



2004 SAFENET REVIEW

INTRODUCTION

The SAFENET system was created and established during the 2000 fire season, as a result of a recommendation from Phase III of the Wildland Firefighter Safety Awareness Study. It serves as a method for reporting and resolving safety concerns encountered in wildland fire, prescribed fire, or all risk operations. It is another tool that provides front line firefighters a way to be heard and get unsafe situations resolved.

The following is a review of the use of the SAFENET system for the FY 2004 fire season, outlining the prevailing issues of concern for the wildland fire and all risk community.

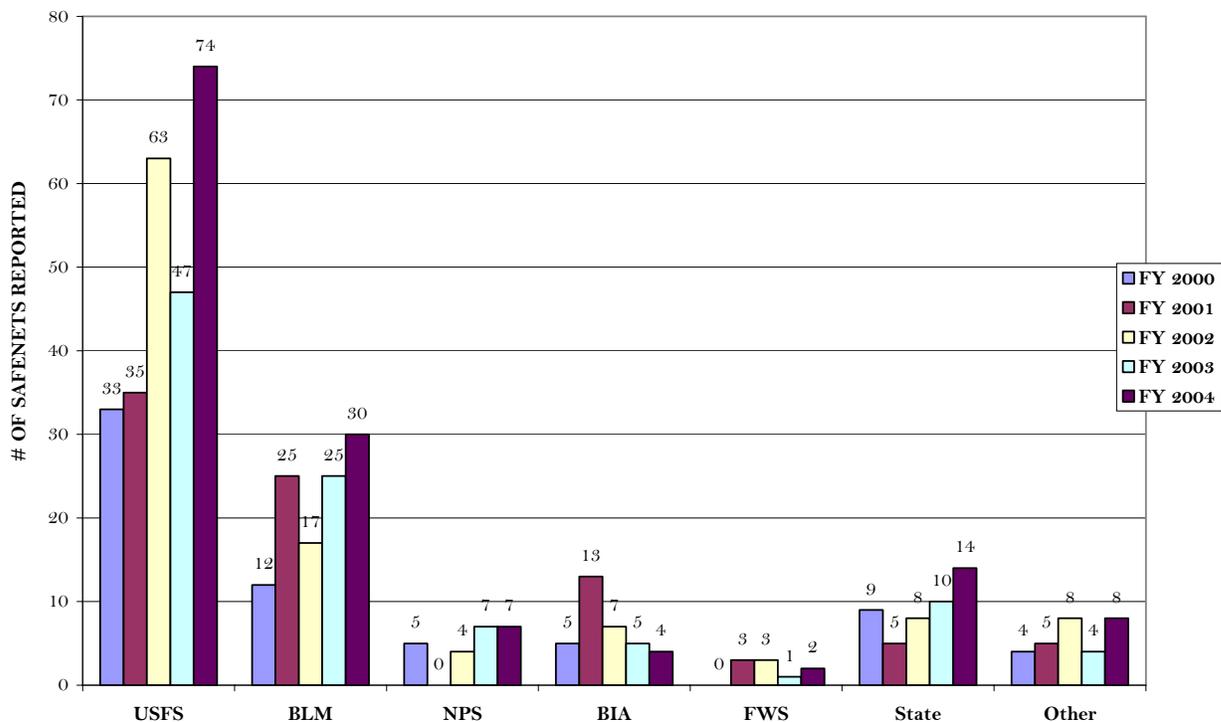
2004 REVIEW

In this, its fifth year of existence, SAFENET received more submissions than any previous year with 139 SAFENETs filed between October 1, 2003 and September 30, 2004. The totals for the four previous seasons were 99 in FY 2003, 110 in FY 2002, 93 in FY 2001, and 68 in FY 2000.

This report dissects the elements of the SAFENETs filed, allowing managers to determine patterns, trends, and common denominators. These elements include type of incident, type of activity, contributing factors, human factors, agencies with jurisdictional responsibility, and the representative agency of the SAFENET author.

Below is a graph comparing the jurisdictional agency responsible for the incident in which the SAFENET has been filed. This graph is cumulative, showing totals for every season.

