

2015

The

# DISPATCH

Inyo County Search + Rescue  
Annual Newsletter



# Inyo County Search and Rescue

is a non-profit, all volunteer organization under the direction of the Inyo County Sheriff's Office. We are called upon to assist those who are lost or injured in the wilderness of our county; an area of some 10,000 acres of open space and a topography that includes both the highest and lowest points in the continental United States.



***[inyosar.com](http://inyosar.com)***





## Captain's Note

Reflecting on 2015, I am so impressed by the achievements of this team. Not only did we earn a perfect score in our technical rock rescue recertification, we responded to several calls that were notable for the level of skill they required. The team also continues to grow and to develop professionally and technically.

Looking back at the year, several missions stick out for their tales of survival and fortitude. In one case, a 72 year old woman with a notoriously bad sense of direction became separated from her party while on a multi-day trip in the Sabrina drainage. After starting a day hike with some friends, she decided to head back to camp but became lost. Her party and others searched for her. After the SAR team arrived and conducted a hasty search, they realized the search area could be extensive. Hours later, a helicopter found her – miles away down a steep canyon. She was shaken, and it turned out had major trauma, but all in all she was in good spirits and just thrilled to be alive.

Then there was the man who went for a walk in Saline Valley. Five days later, someone finally noticed that his car was parked in a strange place and hadn't moved for days. A full week after he left his vehicle, he was found under a mesquite tree, scooping handfuls of water from a muddy puddle that he had been sharing with wild burros. He'd had no other food for seven days and had not left the security his little tree at all during that time.

We had a couple of major missions that challenged our skills and teamwork. A couple of these stories are featured later in this newsletter. You will be able to read about a mission told by the patient from his own perspective and background. I won't spoil the story, but I will say that just one year previously we wouldn't have been able to complete such a long, technical, and complex rescue in one day. The terrain required us to move the patient a half mile across and 900 feet vertically down a slope of loose talus, scree, and boulders that at times was very steep. On top of this it was maximum fire season and as the day progressed the smoke became thick. As dusk approached the helicopter pilot gave us updates to the minute on how much time we had before he had to leave. The ship took off, patient on board, with just 7 minutes to spare. If we had missed the deadline, our patient would have had to spend a second night out in the elements. That day, the team worked incredibly well together, solving problems efficiently and effectively, and putting everyone's skills to the maximum use. It was likely the proudest day of my life.

As I write this, our last three missions have been recoveries. Not the most positive way to end such an impressive year. One was a tragic avalanche death. In some ways, it was the kind of mission that makes us want to be celebrate, because we found the victim against significant odds. We organized a dozen teams from across the state, put in hours late at night and early in the morning to plan, covered a lot of ground, and kept all of 50+ rescue personnel safe. We assembled clues, brought in new resources, and found a person buried in avalanche debris in a season when one wouldn't even expect to see avalanches. Despite these successes, we brought home a body, not a living being. As the family mourns, we too console ourselves: He likely died quickly; he was doing what he loved most; we brought closure to the family, saving them from a long wait over winter. With every recovery, we are humbled. After the mission is over and when we reflect, many SAR members can not help but think *this could have been me*.

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There are plenty of professions that deal with death on a regular basis. Perhaps the difference, for mountain rescue volunteers, is that we see how our own passion could kill us and has killed others. Our time in the mountains, the very thing that keeps us happy and gives our lives meaning, is the same thing that could be our end.

People often ask why. Why do we volunteer to go on missions? While the specific reasons are different for each person, maybe this is underlying: because each of us knows that it could be our turn next.

The other thing people often ask is, "What about the people who just have no idea what they're doing? Don't you think you're wasting your time?" Well, we all do something dumb at some point in our lives. There are just higher consequences in some places than in others. It's not our responsibility to judge whether someone deserves a rescue. The point is not how they got into trouble. What matters is how we will get them out of it safely.

The time could come for any of us that we may need help, and personally I'd really like that help to be skilled, to work together well, and to have resources available to back them up. So as we wrap up 2015 we reflect on the stories and lessons learned and use these to train and be ready for the next challenges.

Coming up in 2016 we are looking forward to hosting the recertification for all of the California chapter of the Mountain Rescue Association (MRA). Each team will be required to show their proficiency in snow travel, avalanche rescue, and patient care and extraction. We will also be training extensively in these winter rescue skills as well as our other major disciplines such as rock rescue and Incident Command. We will be offering our members opportunities to take avalanche courses and Rigging for Rescue. Additionally, some of our members will be traveling to trainings with the California Office of Emergency Services and to the national MRA conference in the summer. A lot of exciting things are happening as our team continues to grow and learn.

Thanks for supporting us along the way.

-Julie Vargo



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# Trainings and Recertification

## MRA Rock Reaccreditation

To maintain our membership in the Mountain Rescue Association, each year we are required to pass a field test to show our competency in one of three disciplines. In 2015, we joined teams from across the state in Joshua Tree National Park to test our vertical rescue skills.

