Caldera Chronicles

Volume 8 Issue 1 | *Winter 2004*

Welcome to Crater Lake

To those of you who are returning, welcome back to Crater Lake. I look forward to learning from you, what it is that you do up here, each weekend. Please let me know what I need to be doing to keep things moving along and to provide you with the information and resources that you need to be successful. So far, Bill and Niel have done a fine job of trying to keep me on track. To those of you who are new to the ski patrol, welcome to Crater Lake. I'll be learning with you, so if I don't have all of the answers right away, please be patient.

The last few weekends working with the ski patrol have been interesting, informative, and exciting, Evan has been extremely helpful with many aspects of the operation that I had not gotten to or known about. Thanks Evan. A couple of weekends ago, I got out with the group and skied the "Dan Miller Loop", thanks Dan.

Folks have been asking about the National Park Foundation / Allegra Grant, and whether or not funds could be spent on various things. The Grant was written with very specific purchases in mind and a detailed list of expected expenditures submitted with the application. I have been able to save some money from what we had originally submitted. Therefore, in some cases I have been able to order more than expected. We have placed an order for 11 ski patrol parkas with Randy Benham and fleece hats. I ordered 14 probes from Black Diamond, 10 Voile' Shovels, 50 Whistles, and I am still working on getting an order for nameplates out.

I'm looking forward to a great season, we are off to a flying start with all of the new snow we've gotten recently, now over nine feet on the ground. And, to working with each of you, your help thus far has been much appreciated by myself, the rest of the park staff, and the visitors.

Steve

Martin

Inside This Issue:

Philanthropy

Within our scope of logic, lies the answer of why we are patrollers? For each one of us there is a different rationale. If I may cogitate, there is one common thread of why we are patrollers. I hypothesize it is in some form of an altruistic gesture. For some of us it maybe the seven dollars a day we receive each year for lunch monies, but I think not. There is a higher objective of why some of us drive over six hundred miles pre-weekend to be part of the Ski Patrol. For some of us it is the comradery plus to be able to ski in the most stunning place on earth and then have a place to stay. For others it is sharing with patrollers and visitors the special talents they have honed. For others it is being able to help their fellow man. On the other hand, it may even go deeper than that. Perhaps there is a since of obligation to the sprit that lies within the Caldera that requires us to give freely of ourselves in order to propagate the sport of cross-country skiing?

Regardless of our scope of logic, to some degree every citizen serves it community in some form. Philanthropy is not just about giving money. It is about creating a culture to pass onto future generations. According to *Barry Mackintosh, (1*998) "philanthropy has played a major role in advancing the national parks and the National Park Service".

The Crater Lake Ski Patrol in its twenty-two years has helped to infuse a ski culture in the park. The bright red parkas that the ski patroller wear today have become legendary throughout the country. While we were in Washington DC an aid in Greg Walden office mentioned to us that she recognized the ski patrol because of their bright red jackets on a trip she took to Crater Lake. The ski culture at Crater Lake may even resonate deeper at a personal level, as it does in my case. I feel a bond to the park through all the cross-country skiing I have done within the last 30 years, and as a result, I want to pass onto future generations the ski "*mores"* of the patrol.

Other identifying markers of the ski culture within the park are the ski signs**.** The ski signs in the park are the personification of the ski culture that reverberate the essences of the ski patrol. The patrol spirit is about being proactive. The ski signs signify the active pose that is the quintessence of the mission statement of the patrol.

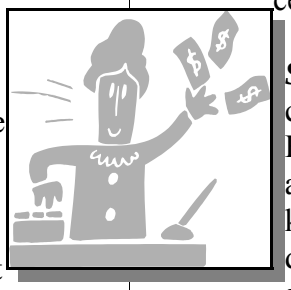
Crater Lake Ski Patrollers over the years have donated approximately 30,000 hours of their time to the park. Our patroller's generosity does not stop there. Besides donating their time, they are now donating their own personal money and creative energy to generate new trail signs for the park visitor.

The sign project encompasses the creation of twenty-four new trailhead, junction and avalanche signs. A great need has emerged to replace all of the older backcountry ski signage in the park because of there deteriorating state. This project is very important to the park and ski patrol because the signs identifies where the ski trials are but helps to keep the park visitor safe. The trailhead signs identify the location of the trail, where the junction signs help skiers to stay on course. A new addition to the park is the creation of a new avalanche bypass. New bypass signs have been created to direct backcountry skiers around potentially dangerous avalanche areas. To reiterate, the rationale to be a ski patroller is unique, we all have different incentives, nevertheless, we are all there to promote:

SAFE SKIING AND HAVING FUN

Sign Project Update

During the first of the year senior patroller Dan Miller sat down with Dan Jacobs and Steve Martin to finalize the blueprints of the new ski signs before the production phase of the project can take place. After many hours of labor, we reached completion of the proposal design phase. The mind-trust of the project concluded the need to bring completion to the project by ordering all of the new signs, not just the trailhead signs like announced during the training weekends.



The production stage of the project will yield a finished product by mid January. The intent is to have all the new signs in the park by the end of January. At the present, we have ten patrol members and one ranger who have amiably donated monies to sponsor a sign. The expenditures of the project will exceed current donations. In order to make this project a reality, more funding will be needed to pay for the projects total cost.