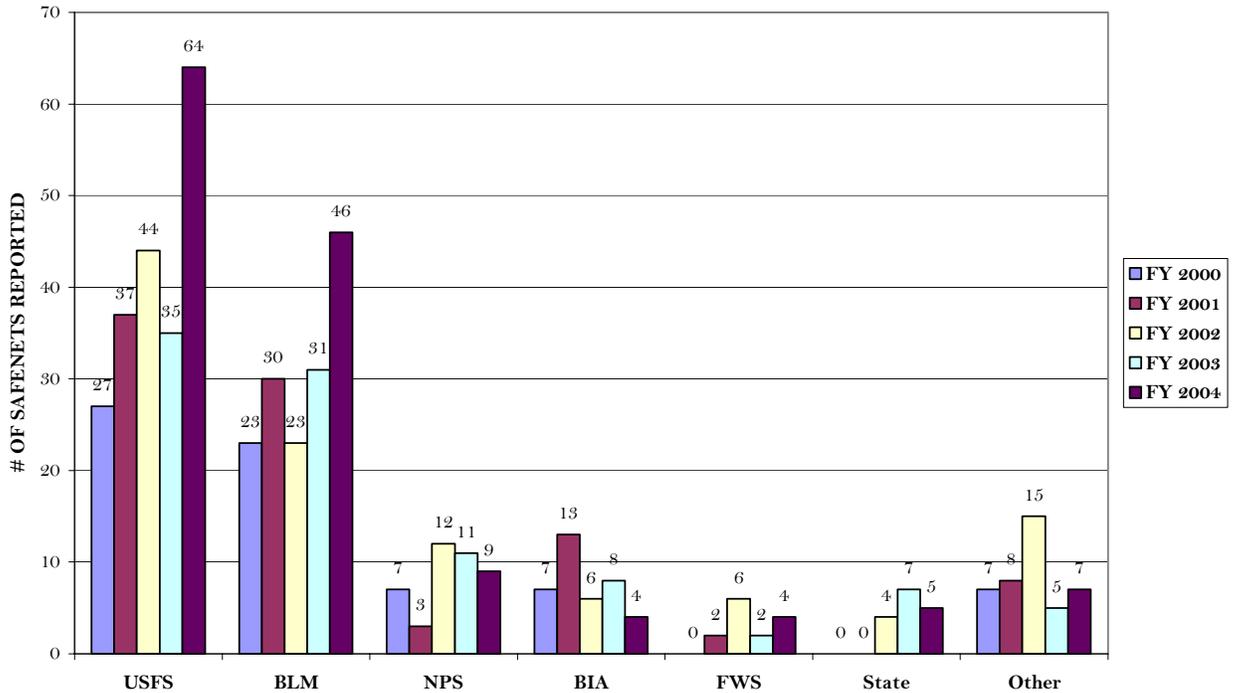
JURISDICTIONAL AGENCY YEARLY COMPARISON



The USFS reported the highest number of SAFENETs in fires under their jurisdiction, followed by the BLM. The NPS, BIA, FWS, and State agencies seem to continue with a similar yearly trend in total numbers. Agencies covered in the category of “Other” include Counties, cities, FEMA, and interagency dispatch centers.

In comparison, the next graph illustrates the reporting agency of the individual who filed the submission to SAFENET. This graph is also cumulative, showing the totals for every SAFENET season.

