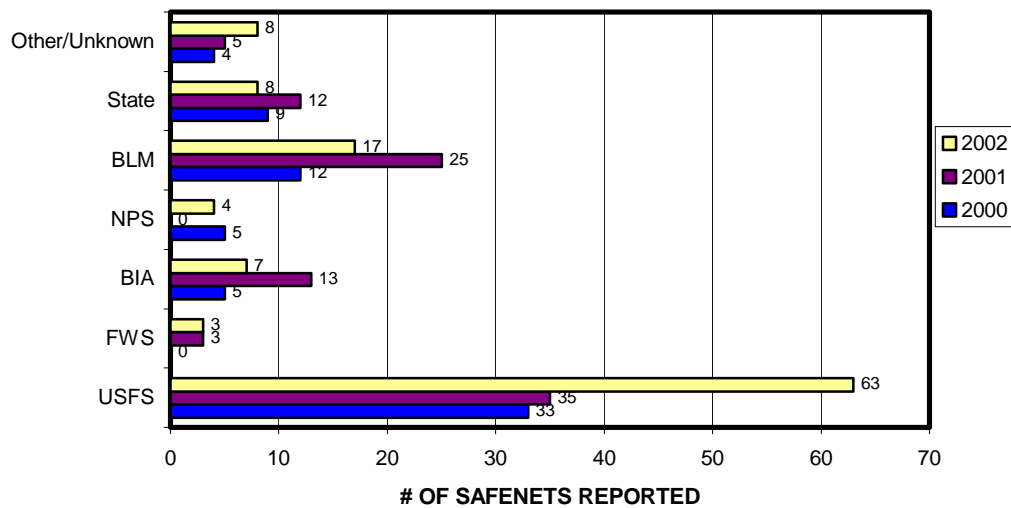**2002 SAFENET REVIEW**

INTRODUCTION

The FY 2002 fire season marks the third anniversary of the SAFENET reporting system and again has proven to be a valuable tool, allowing managers to identify trends, take action to mitigate issues in the field, and to provide for firefighter safety. The system was used substantially, with 110 SAFENETs reported between October 1, 2001 and September 30, 2002. This reporting system collects data regarding safety concerns and issues and provides statistics regarding reporting agency, jurisdiction, incident type, incident activity, management level, and contributing factors.

The SAFENET reporting system is an open system in which submitters identify wildland fire related concerns and safety issues as they are perceived at the time. An administrative review process screens SAFENETs for removal of names that may identify individuals. However, as long as SAFENETs are referencing wildland fire, prescribed fire, or all risk operations, no attempt is made to scrutinize them for any other criteria. This review, therefore, includes all SAFENETs submitted in FY 2002.
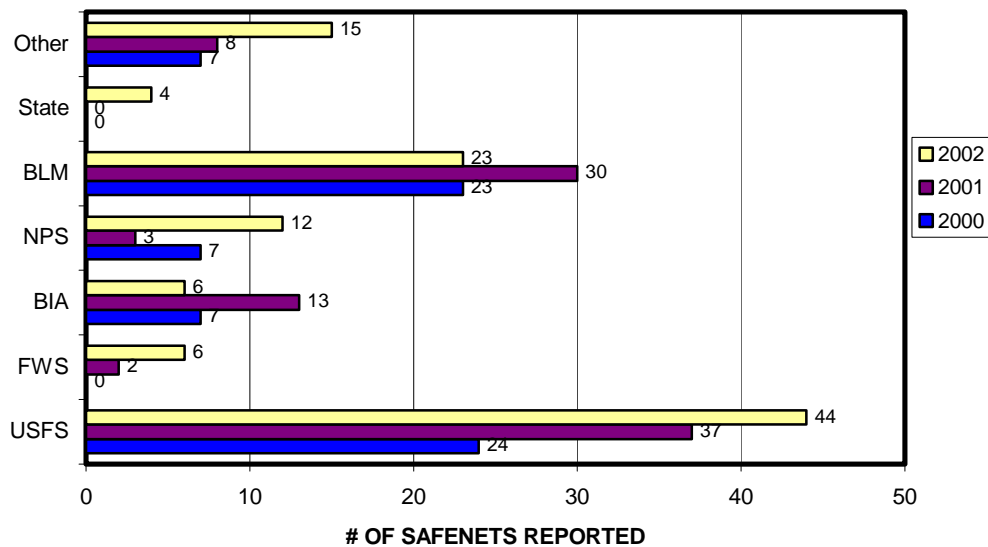
THE BASICS

