



Health & Fitness

The "Honey" Fire

VOLUME 1, ISSUE 6

OCTOBER 2011

Upcoming Events within the county

- **1st Annual Poker Run Benefiting MDA**
October 1st
0800 Starts in Chico (Wal-Mart)
- **Johnny Appleseed Days**
October 1-2
Paradise Intermediate School
- **Fire Prevention Week**
October 9-15
- **AutumnFest 2011**
October 14-30
Patrick Ranch, South Chico
- **Ignite the Fight 5K**
October 22nd
Bidwell Park
- **Treat Street (Kids Halloween)**
October 31
Downtown Chico 2-5 pm

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The Exercise You Should Do Right Now

There are some exercises that you just can't get enough of. One such move: thoracic rotation. (The name will make sense in a minute.) What is it and why do you need it? Thoracic rotation is an upper-back mobility exercise that helps counteract a common desk-job posture problem.

Look around your office: See anyone with a hunch in his upper back? (Make sure to take an honest look in the mirror, too.) Compare his posture to that of Superman. The difference should jump at you: Superman has his chest up and shoulders pulled back; your colleague is just the opposite. The reason is simple: Your muscles and connective

tissue tend to "set" in the position your body is in the most often.

Now you can't fix 8 hours of slumping with just one exercise. But you can counteract some of the daily damage using thoracic rotation. This exercise helps "mobilize" your upper back by rotating your thoracic spine. (That's where the name comes from.) This helps restore natural, healthy posture. It also feels really good! Do 10 reps on each side. Frequently.

By: Men's Health & Weighttraining.com

Step 1: Position yourself on hands and knees. Place your right hand behind your head. Be sure your lower back is straight.

Step 2: Next, rotate your upper back inward so that your right elbow is pointed toward your left knee. Rotate as far as is comfortable.

Step 3: Pause, then raise your right elbow toward the ceiling by rotating your upper back and head to the right as far as possible. This completes one rep.



THE TRUTH ABOUT CALORIES

By Clint Carter

It's a basic unit tied to a tricky concept. But learn these secrets and you'll start dropping pounds.

YOU CAN'T GO ANYWHERE WITHOUT being confronted by calories. Restaurants now print calorie counts on menus. You go to the supermarket and there they are stamped on every box and bottle. You hop on the treadmill and watch your "calories burned" click upward. But just what are calories? The more calories we take in, the more flab we add—and if we cut back on them, then flab starts to recede too, right? After all, at face value, calories seem to

be the factor by which all foods should be judged. But if that were true, 500 calories of parsnips would equal 500 calories of Double Stuf Oreos. Only that's not quite right. Learn the distinctions and lose the lard. **Calories Fuel Our Bodies** *Actually, they don't.* A calorie is simply a unit of measurement for heat; in the early 19th century, it was used to explain the theory of heat conservation and steam engines. The term entered the

food world around 1890, when the USDA appropriated it for a report on nutrition. Specifically, a calorie was defined as the unit of heat required to raise 1 gram of water 1 degree Celsius. To apply this concept to foods like sandwiches, scientists used to set food on fire (really!) and then gauge how well the flaming sample warmed a water bath. The warmer the water, the more calories the food contained.

Cont on Pg. 2



FireFit Program (Part 4 of 4)

Post-Season Fitness Module: (2 weeks rest/minimal activity, 18 weeks baseline fitness = 20 Weeks)

Objective: Initially provides a transition from the fire-season program in order to allow time for rest and recuperation, and injury rehabilitation. After the initial 2 week rest/recovery phase, the program is designed to provide a transition to develop and maintain a baseline fitness level in preparation for the pre-season phase and optimal fitness.

The post-season module is also developed with flexibility in order to encourage cross-training and a diversity of activities that are fun and enjoyable. Initial concentration will be on identifying any injuries sustained during the fire season that need mitigation and/or rehabilitation. It will also allow for 2 weeks without training in order to allow the body to relax, physically and mentally. Once exercise is implemented, the primary focus will be on adhering to low impact cardiovascular activities, muscle balance, and good flexibility.

This is the phase to begin preparing the mind and body for the transition to the pre-season fitness module and eventually fire season. Mental fitness is critical to the success of a well balanced fitness program and includes focus and

discipline. Each exercise component will be broken down using the F.I.T. Principal. F = frequency, I = intensity, T = time.

