

*Report & Recommendations  
to the  
2016 Wildfire Matters Review Committee*



**Garry Briese  
Executive Director**

**August 15, 2016**

**August 23, 2015**

**August 4, 2014**

**October 1, 2013**



**TO:** Wildfire Matters Review Committee

**FROM:** Garry Briese  
Executive Director

**DATE:** **August 15, 2016**  
August 23, 2015  
August 4, 2014  
October 1, 2013

On June 9<sup>th</sup> I talked with Regional Fire Chief Darby Allen from Ft McMurray, Alberta

About a week earlier I left a message to invite him to come to Colorado to provide us with the “lessons learned” from this megafire.....the fire started on May 1<sup>st</sup> was still burning a month later and the date for control was unknown

This megafire forced the evacuation of some 90,000 people including about 30,000 workers from the oil and gas industry. This wildland and wildland urban interface monster fire subsequently burned about 2,400 square miles, generated an estimated \$4.5 billion in losses and was finally declared under control on July 6, 2016

Many in Colorado saw the television coverage of awe-inspiring and terrifying mountainous flames devouring the forest and 2,400 structures in Ft. McMurray. We witnessed the lines of vehicles evacuating from the fire and watched as the flames came closer and closer to the highway. Unbelievably, there were just two deaths which were caused by traffic accidents.

The economic damage is staggering. Some economists project that the final tally could be more than \$7 billion, a level of destruction matching that of Hurricane Katrina. Because the area’s energy industry was stopped, Canada’s GDP could be lowered by as much as 0.5 percent.

In 2011, just five years ago, a wildfire consumed 400 structures, more than a third of the Town of Slave Lake, another community in Alberta about 270 miles from Ft, McMurray. That fire

caused more than \$700 million in damage, and at the time, was the second-costliest insured disaster in Canadian history.

Although no civilians were injured, a firefighting helicopter pilot died in a helicopter crash..

In Ft McMurray, notwithstanding the obvious challenges of firefighting and the fantastic success of huge evacuations, Ft McMurray and Alberta faced many of the same issues we have discussed in Colorado:

- Citizen apathy
- Mitigation & tree thinning efforts were criticized by property owners as intrusive
- The forest surrounding Ft McMurray was heavily overgrown
- Significantly longer fire seasons are now normal
- North America is experiencing a warming climate
- Uncontrolled growth of population and homes in the WUI
- Reluctance of both provincial and local legislators to aggressively address mitigation in the WUI by the adoption of building codes and land use policies that keep people out of harm's way by anticipating fires, floods and other disasters.

According to The Canadian Press, *“Fort McMurray fire Chief Darby Allen issued a call for less flammable home construction materials and a bigger buffer zone between the city and the forest. In response, Melissa Blake, the mayor of the Regional Municipality that encompasses Fort McMurray, said she thinks change may come through personal choices rather than new bylaws or building codes.”*

This quote emphasizes the inadequacies and inactions of failed mitigation efforts ..... *“Past debate over how aggressively to clear trees from neighborhoods ended in a tragic conclusion: The houses closest to the forest became the fire break that eventually saved what is left of Ft McMurray.”*

I share this information about Ft McMurray since time and again the “lessons” after a wildfire are soon forgotten. Vigilance weakens, even in communities that have experienced a cataclysmic WUI fire. Mistakes are left unaddressed or are even repeated. People think this won't happen again....that this fire was a one-in-a-lifetime event.

And correctly, for that specific location that conclusion may be correct....there's nothing left that can burn for many years or even decades

History continues to show us that these catastrophic mega-WUI fires, like Ft McMurray, Waldo Canyon, Black Forest and the annual mega-fires in California, Arizona, Washington and Oregon are not one-in-a-lifetime events.

WUI fires are increasing in frequency and intensity and despite the cycles of periodic heavy rains, Colorado will always be an arid climate and we will always have WUI fires and wildfires.

The members of the Colorado fire service live the threats and realities of Wildland Urban Interface (WUI) fires each and every day. The nearly 400 local fire departments in Colorado remain committed to the citizens of Colorado.

The Colorado State Fire Chiefs (CSFC) deeply appreciates the work of the Wildfire Matters Review Committee and the work and support of the individual Senators and Representatives on this committee and we are pleased to present you with this report and recommendations.

