



SnowLine

The Official Newsletter of the
TAHOE NORDIC SEARCH & RESCUE TEAM, INC.
 Lake Tahoe • Truckee • Donner Summit

Some years it's been a blizzard, some years cold and icy. Some years radiant sunshine, and more than one year a little dicey. When you plan the West's largest cross country ski race the first Sunday in March—year after year—you get it all. It's The Great Ski Race, of course, Tahoe Nordic Search and Rescue Team's main fund raising event and the Nordic ski soiree of the season. This year is the 29th anniversary of The Great Ski Race, and, as usual, there's some new tricks up our collective race sleeve. But the one thing that makes the race a success is not a trick at all, in fact it's quite the treat—YOU! The Great Ski Race is put on entirely with volunteer effort, and every effort counts. Please attend the next meeting of Tahoe Nordic Search and Rescue Team, Monday night, February 28, 6:30 PM at Granlibakken's Ski Hut. It's The Great Ski Race planning meeting, and the race will not happen without you. So, by all means be there, eh?

Plane Down

Early evening on February 6, just as the Super(fluous) Bowl was ending, Tahoe Nordic Search and Rescue Team was dispatched to look for an aircraft that had disappeared from radar near Donner Summit. At the time of the callout, it had just started snowing on the North Shore of Lake Tahoe; on Donner Pass, precipitation had already been falling for a couple hours. Radio transmissions from the pilot (evidently the plane's soul occupant) on board a four-month-old Cessna SR22 aircraft had been picked up by air traffic control in Oakland, California. The pilot was reporting his plane icing, and that he was "going down."

The vast majority of every rain drop and snow crystal that hits the ground initially

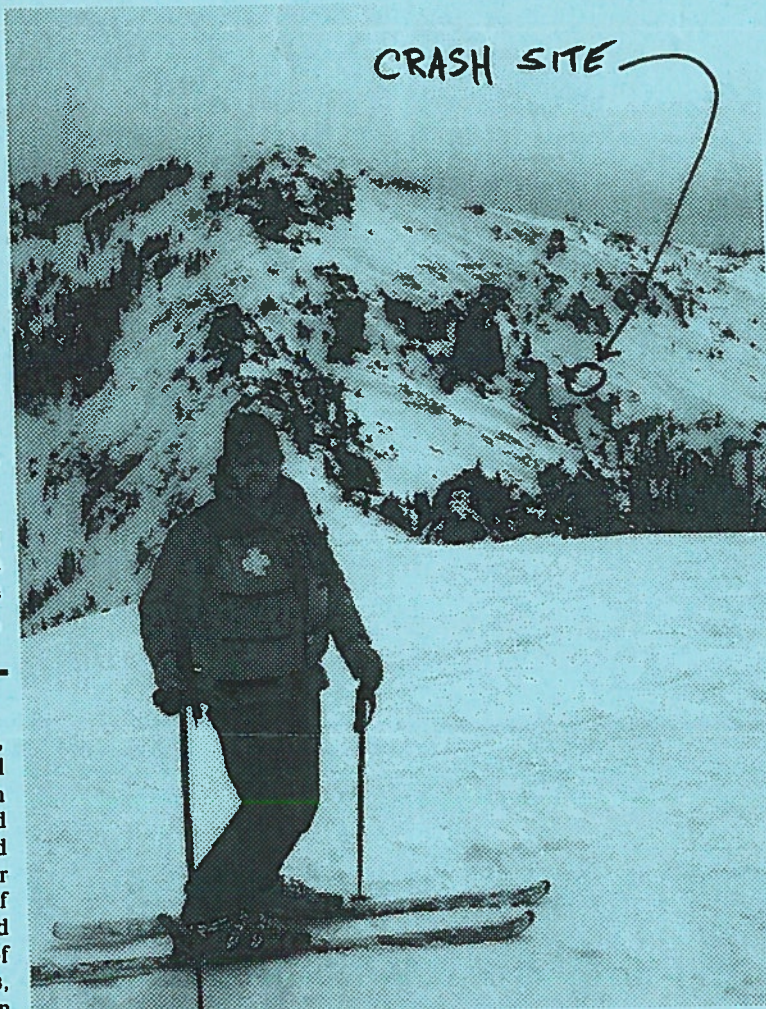
forms around a very small particle, or aerosol. Condensation nuclei, which are the seed for rain drops, can consist of almost anything. Tiny (airborne) pieces of sea salt, earthen clays, or the sulfurous by-products of an

air, quite rare. Really rare in fact. At -20°C , the ratio of available condensation nuclei to freezing nuclei—in any volume of air—can approach nine orders of magnitude. That's a big number. Not as big as our federal deficit, mind you, but impressive nonetheless. It's precisely the scarcity of freezing nuclei that underlies cloud seeding theory. If a storm crosses the Sierra with gobs of available moisture, but there's not enough stuff for it to freeze onto, only a fraction of the cloud water will fall to the ground as snow. Cloud seeding attempts to saturate portions of the atmosphere with freezing nuclei. Some water that never finds a freezing nuclei can, however, make it to the ground, and can be observed after many storms: the frozen rime ice that coats summit lift terminals, the hearty hemlocks and yellow pines that populate the Sierra crest, and, in the case of February 6, airplane wings.

The Feb 6/7 storm was small by most measures. It lasted barely 24 hours and dropped no more than six inches of snow. But it was windy—and especially rimey. Above and directly below cloud level, every pine needle on every tree was coated with the fine sputter of super-cooled water: rime ice.

