

Gallatin/Big Sky Noxious Weed Committee

www.bigskyweeds.org

901 N. Black Bozeman, MT 59715 (406) 209-0905 bigskyweeds@gmail.com

Gallatin/Big Sky Noxious Weed Committee

2010 Annual Report

By Jennifer Mohler



Moose twins photographed while inspecting weeds at Portal Creek Flats for weed pull in June.

Introduction

Project Area

The project area encompasses the portion of the Gallatin River Watershed south from Four Corners to the border of Yellowstone Park. Elevation ranges from 5000 feet near Four Corners to over 11,000 feet in the highest peaks. Annual precipitation ranges from 12-15 inches near Four Corners to 45 inches in the higher elevations. Most precipitation falls as snow, particularly above 6000 feet. Average temperatures range from 6° F in winter to 78° F in summer but can vary from over 100° F in summer to -40° F in winter. Soils are medium to moderately coarse with abundant rock fragments, are shallow in mountainous terrain and deeper in valley bottoms.

Valley floors are drier and are primarily shrub steppe/grassland. Lodgepole Pine with an understory of grouse whortleberry, pine grass, heartleaf arnica or Oregon grape is the most common cover type found in the mid-elevations (5500-9500 feet). Douglas fir and Engelmann Spruce are common as well. Alpine vegetation includes whitebark pine, subalpine fir, sheep fescue, and alpine bluegrass.

The majority of property within the project area is National Forest System lands managed by the U.S. Forest Service. Private lands are concentrated in the Big Sky area, between Gallatin canyon and Four Corners. Montana Fish Wildlife and Parks maintains the Gallatin Game Range, which has parcels in the Buffalo Horn Creek and Taylor Fork Drainages as well as parcels adjacent to Big Sky. Yellowstone National Park is not included in the Project area.

Land Use

The U.S. Forest Service is the largest land owner in the project area, which is managed for multiple uses including: timber production, recreation, wildlife habitat, and watershed protection. Land from Four Corners south to the mouth of the canyon is mostly privately owned and land use is a mixture of agriculture, residential subdivisions, and businesses. Highway 191, which runs through Gallatin Canyon, is also a major transportation route connecting southwestern Montana and eastern Idaho.

The Gallatin Canyon and Big Sky area is known for world class outdoor recreation such as skiing, fishing, hunting, whitewater rafting, rock climbing, horseback riding, and backpacking. The natural amenities and proximity to the city of Bozeman and Yellowstone National Park draw a wide variety of outdoor enthusiasts from around the world.

Increased recreational use of the area has led to a high degree of residential and commercial development in the Big Sky area. Development of the area includes many subdivisions, homes, condominiums, businesses, and 2 major ski resorts. These pressures on the area have led to the inevitable introduction of noxious weed seeds from a variety of sources, and major development projects have provided ideal habitat for noxious weeds to thrive.

Gallatin / Big Sky Noxious Weed Committee

In 2004, a group of concerned citizens, local organizations, state and federal agencies formed the Gallatin/Big Sky Noxious Weed Committee (hereafter known as the Committee) to address the proliferation of spotted knapweed, oxeye daisy, and other noxious weeds along Highway 191 and in the Big Sky area. The Committee operates under the Northern Rocky Mountain RC&D. Historically, funding is primarily received from grants obtained through the

Montana Noxious Weed Trust Fund, Gallatin Conservation District, and the Big Sky Resort Area District.

Purpose

The primary responsibilities of the Committee include:

- Coordinating noxious weed control efforts among existing weed control entities
- Providing technical assistance to private landowners and other land managers
- Educating the local community about noxious weeds and their impacts
- Assisting with noxious weed control activities

Goals

Gallatin Big Sky Noxious Weed Committee Goals for the 2010 Field Season

This report details the activities and accomplishments of the Gallatin/Big Sky Noxious Weed Committee for the 2010 field season. A number of goals for the Committee were established at the April 23, 2009 meeting, which can be broadly categorized into the following four major areas:.