After nearly a year of training, our technical rescue team was ready to prove themselves. First we had a scenario involving a patient with an injured ankle and potentially compromised spinal column, requiring evacuation via backboard and litter. The team was able to develop several different evacuation strategies, and rework systems as situations developed. We rigged a modified guideline to lower patient and attendant over a series of ledges and descent a couple hundred feet to a location where a carry-out would be possible.

In the afternoon, team members tackled multiple challenges such as ascending a fixed line and switching to a rappel, packaging and transporting a fall victim from a precarious position, and calming and aiding a stuck rappeller.

Every scenario is a learning experience, and we were very critical of ourselves throughout the whole



day. In the end however, our evaluators were very impressed and awarded us with a perfect score - something we were told was a very rare accomplishment!

Still, we continue to review our practices and improve our skills.

## Trainings

Our team trainings are not only a way to build and develop skills, but also the method for learning to work as a team and smooth out the wrinkles in our processes.

Many team members come in to our team with excellent skills and background, which they share with the team by leading trainings. We train primarily in three categories: technical rock rescue on vertical terrain, winter snow and ice travel and rescue, and incident command and man-search concepts.



Other times we work with our partners so that we are prepared to work with them in the field. For example, we partner with CHP Helicopters often. Among other things, they need to know that when they lower a hoist to us, we can properly hook up a patient.

Finally, our members invest a lot of time into the team, and we like to support them back by providing certifications and opportunities for professional training. Many of the donation dollars that we receive go to covering the costs of these trainings. It may be a Wilderness First Responder Course, Rigging for Rescue, or Professional Avalanche Rescue. These opportunities benefit the team as a whole as well as each member who chooses to further their training.



# Mission Reports

## A Selection of Missions from 2015

### Two Missing Persons, Same Trail, Same Day

The team received a call at 0600 hours requesting assistance for two separate individuals in the Blue Lake and Dingleberry Lake area of Sabrina Basin. Each had become separated from their parties while on day hikes away from camp, one intentionally and one unintentionally.

Three team members started up the trail at apx 0815 and found the remained of the missing person's party at their campsite in the Emerald Lakes. After obtaining more information, they began a hasty search of the point last seen and areas off of the trail where it appeared likely that someone could lose the trail. The team also requested helicopter assistance. H-80 arrived early afternoon and the ground searchers directed them to search the drainage between Dingleberry Lake and Lake Sabrina. H-80 quickly located the subject, who was alert and oriented and waving her blue poncho to attract the attention of the helicopter. The patient had spent the night out and had taken several falls in her descent of the drainage from Dingleberry to Sabrina. Though she was mobile when picked up and in good spirits, doctors found significant injuries and she was flown to a trauma center.



### Open Forearm Fracture, Mt Emerson

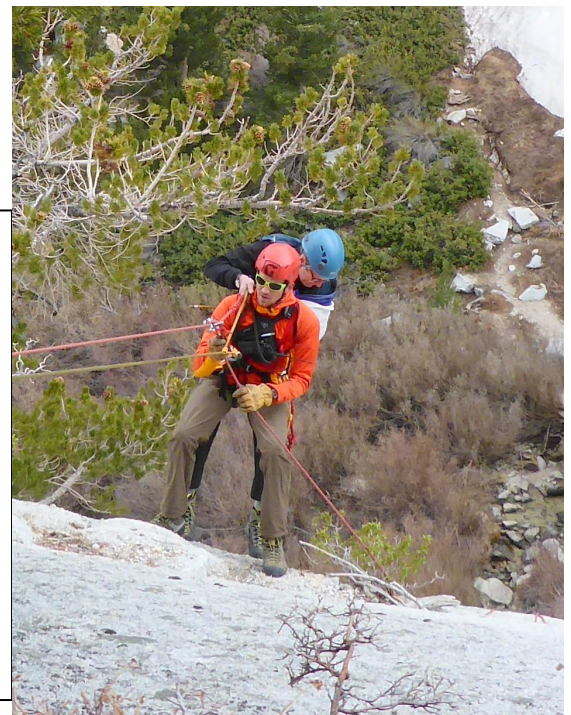
The patient had taken approximately a 20-foot fall at the beginning of the climb; she and her partner were attempting to solo the route (climbing without ropes). The partner managed to stop the bleeding and bandaged the arm, then left the scene to get help. He encountered a runner on the trail who was willing to stay with the patient while he made his way to cell service.

A hasty medical team of 2 Inyo SAR members departed the North Lake Trailhead at 11:45am, after meeting up with the reporting party. The medical team reached the patient's location one hour after leaving the trailhead. The team assessed the patient, applied oxygen, and cleaned, bandaged, and splinted the injured forearm.

