



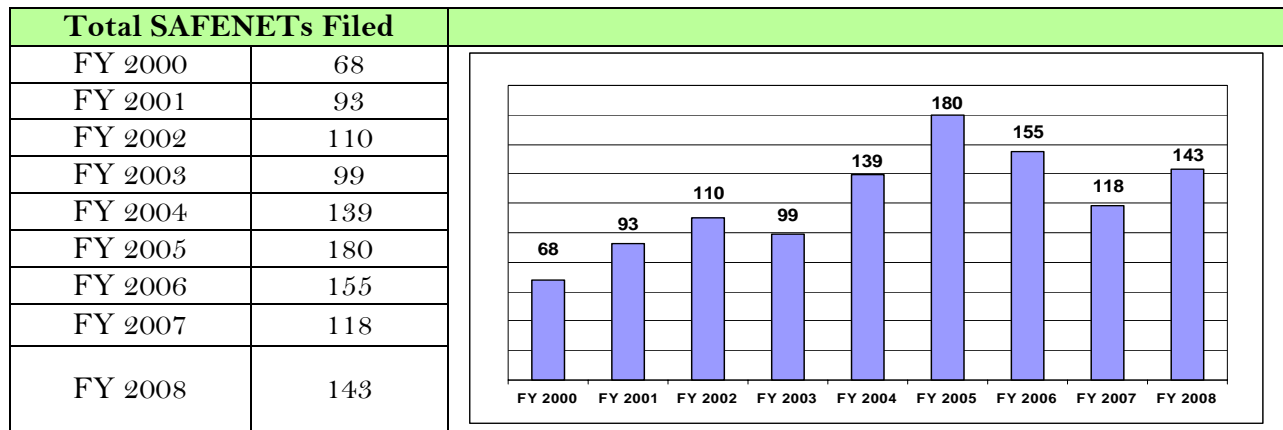
2008 SAFENET REVIEW

INTRODUCTION

The SAFENET database was created and established during the 2000 fire season in response to a recommendation from Phase III of the Wildland Fire Safety Awareness Study. It serves as a method for reporting and resolving safety concerns encountered in wildland fire (wildfire, wildland fire use, and prescribed fire) and all hazard incidents. It provides a forum for front-line wildland firefighters to share their concerns and highlight issues they feel upper management and the general public should be made aware of. The SAFENET database is endorsed by the National Wildfire Coordinating Group (NWCG).

The following review summarizes the use of the SAFENET database for the FY 2008 fire season.

The SAFENET database has been in operation for nine years. FY 2008 saw an increase in the number of submissions with a total of 143 SAFENETs filed during the time period of October 1, 2007 through September 30, 2008. The following table and graph shows the annual number of SAFENETs filed since the establishment of the database in 2000.

