



2003 SAFENET REVIEW

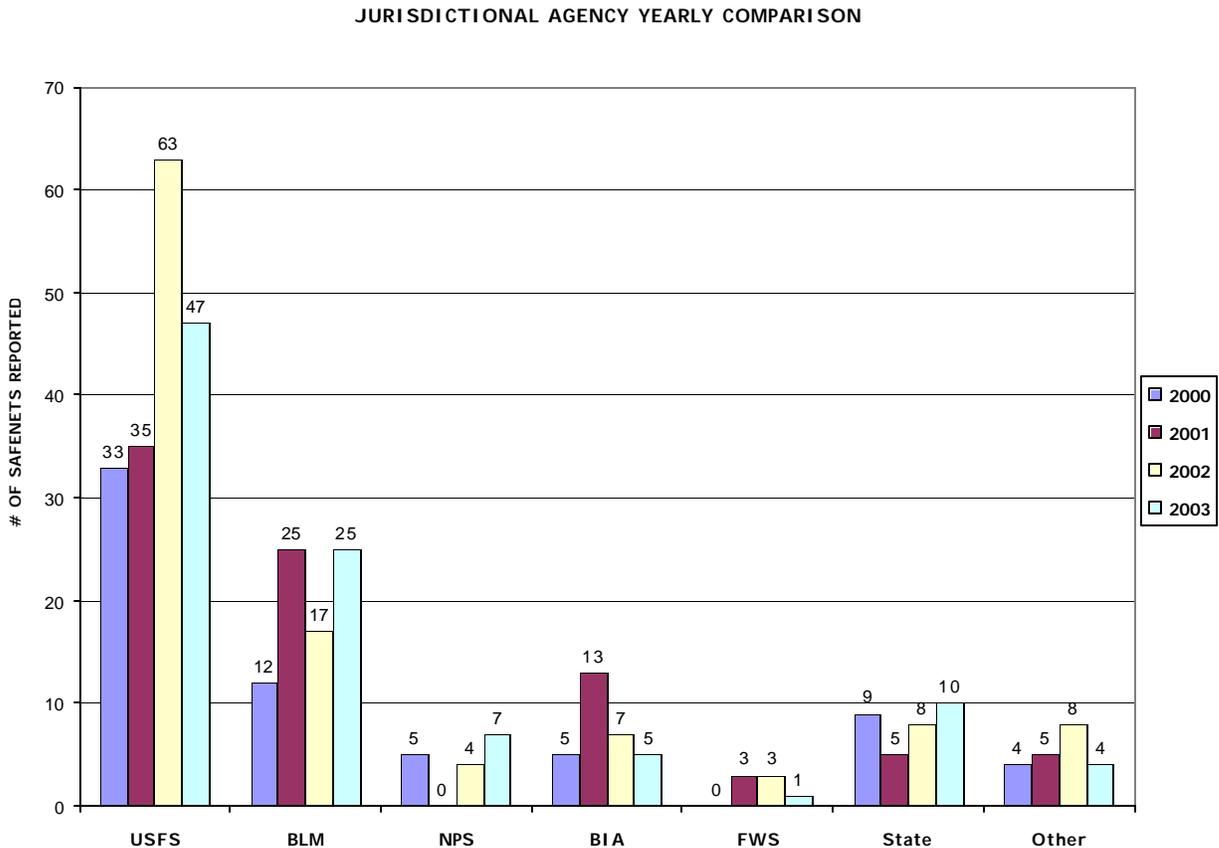
INTRODUCTION

The SAFENET system was created and established during the 2000 fire season. The intent of the system is to provide an accessible and anonymous forum, if necessary, for firefighters to express safety concerns, get unsafe situations resolved, and share experiences that might be beneficial to others. It also allows managers to track safety-related data to determine trends and problem areas.

The FY 2003 fire season marks the fourth year of the system's operation. There were 99 SAFENETs filed between October 1, 2002 and September 30, 2003, marking the second highest yearly number of SAFENETs filed. The three previous seasons totaled 68 in FY 2000, 93 in FY 2001, and 110 in FY 2002.