Education/Outreach

- Continue "Vigilante campaign" in newspapers
- Direct mail postcards to landowners and home owners associations
- Run weekly newspapers ads in the Bozeman Daily Chronicle and Lone Peak Lookout
- Run Weed of the Week articles for newspapers
- Update website
- Develop weed mapping website
- Host at least 2 weed wildflower walks
- Participate in community events- BSOA meeting, Farm Fair, Big Sky Festival of the Arts, and TU Weed Pull

Land Owner Assistance

- Assist landowners with noxious weed identification, education, management, and follow up
- Follow up on Meadow Village Golf Course issues from last year
- Coordinate with Gallatin County CD Small Acreage Program
- Assist Gallatin County Weed District
- Provide 50% cost share money for noxious weed treatment

Mapping

- Develop/implement monitoring protocol
- Identify photo points for monitoring
- Coordinate with Gallatin County GIS Department to provide web based real time weed data
- Coordinate with partners on mapping

Partnership Efforts

- Coordinate with partners to eliminate duplication of efforts in weed mapping, management, and education outreach activities
- Keep partners informed of committee activities
- Identify and implement demonstration plots for noxious weed treatment

Staff Transitions

The Gallatin/Big Sky Noxious Weed Committee experienced a change in personnel at the height of the busy season. In January, Jody Fagan reported to the committee that she accepted a job in California and would be moving in February. The committee selected Mike Jones to replace Jody as the new coordinator. On May 15, when committee work would have been gearing up, Mike Jones accepted a ³/₄ position with Gallatin County Weeds District, at which time the committee decided to keep Mike on as coordinator at a reduced number of hours (10 hours per week). At the May 15 meeting, the committee agreed that Mike would continue to act as the coordinator, and voted to empower John Councilman (committee chairman) to select additional assistance as needed. At that meeting, John Ansley, the coordinator for the Gallatin County Weed District, made it known that his department was requesting funds to employ Mike Jones full time. John Councilman recruited Jennifer Mohler, who volunteered and worked for the committee in 2008 and 2009, to assist with committee work.

On July 1st, Mike notified the committee he was hired full time by the Gallatin County Weed District. At that time, John Councilman asked Jennifer Mohler to assist the committee as the interim coordinator starting July 1st.

In addition to staff transitions within the committee, the Northern Rocky Mountain RC&D, the organization under which this committee is housed, experienced staff transitions as well. Casey Kulbeck, the RC&D Administrative Assistant, accepted a new job and the RC&D did not fill the position. Kathryn Bowen with E3 Consulting, Inc., was hired as a part time accountant for the RC&D. Finally, on November 17, Teresa Koper, coordinator for the Northern Rocky Mountain RC&D, announced she would be on a leave of absence until the end of the year.

The timing of the committee's staff transitions was very unfortunate, as it occurred during the start of and continued throughout the height of the season during which the committee does most of its work. The reduced number of hours by the coordinator in May and June and subsequent change in personnel starting July 1st resulted in a limited ability to accomplish the full range of tasks. Goals and projects scheduled for the beginning of the season were not attended to, and the cascading effect resulted in many items not being addressed, and others pushed back to later dates. The changes at the RC&D added another element of difficulty, as both parties were "learning the ropes."

While these transitions had a significant affect on the committee's ability to accomplish their goals, all parties worked together to do the best job possible. Mike Jones and Teresa Koper proved extraordinarily helpful considering the circumstances. Every effort was made to accomplish the committee's goals while addressing hurdles unique to this season.

2010 Accomplishments

Before Jennifer Mohler could begin committee work, two items were identified as critical for long term coordination of committee activities: developing a mechanism for ongoing data storage and establishing a consistent and permanent phone and email address for the coordinator.

The first priority of the interim coordinator was to obtain and review past committee files. Upon contacting Teresa Koper and Mike Jones, it was clear that there was no protocol for data storage and management. Mike Jones copied all electronic files onto a disk and provided them to Jennifer Mohler. Files were copied to CDs, and a complete set will be stored at the RC&D office.

Secondly, the new coordinator identified the lack of congruent and permanent contact information (4 different phone numbers and email addresses were used over the years) as a problem, and until those were established advertising was on hold. Jennifer worked with Teresa Koper to obtain a dedicated cell phone for the committee's coordinator through the RC&D's plan with Alltel. Once secured, advertising was immediately initiated using the permanent coordinator's email and phone number.