-----

The three highest priority recommendations remain the same as those made by the CSFC to this Committee in 2015, 2014 and 2013

- #1 Ensure the stability and reliability of the current Colorado state-wide emergency radio system
- #2 Continue to invest in the development, expansion and implementation of the State resource mobilization plan
- #3 Expand the current local, regional and state command, control, coordination capabilities

These recommendations are based on this recognition and on the primacy of firefighter and civilian safety. The recommendations are rooted in the essential requirement for local, state and Federal inter-agency cooperation and coordination, and highlight the state's roles and responsibilities in WUI and wildland fires. **The recommendations are ranked in order of priority.**

The first three recommendations are inter-related and provide the essential components necessary effective WUI/wildfire and all-hazards response. The remaining four recommendations are supportive of the first three.

*The August 2016 Updates are bold and italicized following each recommendation.*

## **#1 -- Ensure the stability and reliability of the current Colorado state-wide emergency radio system**

Simply put, we need to be able to talk to each other and the single most important action that the legislature can take to improve WUI and wildfire response is to provide sufficient funding to stabilize the deterioration of the current statewide emergency radio system

Being able to talk to each other is a simple concept but one that is in jeopardy in our state. We don't want "*Can you hear me now?*" to be the tagline used to describe Colorado's emergency radio system.

Without reliable radio communications, mission critical decisions and actions are compromised or dangerously degraded, jeopardizing the lives of firefighters, law enforcement officers, first responders and civilians

Colorado a "system of systems" as the operators of the various radio systems across the state worked to establish connections between systems to achieve basic interoperability. There is still much to be done to assure seamless interoperability on a routine basis. Further, the progress that has been made is now in jeopardy. .

There are two major trunked digital systems in use throughout the State. The State Digital Trunked Radio System (DTRS) and a Harris system used by Denver, Aurora, and some surrounding jurisdictions. Significant grant funds have been invested in tying these systems together for interoperability.

But, ongoing maintenance challenges with the DTRS has resulted in Weld and Adams counties (Front Range Communication Consortium) purchasing another radio switch, effectively creating yet another radio system that may not provide seamless interoperability with the two existing systems

The reason for the third split is a very real concern that the DTRS is not being maintained by the state and the anticipation that with this maintenance neglect the DTRS will predictably fail.

Creating multiple and duplicative radio systems raises significant concerns that interoperability may be lost and has tremendous cost through duplicated costs of multiple systems.

The solution is that the State of Colorado must develop a more robust radio system within the DTRS radio system that allows inter-region operability and the capability to use radios within the various regions of the state without having the necessity to adding radios.

State controlled regional radio caches need to be established and maintained in the appropriate radio frequency range, keeping the DTRS elements of the cache in a hibernation mode for activation. Radio support technicians should be dispatched to significant events to rapidly

reprogram radios to address and operability challenges. Fees should be applied when these radio caches are used.

The State should map and develop those areas within the State where DTRS cannot be used and VHF is used on a daily/routine basis to support the need for VHF supply levels.

Expand the capabilities of the State FMOs by supplying appropriate radios to expand and utilize their DTRS capabilities

For the longer term, develop and implement, as a local, state and federal collaborative effort, a State-wide Wildfire Communications Plan to effectively utilize both VHF and 800 mghz DTR systems based upon available coverage for initial attack, tactical operations, mutual aid and air operations

The Communications Plan should be developed to recognize and account for the continued predominant utilization of VHF frequencies by both local fire resources and federal wildland firefighting agencies.