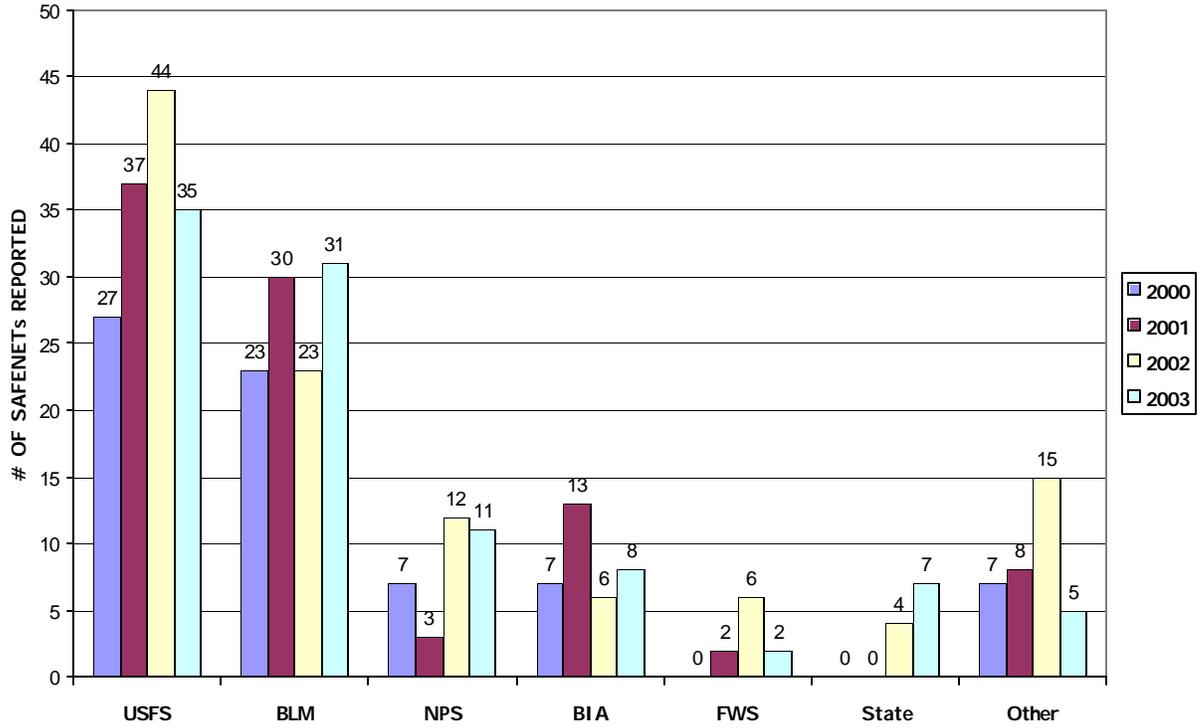
This report outlines the prevailing issues of concern for the wildland fire and all risk community for the 2003 season. It portrays the elements of a SAFENET filed, allowing patterns, trends, and common denominators to be determined. These elements include agencies that typically file SAFENETs, agencies they are reported against, the type of incident they are filed on, and the contributing factors involved.

Below is a graph illustrating the agencies that have jurisdictional responsibility for incidents on which a SAFENET has been filed. This is a comparison of all four seasons submissions.



In comparison, this next graph illustrates the agencies responsible for reporting SAFENETs historically.