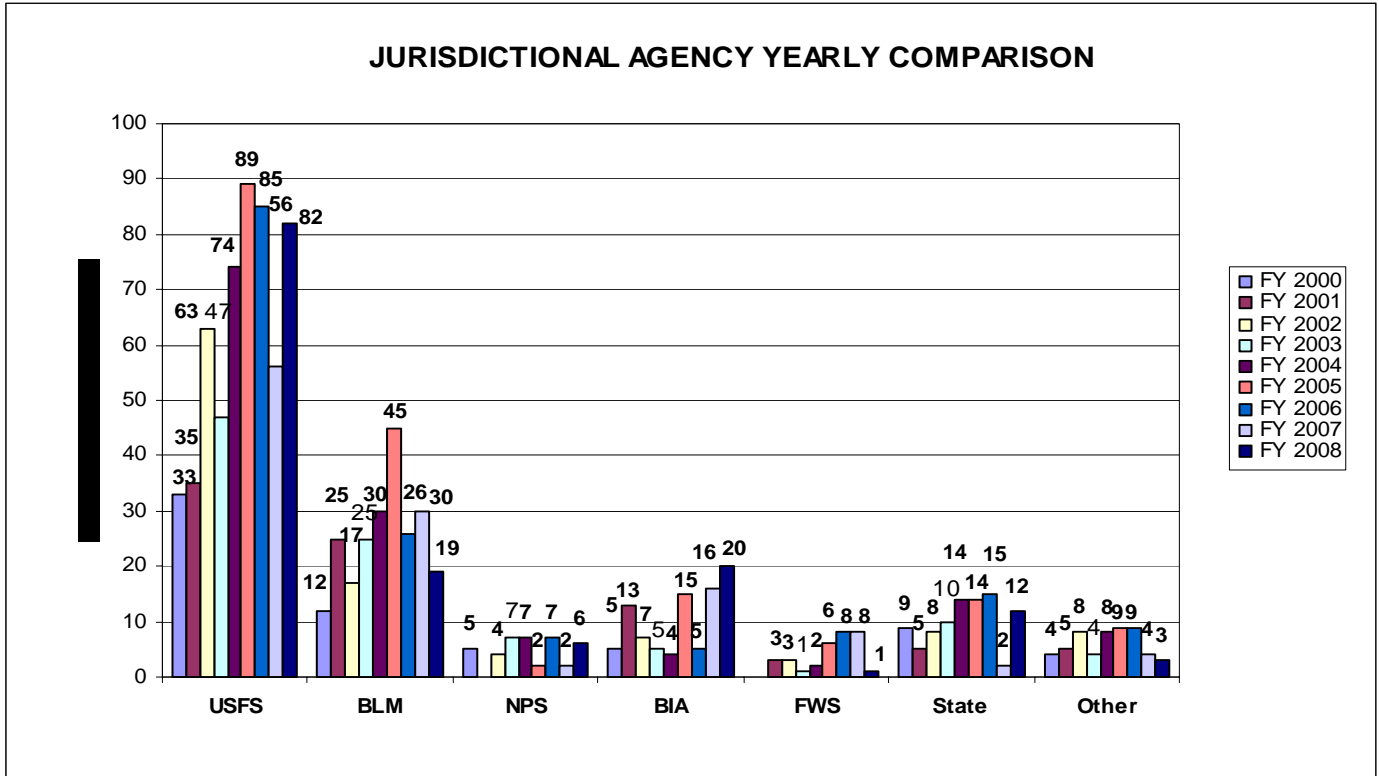


The annual SAFENET Review is intended to analyze the submissions for the year to determine issues facing the field with regard to safety concerns. The review summarizes the concerns of the season and is compiled to provide a tool for managers to identify and address areas of concern.

What happens to a SAFENET?

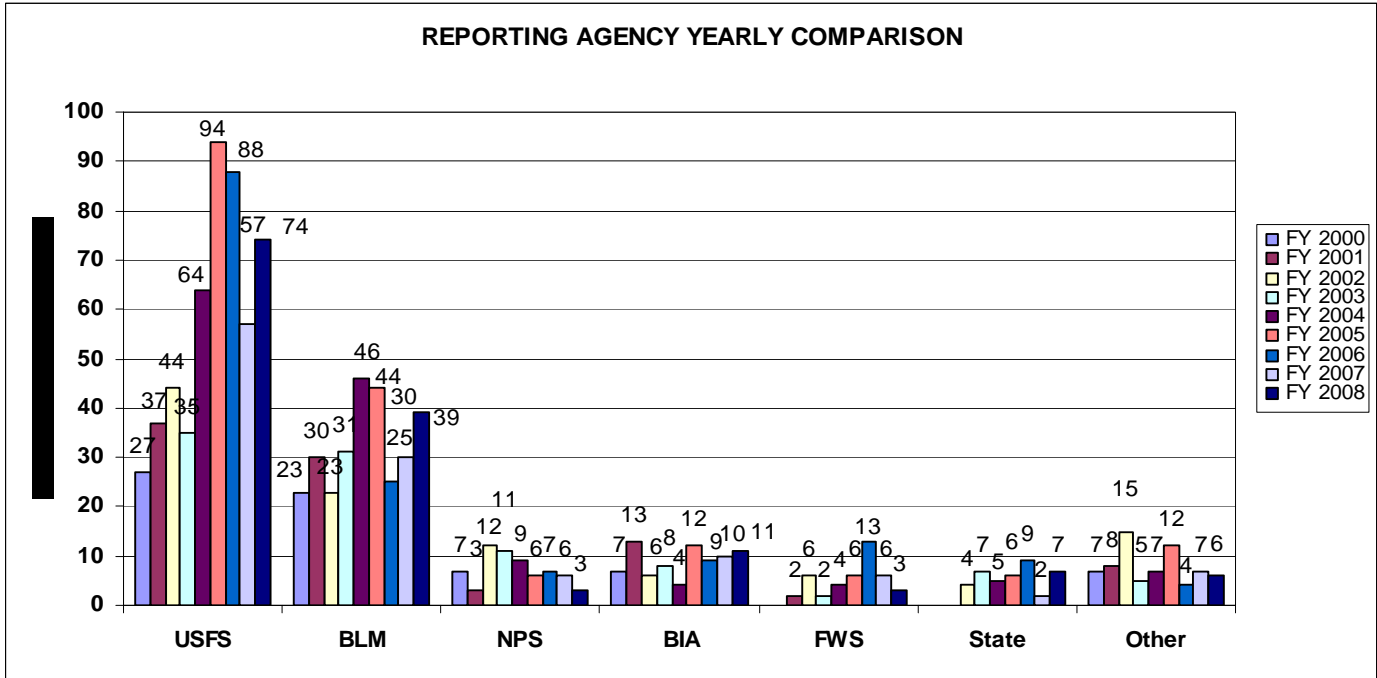
Upon submission, a SAFENET is forwarded to the national fire management safety program manager for the jurisdictional agency identified in the submission. In addition to the five land management agencies, a state representative is identified for SAFENET notification. These individuals determine the course of action for the submission, forwarding to the regional, state or local level for response.