H-70 was able to hoist the patient directly from her location at the base of the climb and fly her to Bishop Airport

### Dislocated Shoulder, Mountaineers Route, Whitney

In April rescuers were called to the Whitney Zone to aid in the evacuation of a man who had dislocated his shoulder while on a guided trip. The guide cared for the patient overnight but was unable to reset the shoulder. Two team members went up to meet the patient while two others rigged the ledges for a pick-off style descent. The patient would not have been able to descend the ledges with the use of only one arm. He did then hike himself down the rest of the way.





## Seizure on Whitney Trail

On Tuesday August 25, Inyo County Sheriff's office was notified of a woman who was "unable to speak" and "in shock" at Mirror Lake on the Mt Whitney trail. A hasty team of three Inyo SAR members was in the vicinity of Lone Pine; they quickly gathered medical gear, and began hiking up the trail at 20:10. Four more SAR members began hiking shortly after with the wheeled litter. CalFire was also dispatched to assist with manpower.

The hasty team arrived at Outpost Camp and contacted the patient and family at approximately 22:15, and began rendering basic life support medical care. On arrival, patient was responsive to painful stimuli only. Patient appeared to be in a stupor, unable to speak or follow commands. She vomited shortly after our arrival, and was immediately turned on her side to prevent aspiration. The rest of the SAR members arrived with the wheeled litter, and patient was repackaged on her side and secured in the litter. The seven SAR members began carrying the patient down the trail at 23:15. On the switchbacks above Lone Pine Lake, the first three CalFire crew members caught up to the team and relieved SAR team members. Three more CalFire crew members arrived later, and the group of 13 people carried the patient to Whitney Portal, arriving at 03:15, where an ambulance was waiting to transport the patient to the hospital.

## Downed Paraglider in White Mountains

On September 20, Inyo SAR responded to a call for two paragliders who had crashed during a competition. When the team arrived, CalFire had already responded but no one had yet reached the first patient. Teams proceeded to confirm that only one flyer had crashed, while others worked toward accessing the patient. After packaging the patient, who had suffered major trauma, the agencies worked together to pass the litter downhill hand-to-hand until a wheel could be attached and the litter rolled to a waiting atv to transfer to the ambulance.



## Jigsaw Pass Recovery

On August 8 two members of Inyo SAR hiked through the night up the Bishop Pass trail to respond to personal locator beacon distress calls indicating a possible fatality. The GPS coordinates placed the accident site just below Jigsaw Pass in the Inconsolable Range, just east of Mt Agassiz. The team was not able to locate the group in the dark but found them easily by daylight. The victim has suffered major trauma after pulling off a loose rock.

H-80 arrived to assist in the extraction. The helicopter was not able to hoist so the team rigged a technical system to transport the victim down the talus slope to the waiting helicopter.

## Climber Fall on East Arete of Split Mtn

Two climbers became stuck while climbing after the leader took a fall and suffered a 3 inch laceration to the arm and possible skeletal injury. Inyo SAR requested the aid of a helicopter.

CHP H-40 was able to lower an Inyo SAR member down to the two men, where the rescuer quickly assessed the injured climber and then placed him into a Bauman Screamer suit (seated rescue harness). H-40 returned to the arête and hoisted the injured climber safely off the rock ledge. He was airlifted to Bishop Airport where Symons Ambulance assessed and transported him to Northern Inyo Hospital. H-40 returned to Split Mountain to pick off both the uninjured climber and the Inyo SAR rescue member.



## Early Season Storm Causes Busy Week of Rescues

From Saturday October 3 through Saturday October 10, Inyo SAR aided ten persons out of the mountains. The week began with a couple of cases of mild hypothermia on Mt Whitney. The team partnered with China Lake Mountain Rescue for the first event and spent all night hiking up to trail camp to rescue a husband and wife with hypothermia. Over the next couple of days, team members responded to several more calls in the Whitney Zone.

Later the same week, three climbers were aided off Middle Palisade where they had spent a long and cold night. The day prior, snow had slowed their progress and they turned around just before darkness and found their descent impeded by lack of working headlamps and dangerous conditions.



## Meysan Lakes Avalanche Fatality

In the afternoon of Saturday November 21, search and rescue volunteers from numerous California Mountain Rescue Association teams were flown to Meysan Lake to continue the search for a missing hiker. Based on the location of the helmet that was located and recovered on November 20, teams planned to search avalanche debris in the vicinity of the helmet using avalanche dogs, RECCO avalanche search technology, and avalanche probes. SAR personnel were also assigned to search the snow and rock filled chute above the location of the helmet, and to act as safety lookouts. The RECCO device located the victim buried in approximately two feet of avalanche debris near the toe of the avalanche accumulation zone, approximately thirty feet down-slope and lookers-left of the location of the helmet, and approximately 400 feet in elevation above Meysan Lake. It appeared that the victim either was caught by an avalanche from above while in the chute, or triggered an avalanche near the top of the chute and was carried down (searchers on the day prior reported an avalanche crown above the top of the chute).