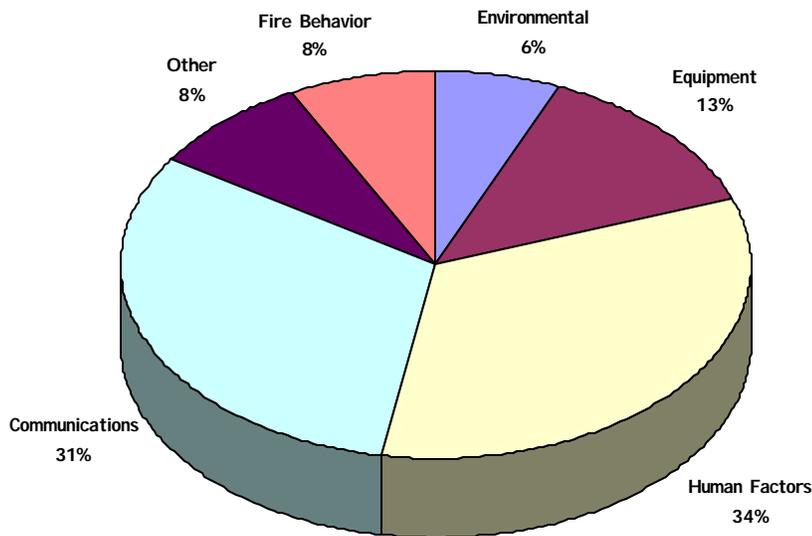
REPORTING AGENCY YEARLY COMPARISON



CONTRIBUTING FACTORS

There are six elements that are considered possible contributing factors to any safety related issue. These include communications, human factors, environmental, fire behavior, equipment, and other. Below is a pie chart illustrating how the FY 2003 submissions are broken down by contributing factors.

2003 SAFENET - CONTRIBUTING FACTORS



Human Factors - 34%

For the first year since the inception of SAFENET, human factors are the leading cause for issue or concern resulting in the filing of a SAFENET, garnering 34 percent. The factors included in this category are leadership, situational awareness, risk assessment, fatigue, performance, and decision-making. Many submissions fall into more than one category. In addition, the categories are somewhat interchangeable, as one author might choose decision-making as a factor whereas another might see the issue as a leadership problem. SAFENETs are reviewed to try to glean as much information as possible, however the original submission and the categories selected are not changed.

Listed below are a few examples of reports submitted this season in the human factors category and the number of instances each specific factor was listed as a causal element in an unsafe situation:

LEADERSHIP - 28

- Failure to abide by 2:1 Work/Rest Guidelines. Most complaints were about teams or overhead personnel, at all levels, accepting resources who had violated 2:1 without providing mitigation. There was also a complaint of resources feeling pressured to extend their assignment.
- Failure of agencies to allow resources to be available for critical assignments during a very active fire season.
- Failure of managers to provide a good example by following policies or guidelines of local agency.
- Failure to check qualifications of resources, hence allowing unqualified or unfit personnel in the field.
- Conducting burnout operations against an established plan or without notifying resources in the field.
- Disagreement with policies and guidelines put forth by management including 2:1 Work/Rest Guidelines, Length of Assignment Guidelines, and Emergency Driving Regulations.
- Poor briefing by DIVS for line assignment.

SITUATIONAL AWARENESS - 29

- Burnout operations done against the daily Incident Action Plan and against the advice of resources on the ground.
- Working at night, unfamiliar with surroundings, not aware of snags until they fall.
- Wearing of proper PPE for the task at hand.
- Helicopter dropping water load on firefighters. View was unobstructed and air to ground was not established.
- Dispatchers unaware of resources in the field, where they are, what they are doing.

RISK ASSESSMENT - 28

- Taking the work capacity test while dehydrated and fatigued.
- Lack of knowledge of equipment utilized and how it will respond to the demands of the task.
- Continuing fire operations with a lack of communication to all resources.
- Contract crew boss failing to manage fatigue or recognize the diminishing health of the crew.
- Shipping to the cache active ingredients that should not be stored together in the same compartments.

FATIGUE - 12

- Making poor decisions (re: driving, equipment use, etc.) due to fatigue.
- Security employee asleep in vehicle while staffing a checkpoint.

PERFORMANCE - 19

- Discrimination.
- Crew boss leaving trainee to function on own without providing support or guidance.
- Accusation of management personnel using illegal drugs.

DECISION MAKING - 43

- Several submissions extolling the use of proper PPE and how it protected or staved off major injury.
- Premature transition of a DIVS position, without adequate time for briefing and shadowing.
- Allowing unqualified personnel to be sent to fires, to be accepted at fire camp, and to be utilized in the field.
- Working without safety zones or escape routes.

Communications - 31%

Communications were the second leading contributing factor leading to a SAFENET filed, garnering 31 percent. These submissions ranged from lack of personal communication to equipment failures.

PERSONAL COMMUNICATION

- Difference in opinions or perceptions re: how an incident should be managed or how the fire should be attacked.
- Lack of communication with all resources resulting in a water bucket drop on 3 crewmembers.
- Lack of communication between dispatch office and resources in the field or between units of the fire.

COMMUNICATIONS EQUIPMENT

- Received multiple submissions regarding the use of new narrow-band radios that failed in the field. At least six SAFENETs were submitted regarding the RACAL radio and one regarding the EF Johnson.