The jurisdictional agency is responsible for researching the issue identified in the submission, taking appropriate action, and filing a corrective action outlining the agency’s response. Below is a graph showing the number of SAFENETs filed for each jurisdictional agency. The graph identifies FY 2008 submissions as well as cumulative trend since the establishment of the database in 2000.



Based on the size of the agency and the amount of land encompassed by the US Forest Service (USFS), it is not a surprise to see they received 57% of the submissions. The Bureau of Land Management (BLM) received 13%, the Bureau of Indian Affairs (BIA) received 14%, the US Fish & Wildlife Service (FWS) received 1%, and the National Park Service (NPS) received 4%. In addition, states were the jurisdictional agency in 9% of SAFENET submissions and 3% of the submissions fell into the “Other” category, which includes FEMA, rural fire departments, and counties. The USFS, BIA, NPS, and States all showed increases in the number of submissions from the previous year while the BLM, FWS, and Other saw their submissions decrease for FY 2008.

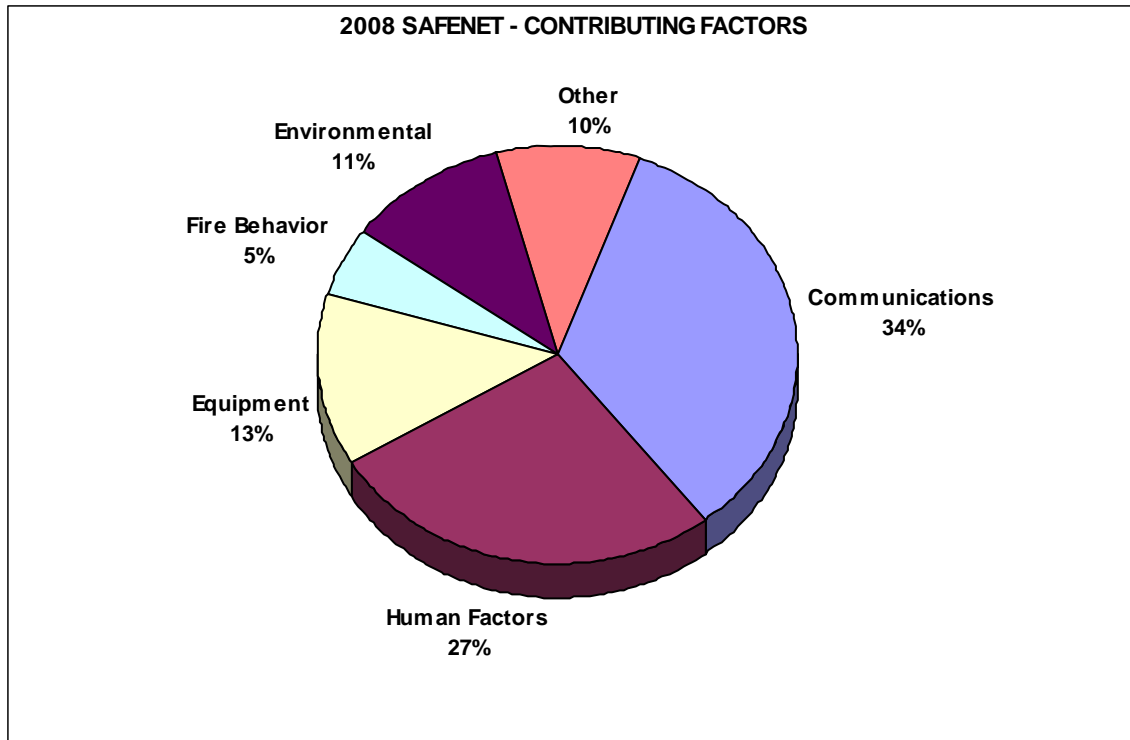
In comparison, the following graph identifies the number of SAFENETs received based on the agency of the submitter.