First, Winter I would like to thank all of the patrollers and rangers who have donated money to the project. However, we still need to collect around $1,000. to pay for the project, this is where your help is needed. If you would like to sponsor a sign or you know of some cooperate or other entity that is willing to donate, please do your part to make this project a success.

Second, please contact JT Hummel if you are willing or know of other donors to sponsor a sign or signs. E-mail Address: jhummel@ncelec.com or you can call him at 273-9286. J.T is our patrol fundraiser council member. He will be coordinating and collecting the funds to pay for the project.

Third, I want to thank Dan Miller and Dan Jacobs for stepping up to the plate and dealing with the technical details in getting the project completed. If it were not for Dan Miller and Dan Jacobs efforts, we would still be in the proposal design phase.

Fourth, the project will consist of the creation of 24 new signs. Some of the patrollers have requested to sponsor certain trailhead signs. Below is a list of signs that will be made for sponsorship. Note: junction and avalanche signs are just as important as trailhead signs, ask Bill!

1. **East Rim** (Trailhead)
2. **Dutton Creek** (Trailhead)
3. **Mazama** (Trailhead)
4. **PCT** (North) (Trailhead)
5. **Raven** (Top) (Trailhead)
6. **Raven** (Bottom) (Trailhead)
7. **Do not Hike Or Snowshoe in Ski Track**
8. **Dutton & PCT** (Junction Sign) (Orange)
9. **Annie Springs** (Junction Sign)
10. **Pumice Flats** (Steward Falls) (Trailhead)
11. **Crater Peak** (Trailhead)
12. **Avalanche Area Bypass** (Orange)
13. **East Rim Ski Route** (Junction Sign, Orange)
14. **Avalanche Sign** – Grayback; Applegate, Vidae Ridge (Orange)
15. **Avalanche Sign** – Applegate & Vidae Ridge Avalanche Bypasses: Grayback Ski Trial (Orange Sign)
16. **PCT** (South) (Trailhead)
17. **Lighting Springs** (Trailhead)
18. **Avalanche Sign** (Junction sign) Dutton Cliffs) Orange (Top)
19. **Avalanche Sign** (Junction sign) Dutton Cliffs) Orange (Bottom)
20. **Grayback Ski Trial** (Trailhead) Orange
21. **Danger Keep Back** (Orange)
22. **No Stopping in Avalanche Chute** (Orange)
23. **Hemlock** (Trailhead)
24. **West Rim** (Trailhead)

A Voice from the Past

Boy does time fly. This is Fred Vanhorn (Crater Lake ski patrol coordinator 1985-1989). It seems like just the other day we left Crater Lake for a new job in Glacier National Park (Montana). Well, we are still here in Glacier enjoying this spectacular park. My job as a Park Ranger is still interesting and challenging. The fires this year were amazing (136,000 acres in the park) and kept us from doing much else. Lynne and I now have two boys (Peter-14 and Alex-9) who keep us very busy. They both play soccer as well as ski and snowboard. Peter is on the local cross-country ski team. Lynne keeps busy with the kids and does some pottery work for a small local business.

Since having kids we have not been able to travel like we used to, but we do more car-camping adventures. Of course, the hiking and skiing around here is excellent and we regularly take advantage of that. The local ski area (Big Mountain) offers good downhill/telemark skiing. The kids and I have had season passes for the last 4-5 years. Have also been doing quite a bit of ski-skating, primarily at the local groomed golf course in Whitefish.

Groups of us from Glacier and around have been doing annual Canadian ski trips. These have varied from a week of day skiing (downhill and cross country) to multi-day hut-to-hut trips. There is some spectacular country up in the Canadian Rockies. I have also been able to do a couple of hut trips in Colorado and in Yellowstone. I had the opportunity a few years ago to climb several volcanoes around Mexico City, the largest being Orozaba at 18,700 feet. In February of 2002, I was able to get on a skiing security detail to the winter Olympics in Salt Lake City. We worked 12-hour days, seven days/week for a month skiing at Park City (somebody had to do it).

The time I spent at Crater Lake was one of the highlights of my career with the Park Service. It was probably the most fun and satisfying jobs I have ever had. Working with the Crater Lake Ski Patrol was one of the best parts of the job. I am glad to see it is still very active. The Park is fortunate to have such a dedicated group. I would love to hear from my friends on the ski patrol. Here is how you can reach me:

Fred, Lynne, Peter and Alex Vanhorn: 151 River Butte Drive Columbia Falls, Montana 59912

Personal email:
Vanhorn@bigsky.net
Work email:
Fred_Vanhorn@nps.gov
Work 406-888-7822
Home 406-892-4777

Avalanche Awareness

Here is a text version of an avalanche cheat sheet to use when traveling in the backcountry. This can go on a (two- sided) index card and carried in your pocket or pack. This is no substitute for training, but works as a reminder. The Beaufort-wind-scale helps to determine wind loading.

WEATHER

Top 10 Avalanche watch-out situations

1. Heavy dense snowfall or rain.
2. New snowfall greater than 12- any density.
3. New snowfall rate greater than 1 per hour.
4. Wind loading greater than 15 mph.
5. Long/clear/cold spells followed by significant snowfall or wind loading.
6. Storms that begin cold and end warm.
7. Rapid temperature during the day.
8. Prolonged period of above-freezing temps
9. Intense sun especially near cliff bands.
10. Any combination of above.