- At least 15 submissions were received regarding repeater issues, including lack of repeaters, lack of coverage, inoperable, equipment, etc.
- Several submissions were received regarding general communication equipment issues including power failures at dispatch offices.
- A few submissions were received regarding bleed over issues from similar or duplicate frequencies.

Equipment - 13%

Slightly lower than last year, equipment failures made up 13 percent of total SAFENETs submitted. Many of the communication submissions could also fall into this category as well. A few examples of equipment failures are:

- Pulaski heads separating from the handles.
- Bolts holding a tank onto an engine shearing off.
- Bed of a truck separating from the cab.
- Fuels drying oven catching fire.
- Radio failures/inoperable repeaters.
- Bad supply of batteries issued to firefighting personnel at a fire camp.
- Pump gas tank leaking.
- Old and antiquated equipment including vehicles, engines, pumps, etc.

Fire Behavior 8%

Not surprisingly, changing fire behavior continues to spur the filing of a SAFENET. A few examples of submissions that claim fire behavior as a contributing factor are:

- Burnout operations under unfavorable conditions.
- Fire behavior affecting work shift and ability to adhere to work/rest guidelines.

Other 8%

This category is typically selected in conjunction with many other contributing factors that the submission claims. Some of these include:

- An incident with a tractor becoming unstable while mowing fuel breaks.
- Use of non-carded local personnel for firefighting efforts.
- Tire blowout while on a district patrol.

- Supervising an agency fire operations unit and being available to respond, while adhering to agency driving regulations.

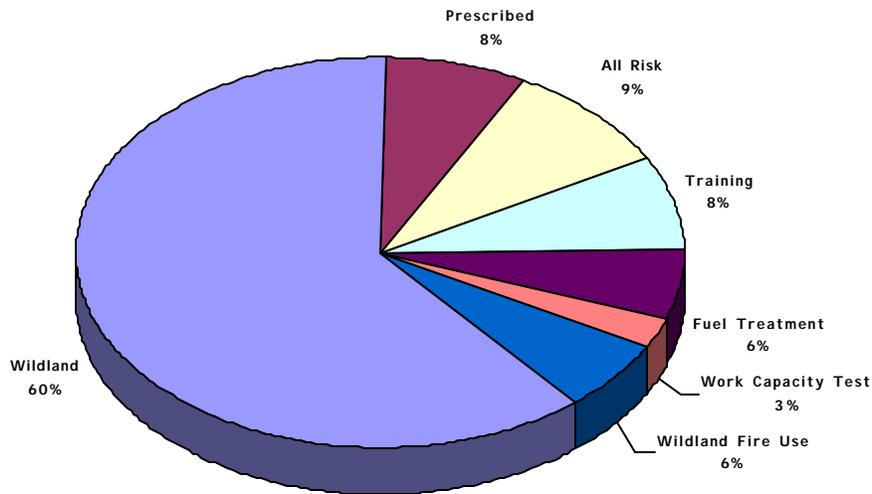
Environmental 6%

Many of the submissions in this category are also included in leadership, decision-making, situational awareness, and risk assessment.

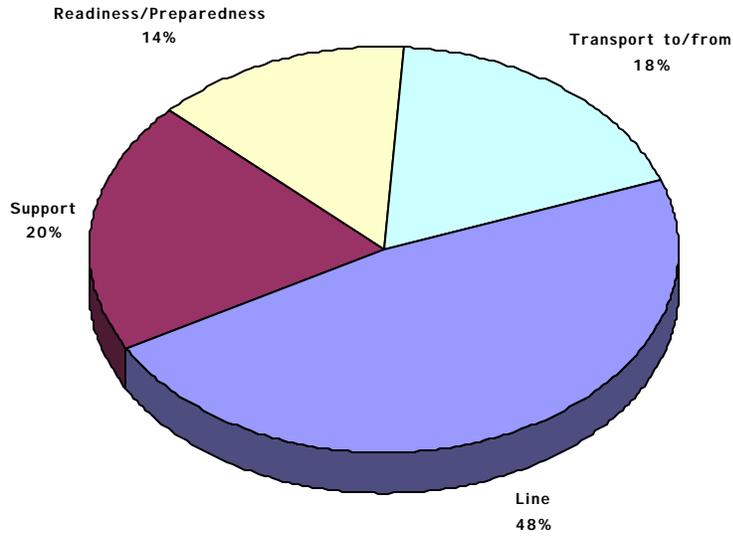
- Claim that a 14-16 hour workday is too long, feeling it is the cause of many injuries and accidents.
- Working in an area of unfamiliarity, at night, which has not seen before.
- Giving the pack test during hot or inclement weather.
- Trying to hold a fireline on a red-flag warning day.
- An ATV rolling on a 60-degree slope.

