chair: Why it Matters



I am a retired U.S. Forest Service resource assistant with 40 years of natural resource management experience.

Managing weeds, in addition to everything else I had to do, was

overwhelming. The biggest challenges to the weed program were and still are; keeping up on weed inventories, limited budgets, public education (and apathy), and trying to coordinate public and private weed suppression resources.

The Gallatin Big Sky Weed Committee (GBSWC) helped me immensely with these challenges. They helped so much I decided to volunteer on the Committee after I retired.

Resource managers everywhere recognize that invasive non-native species are the largest threat to the integrity and function of terrestrial and aquatic environments. The Gallatin watershed is no exception.

Over the years, I have seen landscapes recover from million+ acre wildfires, debris flows, floods, native insect epidemics, logging roads, poor land management practices, etc., but I have never seen a landscape recover from the introduction of invasive plants. There are no mechanisms present that allow landscapes to recover from weeds. Once they are established, they are there forever.

The GBSWC is the synergistic component of local weed management and brings university, private, state, federal, and county weed managers together to work effectively. The GBSWC is exactly what the Big Sky needs to address this critical issue.

John Councilman

Board of Directors

Michael Jones, 2015 Chair

Gallatin County Weed District
Assistant Coordinator/Foreman

John Councilman, 2015 Vice Chair

Gallatin National Forest Vegetation
Management Specialist, Retired

Don McAndrew, 2015 Secretary

Engineer & Hydrologist with the
Natural Resource & Conservation
Service, Retired

Larry Holzworth

Adjunct Instructor at Montana State
University, Plant Materials Center
Manager & Specialist with Natural
Resource Conservation Services,
Retired

Emily Lockard

MSU Extension Agricultural Agent

Brad Bauer

MSU Extension Natural Resources
Agent

Lorri Lagerbloom

Horticulturalist, Wild Onion Gardens
LLC

Hannah Estabrooks

Plant Science & Pathology Graduate
Research Assistant, Montana State
University

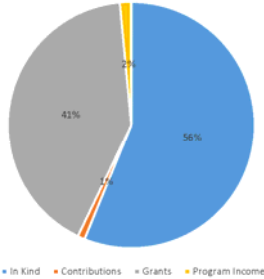
Katie Coleman

Administrative Assistant, Hammond
Property Management

*The individuals who serve on
the board represent a combined
160 years of involvement and
expertise in natural resources
and noxious weeds.*

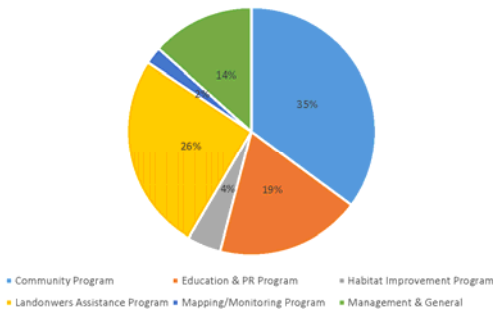
Financial Report: Investing in Big Sky

Revenues by source



Total \$91,151.29

Expenses by Program



Total \$90,279.36

Yellowstone National Park has identified the spread of noxious weeds as the #1 threat to the Park's health.

Total funding for the Committee has either decreased or stagnated over the last several years, while the need for our services has only continued to increase.

Weed invasion and spread are directly related to continued growth in the community. To adequately address the issue, funding must mirror that growth.

The Committee's programs are proven to be cost effective:

For the past four years, the Committee has averaged \$1.50 of in-kind match for every \$1 in grant funding.

2012 - \$1 of grant income was matched with \$2.40

2013 - \$1 of grant income was matched with \$1.30

2014 - \$1 of grant income was matched with \$0.94

2015 - \$1 of grant income was matched with \$1.36



In the five years of treating the bighorn sheep winter range, the Committee's \$2,700 was matched with approximately \$38,000 in personnel time and materials.

**That represents a
14 to 1 match!**

For over a decade, the Committee has a proven track record of public / partner / agency support.

