

FY-2001 AFLOAT SAFETY REPORT



**FOR COAST GUARD CUTTERS, CUTTER BOATS,
AND SHORE-BASED BOATS**

**Commandant (G-WKS-4)
Afloat Safety Division**

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WHY THIS REPORT?

The purpose of this report is to promote safety awareness within the afloat community. It is part of an overall effort to provide program managers, operational commanders, and individual operating units information regarding accident trends experienced by our cutters and small boats.

Awareness is one of the most effective ways to reduce mishaps. Therefore, this report contains both a comprehensive analysis of reported FY01 mishaps focusing on such issues as causal factors, mishap types, and mishap rates (based upon operating hours) for our cutter, cutter boat, and shore-based boat fleets. Where applicable, a historical comparison of FY01 data is provided. Through ongoing programs such as Operational Risk Management and Team Coordination Training, our ultimate goal is to identify and reduce risks related to afloat operations in order to reduce operational, economic, and human resource impacts of marine mishaps.

Despite the many demands placed on our operational units, we hope you can find the time to review this report, as well as the operational mishaps submitted by similar units, and share the information with your crews. In doing so, we encourage you to take a critical look at your own operational procedures and safety programs.

As always, your ideas and comments are valuable in improving the Coast Guard's overall afloat safety program. Please share them with your unit Safety Officer, or feel free to contact one of the Headquarters or Maintenance and Logistic safety staff points of contact listed at the end of the report.

MESSAGE FROM THE CHIEF OF AFLOAT SAFETY

Thanks for taking the time and interest to review the FY01 Afloat Safety Report. No matter if you're the commanding officer of a major cutter, a small boat coxswain, or a leading non-rate, each of us has a leadership responsibility within our unit and in our service as a whole. In the words of our Commandant, "the safety of our people must always be central to our leadership responsibilities." The graphs and summaries contained within this report are intended to show raw mishap data for the past year and trends when that data is compared to previous years. What I hope to accomplish in this introduction is to fill in what's between the lines and address some of the safety challenges I see potentially facing the afloat community on the horizon.

The adage "You have to go out, but you don't have to come back" has long left the Coast Guard's vernacular. Nowadays, when you do go out, we expect you to come back... and come back in one piece. If this is used as the measure of an effective safety program, than we fell short of the bar last year within the afloat community. Two shipmates who set out on an operational mission failed to return last year when they succumbed to the effects of hypothermia after their small boat capsized last winter. We also came close to losing a third shipmate after he was struck in the head by the propeller of a run-away RHIB after being ejected.

We had a number of close calls last year too. A helicopter crash on deck of a WMEC caused over \$1,500,000 of damage to the airframe and cutter, but miraculously no one was seriously injured. A catastrophic structural failure of a cutter's davit system resulted in nine personnel falling into frigid Alaskan waters before being recovered. Damage to the cutter and the value of the small boat that was intentionally scuttled was in excess of \$200,000, and one shipmate sustained serious back injuries. The potential from death or serious injury is high anytime someone falls into the water, and last year over 70 Coast Guard men and women found themselves unexpectedly in this dangerous situation. Nearly half of this total was as a result of boat capsizings.

Last year's figures were not all doom and gloom. On the positive side, we went another year without a major cutter grounding. This certainly speaks highly of the exacting navigation and seamanship standards maintained within our deepwater fleet. At the very end of the fiscal year, our shore based boat crews rallied in response to increased national security needs and operated at a unparalleled tempo without an increase in major mishap rates.

Looking ahead, the immediate future holds mounting challenges for afloat safety. Certainly the events of last September have had a tremendous impact on our service. As we organizationally search for a new "normalcy," most of our cutters and shored based boat units are being called upon to learn and perform new missions, operate new or unfamiliar assets, execute new tactics, operate in unfamiliar waters and environments, and continue to operate short-handed due to unfilled billets. While the natural reaction of

every can-do Coastie is to meet these challenges head first and then ask for more, pause for a second to think about what you may be asking your crews to do. Practicing Operational Risk Management (ORM) and using risk assessment models may help you quantify, and thus “see,” the increased risk inherent with these new operations and pause to find ways to reduce them.