This report provides a sketch of what issues and concerns were troubling firefighters for the FY 2002 season. Below are graphs revealing the jurisdictional agency for each SAFENET submitted and the reporting agency of each SAFENET. For the third year in a row, the USFS continues to have a large lead in the number of jurisdictional SAFENETs as well as reported SAFENETs, followed by the BLM. The FWS, NPS, BIA and State agencies continue to amass similar numbers and rotate ranks in the statistics. SAFENETs reported for the last three seasons total 68 in FY 2000, 93 in FY 2001, and 110 in FY 2002.

### JURISDICTIONAL AGENCY COMPARISON

Agency	2002	2001	2000
Other/Unknown	8	5	4
State	8	12	9
BLM	17	25	12
NPS	4	0	5
BIA	7	13	5
FWS	3	3	0
USFS	63	35	33

OF SAFENETS REPORTED

REPORTING AGENCY COMPARISON

Agency	2002	2001	2000
Other	15	8	7
State	4	0	0
BLM	23	30	23
NPS	12	3	7
BIA	6	13	7
FWS	6	2	0
USFS	44	37	24

OF SAFENETS REPORTED

CONTRIBUTING FACTORS

SAFENET dissects contributing factors into six elements: communications, human factors, environmental, fire behavior, equipment, and other. Below is a graph illustrating a breakdown of these factors.

SAFENET 2002 - CONTRIBUTING FACTORS

Environmental 8%
Fire Behavior 8%
Human Factors 23%
Other 14%
Equipment 17%
Communications 30%
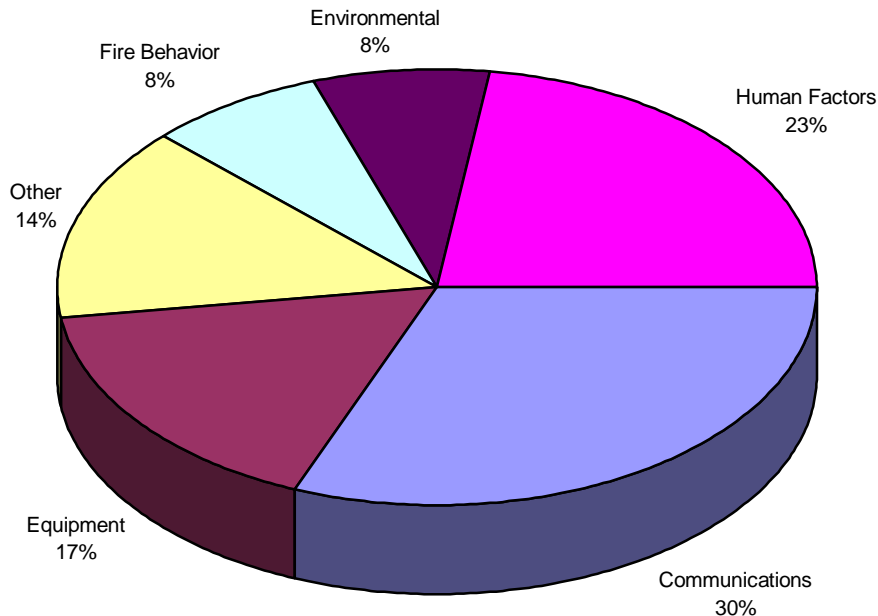
Communications

For the last three years, communication, or the lack thereof, continues to be the leading factor causing the issue or concern for a SAFENET. The components of this are multi-fold.