What the Gallatin/Big Sky Weed Committee brings to the Big Sky Community:

An active, engaged board with extensive expertise

A direct conduit to County, State, and Federal resources

A proven, cost effective, and comprehensive program

Support and engagement by a broad spectrum of partners

Free on-site assistance to landowners

Community Program:

Raising awareness and educate the public about noxious weeds and their impact on the ecosystem through community events, partnerships, and programs.



“I volunteered alongside Jen this year (at the Farmer’s Market) and witnessed countless individuals...as they eagerly learned about noxious weeds in Montana. Many people did not know that the Weed Committee existed and readily took Jen’s card in order to schedule her for a site visit...We also made an impact with visitors to our area who were amazed to learn that plants such as Oxeye Daisy and Yellow Toadflax are actually noxious species...above all else, everyone we talked with was very impressed by Jen’s passion and dedication to this important issue...**I am so impressed with the Committee and its work, that I will now be joining the board in an effort to better our community.**” - Hannah M. Estabrooks



2008 - 6 Events

2015 - 27 Events

**That’s a 450% increase
in 8 years!**

The solution to effective noxious weed management is educating both the individual landowner and the greater community.

2015 Community Events

Montana Weed Control Association Annual Conference

Big Sky Weed Summit

Interagency Weed Managers Meeting

Gallatin County Farm Fair

MSU Extension Pasture Management Class for Small Acreage Landowners - Noxious Weeds Class & Tour

Montana Outdoor Science School Watershed Festival

Gallatin Gateway Youth Group Weed Pull

7th Annual Gallatin Weed Pull and River Clean Up

3rd Annual Big Sky Community Weed Pull

3 Wildflower & Weeds Interpretive Hikes

Big Sky Landscaping Presentation

Big Sky Natural Resource Council

3rd Annual Cooperative Treatment Day in Big Sky

3 Big Sky Community Corporation’s Kids Camps

Gallatin River Task Force Fly Fishing Festival

2 Jack Creek Preserve Kid’s Camps

Big Sky Farmers Market

Big Sky Owners Association Annual Meeting

Ophir School Weed Education Event

Pesticide Recycling Program

Community Program Spotlight: *Ophir School Field Trip*



“Once again, I am so pleased to have the cooperation and support of the Gallatin/Big Sky Weed Committee.

Teaching about noxious weeds may not seem like the most exciting topic. However, each year I am amazed at the student’s enthusiasm for becoming experts on something that is very prevalent in their lives and Big Sky and the surrounding areas.

8 years

267 kids educated

**2935 lbs of noxious weeds
collected**

This enthusiasm is taken to new levels once we are able to put their knowledge to action when we meet and have our annual field trip with the Gallatin/Big Sky Weed Committee.

This year was especially outstanding; the students were fully engaged in hands-on activities at stations where they applied their learning to field work. I was overly impressed with the fun, engaging games and activities the Committee was able to create.



Students also love the Fight Five kits they received. They often comment that they feel like real live scientists! I cannot thank the Gallatin/Big Sky Weed Committee enough for partnering with me in the education of second graders about noxious weeds!”

**- Brittany Shirley,
2nd Grade Teacher at Ophir School**



**Over 140
Fight Five
Weed Warrior Kits
were distributed to kids
at camps & community
events in 2015!**



Community Program:

Gallatin River Weed Pull 2009-2015

	2009	2010	2011	2012	2013	2014	2015	Total
# Volunteers	55	38	28	22	30	19	34	226
Pounds collected	---	850 lbs	1060 lbs	1120 lbs	720 lbs	680 lbs	760 lbs	5,190 lbs

Big Sky Community Weed Pull 2013-2015

	2013	2014	2015	Total
# Volunteers	27	28	29	84
Pounds collected	680 lbs	440 lbs	540 lbs	1,660 lbs



Ophir School Field Trip 2008-2015

	2008	2009	2010	2011	2012	2013	2014	2015	Total
# Participants	--	50	40	30	31	39	46	31	267
Location	Moose Creek Campground	Moose Creek Campground	Portal Creek Flats	Big Sky Community Park	Big Sky Community Park	Big Sky Community Park	Big Sky Community Park	Red Cliff Campground	
Pounds collected *estimated lbs	*480 lbs	*300 lbs	*425 lbs	275 lbs	405 lbs	500 lbs	550 lbs	Not enough weeds to pull!!	2,935 lbs

Collective Weed Pull Data 2015

	2015 Gallatin River Weed Pull	2015 Big Sky Weed Pull	2015 BSCC Kids Camps Weed Pull	2015 Total
# Volunteers	34	29	50	113
Pounds collected	760 lbs	540 lbs	300 lbs	1,600 lbs

*8 years,
599 Volunteers,
10,085 lbs
of noxious weeds
collected!*

Unfortunately, our love of wilderness and wildlife can have a direct impact on their health, and working to address the negative effects of our actions is a reflection of our core community values.