REPORTING AGENCY YEARLY COMPARISON

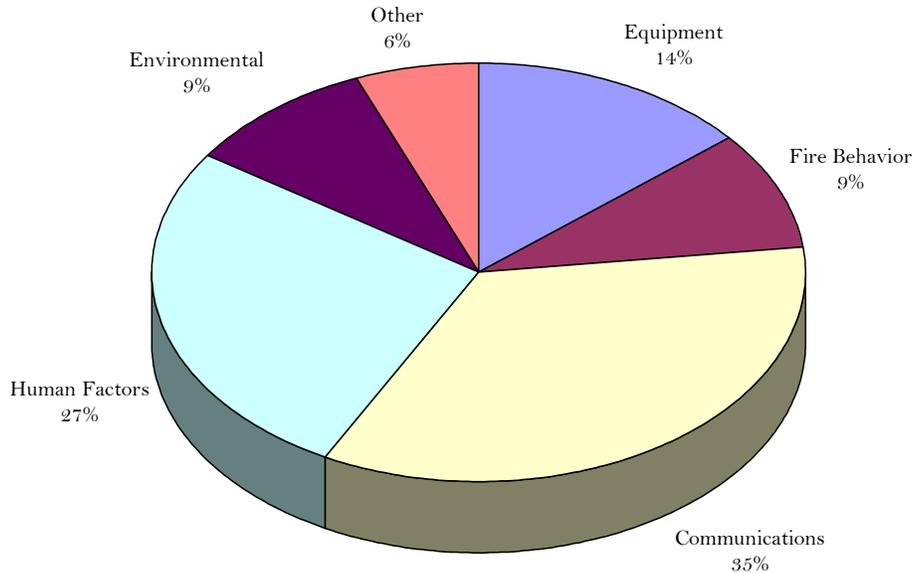


Again, as would be expected from the largest pool of firefighters, the USFS filed the most SAFENETs, followed by the BLM. Jurisdictions represented by the category of “Other” include city and county fire departments, as well as retired federal agency personnel.

CONTRIBUTING FACTORS

There are six elements to choose from as a possible contributing factor for any issue filed in the SAFENET system. These include communications, human factors, environment, fire behavior, equipment, and other. Many SAFENET submissions include multiple contributing factors. The following is a pie chart illustrating the contributing factors involved in the FY 2004 SAFENET submissions.

2004 SAFENET - CONTRIBUTING FACTORS



Communications – 35%

For the fourth time in five seasons, communications is the leading contributing factor in all SAFENET submissions. This can include a multitude of elements, such as equipment issues and personal communications.

Communications Equipment:

- The majority of equipment issues arose from the switch to narrowband radios, including systems that are not compatible, radios that do not function properly, and lack of knowledge and training on how to properly use the new radios.
- Several complaints were received, mostly from dispatch centers, regarding antiquated repeater systems that do not function properly.

Personal Communications:

- Several submissions dealt with a difference of opinion on the strategy and tactics employed to manage the fire.
- Poor or nonexistent briefings to fire personnel.
- Loss of information during communication relays.
- Hearing loss affecting communication capabilities.
- Miscommunications and differing perceptions.

- Poor information dissemination regarding new policy implementations and training materials.

It is interesting to note that more than a third (37%) of all SAFENETs filed had some mention of a radio problem. Thirteen submissions dealt with EF Johnson radios, five with RACALs, nine with narrowbanding in general, 13 with repeaters, and 11 with dispatch systems.

Human Factors – 27%

Human factors were credited as a causal factor in over a quarter of all SAFENETs filed. This category is broken down into several elements including decision-making, leadership, situational awareness, risk assessment, performance, and fatigue. Listed below are a few examples cited in SAFENET for each of these elements with the corresponding number of times the element was cited. One thing to note is that many of the elements are interchangeable and authors interpret these elements differently in their citation of causes.

Decision Making – 59

- Failure to adjust strategies in changing conditions.
- Placing unqualified people in leadership positions.
- Not reporting accidents.
- Choosing to travel all night rather than RON.
- Not recognizing when overloaded with responsibilities.

Leadership – 54

- Lack of a command structure.
- Coercion of crews to deploy in unsafe situations.
- Not providing a briefing.
- Not advising of safety zones and escape routes.
- Pressure by management to complete Rx burns to meet target accomplishments.

Situational Awareness – 48

- Failure to recognize the need for additional resources.
- Making cell phone calls while driving.
- Not wearing gloves while pouring fuel onto burn piles, resulting in 2nd degree burns.
- Not recognizing downed power lines in the area.
- Dozer operator not scouting line to be plowed in order to be aware of rocks and ledges that could cause hazardous situations.

Risk Assessment – 40

- Lacking or having a poor quality of a safety zone.
- Leaving resources in unsafe area.

- Using fuel for burning piles mixed by unknown persons with unknown ingredients.

Performance – 32

- Uneducated and untrained personnel.
- Personnel not following policies or guidelines. Ignoring LCES and 10 & 18.
- Allowing unqualified instructors to teach fire courses.
- Local personnel showing up on the fireline when not assigned to the incident.
- Poor inspections of vehicles prior to assigning to the incident.

Fatigue – 17

- Bus drivers transporting crews showing visible signs of fatigue.
- Holding boss sleeping in vehicle while on an Rx burn.
- Not following 2:1 Work/Rest guidelines for resources checking into an incident.