- One-on-One Communication
  - Difference in opinions, perceptions, and lack of ensuring understanding.
  - Several SAFENETs were submitted re: contract crews not speaking, reading, or understanding English
  - IMT's or fire organization not communicating significant events to resources in field, i.e. previous shelter deployments on incident and causal factors, crews refusing assignments for safety reasons, etc. Several concerns expressed about being informed through the grapevine or by the media of significant events on current fire, rather than by appropriate fire personnel.
- Radio Communication
  - Poor or lack of repeaters.
  - Lack of radios.
  - Inappropriate use of channels.
  - Inability to program mobile radios.
  - Utilization of tactical channels for other purposes.
  - Poor communication between folks in the air and those on the ground.

- Electronic Communication
    - Important information not available when computer systems are down and web-based sites are the only avenue to locate information.
    - Lack of access to web-based materials.

Human Factors

For the 2002 reporting period human factors rated second among elements prompting a SAFENET. These include leadership, decision making, situational awareness, performance, risk assessment, and fatigue. Many SAFENETs fall into more than one category and some authors may choose a different causal factor than what a peer or different author would choose. Below are a few examples of reports filed under each factor.

LEADERSHIP – 29

- Individuals disagreeing with direction of supervisor re: fire assignment, safety hazards, adhering to 10 & 18, fatigue issues, etc. These conflicts were seen among all levels of supervision from helicopter crew member and helibase manager, to engine boss and strike team leader, to crew boss and division supervisor, etc. They also focused on difference of opinions between peers, such as individual crews, engines, etc.
- Individuals disagreeing with direction of management or policies handed down mid-season.
- Single resources or crews disagreeing with direction an IMT is heading.

DECISION MAKING – 26

- IMT's or fire organizations allowing for excessive shifts or choosing not to follow 2:1 Work/Rest Policy.
- Allowing contract engines to operate without appropriate level of staffing.
- Buying Team altering an order for specific safety item with a cheaper and less functional item.
- Choosing to drive erratically.
- Fire personnel releasing resources without ensuring proper demob and tracking process.
- Not utilizing qualified local resources who are familiar with area, terrain, fuels, etc.

SITUATIONAL AWARENESS – 19
- Burn out operations that place other incident resources at risk or force them into a safety zone.
- On-line firefighters unaware of weather changes. IMET did not receive red-flag warning to pass on to field personnel.
- Fallers unaware of surroundings and resources working in the area.
- Not paying attention to snags during mop-up operations when warnings were included in the morning briefing.
- Unqualified personnel attempting operations without awareness of surroundings or consequences of their actions, i.e. a helicopter from a non-fire agency hovering over fire operation and stirring up embers.
- Backing a vehicle without a spotter, while talking on a cell phone.

PERFORMANCE – 17
- Crew members abusing alcohol and drugs.
- Fire personnel not wearing proper PPE.
- Fire personnel not red-carded or qualified for position held.
- Individuals not performing basic job duties - leaving others in a bind with poor or a lack of information.

RISK ASSESSMENT – 8
- Questioning the training and qualifications of international resources.
- IMT's transitioning in and making cosmetic changes to resource assignments without taking into consideration crew's familiarity with current division assignment and hazardous areas.
- Fire personnel not wearing proper PPE or not being "aware" of PPE requirements.
- No capability to clone or program mobile radio in the field due to software availability, requiring engine crew to rely on hand-held and poor coverage for six week assignment.
- Not assigning the most qualified or knowledge personnel to an incident. Not utilizing local resources who are familiar with terrain, fuels, hazards, etc.

FATIGUE – 5
- Traveling long hours to get to an incident due to poor planning, shortfalls in mobilization or demob process, poor directions perhaps given by fatigued dispatcher.
- A couple reports of hazards created by helicopter doing bucket work were attributed to fatigue.
- One complaint of a local forest not adhering to R&R policy and not granting administrative leave to fire personnel upon return to home unit.

Equipment
This category holds third place in the ranking of causal factors for 2002.

- Radios & Repeater Systems
  - Not working.
  - Not available.
  - Not compatible or programmable.
  - Too much traffic.
- Flare guns malfunctioning.
- Pulaski heads coming off.
- Leaking drip torches.
- Lug nut failure or undersized studs on vehicles.
- Mark III pumps with faulty pull starts.
- Improper scales used for manifesting loads.
- Busses (older models) not appropriate or designed for long transports – no air conditioning and breakdown often.
- Medical Kits unavailable.
- Not utilizing proper PPE.