Details about the early-season avalanche can be found at <http://www.esavalanche.org/content/meysan-lake-avalanche-1>



# Special Feature

A Rescue from the perspective of the patient: by Eric Hengesbaugh

Palisades: August 30 - September 2, 2015

Here's what I recall: The moment of letting go. Yelling "Falling, Falling, Falling". My vision narrows and I enter a sort of dream state. I ask myself if this is reality and some other voice answers simultaneously that it most certainly is. I am disappointed in myself for falling, for making such an avoidable mistake. My stomach has the sinking sensation you feel when cliff jumping or going down a drop on a roller coaster. I am facing out from the cliff as if I am on a slide. I have no sensation of my body in space; I cannot see the ground coming up fast. I see the bright red color of my backpack. I do not lose consciousness.

It was my mom who first brought my brothers and me to the Palisades. As explained to an eight year old... a family relative, Don Jensen, had climbed in these mountains before anyone! He had even climbed mountains in Alaska and designed his very own backpack! He had taught at a climbing school right here in this valley! . . . Don was a family tall tale. His character blown out of proportion by those too close to know better, or so I thought.

Fifteen years later I was gathered with the UCLA Outdoor Adventures group to listen to Doug Robinson, an idol in the climbing world, who had graciously agreed to talk to us about his experiences. In the talk he mentioned that he had learned quite a bit from this guy named Don Jensen. . . Wait! Did I hear that name right? Our Don!? Thee Don Jensen? If anything my Mom had been down-playing his accomplishments. Before his sudden and early death, riding a bicycle at the age of thirty, Don had put up a lifetime of first ascents in the Palisades, including the classic Celestial Arêtes. In Alaska Don had helped on a new route up Mt. Huntington, setting a new standard for the seriousness of mountaineering. He had also been part of the team responsible for the Harvard Route on the Wickersham Wall of Denali. It is considered one of the most dangerous routes on the tallest mountain in North America. It climbs more than 14,000 vertical feet on one of the largest continuous walls in the world and it has never been repeated. Don was a PhD level mathematician; he was a visionary equipment designer, and he was a mentor to many who passed through the Palisades School of Mountaineering. Turns out Don Jensen was the real deal.

## The Idea:

Then along came the American Alpine Club and their Live Your Dream Grant. My best friend Gabe had tipped me off, hoping to get me State side at some point during the summer. With my twin brother Brian on board, we began scheming and finally imagined a project that would take us back to the Palisades. On the application, my version of our objective, in 50 words or less, went like this:

*It is my intention, with my twin brother and best friend, to spend a month in the Palisades attempting the classic and hidden first ascents done by Don Jensen. Ultimately our goal is to reconnect with the history of the Palisades by recreating one of Don's summers in the High Sierra.*

## The Climb: The Surgicle

The plan was to climb a smaller feature on the much bigger Temple Crag Buttress. The Surgicle, at 11,500 feet of elevation, would work as a perfect warm up for the longer climbs that would come later in the week. Peter and I would climb up the East Face. Brian and Gabe would go up the North Rib located further right on the same feature. The plan was to meet at the top and then rappel down the East Face as described in the guidebook. Plans changed.





After climbing the first two steep sections, Peter and I pulled into easier, low angle terrain. Just after 3 o'clock I started up the fourth pitch where the obvious line of the climb disappeared and I was just following the path of least resistance. I traversed left from our anchor on a small ledge for about 20' and placed my first piece of protection. I climbed up higher, placed a second and was just about to place a third when I decided to make one more move to an improved stance. I moved first my left hand then my right to a rather large block, and as I leaned back, the rock shifted under my weight. Instinctively or perhaps because I was losing my balance, I let go.

#### The Fall:

I fell about 35 - 40' before hitting the ledge I had traversed earlier. The pieces held (.75 cam and a yellow #6 hex) and the rope came tight. I yelled out in immense pain as my body whipped back against the restraint of the rope. I don't recall being frightened or thinking that I was going to die. There was a serious deformation of my right ankle; my foot was at 3 o'clock while the rest of me was at 12. More alarmingly, however, was the terrible ache in my lower back.

My partner, Peter, a trained Wilderness First Responder, was able to get to me by extending his attachment to our anchor (clove hitch). With complete professional composure Peter checked me over. I was not bleeding heavily and after some rest the pain became manageable. Although we recognized the severity of moving a patient with back pain, we chose to traverse the 20', back to our original anchor where the ledge was bigger and would allow me to lie down. We figured we would wait there for Brian and Gabe to join us and descend together with their help. We made the assumption that they would continue up their route and then rappel down.

Brian told me later on that he heard me yelling, "falling, falling, falling" off to his left. Although he couldn't see the distance I fell, he could hear it. The source of the sound was changing elevation too quickly and for too long. Both Gabe and Brian heard me yell in pain, the residual noise bouncing off the surrounding canyon. Gabe had paused for a moment before lowering to Brian, optimistically wishing it was a yell of triumph.