Forest Service and BLM employees continue to file the highest number of SAFENETs. The rest of the submissions are distributed amongst the other agencies and states, along with county and volunteer fire departments which make up the “Other” category.

CONTRIBUTING FACTORS

One of the key elements analyzed by managers is contributing factors. Managers want to know what caused or lead to a safety concern in the field. The SAFENET system allows the submitter to choose from six different elements that may be present, including communications, human factors, equipment, fire behavior, environmental, and other. Many submissions cite more than one contributing factor. The following chart identifies the contributing factors involved in the submissions for FY 2008 by percentage.



Communications – 34%

For the eighth time in nine seasons, Communications has been the leading contributing factor in SAFENET submissions. The majority of submissions in this category deal with communications equipment along with several submissions that refer to personal communication issues.

Communications Equipment

- Radio and/or repeater systems not functioning properly. This is the vast majority of communication problems. Problems existed for ground as well as ground to air operations.
- Inability to clone or program radios.
- Lack of frequencies available, use of different frequencies, and bleed over on frequencies.
- Use of wideband and narrow band equipment on the same incidents. This problem is usually between federal and local organizations that may have not modified their radios.
- Malfunctioning speakers on Bendix King Radios.
- Toned guard failure of air-to-ground communications.
- Lack of repeater coverage.
- Solar powered repeaters unable to handle 24 hour operation.

Personal Communications

- Loss of communications with personnel in the field or lack of sufficient field radios for operations.
- Lack of training for radio technical personnel.
- Lack of training on the use of new radios.
- Lack of backup communication systems/contingency plans other than personnel cell phones.
- Making changes to radio system without notification to field personnel.
- Lack of qualified dispatchers.

Many submissions in the personal communications category are based on the submitter's perception of another individual's attitude or actions and are therefore subjective.

Human Factors – 27%

Human factors were cited in a quarter of SAFENET submissions. This category consists of several elements including Decision Making, Leadership, Situational Awareness, Risk Assessment, Performance, and Fatigue. Many of these elements are overlapping in nature and are subjective based on the opinion of the SAFENET author. However, below are a few examples of submissions received that exhibit each of these elements.

Decision Making – 53

- Leaking fuel from an improperly carried dolmar ran down cloths leg and ignited upon contact with Rx fire.
- Driver misjudged exiting scale ramp and drove engine off the side of the ramp causing damage to engine.
- Failure to place UTV in 4-wheel drive resulted in crew getting stuck in ditch and trapped in Rx burnover.
- Driving too fast on sandy windy mountain roads in the dark and in unfamiliar territory resulted in vehicle sliding off road and into a ditch.
- One VFD engine rear ended a second VFD engine because they were riding too close behind in the fire area.
- Removal of repeater from an area that was under a declared disaster area.
- Incorrect use of 100% gasoline mix in drip torch was discovered prior to burn.
- Engine crew attempted a frontal assault on a fire without identifying safety zones and escape routes only to find themselves between the fire and unburned fuel resulting in an engine burnover which resulted in minor burns to the crew since they were not wearing proper PPE.

Leadership – 41

- Not familiarizing crews with escape routes and safety zones.
- Leadership not wearing PPE on the fireline.
- Medical evacuation plans not developed and implemented.
- Firefighters being placed in unqualified positions.
- Lack of Helitack personnel being assigned to helispots.
- Threats made to personnel about reporting an accident.
- Allowing personnel on fires without them passing the Work Capacity Test (WCT).
- Constructing burnout line in area of known snag hazard.
- Not allowing proper refresher training and not updating people correctly in ROSS or IQCS.
- Not following instructions of IC and not getting approval from OPS for burn operations.

Situational Awareness – 52

- Lack of awareness of other personnel or vehicles in the area of trees being felled.
- A firefighter fell into an ash pit while working on mop-up operations.
- Conducting operations without information on current weather conditions.
- Conducting a burnout operation while unaware of location of other resources.
- Conducting burnout operations using rafts without having enough river guides.
- Agency Administrator entered fire area without approval, escort, or proper PPE.
- Escape routes and Safety zones not identified, planned, mapped, or communicated.
- Retardant dropped on fire crew and engines.

Performance – 27

- Not informing other crew members about faulty equipment.
- Reduced performance due to alleged prescription abuse.
- Improper use of flagging colors.
- Fire engine crew entered fire area and started suppression operations without checking in with IC and OPS.
- Personnel entering flagged off work safety zones even after verbal warnings.
- Poor medical diagnosis at incident resulted in further injury to firefighter.
- Failure to cease burn firing operations when requested.
- Crew members not qualified to carry out fire assignments or trained to properly run fire equipment or pumps.
- Improperly loaded trailer.
- ATV ramp not secured to truck tailgate causing ATV fall to ground and operator being thrown from machine.