The potential for serious mishaps involving RHIBs and other similar non-standard boats are of particular concerns. Two years ago, the R&D Center analyzed non-standard boat operations and forecasted three serious mishaps each year in which someone was killed, seriously injured, or the boat was unable to execute it’s mission. It’s amazing how prophetic this report was. Last year we had six such mishaps. The number of groundings and collisions, many occurring at high speed, indicate that not all of our crews may be consistently operating these boats with the highest degree of seamanship. This is a trend we need to check. The Office of Boat Forces (G-OCS) will soon be promulgating a Non-Standard Boat Operators Guide. While this will provide much of the doctrine needed to improve the safety of NSB operations, the key to reducing mishaps rests with individual unit leadership.

The number of mishaps, especially personal injury mishaps, which can at least partially be attributed to a breakdown of leadership or supervision, is alarming. We lost hundreds of workdays last year due to people using wrong tools for the job, improperly using proper PPE (or using the wrong PPE/no PPE at all), violating basic safety procedures, or merely not being told to “pipe down” when engaged in horseplay. Perhaps this is another example of workforce “junioritis,” a reference to the decreasing work force experience levels. I encourage all unit COs/OINCs and XOs/XPOs to review the safety responsibilities and expected conduct with front line supervisors. After all, if our junior petty officers and officers don’t learn that it is incumbent upon them to monitor the work efforts of their subordinates and immediately correct noted safety or other work related discrepancies, what type of leader will they be when they are the Chief or CO?

Underway operations, even in the best of conditions, contain an inherent risk, and letting your guard down for even for a second opens the door for an accident. There is no such thing as a “routine mission.” The risk factors for each mission are unique and need to be evaluated as such. Safety is an ALL HANDS responsibility, and the use of ORM and Team Coordination Training are proven tools to identify and resolve potential problems before a mishap occurs. All it takes is one person to speak up to make a difference.

Be safe out there!