**Estimated cost to State of Colorado = \$203 million**

*August 2016 Update:*

*Colorado's public safety communications is a "system of systems" and there will always be a challenge to coordinate between disparate radio systems and inter-organizational relationships must be continually nourished.*

*Significant parts of the terrain of many areas in Colorado are not "radio friendly" and the public safety agencies need to continually coordinate and exercise how they will communicate effectively in rapidly changing situations and in areas of varying terrain and topography*

*CSFC is concerned that the funding for the continued implementation and sustainability of the Public Safety Radio System-wide Business Plan & Needs Assessment is still an open question.*

*We have the Public Safety Radio Business Plan and Needs Assessment. This document should be utilized for the multi-year implementation and strategy to meet funding needs. The big unanswered question remains....."How will we pay for this?"*

*Answering this question will not be easy, it will not be comfortable nor will the answer come quickly.....but the question must be answered*

*The Colorado State Fire Chiefs want to fully participate in finding an answer to the fund the public safety system-wide improvements and sustainability*

*August 2015 Update: CSFC applauds the leadership of the Wildfire Matters Review Committee resulted in the funding and completion in June 2015 of the Public Safety Radio System-wide Business Plan & Needs Assessment. The initial results from various reviewers is promising and many excellent actionable recommendations have been identified.*

*As expected, funding remains as the largest unsolved problem, although the report offers several alternatives. CSFC will be providing specific testimony on the DTRS at an upcoming meeting of the Wildfire Matters Review Committee*

*August 2014 Update: The CSFC is encouraged by the communications legislation that was proposed by the Committee and championed by its members and subsequently passed by the Legislature. However, the need for speedy work and adequate funding cannot be emphasized enough.*

*The stability of the DTRS system remains a significant concern for the fire service and for all users of the system. The identification of sources of long term re-occurring revenue to sustain & update the system is essential and multiple options for sources of this revenue need to be discussed.*

## **#2 -- Continue to invest in the development, expansion & implementation of the State resource mobilization plan**

If we cannot effectively mobilize, deploy and utilize firefighting resources then the efforts of this committee and the fire services across this state are minimized and lives are placed at risk.

DHSEM received three FTEs as part of HB13-1031 for this purpose. Due to multiple circumstances and back-to-back disasters there has been a delay in filling these three positions. These positions must be filled expeditiously and certainly before the end of 2013.

The resource mobilization plan provides the resources, and the incident command structure organizes the resources for the most effective fire suppression and evacuation efforts.

**Estimated cost for the State of Colorado = \$250,000**

*August 2016 Update:*

*DHSEM continues to work with its state and local partners on the enhancement of the State Resource Mobilization Plan, CSFC members are participating in the various working groups and significant progress continues to be made. The Plan is operational and can be implemented at any time.*

**August 2015 Update:** Significant productive work has been accomplished over this last year on the State Resource Mobilization Plan by DHSEM, DFPC, CEMA, CSOC & CSFC. While work remains, the Plan is certainly operational and can be implemented at any time.

Using the 2014 Broken Arrow Mobilization Exercises as a spring board, the CSFC has authorized the establishment of a working group with statewide representation to develop the Colorado Fire Service Statewide Mutual Aid Agreement & Plan. The preliminary work has been completed on the document and the first meeting of the working group will be in the fall of 2015.

The Fire Service Statewide Mutual Aid Agreement is in full coordination with the State Resource Mobilization Plan.....initial attack/mutual aid is the first step in the evolution to the implementation of the State Resource Mobilization Plan.

As with the Broken Arrow exercises, the development and implementation of the Fire Service Statewide Mutual Aid Agreement & Plan is being supported and developed by the CSFC and our members, with no state or county funding.

While organic development and growth can accomplish achievements, it takes considerable time. The allocation of \$250,000 to DHSEM to support the efforts of the CSFC would be a force multiplier and significantly reduce the time from development to implementation from an estimated 2-3 years to 1-2 years. An important increase in speed given the predicted WUI and wildfire season for 2016 & 2017

**August 2014 Update:** The CSFC continues to work with both the DHSEM and DFPC to support the continued enhancement of the State Resource Mobilization Plan. Significant effort has been made by DHSEM to apply the LEAN process to the State Resource Mobilization Plan which should result in efficiencies across the mobilization process.

In coordination with the DHSEM & DFPC, the CSFC is in the initial stages of developing an all-hazards statewide mutual aid system that will serve as the initial expansion of existing local & county mutual aid programs when local, county and regional mutual aid is expended. The statewide mutual aid system will be complimentary to the State Resource Mobilization Plan. The next phase of the development of the statewide mutual aid system will take place in September & October 2014. Meetings will be held on the Western Slope, Front Range, SW Colorado and in the SE and NE of the state.