Equipment – 14%

Issues with a piece of equipment or equipment failures continue to prompt the submission of a SAFENET. This category often includes SAFENETs that are a warning tool to other firefighters regarding faulty equipment, rather than a gripe about the equipment in general. A few examples of equipment issues that firefighters in the field noticed are:

- Torn seams and handles in fire shelters.
- Cracked utility box mounts on crew pickups.
- Mark 3 pump not properly marked with warning labels.
- Recall on International engines.
- Battery cables melting.
- Malfunctioning flare gun.
- Radio failures and inoperable repeaters.
- Brake safety cable detached on trailer delivering to camp.
- Trailer operating without lights.
- Spare tire bracket failure.

Fire Behavior – 9%

- Unmonitored extreme fire behavior and wind events.
- Ill prepared or not responding to changing fire conditions.

Environmental – 9%

- Snags causing other trees to fall.
- Sanitation issues at fire camp.
- Heavy rains, swollen rivers, treacherous footing and low temperatures on a hike-out by a rappel crew.

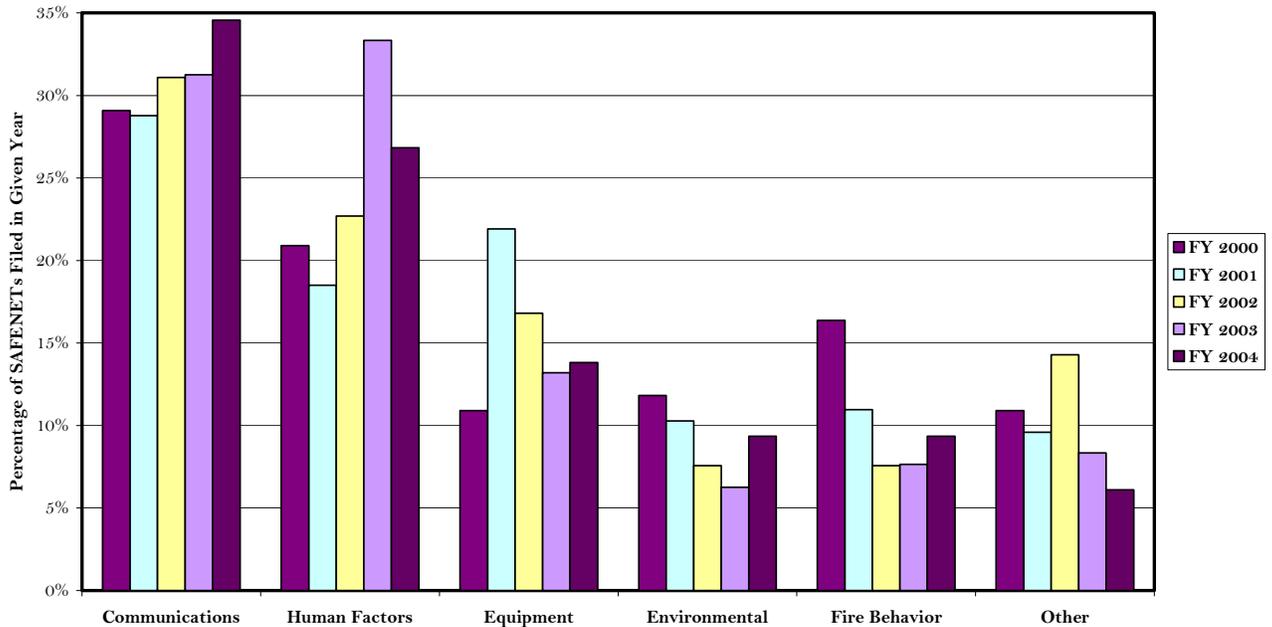
Other – 6%

- Using unknown fuel mixture when lighting burn piles.
- Concern that the Work Capacity Test is not an appropriate test of firefighter fitness for duty.

TRENDS

Now that the SAFENET system has been used for several years, one useful tool is to analyze trends that occur, allowing managers to focus their attention on these issues.