Giving Thought to Our Youth

There was a child went forth every day. And the first object he looked upon, that object he became, And that object became part of him for the day or a certain art of the day, Or for many years or stretching cycles of years.

Walt Whitman,

"There Was a Child Went Forth"
Leaves of Grass

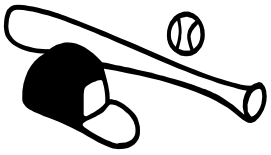
In my work, I come in contact with very damaged adolescents and young adults. Many of these youth have little or no respect for themselves, others or their environment. Many would be able to identify various types of guns and weapons, but would not have the ability to identify the type of trees or birds in their backyard. During the Crater Lake Ski Patrol Training Weekend I thought a lot about sense of place and how few children now grow up incorporating plants, animals and the outdoors into their sense of home. Our children today are battling obesity, depression and over medication. I often ask myself if part of this is due to the loss of interaction of youth and the wilderness. As humans it used to be that nearly all individuals went through rites of passage in the wilderness. These rites transformed children into adults – adults who could hardly forget the importance of nature. In our society today we fail to provide such rites of passage, instead our rites revolve around being able to drive, being able to vote and being old enough to drink.

Over the training weekend, I had the pleasure to interact with two adolescents that grew up at Crater Lake National Park. I was struck by how different they are from the adolescents and young adults I work with…they were respectful, they looked me in the eye, they were able to dialogue without every other word being "F*#4" AND they had a huge amount of respect and appreciation for their surroundings. Without a doubt a great deal of the credit goes to the families that raised them, but I also strongly believe that the environment they were raised in also played a large role. They grew up interacting with the wilderness on a daily basis.

Part of my work allows me to bring struggling teens into the wilderness. I've seen the impact that spending time in the outdoors has on an individual – as I'm sure we have all felt the personal rejuvenation that spending a weekend patrolling at Crater Lake can provide. Being outside in a beautiful place, using our bodies has a healing property.

This is leading me to the thought of "STEWARDSHIP". As a patrol, we have the ability to directly influence our youth and help shape the future. It is my hope that we give serious thought to the Jr. Ski Patrol and any other youth groups we are able to work with and serve. Even if the contact is only an hour, it could be a life changing and shaping experience.

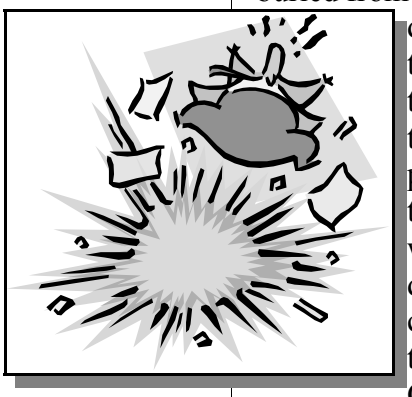
Mona Treadway



Give a child a fish, feed them for a day. Teach a child to fish, feed them for a life time.

OFF WITH A BANG

Well it seems that everyone agrees that the skills training weekend went off as one of the best in recent seasons. I applaud all of the trainers and Park staff that made it happen and special thanks to Doug Robin, Donna Short, Dan Miller, and our new Training Officer Kevin Groh (*who was not sure he was up to the challenge that he perceived the position to be).*



Congratulations also to Kevin and Mary on their new "Future Patroller". It looks like the "Great Skier in the sky" has been blessing our snow dances with above average snowfall so far this season, and at the same time this will present greater challenges for the Patrol in maintaining up to date avalanche information for our visitors.

I hope many of you will have the opportunity to avail yourselves of the training that has been made available to us this year by some of our senior Patrollers. Everyone should have all the dates for training, and as soon as we settle in to the season I'll send out what ever date that Dan Jacobs can free himself up to do a GPS course.

There is still additional trail marking and re-marking to be done throughout the winter and I'm sure that Niel will be most appreciative of any and all help he can get to round out what remains to be done.

I am planning to do an over night down into Stewart Falls in either February or March to set some new markers (since the ones we set this summer are already buried from all the snow dancing), and to take some photographs. I am tentatively planning a Rim trip. The trip will take three days and will cover the route through Lost Creek Campground and the New Vidae avalanche bypass. The trip is scheduled for late March or early April.

Anyone interested in joining me on either of these adventures feel free to contact me and we can discuss some potential dates.

Many of the new “member Patrollers” has several areas that still need to be marked off on their skills sheets to become fully certified. Please check your sheets and get with some of the senior certified Patrollers on your Patrol weekends to complete those areas.

Forward Motion sheets have been started for each of the new Candidate Patrollers.

I look forward to skiing with or seeing many of you throughout the winter and hope that we can all remember to "be part of the solution to any situation that arises and not put ourselves in a situation to become part of the problem" (speaking from experience)

Ski Safely and

HAVE FUN!

Yours in Service,

Patrol Liaison

"Wild Bill"

Bloom

Figure-Of-Eight Loop

Where Have All the Skiers Gone... Long Time Passing?