Environmental
Many of the reports falling into this category, also fall into the human factors category of decision making, situational awareness, and risk assessment.

- Unaware or unadvised of weather changes or advisories.
- Unfamiliarity with terrain.
- High temperatures causing heat exhaustion, sunburn, etc.
- Thunderstorms & lightning causing communication outages or problems.
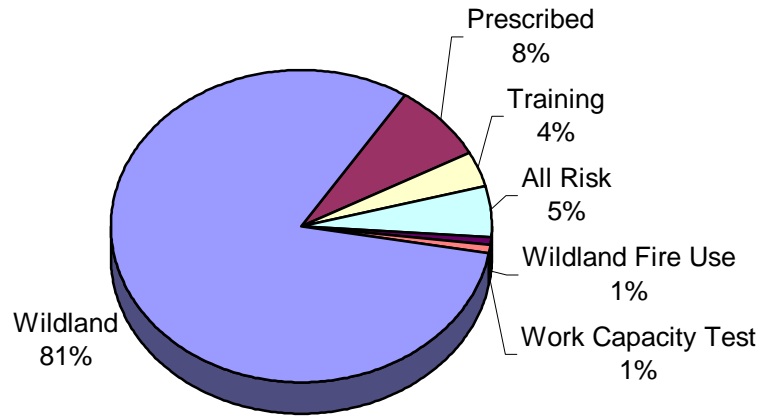- Mopping up in an area with large number of snags and hanging trees.

Other
Again, many reports posted here are also posted in an additional category.
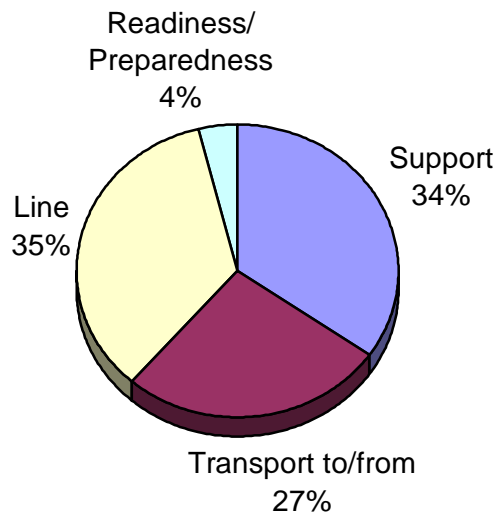
- Judicial order forcing Internet shutdown and affecting dissemination of critical information, i.e. weather reports and red flag warnings.
- Driver transporting hazardous materials to cache.
- Several reports noting fire personnel serving in positions for which they are unqualified or not red carded.
- Complaint of different regions following different standards for adhering to policy, i.e. work/rest policy, excessive shifts, abiding by CDL laws, etc.