Educational Efforts

Website – a complete and comprehensive source of information, with frequent and timely updates



Facebook – informative, frequent, and timely updates



Gallatin Canyon Billboards



Spreading the word via:

- Weed Pull Ads in local newspapers
- Big Sky Happenings newsletter from Town Center
- BSOA Newsletter Articles
- Press Releases
- Letter to editors – Explore Big Sky, Chronicle, Belgrade News
- Committee E-newsletters - series of 3 in 2015



Education & PR Program:

Raising awareness and educating the public about noxious weeds and their impact on the ecosystem through various public relations outlets.

Education / PR Spotlights:

Montana Noxious Weed Online Realtor Training Course

Developed by Dr. Jane Mangold, Assistant Professor and Extension Invasive Plant Specialist at Montana State University and Shantell Frame-Martin, Project Coordinator of the Montana Noxious Weed Education Campaign Coordinator, the online training course will be a means for Big Sky realtors to obtain credits for their license. The Committee has been assisting with the project and will promote it once it's ready for enrollment.

PlayCleanGo

In 2015, the Committee became an official partner of PlayCleanGo. This PR campaign has been embraced by most in the Greater Yellowstone Area (and beyond) to share a cohesive message to "stop invasive species in their tracks." Along with having access to sample media, signage, banners, and headlines that have been developed using the brand signature, the Committee is working on constructing multiple PlayCleanGo educational kiosks / boot brush stations at trail heads in 2016.



We are working hard to ensure Big Sky remains a world class destination!



Bighorn Sheep Winter Range



Bighorn sheep are high-country ungulates that thrive on steep mountainsides and require a combination of four habitat elements:

- ample wild grasses and forbs
- reliable water sources
- wide visibility so they can see predators
- steep, bare slopes nearby for escaping danger

Such winter range habitat exists northwest of US Highway 191 and Big Sky Spur Road. Locals and visitors can often see members of the Spanish Peak herd foraging close to the road.

Abundant native winter forage is the critical factor in bighorn sheep survival.



Habitat Improvement Program:

Protecting and enhancing vital and/or compromised habitat for plants, fisheries, and wildlife within the Committee's project area in partnership with pertinent organizations, groups, or agencies.

2015 marks the 5th year of treating weed infested bighorn sheep winter range with Committee partners:

- Gallatin County Weed District
- Gallatin National Forest
- Montana Department of Transportation.

With the help of rangeland experts, partners concluded that current range conditions indicate a downward trend, unfavorable to the needs of bighorn sheep during winter months. The increase in noxious weeds results in fewer resources and space for critical grass production. Utilization of existing desirable grass species is high, as almost no litter from previous year's growth is present.

This use was determined to be unsustainable.

With that assessment came action.

- Natural Resources Conservation Service
- Gallatin National Forest
- Gallatin County Weed District
- Montana Fish, Wildlife and Parks

In the fall of 2015, 3 vegetation test plot sites were located, vegetative litter was physically removed, invasive species were again treated, and native seed was planted.

The plots will be monitored throughout 2016 with the goal of learning what native vegetation can outcompete invasive species and support the beloved herd of bighorn sheep.



The health and prosperity of Big Sky are intimately and irrevocably linked to the health and prosperity of the surrounding ecosystem.

Landowner Assistance Program:

Educating landowners about the ecological impacts of noxious weeds and providing information and guidance on noxious weed management.