#### The Epic of Brian and Gabe:

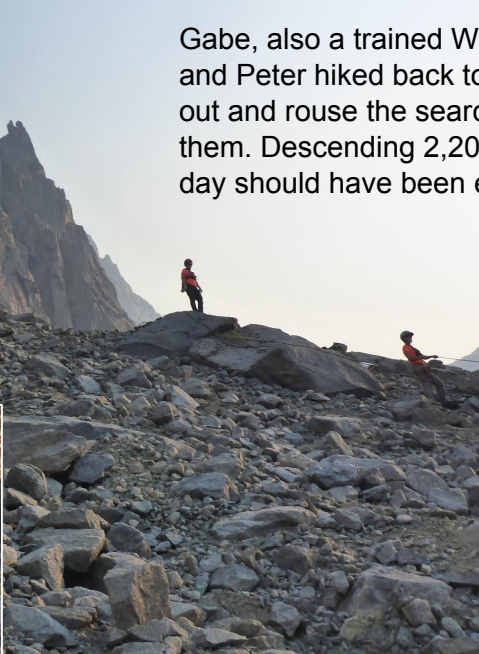
Hearing echoed cries for help, they decided to rappel into the gully on their right, as our distorted voices sounded as if they were coming from the ground. They tried to follow our original line up the North West face but fatigue and the lack of equipment was making it impossible to continue. Next they tried a seemingly low fifth class scramble to the left that resulted in another retreat and a stuck, then cut rope. Frustrated, they returned to the gully right of the North Rib. They gained as much elevation as they could before simul climbing some 4th class and eventually roping up for one pitch of 5th class climbing to the summit. Near the top, Gabe clipped his rope into an old, fixed piton, probably one of Don's. I like to think he helped in the rescue process.

It was well past dark and our headlamps would have fully illuminated our situation for anyone hiking in late. We tied our two ropes together and lowered the final few hundred feet in one go. Brian clipped me to his harness and took me down with him. This way I could have my broken foot facing away from the wall. Everyone reached the slope below the Surgicle safely just after 10 o'clock.

Gabe, also a trained Wilderness First Responder, and I sheltered while Brian and Peter hiked back to camp, Peter to return with supplies and Brian to hike out and rouse the search and rescue team. No small task for either one of them. Descending 2,200' back to camp in the dark, carrying the fatigue of the day should have been enough.

Peter then climbed back up with a bag filled with sleeping gear and supplies for three, while Brian was given the burden of being our lifeline. He hiked out 7 miles in imposing solitude to make the critical call by 4 in the morning.

Gabe wrapped me in two emergency blankets and himself. The rocky ledge we had dug out of the scree slope was hardly big enough for one. We watched Peter and Brian's descent, their lights moving slowly, delicately through the tangled stone maze.





## Search and Rescue Arrives:

The sun rose; the air was crisp. We were quiet, still tucked into our sleeping bags, perched precariously on this rocky slope, watching the peaks bronze in the morning light. I felt particularly small in this moment. The vibrato of the helicopter reached us far before we spotted it circling the valley. It buzzed us just before 9:00 am, saying something indistinguishable from its loudspeaker. They flew out again and returned, dropping off rescuers in pairs who slowly made their way to us. They reached us around 11:00 am. I was worried they'd be mad at me for making them do all this work. For being so selfish as to ask for help without trying harder to get out on my own. I felt ashamed as they hike up, expecting I'd get a talking to. But instead they came with unprecedented kindness AND fresh baked cookies from the Great Basin Bakery!

As a team of five, they executed an excellent low angle rescue over steep, talus terrain with critical assistance from both Gabe and Peter. They established two massive anchors in the cliff above us and then fixed two 600' ropes to the head of my litter. Along with Gabe and Peter, two rescuers clipped themselves into the foot. With the four of them pulling down against the ropes they were able to 'float' the litter above the rocky slope and safely lower me to the helicopter. They had to earn every foot of progress. Rocks were rolling out from under their feet making it nearly impossible to get good footing. With almost no sleep and an exhausting previous day, Gabe described this as one of the hardest things he has ever had to do physically. We repeated this process twice, reaching the end of the ropes and then pausing to change anchor locations.

There was some concern that we wouldn't make it to the helicopter in time. They don't fly in the mountains at night. Over the radio the pilots voice crackled, 'The sun sets at 7:30, I can fly no later than 7:50.' We were 500 feet away from the landing zone when they picked up the litter and carefully walked the rest of the way. They placed me down like a sacrifice at the foot of the helicopter just as the sun went down. I didn't know it at the time, but we arrived at the Landing Zone just 8 minutes before the pilots hard leave time. I had been strapped down for almost 7 hours. Happiness and high-fives went all around.

This was a well-trained and talented group that knew exactly what needed to be done and then preformed. I felt well looked after and cared for through out the entire experience. This team of volunteers went over and beyond their call of duty to ensure I'd be all right physically and emotionally. Whenever passing through Bishop, I'd like to buy any member of the Inyo Search and Rescue team a beer. This offer expires when I do.