Additional statistics regarding the 2002 SAFENET Report include Incident Type, Incident Activity, Management Type, and Incident Names.
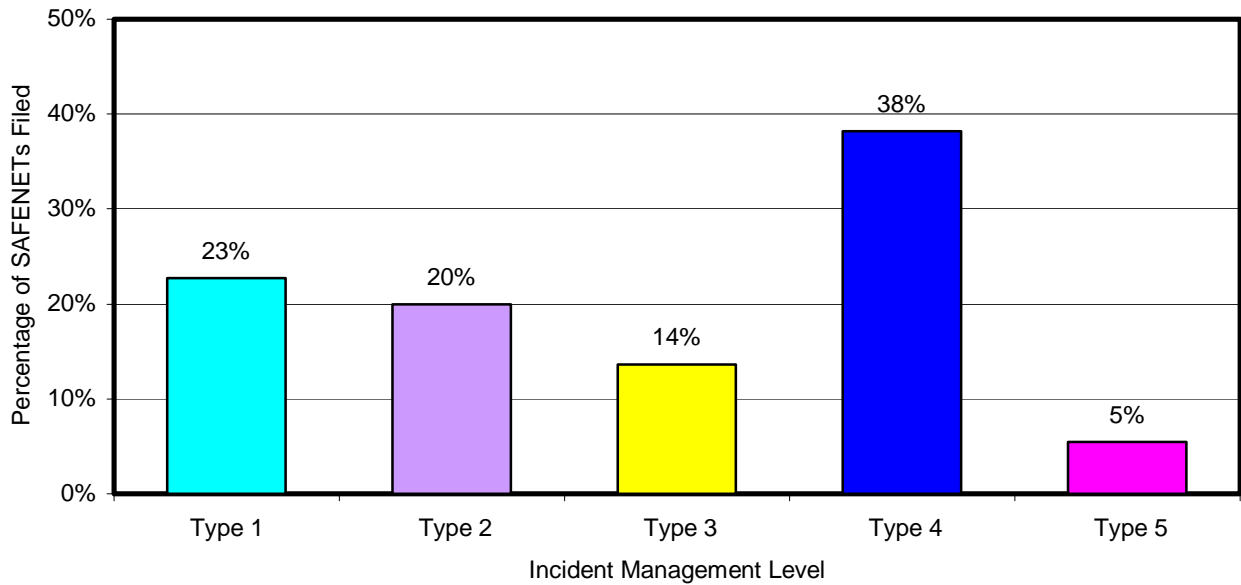
SAFENET 2002 - INCIDENT TYPE

Prescribed
8%

Training
4%

All Risk
5%

Wildland Fire Use
1%

Work Capacity Test
1%

Wildland
81%

SAFENET 2002 - INCIDENT ACTIVITY

Readiness/
Preparedness
4%

Support
34%

Line
35%

Transport to/from
27%

SAFENET 2002 - MANMAGEMENT LEVEL

SAFENET 2002 - MANAGEMENT LEVEL

Chart: Percentage of SAFENETs Filed vs. Incident Management Level

- Type 1: 23%
- Type 2: 20%
- Type 3: 14%
- Type 4: 38%
- Type 5: 5%

It is noteworthy that more SAFENETs were filed relating to Type 4 fires than other management levels. This is also illustrated in the last graph of the report comparing management levels over the last three reporting seasons. Type 3 incidents show a spike in 2000 and Type 4 show a spike in 2002. The other levels are fairly comparative over the years. This is helpful to managers for determining areas needing attention when trying to mitigate safety issues.

Incident Name

Wildland Fires

Anderson	Current Creek
Apple (2)	Dalton
Arapaho	Dam (2)
Aspen	Darnell
Beaver Dam Complex (2)	Eagle
Big Wash (2)	East Fork
Biscuit (6)	Flagtail Fire
Blue Mt.	Florence
Burn Canyon	Forks
Burn Ridge	Garden Valley
Carrizo #1	George Washington NF
Coal Seam	Green Creek
Commissary Ridge	Hayman (7)
Cosgrave	High Drive
Cradle Board	Hope 44

Leo		Poore	
Malheur		Price Canyon	
Marten		Rio Grande	
McNally		Rodeo-Chediski	
Middle		Roy	
Million		Showers	
Missionary Ridge (3)		Snaking	
Mt. Zirkel (4)		Tabcat	
Mule Creek		Toadlena	
Mussolini		Tool Box (6)	
No Name		Ute Mt. Initial Attack	
Oversite		Walker	
Peak Complex		Weaver	
Pepper		Whisky Creek	
Pine Glen		Wolf	

Prescribed Burns

French Rx Burn	New York Wildfire and Incident Management Academy Rx Burn
Goodwin Mesa Rx Burn	
Jackson Lake Lodge Rx Burn	Polhemus Rx Burn

Miscellaneous Events

|	
ABC Miscellaneous	Regional Fire Support
DRC Support (2)	S-130 Training
John Day Air Base	Sequoia Kings NP
Region 3 – Severity	

TRENDS

A few items are interesting to compare between the last three seasons of SAFENET reporting. When looking at contributing factors, the leading cause reported is due to communication issues. A large number of reports filed deal with radio problems, in which the author typically selects "communications" as a factor as well as "equipment." However, a large portion also deal with personality differences, perception differences, disagreements in management styles, and the associated communication problems. Coming in second for three years are the numerous human factors involved. This seems to support the communication problems individuals often have when they do not agree with a supervisor, peer, or subordinate and feel there is poor leadership, bad decision making, lack of situational awareness, or a performance problem on the part of the individual of which they are filing. The other categories of equipment, environment, fire behavior, and other seem to round out the last three slots in similar fashion every year.