- **Cardiovascular:** during the course of the module, cardiovascular capacity will increase slightly through the implementation of moderate and rigorous intensity conditioning (cross training) to minimize injuries. Cardiovascular training should be done 3-4 days a week (*frequency*) with a duration of 30-45 minutes of activity (*time*) at an intensity of 65- 80 (*intensity*) of the established Target Heart Rate (THR), 1-2 days of rest is highly encouraged for maximum results. Those beginning the program should start at the minimal F.I.T. level of 3 days a week, 30 minutes at 65% THR. A variety of activities are highly recommended for the cardiovascular conditioning phase of this module. This would allow for activities that are fun and enjoyable and applicable to the season. Examples include: cross country skiing, downhill skiing, snow shoeing, ice skating, and swimming!

- **Muscle Strength:** This module is designed for individuals that either need to slowly rehabilitate injuries or to promote muscle balance.

Muscle strength exercises will be minimal to establish and maintain a baseline and prepare for the pre-season. Muscle strengthening exercises should be done a minimum of 2 days a week (*frequency*) initially (first 2 weeks for beginners) and increasing to 3 days a week later in the season. Each exercise should be done for 8-12 repetitions using 70-90% of maximum weight (*intensity*) for 1-3 sets (*time*) with a 1-2 minute rest interval between sets.

Be sure to allow for 48 hours between strength workouts to allow for recuperation of muscles.

When doing muscle strength and muscle endurance exercises, it's very important to provide muscle balance by working the opposing muscle groups equally. This will help to mitigate injuries in the future. The post season phase should be used for this purpose.

- **Muscle Endurance:** Muscle endurance exercises are equally encouraged during the post-season phase and can be done in conjunction with the muscle strength exercises in order to provide diversity, muscle balance, and variety. Muscle endurance exercises should be done a minimum of 2 days a week (*frequency*) with 12-20 repetitions using 50-70% of maximum weight (*intensity*) for 1-3 sets (*time*) with 1 minute intervals between sets.

Any fool can criticize, condemn, and complain but it takes character and self-control to be understanding and forgiving.
-Dale Carnegie

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Calories (cont. from Pg 1)

(Today, a food's calorie count is estimated from its carbohydrate, protein, and fat content.) In the calorie's leap to nutrition, its definition evolved. The calorie we now see cited on nutrition labels is the amount of heat required to raise 1 kilogram of water by 1 degree Celsius. Here's the problem: Your body isn't a steam engine. Instead of heat, it runs on chemical energy, fueled by the oxidation of carbohydrates, fat, and protein that occurs in your cells' mitochondria. "You could say mitochondria are like small power plants," says Maciej Buchowski, Ph.D., a

research professor of medicine at Vanderbilt University medical center. "Instead of one central plant, you have several billion, so it's more efficient."

Your move= Track carbohydrates, fats, and protein—not just calories—when you're evaluating foods.

All Calories Are Created Equal Not exactly.

Our fuel comes from three sources: protein, carbohydrates, and fat. "They're handled by the body differently," says Alan Aragon, M.S., a Men's Health nutrition advisor. So that old "calories in, calories out" formula

can be misleading, he says.

"Carbohydrates, protein, and fat have different effects on the equation."

Example: For every 100 carbohydrate calories you consume, your body expends 5 to 10 in digestion. With fats, you expend slightly less (although thin people seem to break down more fat than heavy people do). The calorie-burn champion is protein: For every 100 protein calories you consume, your body needs 20 to 30 for digestion, Buchowski says. Carbohydrates and fat give up their calories easily: They're built to supply quick energy. In effect, carbs and fat yield

Continued on Page 3

Circuit training and calisthenics can also be considered for this phase.

During post-season phase, calisthenics (push ups, chin ups, tricep dips, abdominals, back extensions, calf raises) are recommended in conjunction with the muscle strength and endurance exercises as long as caution is taken as not to 'overuse' the muscle groups and still allow for adequate recovery time. Diversity and variety will be the key here.

Be sure to allow for 48 hours between strength workouts to allow for recuperation of muscles.