Goals

Considering the unusual circumstances surrounding staff transitions, a lot was accomplished during the 2010 season.

Education/Outreach

- Over 2,900 color postcards were direct mailed to landowners in the project area urging them to become educated and manage their noxious weeds. The ads featured a vigilante theme with the text: "Be a Vigilante! Take justice in your own hands!" Also included on the postcard was a list of committee partners: Rocky Mountain RC&D, Big Sky Resort Area Tax District, Gallatin County Weed District, and Gallatin Conservation District.
- An advertising campaign was initiated in two local newspapers, the *Bozeman Daily Chronicle* and Big Sky's *Lone Peak Lookout*. The ads focused on landowner assistance (site visits) and cost share assistance. Again, the ads included logos of committee partners. Three ads ran in the Chronicle, and four ads ran in the Lookout.
- Response to the cost share program was very good considering advertising was done late in the season (early and mid September). Over 25 landowners contacted the coordinator about the cost share, and 10 landowners took advantage of it for a total of \$2123.21. A total of 122.40 acres were treated. The cost share funds came from the Gallatin Conservation District grant. It would be wise to seek cost share funds again, and begin advertising early in the spring of 2011.

Community Events

Trout Unlimited Weed Pull 6/26/2010

The Committee, in partnership with Trout Unlimited, held the second annual weed pull and river clean up day. The goal was to pull weeds and pick up trash at fishing access points, trailheads, campgrounds, and turnouts from Sheds Bridge to Big Sky. Volunteers met at the Castle Rock Inn in the Gallatin Canyon and had rolls and coffee while Mike Jones gave a briefing. Thirty-eight people volunteered and collected 850 lbs of noxious weeds and trash from 3 locations in the Gallatin Canyon – Indian Ridge trailhead, Portal Creek Flats, and the Gallatin River Trail at the Lava Creek 35 mph bridge. After 4 hours of pulling weeds, volunteers were treated to a Mexican buffet at Castle Rock Inn. The event was catered with a Mexican buffet lunch by the Castle Rock Inn. It was a good event, but earlier planning and advertising would be recommended for 2011. Castle Rock Inn proved to be a wonderful staging ground and place for the buffet.





Demonstration and Cost Share Project at Big Sky Golf Course

This project was in partnership with Steve Saunders of Dow AgroSciences, Boyne Resorts, Joe Nowakowski (a local applicator), and Jane Mangold and Lisa Rue at Montana State University. Cost share funds totaling \$2000 (funds that must be spent prior to July 1, 2010) were used to hire a local applicator to treat 23 acres of noxious weeds on golf course "open lands." The applicator, Joe Nowakowski, sprayed an additional 7 acres as an in-kind donation valued at \$875. The demonstration project included using a new product from Dow called Chaparral, which provides soil residual activity to control many broadleaf weed species that emerge for weeks after application. Two test plots were sprayed using Chaparral with and without 2,4-D, with the goal of demonstrating noxious weed treatments and their effects to the public. Jane Mangold and Lisa Rew of MSU provided a monitoring protocol that will help assess the efficacy of golf course treatments.

Monitoring of these treatments proved to be very difficult and promoting this as an educational project failed to come to fruition. First, the application done by Steve Saunders was performed in July, during the transition of coordinators. Scheduling conflicts on both sides contributed to difficulties in communications. The applicator contracted to do the work proved difficult to work with, canceling meetings with the coordinator (in an effort to get informed of work performed) on multiple occasions. He did provide a few before photos, but those proved difficult to use, and maps of treated areas would have been preferred.

On July 23, John Councilman, Mike Jones, and Jennifer Mohler initiated the first monitoring plots on the golf course. It was difficult to discern what areas were treated and thus plots were selected by the "best guess" method. The effectiveness of monitoring these plots is

questionable, and improved monitoring (both site selection and method) should be closely looked at and made a priority for 2011. Revisiting the mapping data collected in previous years should be a part of the process.