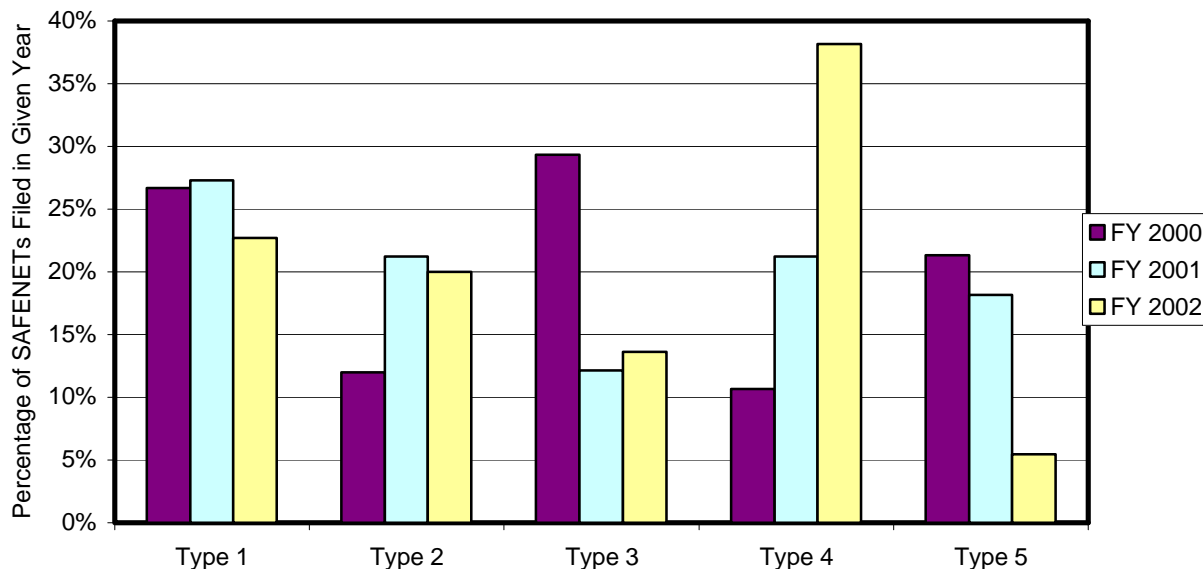## Contributing Factors Comparison
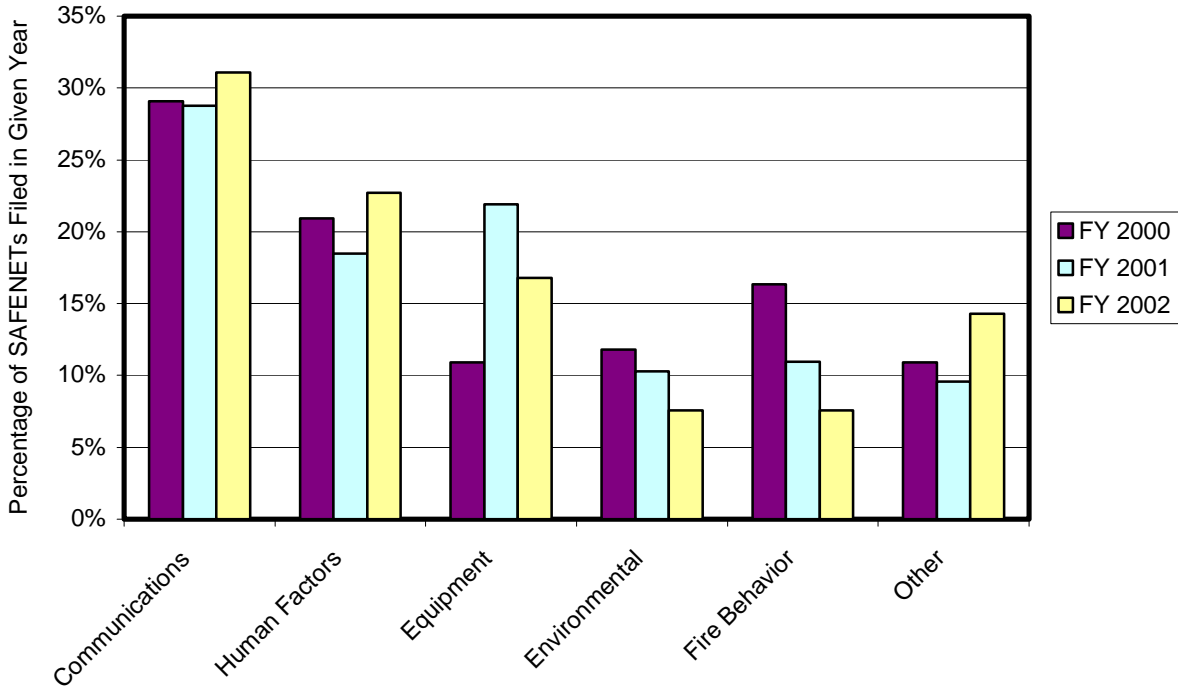
It is also interesting to note comparisons in a few other statistical areas including the type of incidents on which SAFENETs are being filed and the management level of the reported incidents.