I was evacuated to Northern Inyo Hospital in Bishop just after sunset. Almost 30 hours after the fall, I was given treatment for a severely broken right ankle and a burst L2 vertebra. I was then delicately transported to San Diego for surgery. There I became a bionic man, five screws, a good size rod, and 60 something staples in all.



Don Jensen wrote an inscription in a book he gave to my Mom's family when she was 10 years old. The book, *The Mountain of my Fear* - by David Roberts, was about a climb he had done in Alaska. During their descent, one of the team members did not anchor himself properly and was lost over the edge of a cliff. What he had to say then about their climb somehow resonates in our own and I find these words consoling.

*To my cousins David, Judy, Nancy, and Stan,*

*The sad thing about the various demands of life is that often we are kept from our good friends, such as you, longer than we should be. I guess our last time together was the Christmas before this climb. In spite of the severity and tragedy of this climb, this is one of those beautiful times in life, one we like to remember and repeat. Ignore the façade of the scariness of a big, super alpine climb; it is a lovely tale of friends enjoying each other in the wilderness.*

*- Don Jensen, Thanksgiving, 28th of November 1968*



# Member Profiles



## Ariana Wylie

I moved to Bishop from Carmel, CA in 2013 for an EMT job at Symons Ambulance, and I immediately joined Inyo SAR. After my first all-night mission on Mt Emerson, I was hooked. Since then, I have fallen in love with helping people in the mountains.

I was voted in as Vice President of the team in 2015, and will begin my second term in 2016. My favorite part of SAR is the camaraderie.

We all drop whatever we are doing to go into the mountains to help somebody we have never met. As an EMT (soon to be paramedic), I'm often the Medical Leader on missions. We don't always save lives, but I have had the honor of being on a couple missions where we actually made a profound difference in the patient's outcome. I am excited to finish up with school and start another fantastic year with the team.



## Lane Dumm

Lane, born amongst the rural plains of central Ohio, first came to California 15 years ago and fell in love with the mountains.

Having already completed a BA in Outdoor Recreation, he settled in California and worked in various outdoor jobs such as a snowboarding instructor, an outdoor science educator, and a logistics coordinator at a wilderness program.

After several years of working in the outdoor industry, Lane served as an English teacher in the Los Angeles area while simultaneously earning his master's degree in counseling and school psychology.

Once finished with his education and feeling worn out from life in the big city, Lane moved to Mammoth Lakes where he currently earns a living as a school psychologist. Last spring, finding himself spending much of his free time in Bishop and hearing about the opportunity to serve the community as a volunteer with Inyo SAR, Lane joined our team.



## Stephen and Kristen Pfeiler

Also known as the Inyo County Search and Rescue newlyweds, Stephen and Kristen joined Inyo SAR in 2013. Being an original Bishop local, Stephen grew up with the Eastern Sierra as his playground. After earning a BS in Environmental Science in Southern California, Stephen was lucky enough to "recruit" his soon-to-be wife to the Eastside. Kristen, a red-headed Nevada native and Boise State graduate with a knack for making people smile, has an extensive background in trail work and Outdoor Education. Because of this combo, the Eastside/SAR community fits Kristen like a glove. She now works as a domestic violence counselor and Stephen's permanent adventure partner. After getting hitched in June, this couple continues to contribute and enhance their outdoor/rescue skills with Inyo SAR. Unfortunately they will be leaving us to attend graduate school at the beginning of the New Year, but don't you worry, they WILL be back soon!







# Let's Talk About Salt: Exertional Hyponatremia

by Ariana Wylie, Vice President, EMT-B

It's midnight. We got a call before dinner for a rescue mission on Mt. Whitney. It sounded pretty serious. Matt and I have been hiking up the trail for over 2 hours. I'm out of breath, but the voice in my head won't let me slow down, not knowing exactly what we will find. We hike up the last few switchbacks and arrive at Trail Camp. We stop for a moment to look for any movement or headlamps that might lead the way to our subject. We spy a young man standing halfway outside a tent with a headlamp. He looks anxious and cold. When he sees us, he waves, and we hurry over to him. I enter the tent to find a 20-something year old man lying on his back wrapped in a sleeping bag. The friend tells us Sam\* had 3 seizures before we got there. He is not responding to us but is breathing on his own. Julia arrives shortly, and we plan to take shifts watching Sam. Matt takes the first shift, and Julia and I try to rest and stay warm. A little while later, we hear Sam seizing again. There's no way any of us are going to sleep tonight. All we can do is try desperately to keep him from choking on his tongue and saliva. We have already asked for a helicopter for Sam, but no one will fly at night. Throughout the night, Sam had a total of 7 seizures. He never was able to talk to us or follow commands. We waited with Sam until the sun finally rose, powerless to administer any medications or fluids that might have helped him. When we finally heard the characteristic 'whop-whop-whop' of helicopter rotors, several hikers helped us carry Sam to the safety of the helicopter.

