



Knowledge management is getting the right information to the right people at the right time.

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LESSONS LEARNED AT THE WILDFIRE 2002 CONFERENCE



Manager Dave Christenson used this opportunity to converse with attending firefighters about their own lessons learned and best practice experiences.

GETTING PREPARED FOR FIRE SEASON

With the Southwest and the Southeast fire seasons just ahead, it is time to start preparing for 2003. Check out the **Winning Series** at http://www.wildfirelessons.net/Winning_Series.htm for the latest information on wildfire fuels, strategy, tactics, and related special safety and logistical concerns. This Web page encompasses information relative to all United States geographic areas. The Winning Series also has useful sections on Structures in the Wildland, Aviation, Non-Fire Incident Assignments, and a Safety Briefing Pocket Card template.

Lesson Learned – An innovative approach or work practice that is captured and shared to promote repeat application. A lesson learned may also be an adverse work practice or experience that is captured or shared to avoid recurrence.

Best Practice – A process, technique, or innovative use of resources, technology, or equipment that has a proven record of success in providing significant improvement to an organization.

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The **Lessons Learned** staff joined 300 attendees at the Wildfire 2002 – Surviving the Interface Danger Zone Conference last December in Kansas City, MO. Conference sessions addressed one of the fastest evolving fire problems in the United States – the wildland urban interface.

Conference breakout session topics included Home Ignition Zones, Safety Zones in the Urban Interface, Population Protection Planning, Educating Those at Risk, Command of Challenging Interface Fires, Fuels Management at the Interface, The Effect of Smoke on Wildfires, Foam and Gel Applications, and an Interagency Approach on Rules of Engagement. Some of the conference presentations are posted in the [Lessons Learned Center Library Navigation Table](http://www.wildfirelessons.net/Library.htm) site at <http://www.wildfirelessons.net/Library.htm> under Urban Interface.

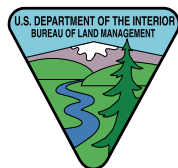
Between conference sessions, Lessons Learned personnel staffed our new Lessons Learned Center display in the exhibit area. Center Manager Paula Nasiatka and Assistant

IN THIS ISSUE

Tools Of The Trade contains information on refreshing our situational awareness and operator skills before we begin the season driving our wildland fire rigs.

Supervising Vehicle Operators contains important pre-hire tools for supervisors and managers on hiring capable drivers.

Take advantage and disseminate these *Scratchline* insights to your crew and team when training and refreshing for the 2003 season. ★



DRIVING SAFETY

NATIONAL EMPHASIS TOPIC FOR 2003

Driving may be the most dangerous job we do. Even with raging fires, hovering helicopters, falling trees and rocks, our exposure in motor vehicles has more people exposed to more risk.

All the Federal, State, and local agencies, as members of the National Wildfire Coordinating Group, have elected to focus special attention on driving in 2003. As the National Emphasis Topic, our ambition is for every one of us to make significant positive steps in how we drive, and how we expect others to drive.

You say you are a pretty good driver? We agree! And when you consider the long hours, unusual vehicles, and incredible terrain, we are truly a remarkable community of

drivers. But, when an accident does happen, after those long hours, in heavy vehicles, in unforgiving terrain, we pay too high a price.

Look hard at your attitude. The best drivers are confident in their skills, yet always thinking, always looking for new ideas, and always getting better yet.

The Wildland Fire Safety Training Annual Refresher Web page presents a variety of resources for your driving skill development, and some useful links. Intended initially as a supplement to annual firefighter safety refresher, use these products throughout the 2003 field season. Click on http://www.nifc.gov/safety_study/annual-refresh/hot_topics/driving_safety.html. ★

Web Sources for Driving Best Practices

National Highway Traffic Safety Administration (NHTSA) at <http://www.nhtsa.dot.gov> home page contains current information on Traffic Safety/Occupant Issues that includes injury prevention and driver performance. The *Hot at NHTSA* button will take you to current safety bulletins.

National Safety Council (NSC) at <http://www.nsc.org> home page contains a bullet on *Driving* that includes articles on driver safety, cellular phones and driving, and safety awareness. The NSC's two defensive driving courses *Defensive Driving: The Professional Way* and *Defensive Driving: The Best Offense* can be ordered on line at \$1.60 per copy. Go to *More on Defensive Driving* under the Training heading on the home page.

Iowa Highway Safety Management System at <http://www.iowasms.org/toolbox.htm> home page contains a toolbox of driving safety information including *Increasing Driver Safety Awareness*, *Increasing Seat Belt Usage*, *Preventing Drowsy and Distracted Drivers*, and *Curbing High-Risk Driving Behaviors*.

TOOLS OF THE TRADE

BEST PRACTICES FOR DRIVING DURING WILDLAND FIRES

Special thanks to Engine Captain Mike Chiodini of the Eldorado National Forest in California and Fleet Manager Tim Rollins of the Coronado National Forest in Arizona for contributing to this article.