Contributing Factors Comparison

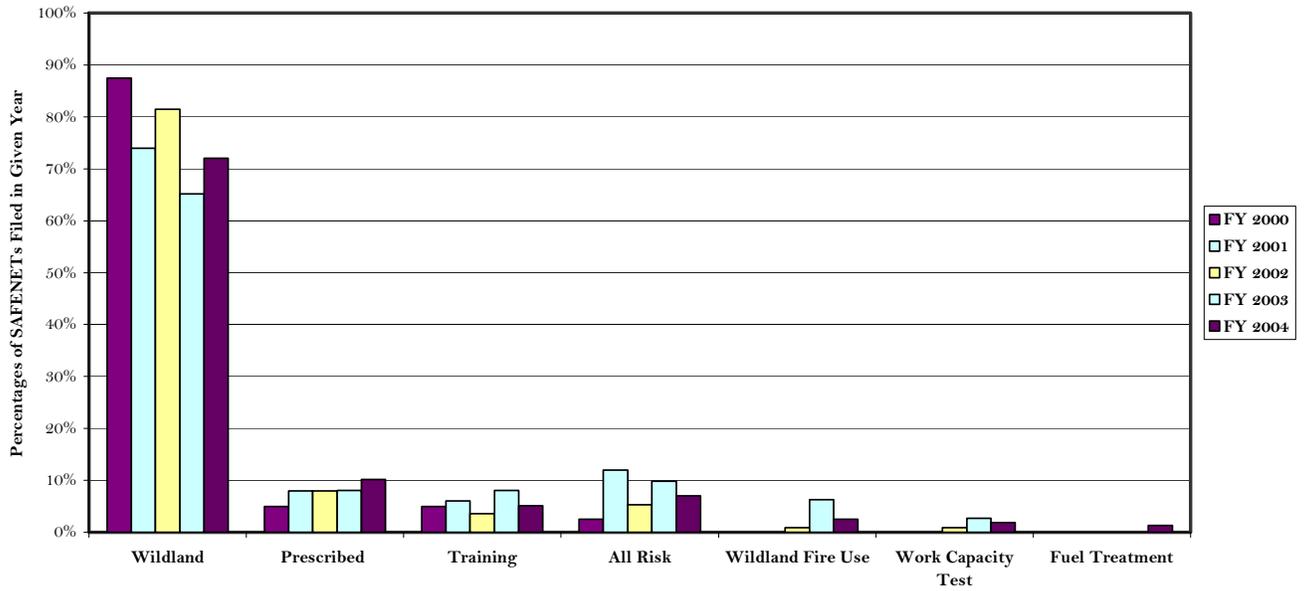


SAFENET continues to show a yearly pattern of communications being one of the leading contributing factors resulting in the submission of a SAFENET. Some of these submissions include personal communications and/or miscommunications, as was stated earlier. However, the narrow banding process, the use of RACALs and EF Johnson radios, lack of training and awareness on how to mitigate problems with the new radios, repeaters, and dispatch system issues are still the most prevalent reason that SAFENETs are filed.

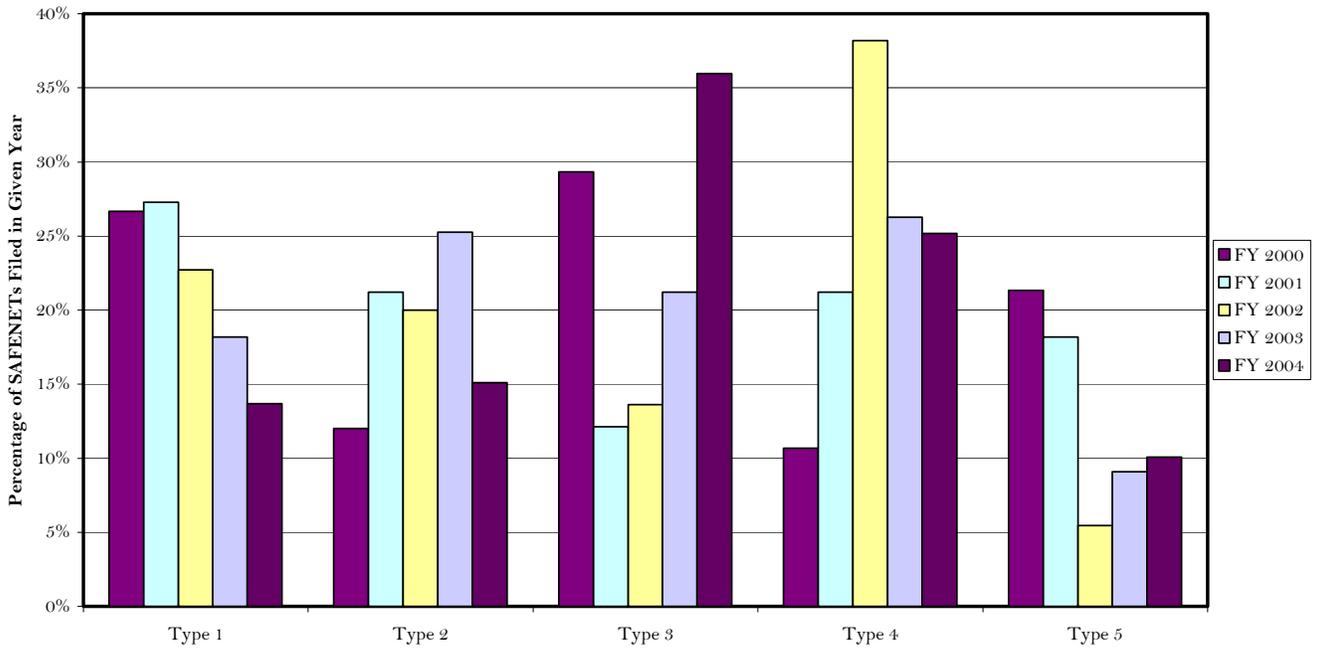
Human factors also continue to be a major contributor to SAFENETs. It is difficult to break this category down to a specific issue, allowing managers to provide a fix. The wildland fire community will always be a diverse group of individuals with differing opinions and styles. SAFENET is a very subjective system that is best used to broadcast issues from the field and raise awareness, but not to provide the ultimate authority on an unresolved matter.