Respectfully,

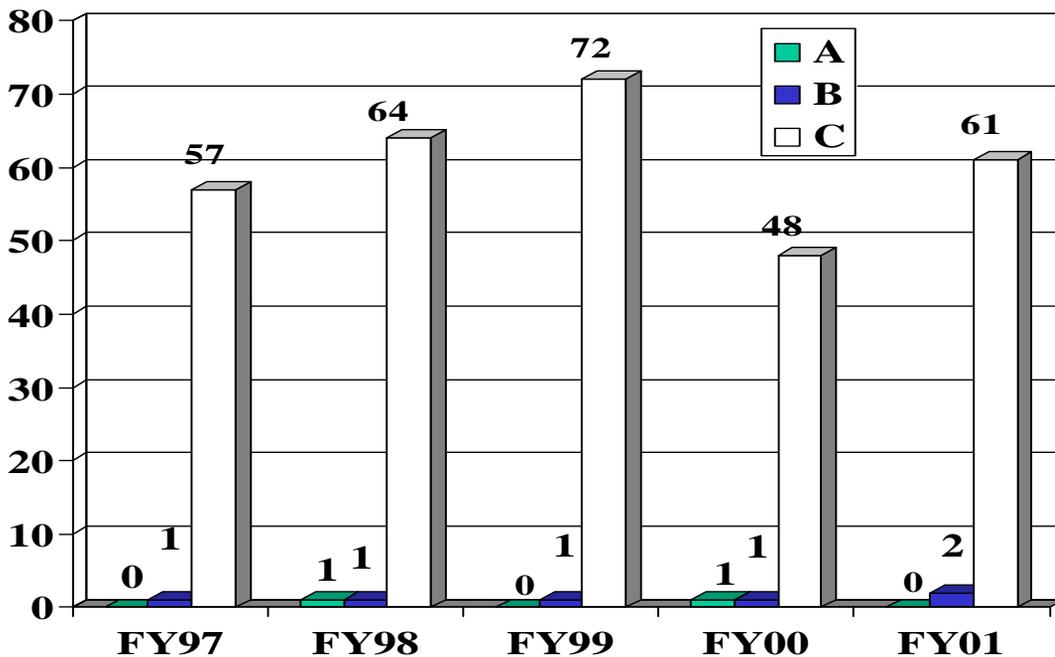
CDR Bob Wagner

COAST GUARD



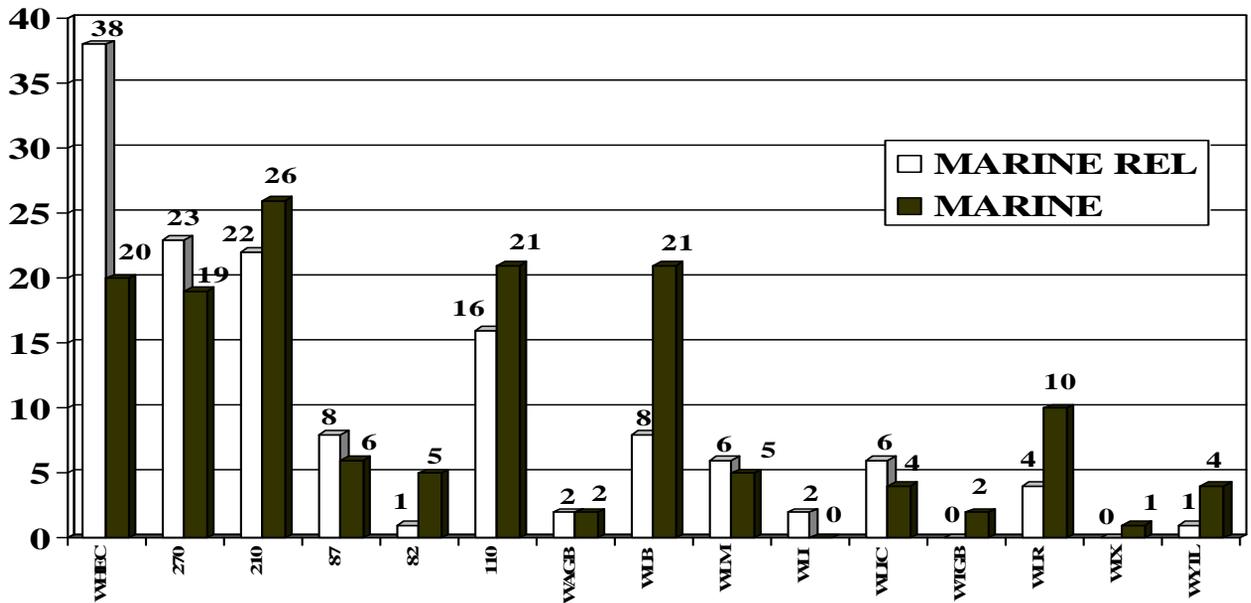
CUTTERS

Coast Guard Cutter Operational Mishaps



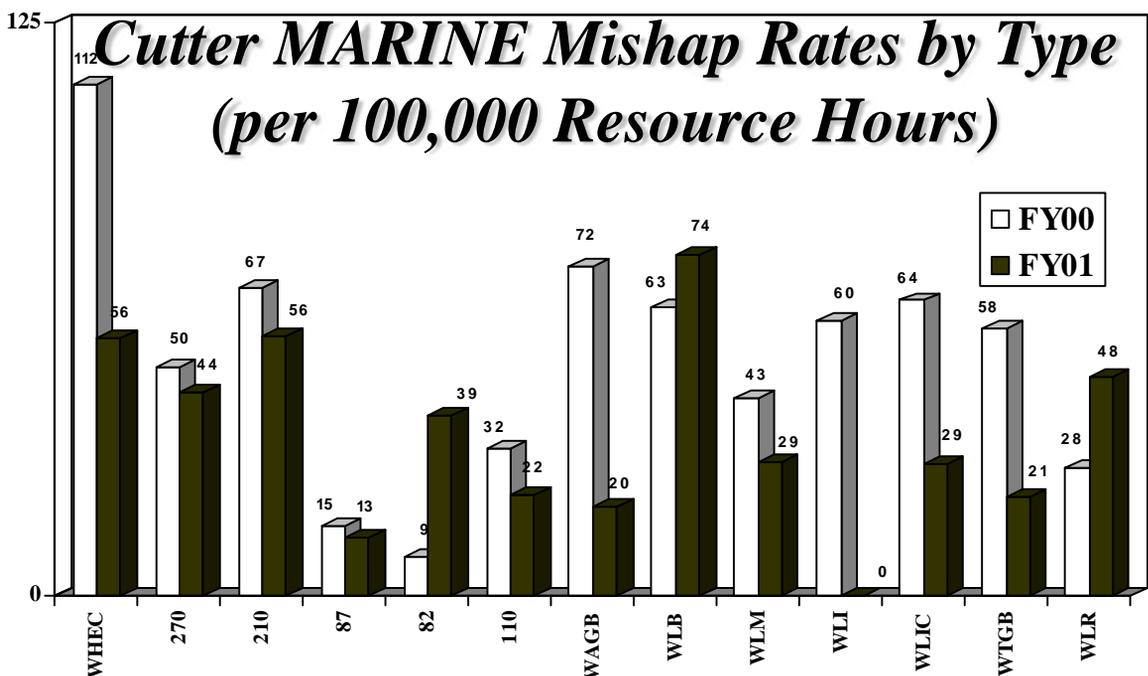
This graph depicts the major (Class A-C) operational mishaps reported by our cutter fleet from FY97 to FY01. Excluded from this graph are mishaps that took place while off duty (such as sports-related and motor vehicle injuries) and mishaps that occurred outside of the shipboard environment. Looking at this graph, there was a moderate increase in mishaps from FY00 to FY01. The majority of the increase was mishaps involving personal injuries resulting in lost work time. Since the average number of major mishaps over the past five years was 62, the number of mishaps reported last year is not a significant statistical difference.