Property Inspection Summary 2008-2015

Year	# Landowners Assisted	Total Acres Inspected
2008	120	2026
2009	84	691
2010	98	369
2011	170	957
2012	49	617
2013	37	868
2014	61	2255
2015	27	805
Total	646	8588

Landowner feedback:

“It was great meeting with you the other day. The information you provided is invaluable, and I was impressed by your knowledge of noxious weeds, and how best to deal with them. **From what I have seen and heard, this program has really made an impact to eradicate noxious weeds in our area.** If more land owners get involved and sign up for this program, we will see an even greater impact on noxious weeds in our area.” - Scott T

Big Sky has approximately 50,000 acres of private land that are surrounded by public lands.

In the Big Sky Community, private property is the primary source of noxious weed infestation and spread.

Since 2004, the Committee has directly assisted over

646 landowners



& 8588 acres



Cost Share: funds distributed to landowners

2010	2011	2012	2013	2014	2015	2010-2015 Total
Coverage: ½ up to \$500	Coverage: ½ up to \$500	NA	Coverage: ½ up to \$150	Coverage: ½ up to \$250	Coverage: ½ up to \$250	
Total distributed = \$2,123.21	Total distributed = \$4,682.42	NA	Total distributed = \$256.63	Total distributed = \$736.00	Total distributed = \$1,324.70	Total distributed = \$9,122.96
10 landowners	33 landowners	NA	5 landowners	4 landowners	8 landowners	60 landowners
122 acres	225 acres	NA	29 acres	115.5 acres	218 acres	709.5 acres
5 miles of roadsides	29 miles of roadsides	NA	0 miles of roadsides	0 miles of roadsides	1.8 miles of roadsides	35.8 miles of roadsides

Landowner Assistance Program:

Percentage of Properties Inspected with Noxious Weed Species 2008-2015

	2008	2009	2010	2011	2012	2013	2014	2015
bull thistle		5		5	4			4
canada thistle	60	58	78	76	73	82	77	81
common tansy	9	5	35	5	2	16	3	4
curly dock				4	31	37	21	26
dalmation toadflax			1	1			2	
field bindweed		1			2			4
hoary alyssum	25	39	75	51	80	66	44	85
houndstongue	48	41	45	27	39	53	36	74
leafy spurge				1				
musk thistle	8	43	27	35	47	55	49	56
orange hawkweed					2	3		
oxeye daisy	17	27	48	48	43	39	44	48
poison hemlock				1	16	11	6	22
scentless chamomile							2	7
scotch thistle					6	5	5	7
spotted knapweed	53	49	51	30	43	29	28	30
sulfur cinquefoil		7		3	4	5	13	11
tall buttercup				1	2			
tansy ragwort				1				
yellow toadflax	9	7	3	11	14	24	13	19



Left - what we work to address.

Right - what we strive for!



Mapping & Monitoring Program:

Maintaining ecological health and diversity by assisting and supporting partner agencies responsible for noxious weed management in early detection of and rapid response to noxious weed populations in the Committee's project area.

Mapping & Monitoring Program Spotlight: Leafy Spurge at the Kid's Fishing Pond

The aggressive nature of leafy spurge is due to its phenomenal ability to reproduce both by seed and by adventitious shoot buds located on the crowns and roots. Effective seed dispersal mechanisms, high seed viability, and rapid seedling development enable new infestations to become established easily and quickly.

First identified in 2011, the infestation consisted of five large patches, both on the slope above the pond and adjacent to the water. The area has been repeatedly treated by both the BSOA applicator and Committee partners during cooperative treatment days.

As leafy spurge is an extremely difficult plant to eradicate, the Committee continues to monitor the area and assist with locating plants (marking with pink flags for easy identification) and treatment.

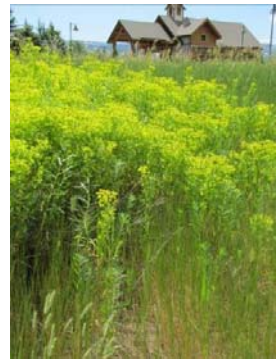
While there has been consistent control on the patch, the continued presence and migrating locations of leafy spurge require diligence.



The importance of continued management cannot be stressed enough, as if this patch migrates further into the riparian vegetation, it could result in a permanent infestation that could have a tremendous impact on the ecology of the west fork of the Gallatin River.

Photographic timeline

2011



2014



2015 - Leafy spurge stems were flagged for treatment



Below is a map that shows observed patch locations.