• **Flexibility:** Stretching will always be one of the most important components of any exercise program. The post season phase should allow ample time to practice good stretching and always includes a good pre-exercise warm up and post exercise stretching regime and cool down. An appropriate warm up should consist of a slow activity such as jogging to warm up the muscles and large, limbering stretches to further prepare the muscles for activity. After the workout is complete, the body should slow and cool down allowing the heart rate to recover and end with slow, static stretches of each muscle group used during exercise. Each stretch should be held for 20-30 seconds using good

Calories (cont. from Pg 2)

more usable energy than protein does.

Your move= If you want to lose weight, make protein a priority at every meal.

A Calorie Ingested Is a Calorie Digested

It's not that simple.

Just because the food is swallowed doesn't mean it will be digested. It passes through your stomach and then reaches your small intestine,

breathing techniques and no bouncing.

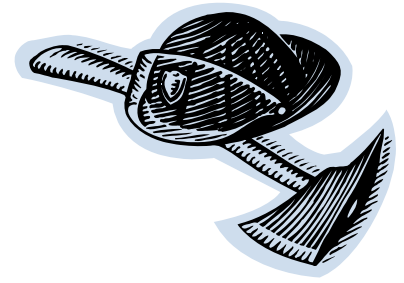
• **Rest:** The body needs 2-3 days of rest during the Post-Season Module with light or no activity to be done other than something fun and enjoyable. This will allow the muscles to recuperate and help mitigate overuse injuries. This is especially important for those sustaining injuries needing special attention and rehabilitation.

This month's article wraps up the entire series on the FireFit Program and all three of it's components:

- Pre-Season Fitness Module
- Fire Season Fitness Module
- Post Season Fitness Module

And now as the 2011 Fire Season is appearing to cool off and the talk is starting about staffing reductions, now is the time to impress upon our seasonal employees the need to maintain a level of fitness through the winter time and to "raise the bar" as to what kind of condition is expected upon their return for the next fire season. This also applies just as much to our permanent employees, who tend to get less outdoor time in the winter months due to the weather and sometimes it's harder to stay motivated in terms of physical fitness when it's cold and wet

and there are a lot less people around but the benefit and payoff is the increased work capacity and the significant reduction in potential injuries.



*Watch your thoughts,
for they become words.
Watch your words,
for they become actions.
Watch your actions,
for they become habits.
Watch your habits,
for they become character.
Watch your character,
for it becomes your destiny.
-Author Unknown*

which slurps up all the nutrients it can through its spongy walls. But 5 to 10 percent of calories slide through unabsorbed. Fat digestion is relatively efficient—fat easily enters your intestinal walls. As for protein, animal sources are more digestible than plant sources, so a top sirloin's protein will be better absorbed than tofu's. Different carbs are processed at different rates, too: Glucose and starch are rapidly absorbed, while fiber dawdles

in the digestive tract. In fact, the insoluble fiber in some complex carbs, such as that in vegetables and whole grains, tends to block the absorption of other calories. "With a very high-fiber diet, say 60 grams a day, you might lose as much as 20 percent of the calories you consume," says Wanda Howell, Ph.D., a professor of nutritional sciences at the University of Arizona. So a useful measure of calories is

*Continued on
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IAPS Data from September 2011

Reportable Injuries:	9
Record Only Injuries:	3
Injury by Activity:	
PT	5
Incident:	3
Training:	1
Station Duties:	3
Injury by Body Part:	
Head:	1
Torso/Back:	3
Extremities:	7
Heat Illness:	1

"SAFETY CORNER"

Recent topics sent out to the Unit

All TGST's and Blue/Green Sheets can be accessed via Outlook, under Butte: Training Bureau: Health & Safety: then either TGST or Alerts, Blue & Green Sheets, etc.