Risk Assessment – 35

- Fire personnel approached by civilians carrying guns.
- Citizens allowed too close to fire area or are present in fire area affecting fire operations.

Fatigue – 6

- Failure to meet 2:1 work/rest guidelines.

Equipment – 13%

The majority of submissions dealing with equipment are pertaining to radio and repeater issues. The majority of these are a duplicate of those listed in the “Communications” category. Other equipment submissions include:

- Personnel not wearing personal protective equipment (PPE).
- Scba tanks overheating and venting when placed in engine compartment next to exhaust.
- Bad wiring harness on Freightliner heavy engine with S&S pump package caused truck to stall after harness melted.
- Improperly installed and aligned hub pilots on dual rear tires caused tires to break loose off chaise.
- Use of old drip torches with leaky welds on the bottom.
- Use of Fire Quick Flare Systems older than 3 years resulting in premature firing and detonation.
- Excessive debris entering engine compartment from inadequate air intake screen resulted in an engine fire on a T250 Bobcat.
- Improper shielding on gas powered hose roller caused glove to get caught in machine.

Fire Behavior – 5%

- Crews fearful of reprisals or being demobed for turning down assignments due to LCES and watchout situations after fire intensity increases.
- Dozer crew not following orders to move to safety zone after being instructed by Division Supervisor as gusty winds intensify fire behavior causing division to withdraw from fireline.

Environmental – 11%

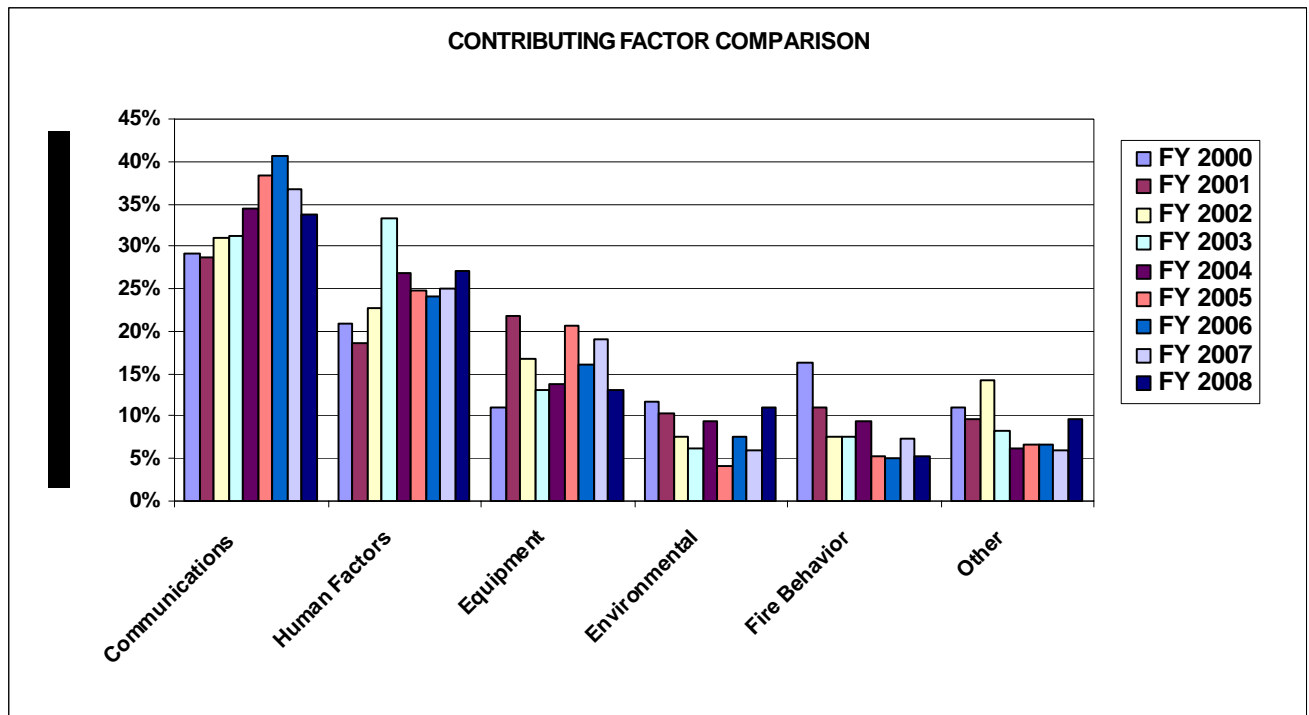
- Exposure to poison oak in northern California fires and improper or lack of treatment at incidents.
- Exposure to fire personnel from excessive smoke during a Rx burn.
- Lack of knowledge about Alaska Fire Service policy regarding hazmat fires.
- Inhalation of chemical 2-4-D herbicide from burning wheat fields.
- Exposure to H₂S gas fighting fires near gas wells and lines.