Additional statistics regarding the 2003 SAFENET Report include Incident Type, Incident Activity, Management Type, and Incident Names.

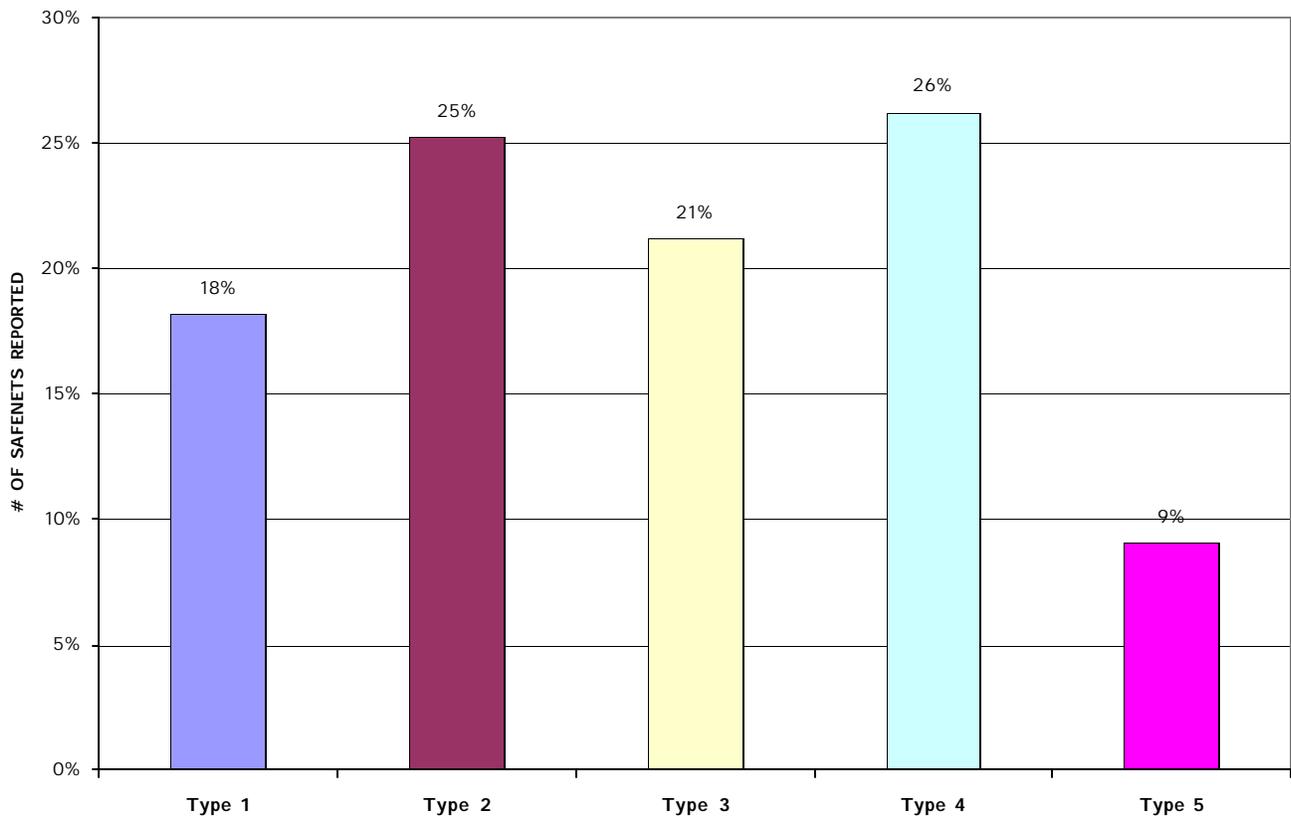
2003 SAFENET - INCIDENT TYPE



2003 SAFENET - INCIDENT ACTIVITY



2003 SAFENET - MANAGEMENT LEVEL



The previous graph shows a fairly even breakdown of SAFENETs filed against the different management levels of incidents, especially between Type 1 through Type 4 incidents with the greatest spread of difference at 8%. Previous years have shown more significant spikes concerning one management level, including Type 1 & 3 in FY 2000, Type 1 in 2001, Type 4 in 2002, and Type 2 & 4 in 2003. This is illustrated on the last graph of the report, comparing management levels from all four seasons of data collection.