As an EMT, I've seen seizures before, but I'm with a paramedic who has the ability to stop the seizures with medication. On Search and Rescue, we don't have that ability. I knew that there were more ways to help Sam, and I was frustrated that I didn't have the knowledge, experience, or license to do any of it. I'd fleetingly considered going to paramedic school before, but that night at Trail Camp was the reason I applied to a paramedic program. That night is also what inspired me to push myself through countless exams, skills testing, graveyard clinical shifts, and, now, my internship. If all goes well, I should be a licensed paramedic in the state of California by spring.



Twice now, I have been the Medical Lead on missions on the Mt. Whitney Trail where we arrived in the middle of the night to find unresponsive hikers who had seizures prior to our arrival. The first was Sam. Last summer, seven Inyo SAR members and six Cal Fire personnel carried an unresponsive hiker four miles in a wheeled litter down to Whitney Portal. In both these instances, the patients turned out to have critically low sodium levels (hyponatremia).

Hyponatremia is the medical term for not having enough salt in your blood. Multiple body functions require salt, and the results of low sodium levels range from discomfort to death. As the concentration of salt goes down, water shifts from the vascular space (your blood) to the interstitial space (outside your blood vessels and cells) in your body's attempt to maintain a normal level of functioning. As this shift happens, your arms and legs may appear swollen because of the excess fluid in the tissues.





If the hyponatremia is not corrected, this shift of fluid can happen in your brain, and you get swelling of the brain. This is where it gets bad. Your skull cannot expand the way your skin can. Swollen arms and legs are uncomfortable, but a swollen brain doesn't have anywhere to go. The blood supply to your brain gets compromised, and if the swelling continues, your brain can herniated through a small opening in the base of your skull called the foramen magnum. If this happens, it is fatal.

On a brighter note, hyponatremia is easily reversible if it is recognized early. Mild hyponatremia has symptoms such as edema (a fancy word for swelling), weakness, lethargy, muscle cramps, nausea, and a throbbing headache<sup>1</sup>. I have experienced this first-hand. One day in the backcountry I got a little overzealous with drinking water and forgot to eat; this left me with a gnarly headache and no appetite. In this case, a salty snack got me back to feeling chipper in no time. Many hikers are taught to drink water all the time. They drink water before they are thirsty, which can lead to over-hydration and, if they don't replace the lost salt, hyponatremia.

Let's say someone who has mild hyponatremia keeps drinking water. The concentration of salt in the blood gets diluted even further, and the progression from uncomfortable to deadly can be rapid. Severe symptoms start with vomiting and confusion, progressing to ataxia (loss of control of body movements), seizures, coma, and eventually death.

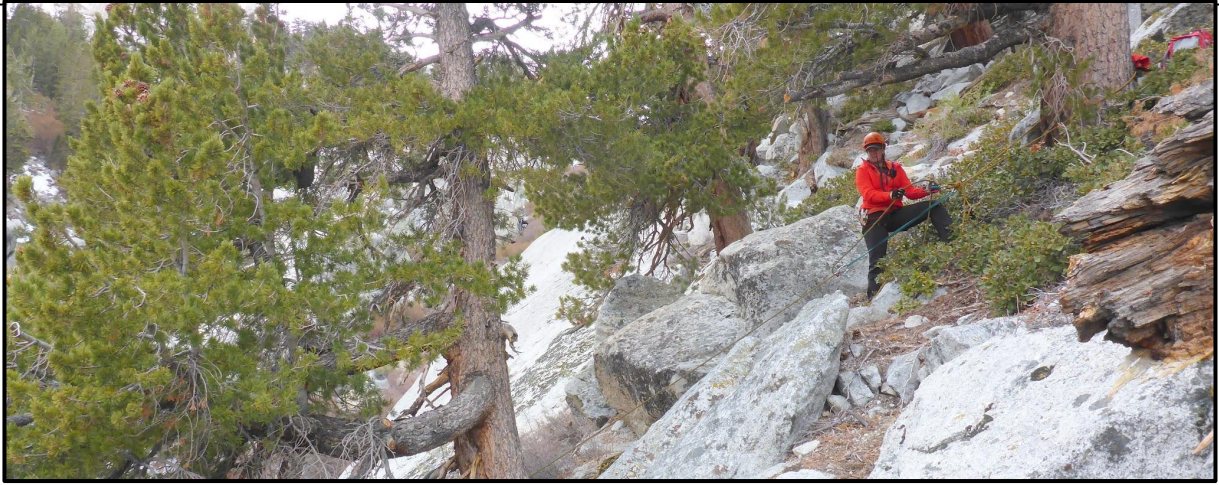
Hyponatremia is a pretty unexpected ailment in the cool temperatures of the High Sierra; it's much more common in Grand Canyon National Park, where 43 confirmed cases of hyponatremia occurred from 2011-2013<sup>2</sup>. Regardless, we have seen two severe cases of hyponatremia in the Mt. Whitney region since I joined the team in 2013.