Some additional trends to consider are comparison graphs based on the type of incident and management level on which SAFENETs are filed.

Incident Type Comparison



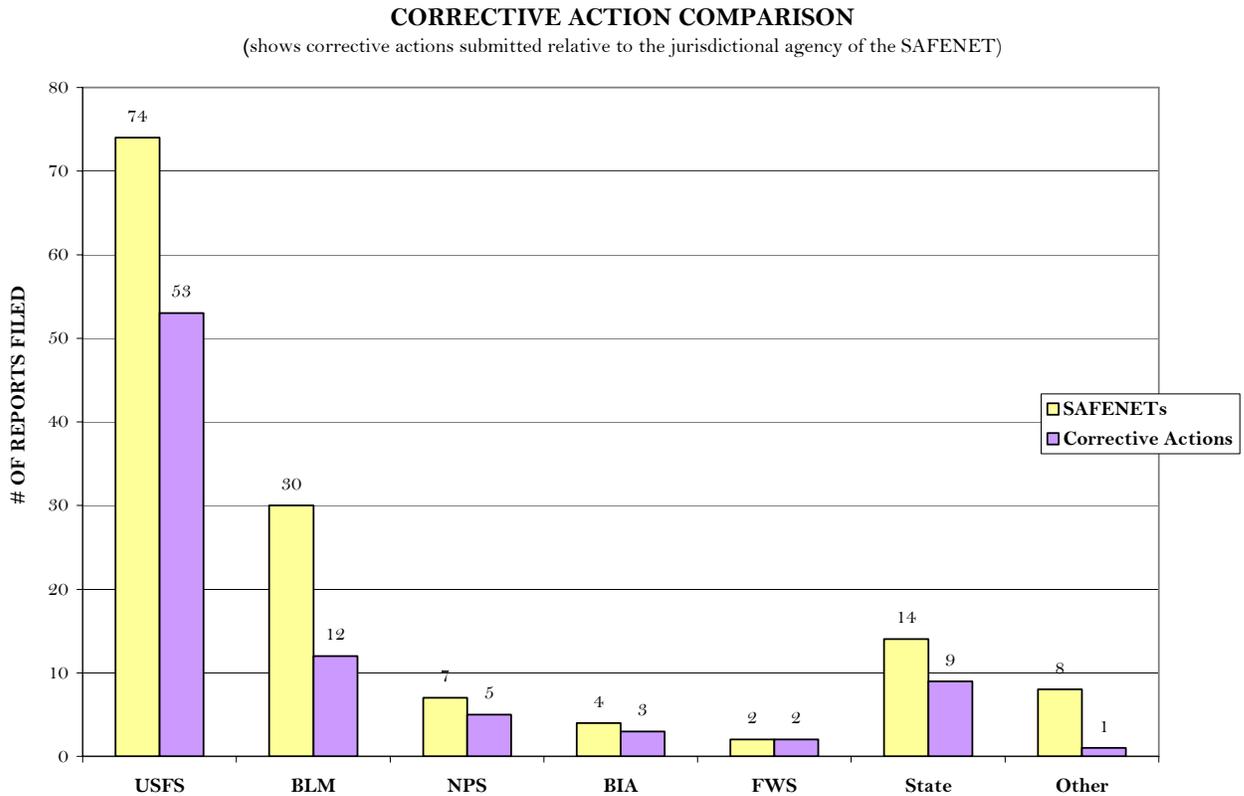
Management Level Comparison



CORRECTIVE ACTIONS

One area that has not been previously analyzed is the corrective action portion of the SAFENET database. Every SAFENET filed is forwarded to the appropriate agency representative on the Federal Fire and Aviation Safety Team (FFAST), as well as any other individuals those reps deem appropriate. The FFAST reps may take action themselves or forward the issue on to a different level to research and respond as needed.