Incident Name

Wildland Fires & Wildland Fire Use

ABC Miscellaneous	Adams Gulch
Apple	Aspen
Balcony House Complex	Ball
Bauer	Biscuit
Black Rock (2)	Blackfoot Lake Complex (3)
BLM Assist	Bulldog
Clark	Copper Mountain
Coyote	Crane Park/Tender Foot
Davis	Ditch
Focus Ranch	Garnier
Hayman	Holland Gulch
Kinishba	Lake Mountain
Little Bucktail	Lloyd
Menan	Mile Post 80
Mineral-Primm Complex (5)	MM-145
Norris Creek	Picture
Pinto Springs	Robert
Rocky Ford	Rolland
Sand Creek (2)	Sandbar
Slims	Spider
Sweetgrass	Thomas (3)
Thompson Creek	Tobias
Twin Lakes	Wall
Wedge	

Prescribed Fire Incidents

Murphy Ridge Rx Burn	Onyx Meadows
Riverview Rx Burn	Rock Ridge Rx Burn

Wildland Fire Use

Boiler (2)	Dry Lake Complex
Duncan	Powell
Ten Cow/Moonshine	

All Risk & Other Incidents

Columbia Shuttle Recovery (4)	District or Duty Station Operations (6)
Fire & Law Dispatch Operations	Fire Shelter Training (2)
Fuels Drying Oven Fire	General Training (2)
Initial Attack	Management
Missoula Armory	Mobilization
Readiness Review	Recon
Severity	Tractor Mowing
Work Capacity Test	