Volunteer Treatment of Noxious Weeds

The third project involved an executive committee member treating previously identified and mapped noxious weed infestations. Over 235 acres were sprayed with a backpack sprayer and chemical, which were provided by the Forest Service. Three areas were targeted:

1) Twin Cabin trail head was treated twice for multiple noxious weeds. Treatment covered the entire drive and parking lot, extending down to the highway, and included $\frac{1}{4} - \frac{1}{3}$ mile of Twin Cabin trail on both sides.

2) A 38-40 acre patch of yellow toadflax located north of Half Moon Salon was treated three times.

3) Two heavily used public parking lots were sprayed. The first is located across from Doe Creek, and the second is located to the south of the Corral restaurant/motel. Additionally, roughly $\frac{1}{3}$ mile of Cinnamon Creek trail was treated.

BSOA Meeting 9/3/2009

John Councilman and Jennifer Mohler attended the Big Sky Owners Association Meeting and reception on September 2. The meeting was held at the Talus Room in the Summit Hotel. John and Jennifer were introduced to attendees at the end of the member meeting. Upon adjournment, everyone moved over to the reception at Whisky Jack's.

Jennifer set up a table for GBSNWC, with weed information, handouts, brochures, weed identification mounts, and contact cards. A power point presentation of noxious weeds in Gallatin County played automatically on a laptop computer.



Roughly 20 people engaged Jennifer and/or John with their concerns or questions regarding noxious weeds. A few additional people moved by quickly and gathered handouts and information.

- Darius Larsen of 3260 Two Moons Road wanted assistance identifying weeds around his property and possibly in his flower gardens.
- April Buonamicic expressed concern about land surrounding Cedar Creek Condos, and requested an inspection.
- Mike Awdey (pronounced like audi) mentioned he may have seen purple loosestrife (meadow / creek area) while on a path. The weeds were just off Curly Bear road, by the bridge over south fork. 313-410-5432

- Brenda Hart (summer resident at 2060 Little Coyote) wanted to know what the golf course used to treat weeds, as it worked well. 406-889-3777
- Kevin & Vicki Fredrick, at 2330 Little Coyote, reported that both sides of their property (east and west sides of house are open lots with the golf course abutting the south side east side with two track road for golf course access?) are full of thistle. They expressed interest in cost share information.
- Discussed cooperative projects and grants with Jessie Wiese of Big Sky Institute.
- Discussed weeds and cooperative projects with Dave Schulz, Madison County Commissioner.
- Multiple people mentioned the weeds associated with the 3 Rivers fiber optic cable.
- Learned about the new Big Sky Natural Resource Council with Crystal Hagerman, Natural Resource Program Coordinator at Extension, and others.

Ophir School Weed Pull 9/21/09

The Ophir School students participated in a field trip to Portal Creek Flats. The objectives of the field trip were to educate the students about noxious weed identification, the impacts of noxious weeds, weed mapping using GPS technology, and how to control spotted knapweed by hand pulling. Approximately 35 students from Brittany Ellis' class were present, along with 2 teachers and 3 parents. Michelle Passmore of the Gallatin County Conservation District, Mike Jones of the Gallatin County Weed District, Katie Alvin and Jessie Weise with Big Sky Institute, and John Councilman and Jennifer Mohler of the Gallatin Big Sky Noxious Weed Committee participated.

Both kids and adults enjoyed the field trip and learned to identify several species of noxious weeds and use the GPS units. A pickup truck load of spotted knapweed and other weeds were pulled in a short period of time



Land Owner Assistance

One of the services offered by the Gallatin Big Sky Noxious Weed Committee is free noxious weed property inspections for landowners in the project area. These inspections are designed to educate the landowner about noxious weeds on their own property. These one-onone meetings are excellent opportunities for landowners to get help identifying noxious weeds, understand the impacts of noxious weeds to themselves and others, and learn about control techniques.

Land Owner Assistance Field Season 2010

During the 2010 field season a total of 96 individual property inspections were conducted. The property inspection categories for the 2010 field season are presented in Table 1.

Table 1. Property Inspection Summary				
Inspection	# Properties	Total Acres		
Category	Inspected	Inspected		
Requested by	18	68.0		
Property Owner	10	08.0		
Complaint	30	92.6		
Voluntary	2	21.1		
Observation	46	167.3		
Total	96	348.9		

Table 1. Prope	rty Inspection	Summary
----------------	----------------	---------

In addition, the Committee has worked closely with the Big Sky Owners Association for noxious weed education and control efforts. Multiple properties were inspected within the BSOA area and landowners will be contacted in spring of 2011.