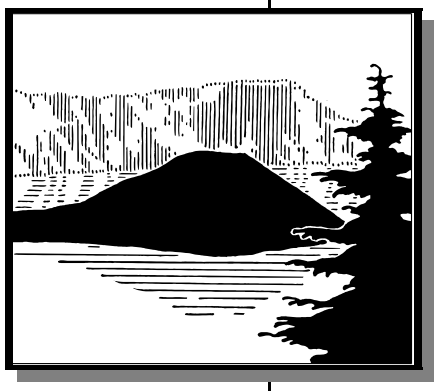
Part II

By John Bellon

Have you noticed the absence of Nordic skiers at Crater Lake? Considering the vast track of timbered land and accessible routes available for any skier's pleasure, few people can be found enjoying it on any given day. Try to recount the number of visitors you have witnessed there for the skiing, and I trust you will arrive at the same realization as I. Certainly the Park is not on the way to any popular resort destination, however, who can deny that it offers at least equal beauty and opportunity as any neighboring touring area sought.

Even so, could there be an even more challenging reason that lies beneath the surface of this mystery? How many people are actually taking to the backcountry on Nordic skis these days? I cannot offer statistics that offer an inscrutable answer. I can say with some confidence that snowboarding is ever growing as the popular youth sport.

If many are perhaps no longer backcountry skiing, with others finding alternative winter sports to pursue, then what does this mean for the future of skiing at Crater Lake, or the Crater Lake Ski Patrol in the years to come. Surely there will always be some who take to the woods for a short jaunt on skis or perhaps the increasingly popular snowshoe, so no need for concern-right, or is there?

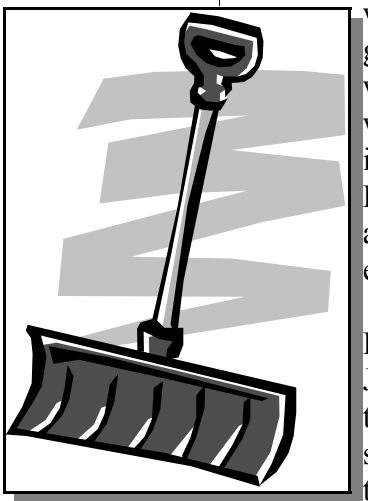


So, what are people missing out on by not strapping on a pair and straining for some isolated and pristine destination? You already know the answers to that question don't you. Here briefly are some of the unrealized benefits for unknowing or unwilling souls:

Cross-country skiing is still the #1 aerobic exercise. Skiing at a moderate pace, a 175-pound man (for example) can burn as many as 800 calories per hour, circulation improves, blood pressure lowers, every muscle group is used. It is a low risk, non-jarring exercise and the equipment is relatively inexpensive. According to one writer, *"Cardiovascular benefits, yes, but also freedom! Exercise endorphins! Solitude! Conviviality! It's adventure for some, peace of mind for others. Many ski for the lyrical quality-the taste of clean air, clear and carrying light, sighing wind…alpenglow on snow-mantled peaks, and the miracle of skiing beneath the full moon. More than mere recreation, this is euphoria...the diversity of people who love it. It can be either social or solitary, so it appeals to groups, families, couples, and individuals… All it takes is enthusiasm for enjoying the outdoors in winter, at your own speed, with your own choice of companions," and finally, "A skillful skier is a thing of beauty, moving with fluid power, adjusting tempo and technique to terrain, snow depth, and snow type. Nevertheless, one need not be an adept; the casual day tripper-even a practiced exercise-evader-can get a kick*

equal to that of a national-caliber athlete from the season's enchantment. Cross-country skiing exercises muscle groups from your feet to your arms, and everything in between."

Knowing what the sport has done for me, I feel compelled to draw attention to it in the hopes that others will find a reason to try it and perhaps experience some of the pleasure and growth I have come to know. Maybe everyone who feels the same can seek others, especially younger people, to invite or even outfit for a ski. Even if they never become inoculated with the 'bug', guaranteed they will never forget it and the experience will always leave them with something better than not having tried it at all. Who knows, maybe someday dozens of skiers will come to Crater Lake for the day, taking home with them an experience not found through other means and a heart for passing on to others the possibility of Nordic skiing joy.



Happy

Trails

Grid Search with Beacon

Traditional "gridding" or "bracketing" is the oldest, most widely taught beacon search method. The searcher must travel far enough along one axis to detect significant audible "fade points," then backtrack to the midpoint, stop, adjust volume, travel perpendicular to the previous axis, and repeat. This requires extensive backtracking.

Greetings

Hello from your *maintenance/equipment c*ouncil member Ann Michaels, let me please compliment everyone for pitching in and helping during the training weekends with maintaining the community center and patrol house.

If you happen to come across any equipment that needs repair, please wrap it with some flagging tape and write on the tape what the problem is, if not obvious. Place in the SAR, and notify me via e-mail.

Eric Bishop and Jason went through all the skis and did just that. Now Paul Liddycoat et al. will be tightening up bindings and tuning up those unskiable skis very soon.

Patrol House weekend maintenance guidelines.

- □ Do not forget to shovel the house walkway
  Vacuum
- □ Do all your dishes and put them away
- □ Empty trash in trash compactor bay
- □ Take home all recycling (if you brought it up then, please take it down the hill)
- □ Turn down heater to 55 degrees when you leave
- □ In general, on anything that needs to be maintained
- □ Do not leave it for someone else to do.