Number of Cutter Mishaps by Type

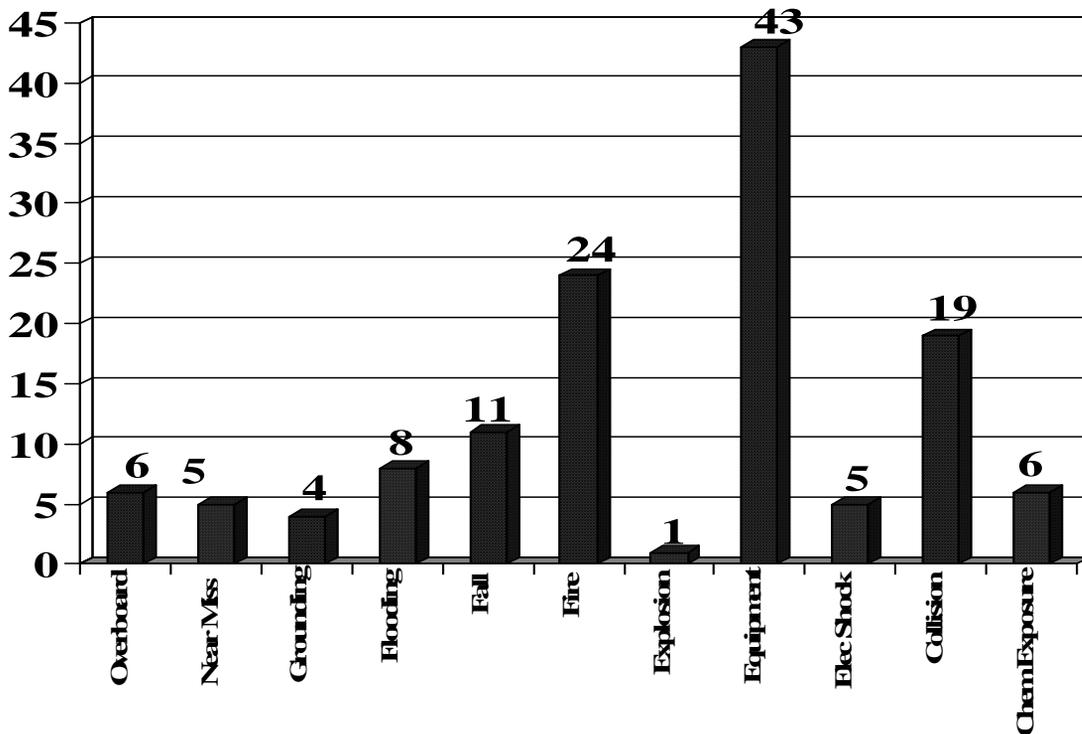


The above graph compares the number of reported Class A-D Marine and Marine-Related mishaps by cutter type. Marine related mishaps are those that occur while the cutter is underway or at anchor and related to the accomplishment of an operational mission. Marine-Related mishaps are those that occur underway and inport but are not related to the accomplishment of an operational mission.