It is expected that some type of enabling legislative action may be necessary to address liability and workers' comp concerns with a statewide mutual aid system.



### **#3 -- Expand the current local, regional and State command, control, and coordination capabilities**

Third in priority, after communications and resource mobilization is a solid incident command system that is rapidly scalable from a single jurisdiction incident to a multi-agency/multi-jurisdiction event

An incident command structure is essential to quickly organizing and efficiently utilizing the firefighting assets that will be mobilized under the State resource mobilization plan.

Investment in the five (5) current All-Hazard Incident Management Teams provides the best all-around ROI for the expenditure of state funding. The AHIMTs are force multipliers for all the local and state resources being managed in any major incident.

The state currently recognizes five (5) Type III All-Hazard Incident Management Teams. These teams are considered a statewide asset, but are all volunteer organized, staffed and funded and they currently receive absolutely minimal support from the state.

**Estimated cost for the State of Colorado = \$425,000**

*August 2016 Update:*

*The long-term sustainability of Colorado's Incident Management Teams should be a top priority of local and state elected officials. In disaster emergencies, they can deploy quickly to assist local jurisdictions in managing an incident, thereby saving lives and reducing disaster losses.*

*Without long-term sustainability, Colorado's IMT community will be adversely affected—and so will the local communities they support during disaster emergencies. It will be important to identify a State agency within the Department of Public Safety to serve as fiscal agent for any legislative appropriation so there is financial oversight, accountability, and the ability to pool other resources that may exist from Federal sources.*

*Colorado's Incident Management Community provides cost-effective response services that are essential at a time when the frequency and severity of disasters are on the rise, not only in Colorado but elsewhere. Securing necessary funding to ensure their long-term sustainability will prove vital moving forward.*

*For example, new technologies that enhance decision making are difficult to implement. During the 2013 floods, GIS specialists spent an excess amount of time creating digital spreadsheets and inputting the information into mapping software. At the time they weren't yet able to use an Internet application that could allow field personnel to update the maps in real time. In a June 2016 multi-county wildfire exercise, the technology had advanced so far to the point where mapping was being done in near real time.*

## *August 2015 Update*

- *Creation of an equipment cache for each Type III Teams. This includes the procurement and maintenance of equipment to include: a Trailer, Portable Plotter, Computer Server with appropriate programs, Copier, Portable Radio Repeater, Portable RAWS Station, 40 portable radios (separate from State Radio Cache) and expendable supplies. Estimated at \$10K per team per year for total of \$50K*
- *Funding for deployment opportunities. The State should not be afraid to mobilize a team just because the local jurisdiction does not know they need it yet in the incident evolution cycle. Estimated average of 4 day deployment @ \$10K per day with 5 deployments per year \$200.000 total*
- *Funding for team training and exercise, particularly if there is a need for HSEEP compliant exercises. That includes meals at team meetings and exercises, as most of the team members are coming on their own time. initial and on-going training These five Type III All-Hazard IMTs must be adequately funded to provide the necessary resources to manage three (3) simultaneous events. Estimated at \$10K per team or \$50K total*
- *Funding was provided to DHSEM for two FTEs to support the State Resource Mobilization Plan. The work for these FTEs should include support of the Type 3 teams across the state. Duties would include developing and maintaining SOPs, providing administrative support, education, training, exercise development and facilitation, AAR and Improvement Plan writing, policy support, equipment maintenance, procurement of supplies, team deployment assistance, rostering and statusing team members, management of crew tickets and/or all record keeping for reimbursement, and other tasks. DHSEM already has two FTEs whose duties should be re-allocated to include support for the Type III IMTs.*

***August 2014 Update:*** *The Broken Arrow Mobilization Exercises highlighted the need for rapid deployment of incident management teams and key positions to organize and utilize the significant resources that could be rapidly mobilized under a robust statewide mutual aid system and State Resource Mobilization Plan.*

*Organizing incident management teams for the more efficient and safer utilization of the existing fire service resources in Colorado will provide one of the highest ROI's for each dollar of state funding.*

*CSFC recommends that the State invest \$2.5 million over two years in the development and sustainment of the current 5 Type III AHIMTs and in the development of an additional three (3) Type III AHIMTs.*

*These funds should also support the delivery of statewide training for Strike Team Leaders and Staging Area Managers, two key positions identified as significant gaps in the Broken Arrow Mobilization Exercises.*

#### **#4 -- Provide sufficient funding to the Division of Fire Prevention and Control (DFPC) to fulfill its stated missions**

Ensure that all regions of the State have their assigned Fire Management Officers (FMOs). The FMOs are a capability that, when coordinating with a local firefighting force, significantly increases their firefighting potential and thus enhances the probability of successful mission accomplishment.