Preliminary data from Oakland's radar and the crashed plane's ELT put its location west of the crest, out near Devil's Peak. Eight Nordic Team searchers spent several hours that night following up on these clues. Then, at 1:45 AM (February 7), a groomer working the runs underneath the Lincoln lift at Sugar Bowl finds a parachute.

Several species of light aircraft can be retrofitted with emergency parachutes (for the plane, not the pilot), but emergency parachutes are standard equipment on every



A view of the west and northwest faces of Mt. Lincoln, over which aircraft debris was spread for several hundred meters. Sugar Bowl ski patrol director Jim Zaloga looks on.

Photograph by Randall Osterhuber

industrial smoke stack work just fine. But that's not the case with snow crystals. For an ice crystal to begin to form, an ice nuclei is needed. These are very template dependent, and in our still relatively clean high-mountain

Cirrus aircraft. The pilot initiates a magnesium charge which in turn ignites a solid-fuel rocket that deploys the chute. The chute canopy then positions itself directly over the aircraft, and, as the Cirrus marketing team points out, "with specialized landing gear, a 3 g roll cage, and 26 g seats, produces a survivable landing." To be successfully deployed, the aircraft has to be flying at speeds less than about 140 miles per hour.



cirrusdesign.com

In addition to the parachute, various splintered pieces of beige-colored fiberglass and clear Plexiglas were soon found littering the ski runs at Sugar Bowl. Then, more fiberglass, a foam headliner, a radio manual, oxygen mask, and—miraculously intact—a digital camera. When turned on, the camera displayed several photos of a man standing next to a shiny, new airplane.

At the time more and more debris was being found, "last radar data" from Langley, Virginia was emailed to the search command post (now at the base of the Mt. Judah lifts at Sugar Bowl). This included a decidedly "big brother" satellite photo of the back of Mt. Lincoln marked with a spiraling blue line connecting the lost plane's last radar data points. Each data point consisted of location, airspeed, and rate of descent. One of the last points had the aircraft descending more than 8400 feet per minute.

At 10:45 that morning, Jimmy Roberts, an off-duty Sugar Bowl ski patrolman, found a

steep gully below the area's "PR" run strewn with aircraft debris. By now, I was one of five more Nordic Team skiers on the backside of Mt. Lincoln chasing down coordinates from the Langley radar data. We diverted to the gully, and a couple hundred feet above it, the crash site.

The plane had crashed right in the middle of the steepest terrain on the mountain's west face. Debris from the impact covered an area several hundred feet in diameter.

With the aircraft icing badly, chances are it was descending at a speed much greater than the parachute deployment system's threshold, and the chute was ripped from the plane.

The next day, three Nordic Team skiers participated in the body recovery along with the Sugar Bowl ski patrol, Placer County deputies, and USFS personnel. The day after that, as much aircraft debris as possible was lifted out by helicopter.

This was the Nordic Team's fifth search of the season.

Feb/March

The following are Team functions scheduled through March. Any changes or updates to the sched will be posted on the Team website and/or announced at the February 28 Team meeting.

The Nordic Team garage is located at 223 Fairway Drive in Tahoe City, behind the Chevron station. Please hold a valid OES card before attending a Team training exercise, and let the training organizer know to expect you.

February 27: Paul Cushing (581-4354) will lead a ski tour of Mt. Tallac today. Meet at the Team garage at 7:30 AM.

February 28: The 29th Great Ski Race planning meeting of the Tahoe Nordic Search and Rescue Team, Inc., 6:30 PM at the Granlibakken Resort's Ski Hut.

March 3: Great Ski Race racer bag stuffing, 5:00 PM at Tahoe Cross Country Ski Area.

March 6: The 29th Great Ski Race, Tahoe Cross Country Ski Area, 9:00 AM—SHARP!

March 13: Ski "social" at Northstar (or ski anti-social anywhere else). Meet at the Team garage at 7:45 AM, or in the Northstar village at 8:30. Please let Paul Honeywell (546-8609) know you'll be attending.

March 19: Mike Kennett (581-2101) is organizing a ski from Squaw Valley to points beyond, possibly down to The Cedars. Meet at the garage at 7:15 AM, or in front of the Squaw tram building at 7:45. No, lift dog, there'll be no in-bounds skiing on this one.

March 26: Jim Rienstra (546-7188) will be leading a tour up in the Mt. Rose area. Meet at the Team garage at 7:00 AM, North Tahoe Beach at 7:30, or somewhere (?) up on the Mt. Rose highway at 8:00.

Betting that "huck," "pow pow," and "Alpine Meadows backcountry" never make it into my lexicon,

—Randall Osterhuber

Team Officers

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Vice President	Ray O'Brien	581-4358
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Secretary	Sue Duerksen	412-3836
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	Bernie Mellor	546-2238
	Dirk Schoonmaker	583-2929
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	Joe Pace	583-1806
	Doug Read	583-6381
	Gerald Rockwell	583-5376
	Steve Twomey	525-7280

Committee Chairs

Cuisine	Debra Schroepfer	546-2809
Dispatch	Jackie Thomas	587-2687
Education	Jim Coffey	583-1276
Equipment	Brian York	583-0465
Great Ski Race™	Doug Read	583-6381
	Randall Osterhuber	546-4491
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Snowcats	Gerald Rockwell	583-5376
Snowmobiles	Paul Honeywell	546-8609
Technology	Bernie Mellor	546-2238
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Website		
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29TH ANNIVERSARY
THE GREAT SKI RACE
SUNDAY, MARCH 6, 2005
TAHOE XC SKI AREA
9:00 AM--SHARP!

please keep us informed of your correct address!