Committee Partners:

Aspen Groves Homeowners Association
Big Sky Community Corporation
Big Sky Landscaping
Big Sky Natural Resource Council
Big Sky Owners Association
Big Sky Resort
Big Sky Resort Area District
Bridger Brewing Company
Jack Creek Preserve
Gallatin Conservation District
Gallatin County GIS Department
Gallatin County MSU Extension
Gallatin County Weed District
Gallatin River Task Force
Gallatin Valley Land Trust
Greater Gallatin Watershed Council
Greater Yellowstone Coordinating Cmte
Madison County Weed District
MoonDance Homeowners Association
Moonlight Basin
Montana Department of Agriculture
Montana Department of Transportation
Montana Fish Wildlife and Parks
Montana Noxious Weed Control Assoc.
Montana State University
MT Statewide Noxious Weed Campaign
MSU Cooperative Extension
Natural Resources Conservation Service
Ophir School
Play Clean Go
Ramshorn Homeowners Associations
Simms
Spanish Peaks Mountain Club
Sola Café
Tout Unlimited
Towering Pines Homeowners Association
U.S.F.S., Gallatin National Forest
Yellowstone Club
Volunteers

*The Committee's campaign
against noxious weeds has
been successful,
comprehensive, and cost
effective.*

Leveraging Assistance through Partnerships

The Committee spends significant time and effort toward its goal of coordinating efforts and working cooperatively with various federal, state, and local agencies in noxious weed education and control within in the project area.

Personnel from partner organizations assist with community events, education and outreach, noxious weed treatments, logistical support, and funding. Their commitment and willingness to participate are major contributors to the successes the Committee has achieved over the past ten years.

Gallatin / Big Sky Weed Committee has been effective in:

- Bringing all stakeholders to the table
- Motivating individuals to take action
- Providing education and direct assistance throughout the community
- Coordinating weed management efforts
- Serving to reduce redundancy and confusion among land managers
- Fostering collaboration
- Involving inter-disciplinary teams to determine objectives and set goals
- Developing a coordinated natural resource plan to address land management goals
- Implementing plans and monitoring action effects



Thank You!

The Gallatin/Big Sky Weed Committee is sincerely grateful for the long term support and generosity of the following partners:



Thank you Big Sky Resort Area District for your commitment to protecting natural resources and funding the Committee since 2004!



Thank you Montana Noxious Weed Trust Fund for supporting our Education/PR Program, Habitat Improvement Program, and Mapping / Monitoring Program through a Montana Noxious Weed Trust Fund Grant!



Finally, thank you Gallatin County Weed District and Madison County Weed Board for your incredible support and partnership for over 11 years!

What's up next: Ready to Launch

There is no question Big Sky is growing, and fast! Our Committee shares Sam Byrne's concern, "that we don't ruin it." For that to happen, the community must decide that protecting the natural resources that make Big Sky so exceptional is a priority.

The Gallatin/Big Sky Weed Committee has been leading that effort since 2004, and we are excited about the upcoming projects and partnerships to further that goal.

Community Program

Our community program is busier than ever and we are excited to use our new educational tools at community events and farmers markets.

Education/PR Program

We are energized by our partners who are embracing the PlayCleanGo message and working with us to build trial kiosks. With a Montana Noxious Weed Trust Fund Grant, we will have the ability to take our PlayCleanGo message to a new level with post card mailers, newspaper ads, and canyon billboards.

Habitat Improvement Program

Along with our partners, we are eager to see what native grasses can thrive on the bighorn sheep winter range. We'll continue to work with rangeland and wildlife experts to explore ways to improve habitat, and explore ways to include other sensitive and at risk wildlife habitat.

Landowner Assistance Program

We aim to reach every landowner in our project to promote our free on-site assistance via direct post card mailers. We have already begun an effort to reach vacant lot owners in partnership with BSOA, and plan to expand that effort to other homeowners associations.

Mapping/Monitoring Program

With a Montana Noxious Weed Trust Fund Grant, the Committee will be mapping heavily disturbed zones in the Gallatin Canyon and sharing those data with partner agencies responsible for treatment.



*Helping protect wildlife habitat,
water resources, and native
plants through noxious
weed management.*