However, the FMOs in each region are only one person deep and all FMOs can easily be fully engaged without any backup and sustained 24/7 operations are not possible with the current FMO staffing levels, especially when multiple regions are experiencing multiple fires (which is now considered the normal status operations during wildfire season)

Previously some regions in the state had as many as three district foresters from the Colorado State Forest Service. Funding for the DFPC also provides that initial response from the State to assist local agencies with determining if the fire will be handled locally or what additional resources will be required.

The Wildfire Matters Review Committee should request a report from DPS/DFPC concerning the status of allocated funding for each of its areas of responsibilities.

**Estimated cost to the State of Colorado** = to be determined

*August 2016 Update: The Wildfire Matters Review Committee should request a report from DPS/DFPC concerning the status of allocated funding and FTEs for each of its areas of assigned responsibilities*

*August 2015 Update: The Wildfire Matters Review Committee should request a report from DPS/DFPC concerning the status of allocated funding and FTEs for each of its areas of assigned responsibilities*

*August 2014 Update: CSFC recommends that appropriate funding be allocated in 2015 and beyond to the DFPC to provide two (2) FMOs per region with appropriate supervisory staff. Most of the regions still are only one FMO deep.*

*The Wildfire Matters Committee should request a new report from DPS/DFPC concerning the status of allocated funding & FTEs for each of its areas of responsibilities to include gaps in staffing vis-à-vis DFPC's key role in the State's WUI and wildfire responsibilities.*

## **#5 -- State aviation resources are an essential and integral part of the initial attack on WUI fires**

Provide funding support for the appropriate mix of firefighting aircraft to fill the gap between what is needed on WUI and wildland fires in Colorado and what the federal interagency system will provide

The Colorado Air National Guard (Title 32) using its helicopter air support capabilities and fully qualified and trained crews, should become an integral part of the air attack plans and operations for WUI fires in Colorado

**Estimated cost to the State of Colorado = \$20+ million**

*August 2016 Update:*

*As a direct result of legislation and funding provided by the State Legislature, and support from the Governor's Office, Colorado is establishing several of the nation's most advanced systems for predicting, detecting, responding and coordinating wildland fires.*

*The Multi-Mission Aircraft are....a success! The Pilatus PC-12 aircraft are continuing to prove their value each time they are utilized. The integration of the real-time sensor & communications capabilities of these aircraft into on-the-ground incident command decisions will continue to enhance both firefighter and civilian safety.*

*The Colorado Wildfire Information Management System (CO-WIMS) is....another success! CO-WIMS is a web-based decision-support system that is accessible to designated personnel on desktop and laptop computers, tablet devices, and smart phones. CO-WIMS is the "connection" that gives access to near real-time aircraft intel from State of Colorado's Multi-Mission Aircraft (MMA). CO-WIMS gives meaning and function to the term "Common Operating Picture." Additional outreach and training from DFPC to is necessary to facilitate seamless integration and use by on-the-ground incident command personnel*

*The Colorado Center of Excellence for Advanced Technology Aerial Firefighting is....another success! The Center has started programs that will research, test and evaluate existing and new technologies that support sustainable, effective and efficient aerial firefighting techniques. One of the Center's first programs was the 2016 Night Aerial Firefighting Operations Summit, addressing one of the key areas for potential significant advances in fighting wildfires. CSFC is looking forward to additional innovative programs*

*National Center for Atmospheric Research continues to develop the Wildland Fire Prediction System for Colorado as an innovative research and development partnership to generate real-time, 18-hour forecasts of active wildfires in the state.*

*August 2105 Update:* Aircraft have been either purchased or leased and have been utilized on multiple fires in Colorado and also provided assistance to other Western States. DFPC outreach efforts to familiarize local fire chiefs and sheriffs with the capabilities of these new aircraft should be commended, although more work needs to be done to insure seamless integration into the current local incident command structures so that the aircraft capabilities are maximized to insure firefighter and civilian safety and operations.