- CAL FIRE Green Sheet, September 6th, CANEU017787 --Veh Accid.
- CAL FIRE Blue Sheet, September 7th, CAFKU010749 --Veh Accid.
- CAL FIRE Green Sheet, September 7th, CALNU006893 --Veh Accid.
- TGST, September 7th, Lightning Safety
- CAL FIRE Green Sheet, September 12th, CAFKU010749 --Veh Accid.
- TGST, September 16th, West Nile Virus
- TGST, September 26th, Exposures and Apparatus Placement



Steak Sandwich With Red-Pepper and Pesto Sauces and Slaw, Serves 4

Ingredients:

- 2 Cups loosely packed fresh basil
- 4 Cups watercress
- 1 teaspoon minced garlic
- 2 teaspoons fresh lemon juice
- 4 tbs plus 2 tbs olive oil (divided)
- 3/4 teaspoon salt
- 3/4 teaspoon ground black pepper
- 2 teaspoons water
- 1/4 cup light mayonnaise
- 1 12 ounce jar roasted red peppers
- 1/4 lb red cabbage
- 1/4 lb green cabbage
- 1 large carrot
- 2 tbs apple cider vinegar
- 1 tbs vegetable oil
- 1 lb skirt steak
- 4 multigrain buns, toasted
- 4 radishes, thinly sliced

Directions:

1. Place the basil and 2 cups of the watercress in the bowl of a food processor. Add 1/2 teaspoon of the garlic, the lemon juice, 2 tablespoons of the olive oil, 1/8 teaspoon of the salt, 1/8 teaspoon of the black pepper and the water. Puree until smooth; set aside.

2. Place the mayonnaise, 1/2 cup of the roasted red peppers and remaining garlic in bowl of food processor. Puree until smooth; set aside.

3. Shred the cabbage and carrot in food processor. Combine the vinegar and vegetable oil in a

small bowl and toss with cabbage. Season slaw with the salt and black pepper to taste; set aside.

4. Season the steak with a pinch each salt and black pepper. Heat a 12-inch skillet over medium-high heat. Add remaining olive oil. When oil is hot, add steak and sear 4 minutes on each side for medium rare. Move to a cutting board and let rest 10 minutes; thinly slice across the grain.

5. Place remaining watercress on bottoms of buns. Top each with steak, a slice of roasted red pepper and some radish slices. Drizzle 1 tablespoon of each sauce on each sandwich and cover with top half of roll; serve with slaw.

Recipe courtesy of:

Mind, Body + Spirit
fitness

Www.fitnessmagazine.com

The Best Body-Cooling Methods to Perform Better in the Heat BY: Charles Poliquin

Perform better in the heat by reducing thermal stress before, during, and after training. With high summer temperatures in the Northern Hemisphere and a heat wave across the United States, managing body temperature and avoiding hyperthermia is critical for peak performance. To avoid the dangers of heat stroke, while also making training gains, use a structured body-cooling plan. Research shows that ingesting cold beverages before training, along with other body-cooling methods, will allow you to recover faster and work out harder.

A new study compared nine body-cooling methods after intense weight training. The cooling methods included recovery in the shade, under a covered pavilion, under a tent, using ice towels, immersion in ice buckets, total-body immersion in ice water, a cooling fan, two different cooling vests, and a cold containment system—a cold bodysuit. The total-body immersion in cold water (head is out of the water) was most effective at cooling the core temperature and restoring cardiovascular capabilities to normal levels. Immersion in ice buckets and the cold containment system

were also highly effective and are suggested alternatives, while the ice vests did not provide significant cooling, nor did cooling in any of the shaded areas (shade, tent, pavilion). Another study of high-intensity cyclists training in the heat supports this data. Cold water immersion is more effective at reducing thermal strain than an active recovery without cooling. This method was tested on competitive cyclists who performed repeated bouts of exercise. After performing a 30-



minute high-intensity time trial in the heat, participants who were immersed in cold water (CW) for fifteen minutes and then had 40-minutes of passive recovery performed better at another 30-minute time trial than a group that did active recovery with no cooling (NC-AR). Interestingly, total work was greater for the CW group than the NC-AR group, but the NC-AR group had lower blood lactate concentrations. Take note that reducing thermal strain was more important than lactate removal for subsequent high-intensity performance.

Another proven method for fast recovery from the heat is forearm immersion in cold water. A study of firefighters experiencing significant heat stress from intense exercise found that cooling the forearms in cold water for 60 minutes effectively lowered core temperature to near baseline. Cooling in 10° Celsius water was most effective, followed by using 20° C water. Be aware that it is necessary to immerse the whole forearm, not just the hands for the best body-cooling effect.