Other – 10%

- Unqualified engine drivers driving Washington DNR trucks.
- Page 39 in the IRPG is outdated on CPR procedures.
- Foods containing peanuts or cooked in peanut oil were not properly identified.
- Limited access to refresher training for Florida park service personnel.

TRENDS

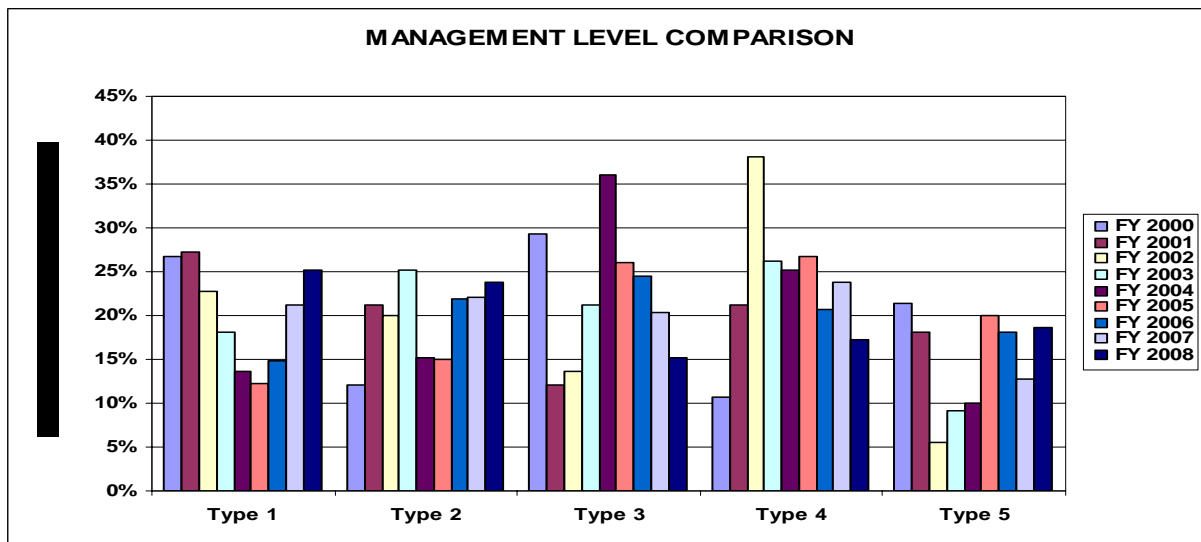
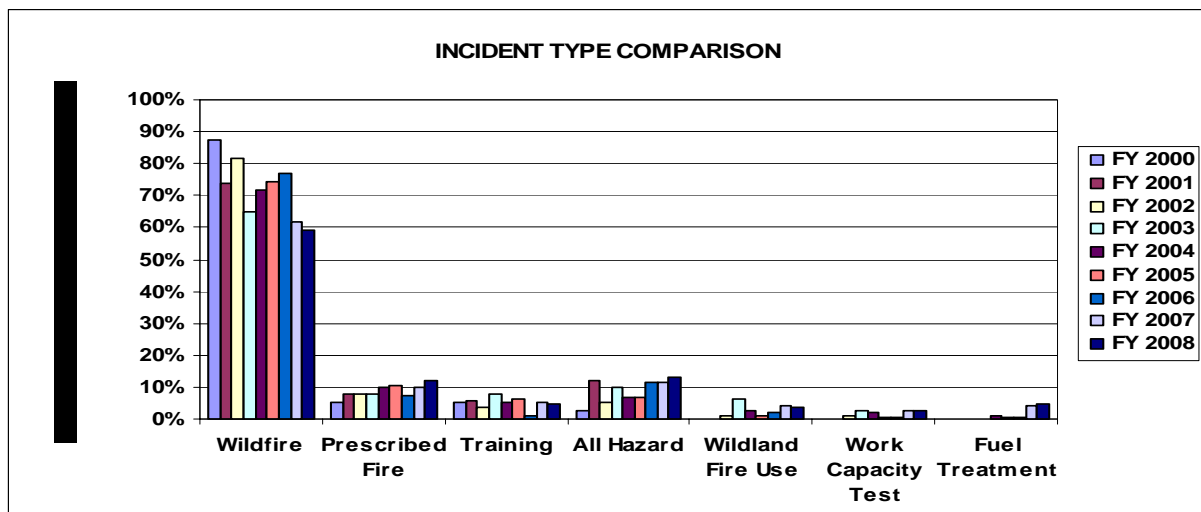
The SAFENET program has been operational for nine years and allows managers to determine trends from the field regarding safety and related issues. This allows managers to focus on areas that continually raise concern. Below is a chart that compares Contributing Factors over the past nine seasons.