Incident Type Comparison
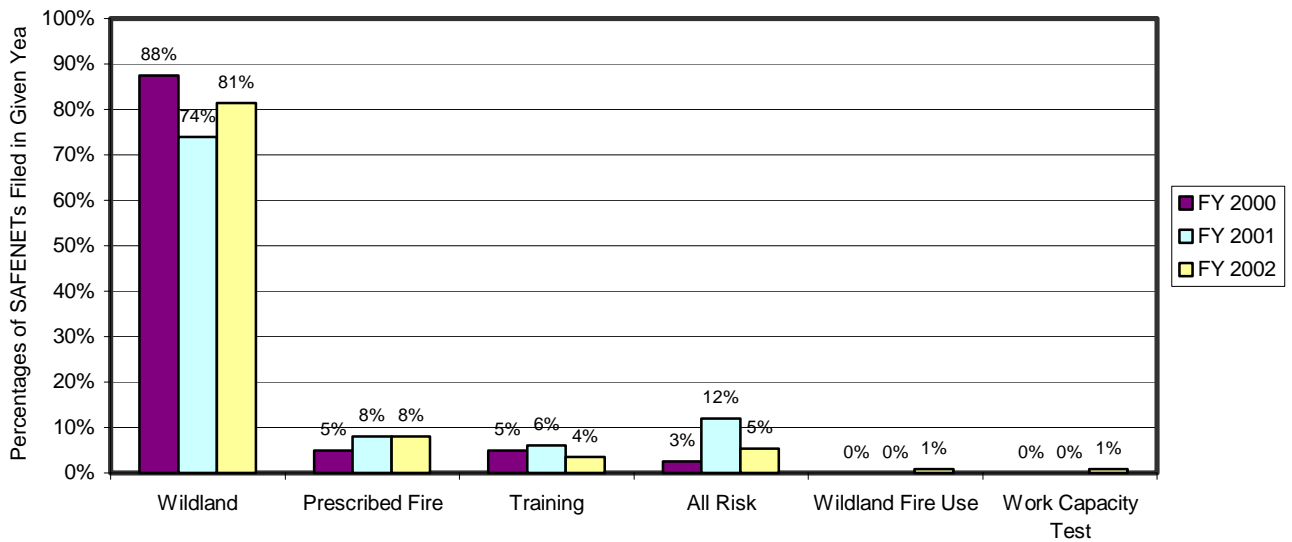
Management Level Comparison

The SAFENET reporting system has expanded yearly since its inception in 2000. The hope is it will continue to be utilized as a tool to make safety issues or concerns public to all members of the fire community. We constantly learn from each other and the ultimate goal of all fire personnel is to provide for safe firefighters.