*August 2014 Update:* The General Assembly made significant investments in the State's ability to provide firefighting aircraft for WUI and wildland fires in Colorado. These assets have already been effectively utilized this summer on multiple fires. CSFC fully supports the current and on-going funding for these firefighting aircraft.

Fortunately, most of Colorado experienced significant snowpack this winter and rainfall this summer. Precipitation usually means fewer fires, although we still have several months to go in the traditional wildfire season where the Colorado aircraft will be utilized.

CSFC is concerned that, given this year's drop in both WUI and wildfires, that the General Assembly may reprioritize the funds appropriated in 2014 for Colorado firefighting aircraft for other uses in 2015. CSFC believes that would be a mistake.

The growth of fuel this year, when dry conditions return, will provide more than significant opportunity to aggressively utilize Colorado's firefighting aircraft.

## **#6 -- Develop measureable and clearly articulated performance goals for response to WUI fires to guide the response of local, mutual aid and State resources**

Such as:

- Hold 98% of WUI fires to five (5) acres or less
- Initial local attack on the scene of 95% of WUI fires in 20 minutes
- Initial air support over WUI fires within 30 minutes anywhere in the state
- 30/90/90 -for WUI incidents occurring with specific weather conditions, set a goal of 30 pieces of fire apparatus on the scene in 90 minutes 90% of the time

Some will say that there are too many variables to set measureable goals. But, CSFC disagrees and believes that *“if a goal is not measured, then it is not a goal – it is only a wish.”*

We need to consider the vastness of our State in the development of measureable performance goals and establish “stretch goals” depending on population density and local resources. But we still need easy to understand goals!

Over the past five years 95% of all wildfires (local and State fires) have been contained to 10 acres or less and these fires have accounted for about 2% of all acres burned. One-half of one percent (0.5%) of all wildfires have accounted for 81% of all acres burned.

In addition to keeping WUI and wildfires small, we need to get resources on these 0.5% wildfires much quicker

The Colorado State Fire Chiefs has accepted the responsibility of developing the concept to implement these performance goals and has established a multi-agency task force to do this work. The initial status report will be presented in December 2013 with the final implementation strategy due by April 2014.

**Estimated cost to State of Colorado = in-kind participation of the DFPC & DHSEM with sustaining operations & exercises funded by re-prioritization of state homeland security funds in FY 2014 and beyond**

*August 2016 Update:*

*The CSFC established a new section, titled the “Operations Section” to implement the Colorado Fire Service Statewide Mutual Aid Agreement. Fire Departments across Colorado a signing the Agreement which is standardizing, for the first time, mutual aid agreements so that all FDs are operating off the same document.*

*The Goal of the Colorado State Fire Service Mutual Aid Program is to provide a system that will allow for the efficient activation of expanded mutual aid resources, in a strike team/task force configuration, to increase a local agency’s or county’s capability to quickly mitigate an emergency that is threatening lives, property, the environment, cultural or economic resources.*

*This system is meant to augment the current local mutual aid agreements, not replace them, nor should it replace any resource mobilization plans organized by local emergency management officials. CSFC is focused on strengthening the initial fire attack by following the concepts of hard, heavy & fast.*

*A key component of the Colorado State Fire Service Mutual Aid System is the development of fire service strike teams or task forces.*

*In April 2016, the CSFC developed and distributed to all FDs in Colorado the document titled “Hard – Heavy-Fast: How to Start a Fire Service Strike Team or Task Force in support of the*

***Colorado Statewide Fire Mutual Aid System” with the goal of developing 21 strike teams or task forces. CSFC has identified 14 strike teams/task forces as of July 2016.***

***August 2015 Update:*** (From Priority 2) Using the 2014 Broken Arrow Mobilization Exercises as a spring board, the CSFC has authorized the establishment of a working group with statewide representation to develop the Colorado Fire Service Statewide Mutual Aid Agreement & Plan. The preliminary work has been completed on the document and the first meeting of the working group will be in the fall of 2015.