Database

Upon reviewing the landowner databases from 2008 and 2009, it became clear a single, unified database was needed. The information from each year was accessible only through the file for that year, and a somewhat different approach for storing information was used each year. For example, some weeds were referred to differently each year (st johns wort vs. st. johnswort). These differences from year to year made it difficult to identify and locate previous communications and efforts for comparison with current conditions and observations, and then track progress and follow up efforts.

For future committee work, a unified and comprehensive landowner database is critical to manage ongoing communications with landowners and property inspections, while tracking the efforts of prior years. A single tool for accessing landowner contact and property information, along with communications and site inspections relevant to each property was developed to assist with long term management of committee activities.

Landowner Notification

Due to the unique nature of the season, landowners with documented noxious weed issues were not contacted at the end of the field season. Instead, landowners that need to address noxious weed issues on their property will be contacted in the spring of 2011, and this is noted in

the database. This decision was made in an effort to achieve the best results in contacting landowners. Landowners tend to be more responsive and willing to act when contacted in the spring, as weeds are beginning to grow and become visible. Weeds are on their minds then and landowners can take action soon after being contacted. Additionally, spring is an ideal time to treat noxious weeds, resulting in maximum efficacy. The idea is that spring notification letters will result in a higher success rate than if landowners were contacted in the fall.

Next spring, the coordinator will contact each landowner (via mail) with detailed information, photos, and an explanation of the legal responsibilities for controlling noxious weeds. Information on specific weeds, website addresses, applicator info, and cost share assistance (if available) will also be provided.

Cost Share

Over 25 landowners contacted the coordinator about the cost share, and 10 landowners took advantage of it for a total of \$2123.21. Approximately 122.4 acres were treated. The cost share funds came from the Gallatin Conservation District grant.

Cost Share Participant	Total Cost	Payment Amount
Ed Kamara 77053 Gallatin Road Bozeman, MT 59718 406-763-4304	\$248.25	\$124.13
Gerald Maykuth 4055 Lincoln Rd West Helena, MT 59602 406-458-5433 <i>Property treated:</i> COS 1369, Tract D, Big Sky, MT	\$333.12	\$166.56
Brenda Kessler 11311 Enders Road Bozeman, MT 59718 406-763-4241	\$299.21	\$149.61
John Ethen PO Box 160877 Big Sky, MT 59716 406-539-5912	\$400	\$200.00
Tom Trahey 16161 Cottonwood Road Bozeman, MT 59718 763-9051	\$750	\$375

Richard Vinton 700 Little Bear Road Gallatin Gateway, MT 59730 763-4550	\$395.83	\$197.92
Larry Holle 212 Martinez Spring Road Bozeman, MT 59718 763-4030	\$504	\$252
Darius & Cindy Larsen 3260 Two Moons Road Big Sky, MT 59716 995-7988	\$139	\$69.5
Andrea Eastman 2624 Beaver Creek Gallatin Gateway, MT 59730 406-995-2934	\$205	\$102.5
Eric Hougard 76999 Gallatin Road Bozeman, MT 59718 580-9582	\$972	\$486

Total cost share monies dispensed: \$2123.21

Partnership Efforts

The Gallatin Big Sky Noxious Weed Committee has a 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.

A large part of the program this field season included working and cooperating with a number of State, Federal, local and private organizations. Personnel from these organizations assisted with presentations, public events, noxious weed mapping, logistical support, and funding. Cooperators this field season included:

Big Sky Institute

- Katie Alvin and Jessie Weise of BSI assisted with Ophir School weed pull
- Collaborating on a Montana Noxious Weed Trust Fund Grant that aims to map noxious weeds on private property in conjunction with the Big Sky Natural Resource Council's forest stewardship plan.