The Patrol leader will be responsible for:

- □ Checking in and out all equipment located in the SAR
- □ Jackets and paints.
- □ House Keys
- □ Norm keys

In addition, Norm Juniors bay needs to be shovel out. Please do not pack the snow down by running Norm Jr. (Patrol truck) over snow in the bay entrance.

Thank you again for all your help. Many hands make light work. Have a great season.

Remember to hydrate yourself.

Sincerely,

Ann Michaels

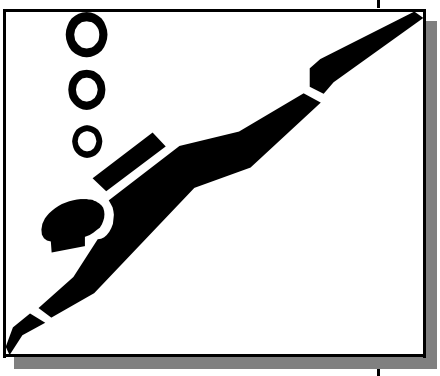
ALOHA SKI PATROL

Among the photos of beautiful Hawaii sunsets, there is a snowy winter picture of the Crater Lake Ski Patrol next to my bookshelf in the Ranger Office at Hawaii Volcanoes National Park. I look at it almost everyday and wonder how everyone on the patrol is doing. When Niel Barrett asked me to write a short hello note to the patrol, it did not take long to look at that photo and tell him I would be happy to.

Jeanette and I are still having a blast in Hawaii! We are doing lots of SCUBA diving in the deep blue ocean a short distance away. During the calmer summer months, we were even doing night dives after work. I did some exciting deep dives in Maui last month and while we were there, Jeanette and I took a surfing lesson. We both had a great time and we are now considering taking up the sport made famous by Hawaiian Kings.

We had a very busy fire year in 2003 and Jeanette completed her Crew Boss training assignment on the mainland and is ready to perform fully at this level.

My job is going well and I am keeping busy as the SAR and Ranger Backcountry Coordinator.



These are mostly administrative duties and I do not get into the field nearly as much as I would like.

I had a short visit to Crater Lake last April when I was returning from my homeland security assignment. I am sorry I did not have time to visit more of you. It was a last minute decision to take this short detour and I was pressed for time.

We will be conducting several more house projects this winter. For those of you that have already visited, you will not recognize the place. We have 3 bedrooms and an open invitation to any patrollers wanting to visit. You may even be lucky enough to visit us when there is snow on Mauna Kea.

I want to once again say, congratulations to the patrol for the recent volunteer award you earned. I was grinning from ear to ear for weeks after the news spread, especially when asked about the patrol by people in Hawaii that read about this event.

We hope you are doing well and enjoying a peaceful new year. We miss all of you and look forward to hearing from you or seeing you in person soon.

Aloha, A hui hou!

John Broward

John_broward@nps.gov

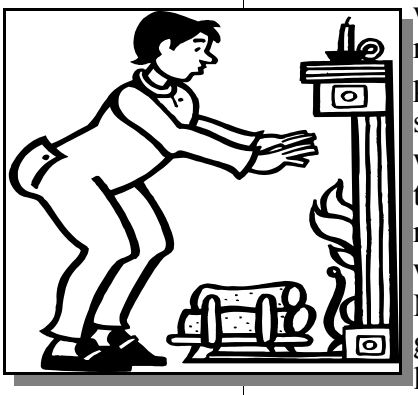
The Munter Hitch

The Munter Hitch is a friction Knot. This means it can be used in place of a belay plate but be warned under heavy loads this knot can wear on your rope fast

Clothing & Thermoregulatory Balance

By: Linda Tesman

So many fabric choices and so many brands of outdoor wear to choose. How does one sort through all of this (and not be a gear hog)? Without a doubt, I am sure that most of you have some personal preferences in regards to fabric. I will attempt to help you sort through different fabrics and which are best for different conditions. So how do you stay warm and dry?



Thermoregulation is based on ambient temperature, wind, rain, and intensity of exercise and duration of activity. The key aims of your outdoor wear include: ventilation which controls heat storage and loss, insulation to control heat escape through convection and conduction, and protection against wind and rain, which greatly accelerates heat loss.

A few key terms to understanding technical clothing lingo include the following: Thickness describes the insulation value and usually reserved for sleeping bags. Fiber reaction has four qualities. Wicking action pulls moisture from body surface to material, evaporative ability or rate of drying, moisture regain which is the amount of moisture a material can absorb before it feels cold and the amount of insulative value a material loses when wet. Thermal conductance, the less of it the better for insulation. Resistance to wind is self-explanatory.

Wool is a poor conductor, so good insulator. It has a moderate ability to absorb moisture before it feels wet. Its evaporative ability is poor but still insulates well when wet. Not the best if it is raining or a very wet snowstorm. Makes for a good insulative layer.

Cotton loses 90% of insulative value when wet and readily absorbs moisture (so makes for a good towel). It has poor moisture regain. So that is why jeans and skiing are not a good combination. Polypropylene wicks moisture well, but unlike cotton has a very low conductance index and high evaporative quality. Good for the underlayer.

Polyester is used to make fleece and leisure suits. They are poor conductors, so good insulators like wool. Also have good wicking and high moisture regain. Typically has poor wind resistance. Fleece making is environmentally conscious with 80% being processed from recycled plastic bottles. This makes for a good insulation layer.