*The Fire Service Statewide Mutual Aid Agreement is in full coordination with the State Resource Mobilization Plan.....initial attack/mutual aid is the first step in the evolution to the implementation of the State Resource Mobilization Plan.*

***August 2014 Update:*** CSFC, working in cooperation with nearly 125 different organizations and agencies, began work in November 2013 on the 30/90/90 goal.

*The Broken Arrow Mobilization Exercise was developed and two mobilizations took place in May 2014 (Larimer & Douglas counties).*

*Broken Arrow was a first.....mobilization exercises of this size and complexity have never been done before in Colorado*

- *68 fire engines from 46 fire departments participated in the two events*
- *More than 400 firefighters & supporting personnel*
- *Multiple communications and dispatch centers*
- *Local, county, state & Federal agencies (including DFPC, DHSEM)*
- *Douglas & Larimer County Sheriffs*
- *Non-profit & for-profit organizations*
  
- *While 30/90 was not achieved, all apparatus for both exercises arrived at the staging area within 2 hours of activation. Both “rally times” and travel times are significant factors with most apparatus taking 45 minutes to arrive at the rally point and then some apparatus driving 60 miles or more to the staging area*
  
- *Western slope meetings to implement their “version” of Broken Arrow will begin in September 2014*
  
- *CSFC is evaluating a goal of developing 20 strike teams across Colorado, with an plan in place by June 1, 2015*

- *DHSEM estimated that the cost for each Broken Arrow exercise would have been about \$125,000 if this was an actual mobilization under the State Resource Mobilization Plan*
- *All fire departments and participating organizations participated at their own expense because of the value they saw in the exercise*
- *Broken Arrow mobilization exercises should be held in multiple locations around the state each year prior to the traditional summer wildfire season*
- *CSFC recommends that \$150,000 be allocated to the DHSEM for technical and administrative support for at least 5 Broken Arrow type mobilization exercises across the state in 2015 and each subsequent year*

**#7 -- Recognize that while community and individual homeowner mitigation is an essential component of a comprehensive WUI strategy, it is not an effective immediate or mid-term solution to our State's immediate threats**

Relying on individual citizens and communities to recognize the need for mitigation and to actually implement mitigation is no longer an acceptable methodology for WUI mitigation. Mitigation is always an important factor, however there needs to be a statewide effort to mitigate as homes are placed into the WUI

There also is a need for continual maintenance of the defensible space or that advantage will quickly be lost. It is unlikely that in a local control state we will mandate anything significant at the State level and probably very few counties will adopt regulations that control on-going maintenance on private property.

Quoting from the recent Yarnell Serious Accident Investigation Report, *“Although Yavapai County had a Community Wildfire Protection Plan, many structures were not defensible by firefighters responding to the Yarnell Hill Fire. The fire destroyed over one hundred structures.”*

It may be better for the fire service to have a statewide methodology to evaluate properties as to defensibility and work with homeowners and HOAs to lessen the hazards. If not, the following must be clearly communicated to the HOAs (Home Owner Associations) and individual homeowners.

- The fire service will not deploy personnel to attempt to mitigate, but instead will move on to the homes and structures that can be saved.
- Roads that are hazardous to pass through due to lack of mitigation will be identified and during a fire the fire service will not send personnel into the area.



It is important that this is statewide and advertised widely to motivate homeowners and to provide a unified stance after/while homes are being burned.

**Estimated cost to the State of Colorado = to be determined**

*August 2016 Update:*

*While many mitigation efforts continue across Colorado, there is no central repository of this information that would be vital to understanding the impact of these wildfire risk reduction efforts and programs. DFPC would be the logical leader to gather this type of information working with the assistance of FDs and the insurance industry*

*However, no progress has been made on developing a sustained on-going standardized statewide mitigation education & messaging effort. This should be a priority of DFPC, the Colorado Forest Service, the US Forest Service, Bureau of Land Management and the insurance industry. The message must be the same from all agencies & organizations operating in Colorado.....one standard message delivered by everyone.*

*Anything less, relegates mitigation to the world of mixed messages, differing definitions, confusion and mis-understandings all which result in a predicted general lack of action, highlighted by various levels of localized success.*