The chart below shows the number of SAFENETs each agency received in yellow and the number of corrective actions filed in response to those SAFENETs in purple. Some SAFENETs do prompt more than one corrective action response.



The corrective action allows a manager, supervisor, leader, or an additional individual involved in the incident to notate the action taken due to the submission or, in some cases, to refute the validity of the submission in the first place. Responses range from raising awareness, counseling parties involved, initiating investigations, or supplying a statement that the original submission is simply untrue.

It should be noted that corrective actions are encouraged for every submission, and that they are most meaningful when provided at the field office or fire level. However, it is also recognized that because fire demobilize or situations pass, it is not possible for every SAFENET to receive a corrective action.

Some additional interesting statistics regarding corrective action responses include:

Break Down of Corrective Action Responses

Action Taken	68
Unfounded	16
Not a Corrective Action	1

(Entailed a follow-up request for additional response to an original corrective action; should have been dealt with at the local level and not through the SAFENET system.)

Reason for Corrective Action Responses

Action Taken Due to SAFENET Submission	31
Action Taken Prior to SAFENET Submission	54

These statistics show that 80% of SAFENETs filed involve issues that required follow-up action, but 64% of that follow-up action had been taken prior to the SAFENET submission. In reviewing the corrective actions, it appears the responses that are a result of the SAFENET submission are because the SAFENET was the first notification of an issue in the field. The vast majority of issues that were brought to light through normal procedures on the ground were addressed immediately, prior to a SAFENET submission.

For reference purposes, below is a list of the incidents, broken down by type, which SAFENETs were filed on for the FY 2005 season.

Wildland Fires

50 Homes Fire	89 Fire
Andrew	Aragonite (2)
Argenta	Battle Creek
Bland Mt. #2	Bliss
BLM Assist (2)	Brookside
Burnt Ridge Complex	Cabin Creek (7)
Camp Creek	Campo
Cherry Creek 2	Cole Complex
Craft Point	Cross
Dammeron Valley Complex (2)	Dollar
Doubt	Duck Creek
Dunlap	Elk Pasture
Empire	False Alarm Response (2)
Fawn Peak Complex	Fischer
Garfield County Assist #6	Grizzly
Gun Club	IA Standby
Icicle (4)	Junction Tower
Keith	KP
Linsley Canyon	Luton
Magazine	Memorial
Mesquite	MR
Needles	Nickel (2)
Nuttall (2)	Ocala

Old (2)	Paridice
Pearl Park II	Pine
Pinetop	Point
Polk Creek Mt.	Pot Peak
Rabbit Creek	River Bottom
Robbers	Sawmill
Scotts Creek	Sheep Ranch
Silver Bell	Sims
South	South Fork
Split Tree	Square Complex
Squaw	Sulphur
Tabby	Taylor Complex (3)
Three Forks	Upper Weber Canyon
Verdi Complex	Warm Springs
Wash	Wayside
Yeti	

Wildland Fire Use

Granny	Meadow Complex
Peanut	

Prescribed Fire

Basin Rx Burn	Carr Prescribed Fire
Comp 15 Rx Burn	Compartment Rx Burn
Miscellaneous Rx Burns (4)	Monte Cristo Rx Burn
Pearl Park Rx Burn	Petty Mtn. Prescribed Fire
Sheep Creek	480 Rx Burn

Fuel Treatment

Raccoon Point (2)	
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All Risk, Training, & Other Incidents

ATV Operations	Engine Recall
Dispatch Offices (6)	Fire Refresher Training (4)
Helibase Operations	Hurricane Frances
Hurricane Ivan	Work Capacity Test (2)

The SAFENET reporting system continues to provide a valuable link for upper level management to the firefighters on the ground. With continued usage and constructive feedback, every resource can strive to make wildland firefighting a safer environment.