Nylon evaporates water quickly, is a good insulator and has good quality moisture regain. It has poor wind and water resistance. Gore-Tex and other like fabrics are treated nylons to make them better at resisting wind and water yet allow for breath ability. Water proofed nylons are compromised by lack of breathing. This material is good for the protective layer.

Down and synthetic loft material are not appropriate for physically active but is important for relatively inert functions. The greater the loft the more the insulative value. When down becomes wet though, the insulation properties plummets and has a slow drying rate.

Synthetic hollow core fibers like Polarguard, Quallofil and Thinsulate to name a few are good insulators for gloves and jackets. They are less bulky than down, but does not loose as much insulative effect when wet.

For that reason, we must dress in layers choosing appropriate clothing for the underlayer, insulation layer and protective layer. And just like the boy scouts motto, be prepared with extra layers, socks and gloves. You never know when you are going to need em! Keep warm and ski on!

Gonzales RR: Biophysical and physiological integration of proper clothing for exercise. *Exercise sport Sci Rev* 15:261, 1997.

Auerbach P; *Wilderness Medicine: Management of Wilderness and Environmental Emergencies 3rd ed.* 1995; Mosby-Year Book, Inc.

Caring For Waxless Skis

Most people own waxless skis, also known as fish scale or step skis, for two reasons: They do not want to deal with kick waxing their skis, nor do they want to clean kick wax off their skis. For this reason, care of waxless skis needs to be quick and easy. And it is!

Two parts of waxless skis need attention: the kick zone where the tread pattern is and the glide zone where the pattern is not. The goal is to keep the gliding surface of the ski water resistant and "slippery" and the kick zone clean. In order to prevent wet powder snow from sticking to the dirt that works its way into the tread pattern, the kick zone especially needs to stay clean. When snow sticks to the bases, turning and gliding become difficult, and progress is frustrating. For waxing ease, both sections of ski bases from tip to tail can be prepared with the same product with good results. Toko Grip & Glide Wax, Swix Easy Glide, or the venerable Maxiglide are products specifically designed for use with waxless skis.

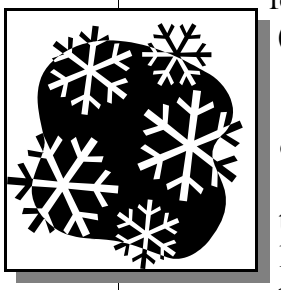
Either product should be applied to the entire base of the ski, both the glide area as well as the kick zone. The skis will glide faster, and the kick zone will stay cleaner to provide better grip while creating less friction to slow the skis down. Of course, you always have the option of hot waxing the tips and tails of your waxless skis. While this is more involved and takes more time, hot waxing often provides a more durable and often faster wax job. In addition, you can also more closely match your choice of glide wax with the snow temperature. The procedure for hot waxing tips and tails of waxless skis is the same as waxing skate or classical skis.

After skiing, take a few minutes to clean your bases. It is a good idea to spray the base, especially the kick zone, with wax remover and wipe it clean with a base cleaning paper or paper towel. This will ensure that the base stays clean, so skiing continues to be fun. If dirt gets stuck in the tread pattern, a small brush can be used in combination with a wax remover to clean grit out. Toko's GelClean, a wax remover with a bristle applicator top, and Swix's Base Cleaner can be used effectively to rid skis of grimy matter stuck in the pores of the bases.

Waxless skis do not provide perfect grip in every type of snow. They can be rendered ineffective by icy snow. However, in ice, it is possible to get grip if klister or kick wax is applied over the tread pattern, but then klister is difficult to remove. For this reason, most waxless ski users refuse to apply grip wax or klister over the tread pattern. A few minutes of care for a waxless ski will provide better performance and a longer life for the bases. It is quick and easy to do.

How Do Snowflakes Form?

Snowflakes are a particular form of water ice. Snowflakes form in clouds, which consist of water vapor. When the temperature is 32° F (0° C) or colder, water changes from its liquid form into ice. Several factors affect snowflake formation. Temperature, air currents, and humidity all influence shape and size. Dirt and dust particles can get mixed up in the water and affect crystal weight and durability. The dirt particles make the snowflake heavier, and can cause cracks and breaks in the crystal and make it easier to melt. Snowflake formation is a dynamic process. A snowflake may encounter many different environmental conditions, sometimes melting it, sometimes causing growth, always changing its structure.



What are common snowflake shapes?

Generally, six-sided hexagonal crystals are shaped in high clouds; needles or flat six-sided crystals are shaped in middle height clouds; and a wide variety of six-sided shapes are formed in low clouds. Colder temperatures produce snowflakes with sharper tips on the sides of the crystals and may lead to branching of the snowflake arms (dendrites). Snowflakes that grow under warmer conditions grow more slowly, resulting in smoother, less intricate shapes.

32-25° F - Thin hexagonal plates
25-21° F - Needles
21-14° F - Hollow columns
14-10° F - Sector plates (hexagons with indentations)
10-3° F - Dendrites (lacy hexagonal shapes)

Why are snowflakes symmetrical (same on all sides)?