If you are unable to immerse yourself in cold water or use another body-cooling method such as ice packs, a literature review published in the *International Journal of Sports Nutrition and Exercise Metabolism* notes that ingesting cold beverages can ease thermal stress and improve performance by as much as 10 percent. Cold beverages consumed before training have been shown to result in greater work capacity in the heat, while repeatedly drinking during and after exercise can further enhance recovery.

CE Article: Patient Refusal: *Observations from EMS Enforcement*

By Dr. Jerry Allison, Medical Consultant to EMSA Enforcement Unit

The Dangerous "Non-Transport"

Not all EMS responses result in a patient transport; nor should they. However, a large percentage of EMS system responses do end up as a non-transport for many reasons. Unfortunately, non-transports are one of the most problematic issues for patients, provider agencies, and the paramedics that respond. At the EMS Authority, we often receive complaints regarding patients that should have been transported but were not. Sometimes the outcome is lucky, and sometimes not so lucky. In some cases EMS is called back and the patient is then transported to the hospital. In a few cases the patient suffers prolonged morbidity or even death as a result of the non-transport.

When a bad patient outcome ensues many people are affected. Bad outcomes often lead to death or further injury, the loss of the EMT's certification or the paramedic's license and/or job, and financial losses for the employer. However, even if the patient is lucky and escapes a bad outcome, the EMS crews failure to transport appropriately may be considered negligent or a violation of local EMS protocols and may result in certification/licensure action.

What are the factors or dangerous situations that lead to inappropriate non-transports? What actions can be avoided to prevent these unfortunate situations from occurring?

Avoid "tunnel vision" and "complacency"

The two reasons that we often see cited for a failure to transport when necessary are tunnel vision and complacency. Consider this hypothetical case:

It is 0200 hours on a rainy and cold night. Fire/EMS responds to a trailer park. There the paramedics find a 60 y/o female that is complaining of shortness of breath. When you arrive she says that she may be "hyperventilating." You do an ECG and agree with the patient that they may be hyperventilating. You convince the patient that the ambulance bill will be expensive and not necessary and she signs the AMA refusal. Several hours later you are called back by family to find the patient in cardiac arrest. CPR is initiated, but the patient is pronounced dead at the hospital. Autopsy report confirms coronary artery blockage.

Some of the factors that lead to inappropriate patient refusals include "tunnel-vision" or "locking-in" on a diagnosis, or failure to assess at all. Locking into a diagnosis, such as hyperventilation, alcohol intoxication, or "psychiatric" behavior, and not excluding other treatable and life-threatening emergencies, can lead to non-transports. When a EMT or paramedic arrives on scene and does not assess or transport because the police or family tells them the patient is "fine" has also led to departing the scene without examining the patient or sometimes even completing a patient care form.

Complacency is a most troubling factor as well. We have observed situations in which providers

(Cont on Pg 6)

Calories (cont.)

difficult. A lab technician might find that a piece of rock candy and a piece of broccoli have the same number of calories. But in action, the broccoli's fiber ensures that the vegetable contributes less energy. A study in the Journal of Nutrition found that a high-fiber diet leaves roughly twice as many calories undigested as a low-fiber diet does. And fewer calories means less flab.

Your move= Aim to consume at least 35 to 40 grams of fiber every day.

Exercise Burns Most of Our Calories

Not even close.

Even the most fanatical fitness nuts burn no more than 30 percent of their daily calories at the gym. Most of your calories burn at a constant simmer, fueling the automated processes that keep you alive—that is, your basal metabolism, says Warren Willey, D.O., author of *Better Than Steroids*. If you want to burn fuel, hit the gas in your everyday activities. "Some 60 to 70 percent of our total caloric expenditure goes toward normal bodily functions," says Howell. This includes replacing old tissue, transporting oxygen, mending mi-

nor shaving wounds, and so on. For men, these processes require about 11 calories per pound of body weight a day, so a 200-pound man will incinerate 2,200 calories a day—even if he sat in front of the TV all day.

And then there are the calories you lose to N.E.A.T., or nonexercise activity thermo-genesis. N.E.A.T. consists of the countless daily motions you make outside the gym—the calories you burn while making breakfast, playing Nerf football in the office, or chasing the bus. Brandon Alderman, Ph.D., director of the exercise psychophysiology lab at Rutgers University, says emerging evidence suggests that "a conscious effort to spend more time on your feet might net a greater calorie burn than 30 minutes of daily exercise."