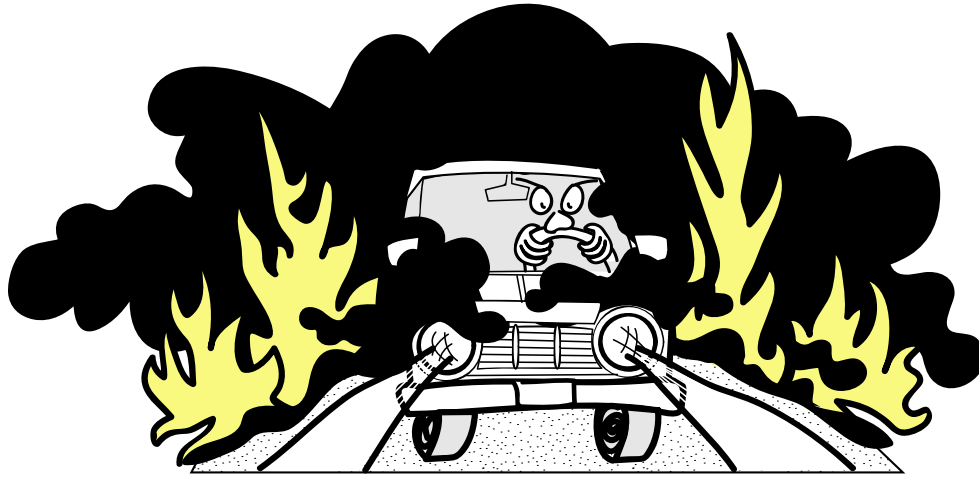
In the Fall 2002 issue human factors were identified as a major contributor to wildland fire agency motor vehicle accidents. These factors include fatigue, level of operator proficiency/experience in a specific vehicle type, and unsafe operator practices.

In summary, the operator and passengers need to be cognizant of their surroundings and continually alert and

prepared to deal with the following potential “watch out” situations while driving to and from wildland fires. These driving “watch out” situations can include:

Environmental Factors – Weather, roadside hazards, work zones, unusual traffic conditions, and other vehicles operated in a hazardous manner.

Driver Limitations/Behaviors/Practices– Physical and mental fatigue, slower reaction times due to aging driver population, anger including road rage, drinking and driving, lack of seat belt use, failure to ensure proper vehicle maintenance, aggressive driving, driving while inattentive/distracted, deliberately disobeying traffic control devices, and taking unnecessary risks.



Most of these factors, limitations, and behaviors can be controlled; those that cannot are primarily the ones of the other drivers. Because the driving behaviors of others cannot be controlled, we **must** anticipate what they might do. For example, expect other drivers to make mistakes at intersections and be prepared to act defensively.

Drivers can exercise control over their own distractions. **Research has proven that driving has to be the single focus of our attention.** Studies prove operators are not capable of fully concentrating on multiple tasks and driving as safely as when solely concentrating on vehicle operations. The latest research on "[Inattention Blindness](http://www.nsc.org/news/nr012703.htm)" in [Behind-the-Wheel Cell Phone Users](http://www.nsc.org/news/nr012703.htm) is now available from the National Safety Council. <http://www.nsc.org/news/nr012703.htm>

In preparation for the upcoming fire season, and to improve agency driving safety records, an emphasis should be placed on preparing vehicle operators to foster best practices while on the road. There are numerous tools available to improve situational awareness while driving. The ones mentioned are representative examples.

Best Practices That Work

Best practices that should be part of your normal routine while driving wildland fire vehicles include:

At the Beginning of an Operational Period -

Clean the Windshield and Headlights Every Day – This will improve general visibility. Glare, dust, and ashes can build up on the windshield and impair vision especially at night or in bright sunlight. Make certain to clean all windows as well as all outside and rear view mirrors. The lower position of headlights, compared to the location of a windshield, causes them to accumulate dirt and dust that reduces their effectiveness. In extremely dusty and smoky conditions windshield and headlight cleaning might be required multiple times during an operational period.

Inspect the Vehicle Every Day – A walk around and under the hood inspection is critical before the operator gets behind the wheel. Check for body damage, tire pressure, lights, fuel and oil levels, and all other fluids. Manually bleed water from air brake equipped vehicle

systems if necessary. This is also the ideal time to ensure all support gear is loaded, such as maps, phone, and first aid kit. Use a checklist to best perform this inspection to avoid overlooking an important item. There is a sample expanded [vehicle inspection safety checklist](http://www.wildfirelessons.net/Library/Safety_Health/Vehicle_InspectionChecklist.doc) available now in the Center Library. http://www.wildfirelessons.net/Library/Safety_Health/Vehicle_InspectionChecklist.doc

Stow and Secure All Loose Items – Remember to secure all loose tools, equipment, or supplies in the rear compartment of utility vehicles. These items need to be stored in a cargo box that is properly anchored or otherwise properly tied down.

Obtain a Briefing – Whenever possible on an incident get a briefing before driving into unfamiliar territory. Inquire about road conditions such as steep mountainous grades or terrain with sharp roadside drop offs. Even if you have received a detailed briefing, exercise caution and reduce your speed based on your unfamiliarity with the area.

Remember another operator may know even less than you do about local road conditions that may be encountered. In strange territory, expect the unexpected.