Big Sky Owners Association

• Treats right of ways in subdivisions under their jurisdiction

- Alerts the Committee to noxious weed infestations on properties in their management area
- Provides information on ongoing projects in the area
- Displays Committee ads and literature

Big Sky Resort Area District

• Provided funding

Fish Wildlife and Parks

• Provided expertise

Gallatin Conservation District

- Provided funding
- Provided assistance with Ophir Weed Pull

Gallatin County GIS Department

- Provided expertise with GPS and GIS technology
- Produced Maps for use in presentations and at events

Gallatin County Weed District

- Provided critical assistance and support
- Personnel and equipment for the Trout Unlimited Weed Pull
- Assisted with Ophir School weed pull

Montana Department of Transportation

Montana Statewide Noxious Weed Campaign

• Provided educational materials for Ophir School

MSU Cooperative Extension

• Provided expertise

MSU Extension

• Provided expertise

Natural Resources Conservation Service

• Provided expertise and technical knowledge

U.S. Forest Service

• Provided expertise and technical knowledge

Volunteers

- Provided expertise
- Conducted noxious weeds treatments on over 235 acres in the Gallatin Canyon
- New committee volunteer, Brandy Ladd, owns Outlaw Partners Marketing and can assist the committee with columns / advertising / marketing with: The Big

Sky Weekly newspaper, Explorebigsky.com bi-weekly updated online SW Montana journal, The Mountain Outlaw summer/winter SW Montana magazine.

2011 Priorities

The following items were identified during the course of writing the annual report and should be addressed while determining goals for 2011. This is not a complete list, but goals that were not adequately addressed during the 2010 season. Earlier planning and advertisement for cost share and weed pull events is recommended.

Noxious Weed Mapping

Mapping noxious weed species is useful for a variety of reasons. A detailed weed map will aid in:

- Prioritizing areas for weed control
- Detecting new invaders and allowing for a rapid response
- Monitoring the effectiveness of control methods
- Communicating locations of noxious weed populations to the general public to raise awareness

Weed mapping was not conducted this year, nor were the mapping data made available on the website. 2010 mapping goals were:

- Development / implementation of monitoring protocol
- Identify photo points for monitoring
- Coordinate with Gallatin County GIS Department to provide web based real time weed data
- Coordinate with partners on mapping

Monitoring

Efforts to effectively monitor treated areas in 2010 were not very successful, mostly due to lack of time and the unusual nature of the season (staff transitions). It would be wise to begin the process early by revisiting the mapping data collected in previous years and establishing a set protocol for monitoring. Put simply, the effort needs to be well designed and thought out.

One weed that should be considering in the monitoring effort is yellow toadflax. Yellow toadflax is one of the most difficult of the noxious weeds to control due to a large and vigorous creeping root system, high genetic variability, and reproduction by seeds and vegetative shoots. This plant has dramatically increased in both numbers of populations and patch size in the Big Sky area over the last year. In order to closely monitor the control effectiveness and the invasiveness of yellow toadflax in the Big Sky area, several patches were mapped in the Big Sky area for future monitoring.

Successful monitoring will result from comprehensive planning and analysis. Considering the amount of data collected from multiple years of mapping, a thoughtful monitoring plan is the logical next step for the committee.

Partnership Efforts

Connecting with partners early in the season to facility committee goals would be prudent. Partnership goals include:

- Coordinating with partners to eliminate duplication of efforts in weed mapping, management, and education outreach activities
- Keeping partners informed of committee activities
- Identifying and implementing demonstration plots for noxious weed treatment

Website

The 2010 website goals were to update the existing website and develop a weed mapping website. The website was not updated in 2010 at all, and has old and outdated material, including the previous Conservation District Small Acreage Resource Technician. Efforts were made midseason to update the website, but again, staff transitions worked against the effort. Casey Kulbeck, the RC&D Administrative Assistant, moved onto a new job and the RC&D did not fill the position. Her presence would have facilitated updating the website. The goal of updating part of the website in December is unlikely as Teresa Koper, coordinator for the Northern Rocky Mountain RC&D, announced she would be on a leave of absence until the end of the year.

Pre-season preparation

- Due to the success of the late season 2010 cost share efforts, it would be wise to seek cost share funds again and begin advertising early in the spring of 2011.
- Weed pull with Trout Unlimited. It would be wise to begin planning and advertising earlier in the season.