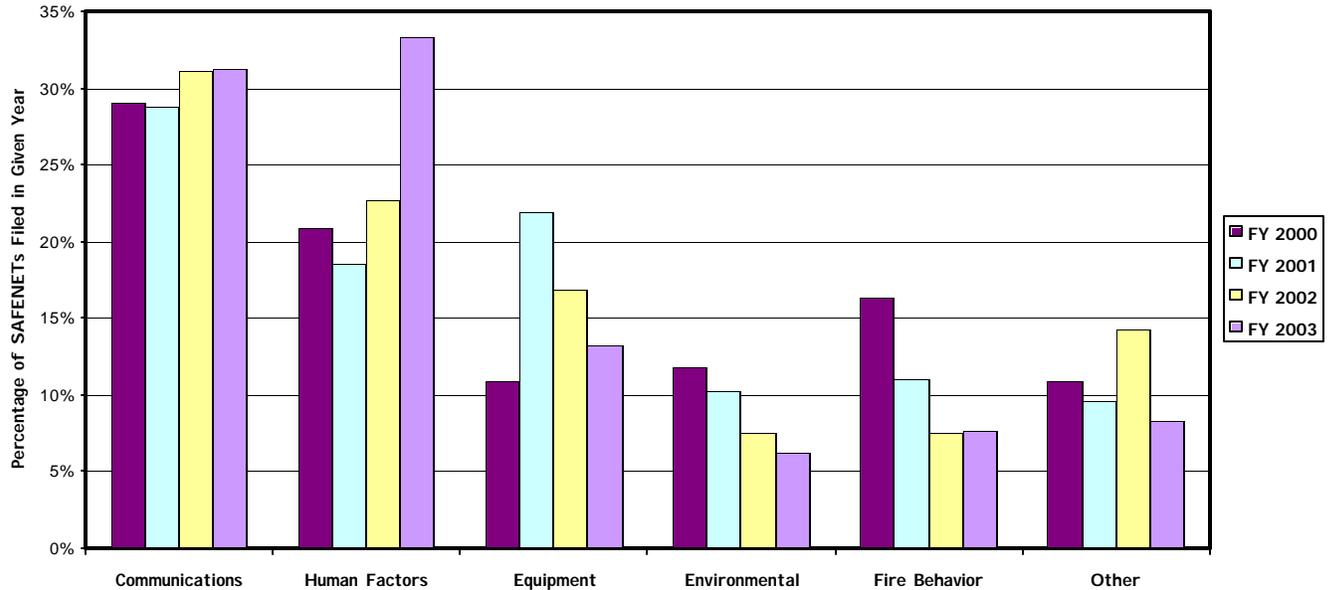
TRENDS

One of the benefits to a safety issue reporting system is to help managers identify areas that appear to be at higher risk for issues to arise. With this information, managers can make a direct correlation and focus training, awareness, regulation adjustments, etc to attempt to mitigate future safety concerns. The next three charts display comparisons from all four seasons of SAFENET information.

The graph below is a comparison of the contributing factors the authors of SAFENETs felt were involved in the cause for concern. The first obvious trend is that communications, or lack there of, has continued to amass a significant portion of all the reports filed. As many of the detailed reports attest, firefighters in the field are very frustrated with radios that don't work, repeaters that don't work or are lacking in critical areas, and the associated problems in the field from those equipment failures. Much criticism has been made regarding the new narrow-band radios, the difficulty of use, and the lack of information available on how to utilize the radios, and the appearance that this is a forced change to a new way of doing business with a system that does not work. Many firefighters want

their opinions heard on the new radios and the frustrations of field use in hopes of swaying managers to deal with an issue that seems insurmountable.