Communications (both equipment issues and personal communication issues) continues to be the most common Contributing Factor to wildfire safety related incidents that are filed through the SAFENET system. As a critical element of firefighting protocols (LCES), it is a major concern to the field when there is a breakdown in communications. This SAFENET report identifies issues and allows managers to focus efforts on concerns such as non-functioning repeaters and radios, cloning and programming issues, and lack of frequencies.

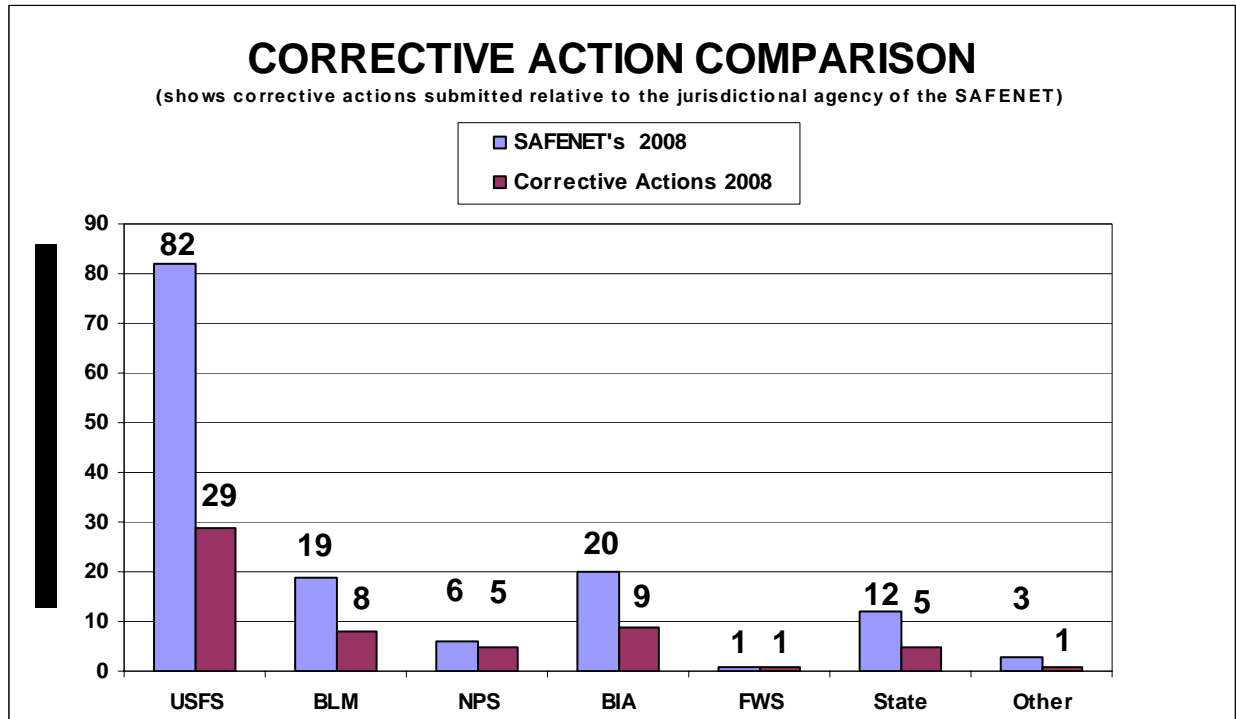
Human Factors is consistently the second most common Contributing Factor of SAFENETs filed. This is a difficult factor to address as it deals with the human element including differing perceptions, opinions, and communication styles. Many SAFENET submissions are based on the author's perception of the events or other individual's behavior which may be very different from other individuals involved in the event. Since these are not tangible elements, it is difficult for managers to recognize a specific causal factor and reduce the instance of events.

Another trend that can be ascertained pertains to the type of incident in which the majority of safety concerns occur. Not surprisingly, wildfire gathers the majority of submissions as this is where the majority of firefighters spend their time and is also the environment that is the most unpredictable and uncontrollable. This year the number of SAFENETs filed has 50% assigned to the Type 1 and Type 2 management levels. The other 50% is spread pretty even over the 3 - 5 Type management levels. The graphs below identify the comparison of these elements during the past nine seasons.