Because hyponatremia is so preventable, it's important to be aware of your body and know how to stay hydrated. It is equally important to remain properly nourished while recreating in the mountains. Both of the cases we saw were people who were in good physical shape and had experience hiking in the mountains. In at least one of the cases, the patient would have certainly died if we hadn't promptly evacuated her.

In a world that recommends limiting the consumption of sodium, not getting enough salt can become a fatal problem in the mountains. Hyponatremia can occur in a number of ways, but the basic formula is drinking too much water and not replacing lost electrolytes, namely salt.







The big takeaway is this: if someone in your party complains of headache, nausea, or weakness, take some time to recuperate, eat something salty, rest, and stay cool. If someone in your party is confused or can't walk unassisted, it's time to get help. Severe hyponatremia can mimic heat illness and altitude sickness, and the treatments for all of these conditions are different.



Ultimately, the best treatment for hyponatremia is prevention. Here are some guidelines for preventing hyponatremia.

- 1. Stay hydrated, but drink fluids only when you're thirsty.**
- 2. Eat salty snacks.**
- 3. Acclimatize. Altitude can also affect your judgment. Use a buddy system to ensure your whole party's safety.**

\*Names have been changed for privacy.

1. Howley Ryan, Mary. "Backcountry Nutrition Basics." NOLS Backcountry Nutrition. N.p.: Stackpole, 2008. 26-30. Print.
2. Myers, Tom, MD, and Emily Pearce, Park Ranger, EMT-P. "Hyponatremia in the Grand Canyon." Springer Reference (2011): Grand Canyon Association, Feb. 2014. Web. 10 Dec. 2015.





## 2015 Rescue Members

Our team members contribute hundreds of hours of their time as volunteers. We are grateful for every bit of time and effort that EACH person puts into making our team great, whether it be on a mission, training, or behind the scenes.

Some members go even farther above and beyond, and we recognize these as our Rescue Members. The people on this list meet base requirements, having attended a combination of trainings, missions and general meetings. Additionally, they often help to lead policy choices, organize trainings, and play critical leadership roles in our missions.

In 2015, we had twelve members who met these requirements! Congratulations and Thank You to this year's Rescue Members.

Max Gallegos  
Bob Harrington  
Mike Hay  
Darla Heil  
Frank Klein  
Matt Larsen

Victor Lawson  
Elsbeth Otto  
Stephen Pfeiler  
Julia Runcie  
Julie Vargo  
Ariana Wylie

### Upcoming Events

- 1st Thursday of Every Month:  
General Meeting, 7pm
- 3rd Thursday and Saturday each  
month: Training
- March 5 : Hosting the Mountain  
Rescue Association  
Reaccreditation at Minaret  
Summit





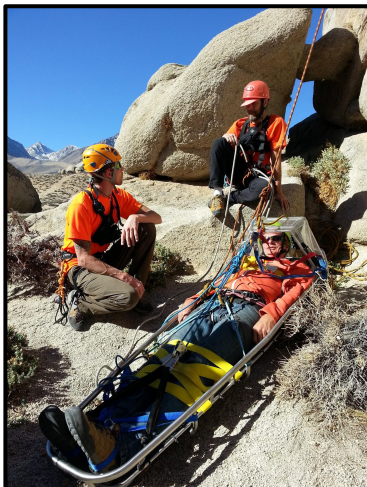
# How You Can Help



In the coming year, our team has a lot of goals. We are working towards building our capacity over the long term by investing in our members and infrastructure.

Among the Inyo SAR team, we feel that providing opportunities for our members to gain skills is our number one priority. This year, we would like to provide trainings and certifications such as Avy 1 (avalanche prevention and rescue training), Rigging for Rescue, Wilderness First Responder or EMT for individuals, and opportunities to attend SAR conferences.

To improve our infrastructure, we would like to update our vehicle fleet. As we stand currently, our vehicles need to go to the shop after nearly every mission. They are, to put it simply, unreliable. While the Sheriff's Office provides support for our vehicle fleet, at this time they are unable to provide us with new vehicles in a reasonable timeframe. Therefore we are seeking grants and donations to help us purchase one or two of the vehicles that we need. Additionally, each year we make minor updates to our equipment as it gets used.



We ask for no reimbursement for the services we provide. At the same time, we rely on donations to be able to function and provide those services. Please consider joining in the tradition of public support that has fueled our rescue efforts for decades. Your tax-deductible donation to Inyo SAR will help to keep you and your loved ones safe as you explore the vast and rugged wilderness of Inyo County.

**Contributions can be made at [inyosar.com](http://inyosar.com) or mailed to Inyo SAR at PO Box 982, Bishop, CA 93515.**

**Thank you again for your support!**



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