Contributing Factors Comparison

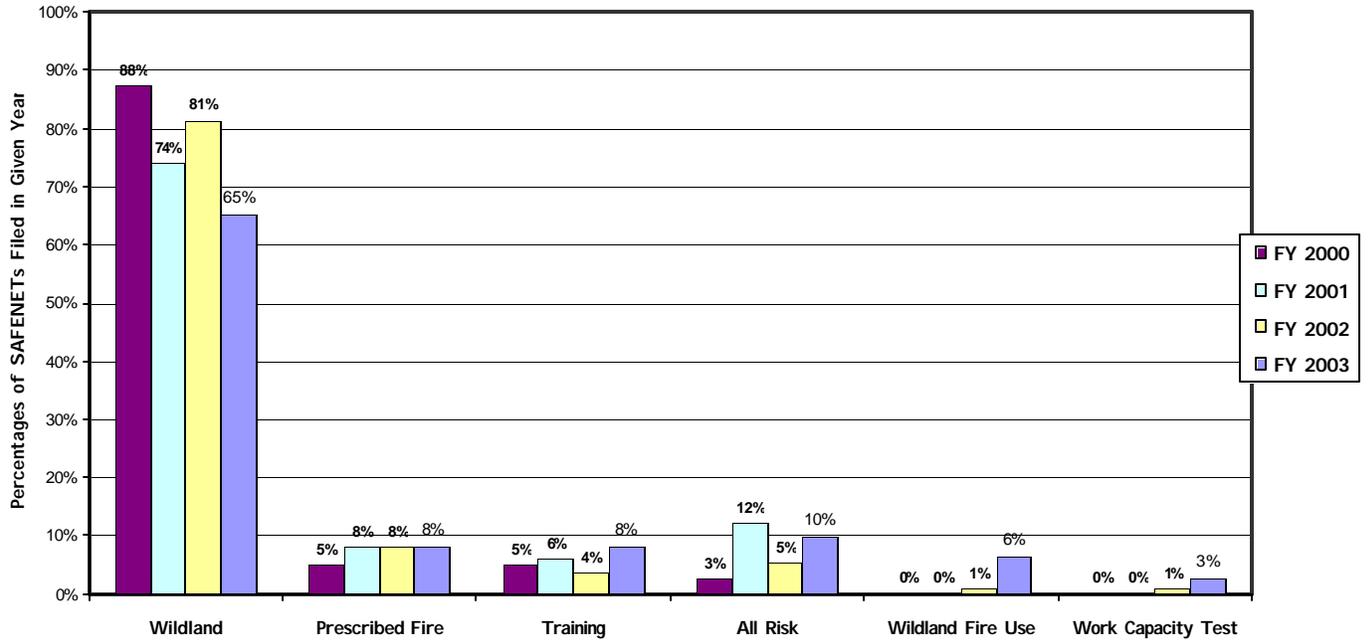


The second obvious feature is the spike in SAFENETs related to human factors. As stated earlier, these are broken down into leadership, decision-making, risk assessment, situational awareness, fatigue, and performance. This is a very significant trend. All of the elements included in human factors are elements that can be altered by a conscious decision to do so. This implies that these unsafe situations were created by human actions and could be avoided by a change in those same actions. As was displayed earlier in the report, decision-making was a causal factor in nearly half of all submissions (43 of 99). Situational awareness (29 of 99), risk assessment (28 of 99), and leadership (28 of 99) were listed in more than a quarter of all submissions. This begs the question, why are our fire personnel making decisions or taking actions that are causing unsafe situations? What do we need to do to create a safe work environment for all fire personnel?

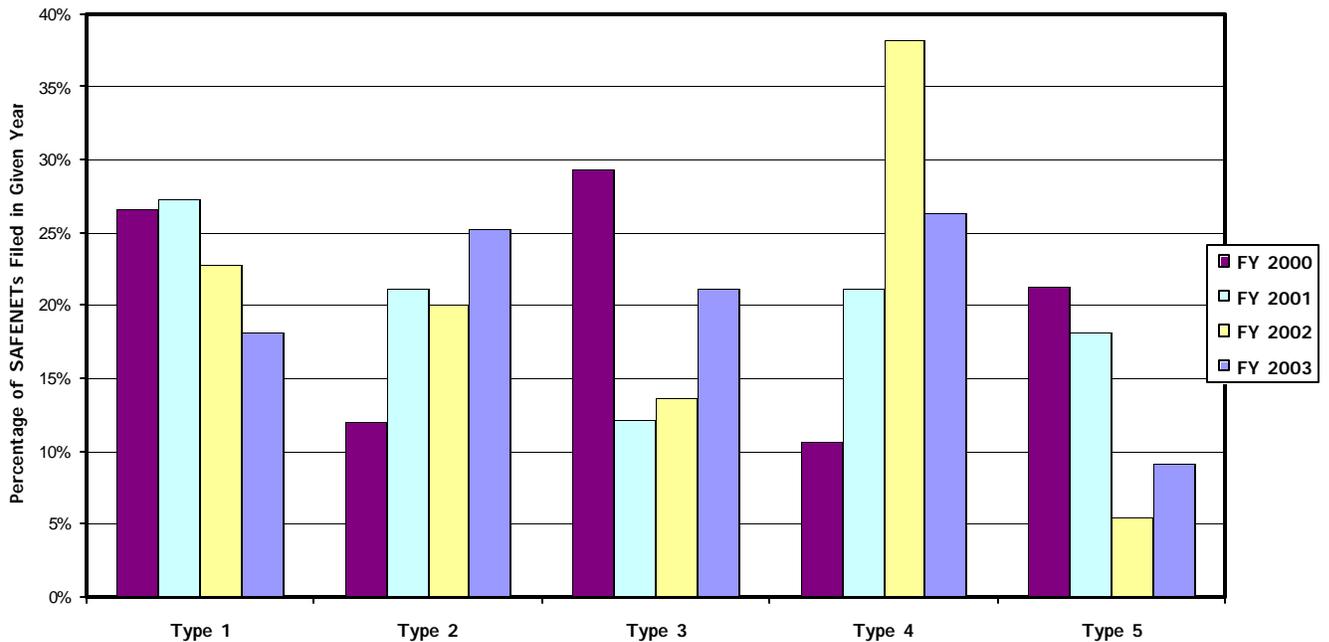
The remaining contributing factor categories continue to show occasional spikes, but seem to amass a similar number of SAFENETs throughout the four-year period.

It is also interesting to view comparisons between the type of incident and the management level of incidents on which SAFENETs are filed.

Incident Type Comparison



Management Level Comparison



The SAFENET reporting system continues to provide a glimpse of the issues and concerns that are prevalent in the field. It provides valuable feedback for managers to strategize on how to mitigate the concerns that are plaguing the firefighting community. With continued usage of the SAFENET system, and the valuable and constructive feedback it provides, all resources can make wildland fire a safer environment in which to work.