Your move= Take frequent breaks from your desk (and couch) to move your body and burn bonus calories.

Low-calorie Foods Help You Lose Weight

Not always.

Processed low-calorie foods can be weak allies in the weight-loss war. Take sugar-free foods. Omitting sugar is perhaps the easiest way to cut calories. But food manufacturers generally replace those sugars with calorie-free sweeteners, such as sucralose or aspartame. And artificial sweeteners can backfire. One University of Texas study found that consuming as few as three diet sodas a week increases a person's risk of obesity by more than 40 percent. And in a 2008 Purdue study, rats that ate artificially sweetened yogurt took in more calories at subsequent meals, resulting in more flab. The theory is that the promise of sugar—without the caloric payoff—may actually lead to overeating.

Your move= Avoid artificial sweeteners and load up your plate with the bona fide low-calorie saviors: fruits and vegetables. "Too many people are counting calories instead of focusing on the content of food," says Alderman. "This just misses the boat."

AMA (Cont from Pg 5)

talk the patient out of going to the hospital rather than talking them into going. This often occurs after 11pm, near shift change, or when patients are perceived to be of lower socio-economic status, or an "abuser" of the system.

How to Reduce Your Risk

Inappropriate patient non-transport can have devastating consequences for the patient, EMT / paramedic, and employer. These can be avoided by recognizing dangerous situations, knowing the consequences of such actions, and taking steps to avoid them.

Several steps that can be taken to prevent these dangerous situations from occurring include transporting whenever possible, keeping an open mind when initially assessing your patient, following the local EMS protocols, and using your base-station physician with on-line medical direction to share in the decision-making.

Knowing these are high-risk situations, the EMT/paramedic should transport following locally established policies and protocols. Your local EMS protocols and policies governing care in your area established by the medical director of the local EMS agency cover these situations. Learn and perform an appropriate assessment and avoid "locking-in" on a "diagnosis." And maybe most importantly, avoid complacency by understanding your role as a caregiver. Use your base station medical director to help make decisions on unusual or unanticipated situations. The best course of action to reduce your risk is to contact the base hospital, follow local EMS protocols, and transport if in doubt.

Mikes comments- While most would argue that this is an ambulance problem, I would argue that each and every one of you that are at scene are just as responsible for the patients best interests. There is an argument that a higher level of care is responsible for these decisions but what about the patients that live very remotely and the ambulance has an extended ETA? The decision locally is that we do not do AMA's and we continue the ambulance, regardless of ETA. Is that what is happening in your area?



CE Answer Sheet: AMA's

Complete this answer sheet from the previous CE article and forward it to the Training Office for grading and credit. (1 CE hour Credit for successful completion)

- | | |
|--|--|
| <p>1. All EMS responses should end in a patient transport?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>2. Non transports are amongst the highest categories of problematic pt's?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>3. A possible outcome to a pt AMA is death or further disability to the pt?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>4. Failure to ensure the best care of the pt can lead to loss of your certification/licensure?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>5. Drugs or Alcohol can mask physical complaints during your patient exam?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> | <p>6. Can you fully assess a pt without physically touching them?</p> <p><input type="checkbox"/> Yes
<input type="checkbox"/> No</p> <p>7. Base station contact can help make transport decisions?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>8. Base hospital decisions override pre existing EMS agency protocols?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False
<input type="checkbox"/> Maybe</p> <p>9. Another word for "Complacency" could be "Laziness"?</p> <p><input type="checkbox"/> True
<input type="checkbox"/> False</p> <p>10. What is the SSV policy number for AMA decisions?</p> <p><input type="checkbox"/> 850
<input type="checkbox"/> 820
<input type="checkbox"/> 837</p> |
|--|--|

Station: _____
Name: _____

Comments: _____

Hiking the "Seven Falls" Trail



For Suggestions or Comments:

CAL FIRE / Butte County FD

176 Nelson Ave

Phone: 530-966-8682

Fax: 530-879-3433

E-mail: Mike.Waters@Fire.Ca.Gov

"Let No Man's Ghost Say His Training Let Him Down!" -Unknown Author