*August 2015 Update: Research shows most homeowners who live in wildfire-prone ecosystems understand they live in wildfire-prone ecosystems. They understand there is a wildfire risk.*

*CSFC surveyed the CSFC membership in August 2015. Here are some of their answers to the question "What does it take to motivate homeowners to mitigate their property:*

- If someone lives in a WUI area because they like privacy, or trees, or recreation, or whatever, we need to appreciate that that person has balanced their wildfire risk against the benefits they seek. It's economics in action: costs and benefits.*
- The wildfire risk won't disappear overnight and the placement of some communities makes them a high risk regardless of mitigation activities. Additionally, mitigation is an annual event because vegetation grows back each year.*
- There is no standard for mitigation. The fire department encourages Fire Wise communities and the three zones of mitigation but insurance companies require something different and far more extreme.*
- There has to be something in it for them or find added value. If they are going to spend the effort, they need some assistance. Free chipping, money to help pay for the mitigation (stipend program), labor to mitigate such as Youth Corps, cost effective mitigation crews, etc. Chipping and hauling as well as stipend services have been proven to be most effective in Colorado Springs.*

*There are certainly mitigation success stories in various cities and jurisdictions. However, the majority of the fire departments in Colorado are not adequately staffed to provide much more than awareness and educational efforts.*

*A sustained on-going standardized statewide mitigation education effort needs to be a priority of DFPC, the Colorado Forest Service, the US Forest Service, Bureau of Land Management and the insurance industry. The message must be the same from all agencies & organizations operating in Colorado.....one standard message delivered by everyone.*

*Anything less, relegates mitigation to the world of mixed messages, differing definitions, confusion and mis-understandings all which result in a predicted general lack of action, highlighted by various levels of localized success.*

*We owe our citizens and our firefighters more and it is up to the State of Colorado, working through the DFPC and DHSEM, and working with the key stakeholder groups, to standardize the mitigation message and to provide appropriate funding for the implementation of that message through all fire departments, Sheriffs' Offices, Emergency Management offices, the CSU Extension Service, the Colorado Forest Service and the insurance industry among others.*

*Mitigation is complicated, mitigation takes time and mitigation requires funding*

**August 2014 Update:** *Getting homeowners to accept more responsibility for the risk of living in wildfire zones is, and will continue to be, an uphill battle.*

*Based on 2010 US census data, it is estimated that about 17% of Colorado's population, or almost a million people, lived in high-wildfire-risk areas. Of the 7,000 homes in the area evacuated for the Black Forest Fire, half were not there a decade ago.*

*Creative, and aggressive, encouragements to homeowners to mitigate must continue. Prescribed burning must continue. And it must be clearly understood by citizens and elected leaders that....*

- *The fire service will not deploy personnel to defend unmitigated properties and will move to the homes and structures that can be saved.*
- *Roads that are hazardous to pass due to lack of mitigation will be identified and during a fire the fire service will not send personnel into the area.*

*The safety of firefighters, and the citizens we protect, is first and foremost.*

## Closing

The costs associated with fire mitigation and firefighting need to be measured against the real and total costs of fires in the WUI.

As expensive as fighting a fire is, the cost of recovery is even greater. Even if the loss of life is not considered, the ensuing flood damage to water quality, roads, bridges, utilities, and private property dwarf the cost of effective fire suppression

We're at a crossroads as far as looking at the risk of wildland and WUI fires. We are making decisions, or not making decisions, that place ourselves in the way of wildfire and WUI fires.

WUI fires are increasing in frequency and intensity and despite the cycles of periodic heavy rains, Colorado will always be an arid climate and we will always have WUI fires and wildfires. As a State we must continue to prepare for the next fire season because there will be the next fire season and fires will occur within the WUI.

But, when WUI fires are over.....black and cold.....the local fire service is still there as a part of the communities we serve, preparing to respond to the floods that will soon follow.

*“The grasses will ignite instantly, and then the fire will load up on the dead vegetation on the ground here; then it'll ignite the dead tree branches low on the tree trunks, and the trees will go up like Roman candles, showing the area with embers. Temperatures will reach a thousand degrees.”*

Bernard Voelkelt  
Wildfire Safety Expert  
2014