CORRECTIVE ACTIONS

As stated earlier, SAFENETs are forwarded to the jurisdictional agency listed in the submission and it is their responsibility to research the incident and provide a Corrective Action. The general public also has the capability to access SAFENETs and provide a Corrective Action if they feel it is necessary. Below is a chart that identifies the number of SAFENETs received by agency along with the number of supplemental Corrective Actions taken. Supplemental Corrective Actions are follow-ups to those SAFENETs that can not be addressed in the field when they occur and require higher level action and coordination so they can be prevented in the future.



As the graph indicates the agencies provided Supplemental Corrective Actions as follows: USFS – 35%, BLM – 42%, NPS – 83%, BIA – 45%, FWS – 100%, State – 42%, and Other – 33%. Managers are encouraged to submit Corrective Actions for every SAFENET received, whether the incident is unfounded or not. Below are some statistics on Corrective Actions filed:

Corrective Action Responses – 58

Action Taken: 43

- Action due to SAFENET: 33
- Action taken prior SAFENET: 10

Unfounded: 9

Still Under Review: 6

Cumulatively, Corrective Actions were filed on 41% of SAFENET submissions which is lower than the previous year. Managers took Corrective Action prior to SAFENET submission 17%

of the time. This is due to the author being proactive and contacting their supervisor or other responsible individual. In 57% of the Corrective Actions, managers were unaware of an issue until brought to light through the SAFENET system.

The SAFENET system continues to provide valuable information related to safety related issues in the field. Along with other reporting systems, managers are able to gather information to identify areas of concern and focus energy to create a safer and more effective work environment. Wildland fire personnel are encouraged to continue fighting fire safely and report issues of safety concern.

Appendix A

For reference purposes, below is a list of incidents on which SAFENETs were filed for the FY 2008 season.

Wildland Fires

Back Strike	Beautiful MTN. Fire
Big Horn Fire	Canyon Complex (2)
Canyon Complex – Friend / Darnell	Chaparral
Copeland Fire	Cotton
Cub Complex	Dirty-Joe
Dome Fire (2)	Dry Creek
East Bench	Enterprise Fire
Gillita	Gooding Gun Club
Gunbarrel Fire	HWY 16
I-401	Incident 381
Incident # 416	Indians Fire (3)
Iron Complex (6)	Iron Complex – Buckhorn Fire
Jack Creek	Kalamath Theater
Lime Complex (2)	Lime Fire
Maverick Fire (7)	Namakani Paio 08
Noisy	Peak Fire
Piute Fire (2)	Pole Fire
Pond Lake Fire	Porcupine Ranch
Pug	Rattle (2)
Ruby Dump	SHU Lighting Complex (2)
Siskiyou / Blue2	Snow Creek Complex
Stone Hollow	Trailer and Neuman Fires
Tripod	Ukonom Complex (2)
VP PITT	Welch Road Fire
Whiskeytown Complex (3)	Whiskey Fire
Yuba City Complex (4)	25 Fire
#283	#324 & # 380
#8175	

Wildland Fire Use

Mill Hollow (2)	
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Prescribed Fire

Cochiti Phase 2	Deer Springs HFR
Fletcher Facilitated Learning Analysis & Lower Mahogany AAR	Madera South Rx (2)
Oklahoma Prescribed Fire	Pennant Bar Rx
Pigeon Basin Rx	Pine Valley Peak Rx/Fire Community
Rx Burn	San Diago Rx
Stansbury Rx	Valhalla View 9 & 10 Rx Burn (2)
2008 Fire Season	

Fuel Treatment

Black Dragon Fuels Reduction	Blank
Law Enforcement Assist	Steven Pines Rx

All Hazard, Training, & Other Incidents

ALL	Angeles N.F. Dispatch
Blank (2)	Bridgeport Radio Problems
Chelan Airways Accident	Chugach Forest
Daily Operations	Daily Operations I.A.
Day to Day	District Office
Fire Preparedness & IA	Gibson Park/S-234
Grasslake	Hayward Office
Hireing	I.A.
Intial Attack	Local
Mobile Radio	National
N/A	Non Incident/Preparedness
Normal Operations	Office Radio
Ongoing Concern	Ongoing Radio Problems
OSC October Support	Other
Ottawa National Forest Dispatch Office	Pack Test
Radio Issues	Radio Not Working
Ranger District Station	River Fire and Ruidoso Floods
R-56 Tower Work (2)	San Carlos Agency Type 3 IMT
Tower Maintenance	UYT Daily Dispatch Briefing
WCT	West Fork