Side View Mirrors Adjustment - Many preventable accidents occur due to vehicle induced blind spots. For one method to eliminate these blind spots, view the short PowerPoint show on [Mirror Positioning](http://www.wildfirelessons.net/Library/Safety_Health/SafetyAutomobileSideMirrorPosition.pps) now available in the Center Library. http://www.wildfirelessons.net/Library/Safety_Health/SafetyAutomobileSideMirrorPosition.pps

Other Operator Tips -

Drive For Conditions – Use the posted speed limit as a guide. During rain, sleet, fog, or darkness drive below the speed limit. Never exceed the speed limit. Too many accidents involve operators that were speeding or driving too fast for conditions.

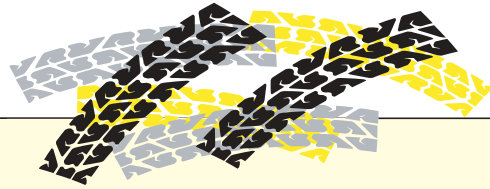
Driving In Shade – Slow down when driving from an area of high sun intensity into shaded areas. This helps to provide the time needed for the eyes to adjust to the reduced light environment.

Check All Directions – When backing up, pulling forward, or turning to the left or right make sure to look in

all directions. Have passengers or spotters assist. When backing is required, large vehicles like engines and vans should have a spotter assist by standing outside the vehicle.

Driving in Smoke – Turn on lights and drive slowly. Stay as far to the right side of the road as possible. As a guide, be able to stop in half the visible distance. This is a driving watch out situation; use extreme caution. Remember that if fog is also present, for all practical purposes you are driving blindfolded.

Using Emergency Lights and Siren – Emergency response vehicle operators need to obey all applicable traffic laws while responding to an incident and anticipate that others may not yield to your vehicle. Remember that having lights and a siren on does not provide a license to operate in an unsafe manner. During emergency responses situational awareness must be in a state of heightened alert when approaching intersections and traffic signals, as other vehicle operators may not be aware of your approach. ★



DRIVING – A SHARED RESPONSIBILITY

It is every vehicle operator's and supervisor's personal responsibility to ensure that drivers are adequately screened, trained, and experienced to operate the type of vehicles they may be required to drive. If assigning an operator to an unfamiliar vehicle, do not make assumptions about them knowing the handling features and characteristics of that vehicle. Coordinate to ensure the newly assigned vehicle operator receives needed practical training. Monitor the operator proficiency before final clearance to operate a vehicle is given by a qualified driving instructor. The clearance check ride of the potential vehicle operator should simulate actual as well as reasonably anticipated extraordinary conditions of use, such as on steep windy mountain roads.

Whether practicing skills or responding to an incident, it is every operator's, passenger's, and supervisor's responsibility to eliminate distractions and ensure adequate rest prior to driving. Manage your attention by concentrating on the road and learn to recognize indicators for driving "watch out" situations. Know and abide by the driving standard including emergency driving limitations.

SUPERVISING VEHICLE OPERATORS: PRE-HIRE TOOLS FOR MANAGERS

Best driving practices begin with adequate pre-hire screening to ensure the hiring of qualified and capable operators. Supervisors and managers should review job applications closely and then inquire and verify the claimed driving skills and vehicle experience types of applicants applying for positions. The verification should be based on the type of vehicles they will be operating. Keep in mind former supervisors and past coworkers may themselves not be qualified or willing to offer an accurate assessment of the applicant's past driving performance. Following agency guidelines, check the applicant's motor vehicle record for accidents, moving violations, suspensions, and other indicators of poor driving habits. Eliminate those that pose a significant potential liability for your agency.

Once hired, supervisors and managers should have in place procedures that ensure employees are properly trained and adequately experienced in the particular vehicles they are assigned to operate. Supervisors should become directly involved in ensuring that an employee's driving skills and training are sufficient to allow safe operation under all foreseeable circumstances before clearance to operate a vehicle is given. Although there

are specific courses for engine operators, employees driving other types of vehicles need specific, practical, and situational awareness training as well. A [supervisor checklist](http://www.wildfirelessons.net/Library/Safety_Health/Observation_Driving_Practices.doc) that supervisors can use for monitoring employee driving practice skills is available. http://www.wildfirelessons.net/Library/Safety_Health/Observation_Driving_Practices.doc **Before the 2003 wildland fire driving season begins**, supervisors and managers should familiarize themselves with the current operator and vehicle guidelines found in *2003 Standard for Fire and Aviation Operations*. In particular, [Chapter 4 – Safety](#) outlines the latest Driving Standard. This chapter covers the driving standard for all employees operating government fire vehicles, emergency driving, non-emergency driving, and emergency fire vehicle operation standards. <http://www.fire.blm.gov/Standards/redbook.htm>

Remember that poor screening of potential operators can lead to costly tort claims and even fatal accidents. Ultimately driving standards are only as good as those practiced when a responsible and skilled operator is entrusted with a vehicle. Take all the time needed during the hiring and training period to ensure you are hiring and training a qualified, competent vehicle operator. ★