First, not all snowflakes are the same on all sides. Uneven temperatures, presence of dirt, and other factors may cause a snowflake to be lop-sided. Yet it is true that many snowflakes are symmetrical and intricate. This is because a snowflake's shape reflects the internal order of the water molecules. Water molecules in the solid state, such as in ice and snow, form weak bonds (called hydrogen bonds) with one another. These ordered arrangements result in the symmetrical, hexagonal shape of the snowflake. During crystallization, the water molecules align themselves to maximize attractive forces and minimize repulsive forces. Consequently, water molecules arrange themselves in predetermined spaces and in a specific arrangement. Water molecules simply arrange themselves to fit the spaces and maintain symmetry.

Is it true that no two snowflakes are identical?

Yes and no. No two snowflakes are exactly identical, down to the precise number of water molecules, spin of electrons, isotope abundance of hydrogen and oxygen, etc. On the other hand, it is possible for two snowflakes to look exactly alike and any given snowflake probably has had a good match at some point in history. Since so many factors affect the structure of a snowflake and since a snowflake's structure is constantly changing in response to environmental conditions, it is improbable that anyone would see two identical snowflakes.

If water and ice are clear, then why does snow look white?

The short answer is that snowflakes have so many light-reflecting surfaces they scatter the light into all of its colors, so snow appears white. The longer answer has to do with the way the human eye perceives color. Even though the light source might not be truly 'white' light (e.g., sunlight, fluorescent, and incandescent all have a particular color), the human brain compensates for a light source. Thus, even though sunlight is yellow and scattered light from snow is yellow, the brain sees snow as white because the whole picture received by the brain has a yellow tint that is automatically subtracted.

Snow Dancing Part II

I must say that I have been impressed by the positive results produced by all the snow dancing this season. We will soon be reaching critical mass and snow dancers of all styles will inhabit the planet. The Crater Lake Ski Patrol has started a trend in terms of a collective conscious around the ritual. Yes, there are a growing number of patrollers who are casting caution to the wind and just flat booging their bootie in the name of snow: Woopie!

In the spirit of taking the art of snow dancing to the next level, I invite you to lace up your boots, clip into your bindings, and grab your poles for yet another adventure. These are three tips to help take your snow dancing to the next level.

ONE - Breathe - Breathing properly is the single most important technique for enjoyable and relaxing snow dancing. The physiology of breathing is all about taking oxygen rich air into the lower lobes of the lungs, which drops the diaphragm downward, causing the belly to expand. This full lung breathing dramatically increases the amount of oxygen available for metabolism. Many people breathe in the upper part of the chest, which is only good for about 15% oxygen exchange. When you are dancing on the snow, I encourage you to take deep, full breaths to optimize oxygen intake, reduce stress, and increase your over all performance.

TWO - Look-up - Unfortunately, many snow dancers constantly look at the tops of their skis when they are snow dancing. There are several problems that arise when you focus your energy downward. a) Looking down compromises your ability to take deep belly breathes because you are humped over. Breathe deeply always! b) Looking down displaces your energy transfer to the kick portion of your skies. That's right, your skis will slip more when you are looking down as apposed to upward and down the trail. The moral of the story is to pick points of reference, (like tops of trees) down the trail and focus on them. Doing this will expand your ability to breathe deeply plus improve your kick part of the snow dance. The bonus part of looking up is the enjoyment you get from seeing the surroundings.

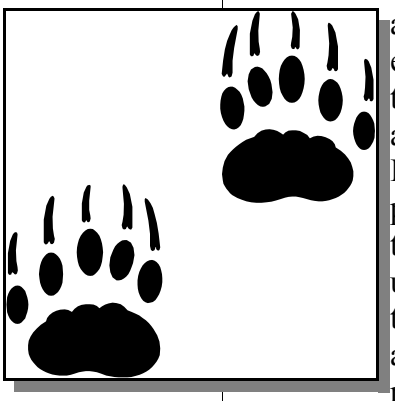
THREE - Pole Technique - Utilize your upper body strength when you snow dance. Here are a couple of tips to help you down the trail. Adjust your pole straps so you get maximum force transfer from your arms down the pole to the snow surface. With your straps properly adjusted, you will not need to grip the poles with your fingers. Griping your poles is inefficient and causes unnecessary tension in your forearms. Gently let the pole rest between your thumb and trigger finger for guidance and relax the rest of your hand. Next, pretend you have a glass of water in your hand. Now, throw the water down the track. This sends your energy where it needs to go, down the trail as opposed to up into the sky. When you concentrate on directing your pole energy down the trail, your snow dance will be easier, smoother and more effective.

In my 20 plus years as a snow dance instructor, I have seen remarkable improvements when people implement these powerful techniques. So, breathe deeply and fully, look-up always, utilize the power of your poles, and throw the water down the track, Here's wishing you a season filled with safe and enjoyable snow dancing.

Professor Glide

Triangulating with your Map and Compass

Triangulation is used to locate your position when two or more prominent landmarks are visible. Even if you are not sure where you are, you can find your approximate position as long as you can identify at least two prominent landmarks (mountain, end of a lake, bridge, etc.) both on the land and on your map.



1. Orient the map.
2. Look around and locate prominent landmarks.
3. Find the landmarks on the map (preferably at least 90 degrees apart).
4. Determine the bearing of one of the landmarks (see Bearings page 00).
5. Place the compass on the map so that one side of the base plate points toward the landmark.

