

## **GNFAC Avalanche Forecast for Mon Feb 8, 2010**

Good Morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, February 8, at 7:30 a.m. **Montana Ale Works** in cooperation with the **Friends of the Avalanche Center**, sponsor today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Clear and calm conditions with strong temperature inversions have settled over southwest Montana. Over the next 24 hours cold air trapped in the valleys will produce dense valley fog along with a few snow flurries.

Spring like temperatures will be felt in the upper elevations with highs near freezing and lows in the teens. Valley temperatures will feel much more like winter with highs in the twenties and lows in the single digits. Winds will be calm today but will increase slightly out of the W-NW tonight and tomorrow.

### Snowpack and Avalanche Discussion

*The southern Madison Range, southern Gallatin Range and the Lionhead area near West Yellowstone:*

The snowpack and weather are forever intertwined and when weather changes it's inevitable that changes will occur within the snowpack. However, the snowpack is its own substance and can occasionally resist the constant changes that surround it. This resistance to change has defined this year's snowpack with weak facets near the ground making up the primary foundation for the past six weeks. These buried facets have slowly become less reactive over time, but their tendency to produce avalanches has stayed fairly constant. Another player in the game is a spotty layer of buried surface hoar lurking 1-2 ft below the surface. This weak and unpredictable layer formed nearly a month ago and is most prevalent on slopes protected from the sun and wind.

Yesterday, Doug and I along with our partners skied Bacon Rind in Yellowstone Park. We experienced a tremendous amount of collapsing in the fields leading up to the slopes with football sized areas collapsing under our feet. As we climbed higher in elevation travel became easier as the snowpack became deeper and more supportable. This was nice for us, but raised a major red flag. We stopped to dig a snowpit at 9,000 ft on an east facing slope and found a 2-3 foot slab sitting over 20 inches of large grained facets. Stability test indicated these facets are fully capable of failing and propagating, displaying the weak and unstable nature of the snowpack. Our next snowpit only a few hundred feet above the first revealed the same weak facts near the ground, but exposed an obvious layer of surface hoar 18 inches below the surface ([photo](#)). This surface hoar layer produced clean, high energy shears with light force ([video](#)) and even failed upon isolating during one stability test. Despite the fact skiing was far better on north facing slopes, we all skied the less powdery south facing slopes that offered a far safer decent route back to the car. Both of these persistent weak layers should be taken very seriously and treated with respect.

Today, choose wisely if you travel into avalanche terrain. What might seem like an amazing powder run may actually be a serious accident waiting to happen. Because human triggered avalanches are probable on slopes steeper than 35 degrees the avalanche danger is rated **CONSIDERABLE**. On slopes less than 35 degrees the avalanche danger is rated **MODERATE**.

*Bridger, northern Madison, and northern Gallatin Ranges, mountains around Cooke City and the Washburn Range:*

The mountains around Bozeman and Cooke City have a deeper and more consistent snowpack. Buried facets that produced widespread natural and human triggered avalanches only a few weeks ago have shown signs of strengthening and improvement. With the snowpack depth growing to 4-6 feet deep in many places it is becoming increasingly difficult to trigger an avalanche on this persistent weak layer. This has offered a sigh of relief as people venture further into avalanche terrain. However, this does not mean avalanches will not occur on these buried facets and if you do become the unlucky trigger you can expect the avalanche to pull out deep and wide.

A new factor that is coming into play is solar heating that is caused by the sun rising higher in the sky. This seasonal change can heat the snow surface quickly producing surface avalanches that can entrain a large amount of snow quickly. A perfect example of this was reported yesterday when an ice climber in Hyalite was nearly run over by a small but powerful slide that initiated in the gully far above him. As daytime temperatures continue to rise, surface snow avalanches will become more prevalent making travel in steep, rocky terrain exposed to the sun more unpredictable and dangerous. Obvious signs of solar heating are point releases off rocks or trees and pin wheels or roller balls that form as wet snow rolls down the hill.

Travel in avalanche terrain no matter what the danger requires careful and constant evaluation. Today, multiple factors make human triggered avalanches possible and the avalanche danger is rated **MODERATE**.

Doug will issue the next advisory tomorrow morning at 7:30 a.m. If you get out in the backcountry let us know what you find. You can reach us at 587-6984 or email us at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com).

### **Monday, February 8: MONTANA ALE WORKS BENEFIT DINNER**

Mark your calendars: Montana Ale Works is hosting a benefit dinner for the Friends of the Avalanche Center on Monday evening, February 8<sup>th</sup>. Chef Roth Jordan has assembled an amazing five course menu themed "Mountains of the World" with foods from Chile, Montana, France, New Zealand and Germany. Dinner is limited to 40 seats with the first course served at 6:30 p.m. Tickets to this event are \$75, all inclusive, and available at Montana Ale Works. More information is available on our [calendar](#) or by calling 587-7700.

### **8<sup>th</sup> ANNUAL KING AND QUEEN OF THE RIDGE**

The 8<sup>th</sup> Annual King and Queen of the Ridge will be held at Bridger Bowl on Saturday, February 13<sup>th</sup>. ALL proceeds go to the Friends of the Avalanche Center who use the money to promote avalanche education in southwest Montana. Last winter we taught 62 classes reaching over 4,300 people. You can help raise money to continue this education in 2 ways:

- 1). Get pledges and hike the ridge. You don't have to do 20 laps - you can get flat pledges and hike just once! Or you can test your mettle and try and break John Yarrington's record of 27 laps in 5 hours.
- 2). Sponsor someone. If you don't have someone to sponsor, consider sponsoring Mark, Eric or Doug since we'll be hiking for dollars.

You can go to [http://www.bridgerbowl.com/events/view\\_event/15/](http://www.bridgerbowl.com/events/view_event/15/) for more information and registration forms.

### **Avalanche Education**

**More information about these classes are listed at:** <http://www.mtavalanche.com/workshops/calendar>

#### **1. Cooke City Fire Hall**

1 Hour Avalanche Awareness Class - Saturday, February 13<sup>th</sup> 6:30 pm to 7:30 pm

## **2. Bridger Bowl**

AAI Level 1 Avalanche Course - Friday, February 19<sup>th</sup> to Sunday, February 21<sup>st</sup>

[www.americanavalancheinstitute.com](http://www.americanavalancheinstitute.com)

## **3. Bridger Bowl**

AAI Level 2 Avalanche Course - Monday, February 22<sup>nd</sup> to Thursday, February 25<sup>th</sup>

[www.americanavalancheinstitute.com](http://www.americanavalancheinstitute.com)

## **4. Moonlight Basin**

Comprehensive avalanche awareness class - Thursday, March 4<sup>th</sup> to Saturday, March 6<sup>th</sup>

[events@moonlight.com](mailto:events@moonlight.com) or 406-993-6026