Keeping the edge of the base plate on the symbol, turn the entire compass on the map until the orienting arrow and the compass needlepoint to north on the map.

Tracking Animals in the Snow

Backcountry skiing or snowshoeing in the winter and spring can expose a person to a variety of animal tracks. If conditions permit, these tracks can be used to identify the particular animal with relative ease. In fact, a careful observer can learn quite a bit about the behavior of wild animals. Recent track surveys conducted on the north side of Crater Lake have confirmed the presence of gray fox, bobcat, fisher, marten, long tail weasel, snowshoe hare, squirrels, and voles. Distinguishing which tracks belong to which animal can be accomplished from looking at both the individual print and the groupings of the prints. There are a couple of books that are very educational for neophyte and expert trackers alike:

1) Field Guide to Tracking Animals in Snow. Louise R. Forrest. 1988. Stackpole Books, Harrisburg PA. ISBN: 0-8117-2240-6
2) A Field Guide to Mammal Tracking in North America. James Halfpenny. 1986. Johnson Printing Co., Boulder CO. ISBN: 0-9334472-98-6

3) Scats and Tracks of the Pacific Coast including British Columbia. James Halfpenny. Falcon Publishing, Helena MT. ISBN: 1-56044-869-5

There are also numerous documents from universities and Federal agencies with much more information about particular spe-

Characteristic **Family**

	Cats	Dogs	Rodents	Rabbits	Weasels	Bears
Number of toes	4	4	4 -5	4	5 (1-3-1)	5
Foot shape	Rectangular	Round, wide	Round, small	Wide, long, small	Wide	Wide, long, large
Largest foot	Front	Front	Hind	Hind	Hind	Hind
Toe shape	Round	Teardrop	Round	Teardrop	Round	Round
Largest toe	Inward	Inward	Equal	Equal	Outward	Outward
Claws present	Usually	Seldom	Seldom	Seldom	Variable	Variable
Interdigital pad	1 lobe	2 lobes	Variable	Chevron, sym-metric	Chevron, asymmetric	Wedge
Metatarsal pad	No	No	No	No	Yes	Yes

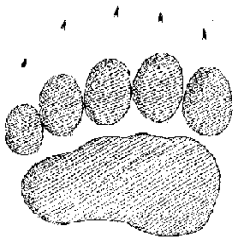
cies. Many of these documents can be found on the Internet. Above is a simplified table of track characteristics to help determine what made the track you're looking at:

Track patterns can often bring you quickly to the identification of the animal you are tracking. Members of the Canid Family (fox, coyote, dog, wolf) often leave a straight, narrow walking or trotting path. The Leporid Family (rabbits, hares) leave a tell-tale hopping pattern, leaving four prints in which the larger hind feet fall ahead of the offset front foot prints. Delicate four-print tracks can often point you in the direction of the nearest vole or squirrel nest. The Mustelids (long-tail weasel, marten, fisher, wolverine) are well known for their loping 2x2 or galloping 1x3x1 tracks. Measuring and photographing the tracks can provide useful information for piecing together the creatures' identification at a later time. Other clues to look for include the depth of the track in the snow (indicating the relative weight of the animal), belly or foot drags, and scat or scent marks left along the trail. With practice and diligence, one can become adequately skilled in identifying the animals, which cross our paths during our snow travels. As Patrollers, you might even try transferring these skills to help figure out the other humans who are sharing your trail.

Happy Tracking!

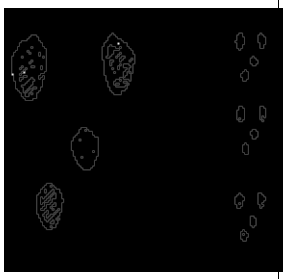
Cat

Bear



Dog

Rabbit

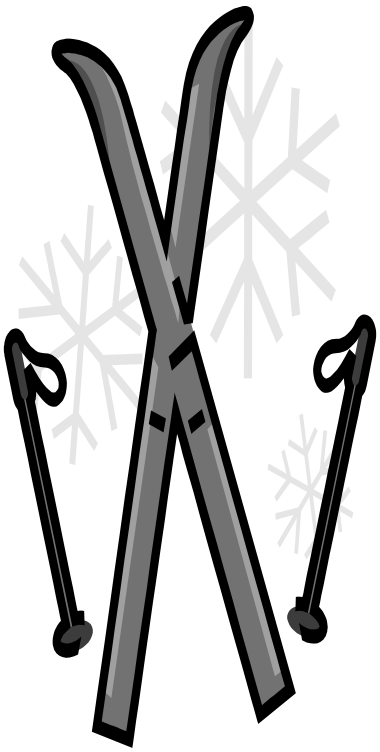


Weasel

Rodent

Winter Edition
Caldera Chronicle

Up Coming Events



- January 10th 1000-1300
  Avalanche Pieps Workshop
- January 24th
  Advanced Map & Compass Workshop
- January 31, 1000-1300
  Avalanche Assessment and Evaluation
- February 28, 1000-1300
  Avalanche Assessment and Evaluation.
- March 6th 1000-1300
  Avalanche Assessment and Evaluation

Happy Ski Trails

Niel Barrett
432 N 5th
Klamath Falls, Or