Below, the marine mishaps are computed per 100,000 resource hours for cutter types for both FY00 and FY01. The total number of mishaps in FY01 for all cutter types is similar to the average number of mishaps for the past five years, despite an overall 5.5% increase in resource hours. The result is generally decreasing mishap rates in FY01.



Types of Cutter Mishaps

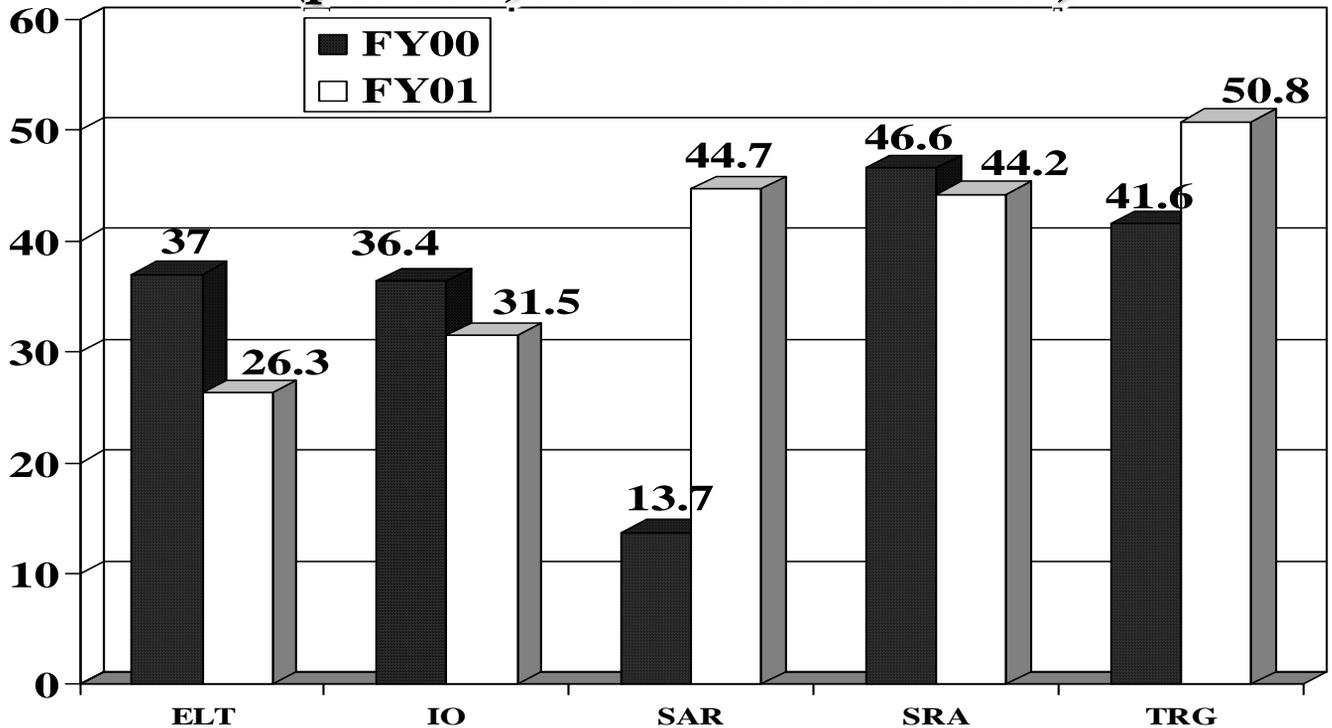


What types of mishaps are occurring? This graph details the types of mishaps our cutters and crews are experiencing. Aside from equipment mishaps (fouled screws, etc.) fires, collisions (both with fixed and floating objects), and falls occur most often for the second consecutive year. In FY01, the Main Space Fire Doctrine was set 14 times.

Additionally, there were 141 personal injury mishaps reported in FY01. These range from minor ankle sprains to broken bones, torn ligaments, serious burns and head injuries. Many of these mishaps can be attributed to lack of supervision, poor judgment, inattention, and inadequate PPE. Although seemingly inherent with operating in a marine environment, most of these injury mishaps could be minimized through common sense and being attentive to the assigned task. Always keep one hand free for the ship. Wear the right PPE for the job. Pay attention to your surroundings. These seemingly basic tenets of safety, and common sense, can go a long way in reducing injury mishaps to cutter personnel.

Cutter MARINE Mishap Rates By MISSION

(per 100,000 Resource Hours)

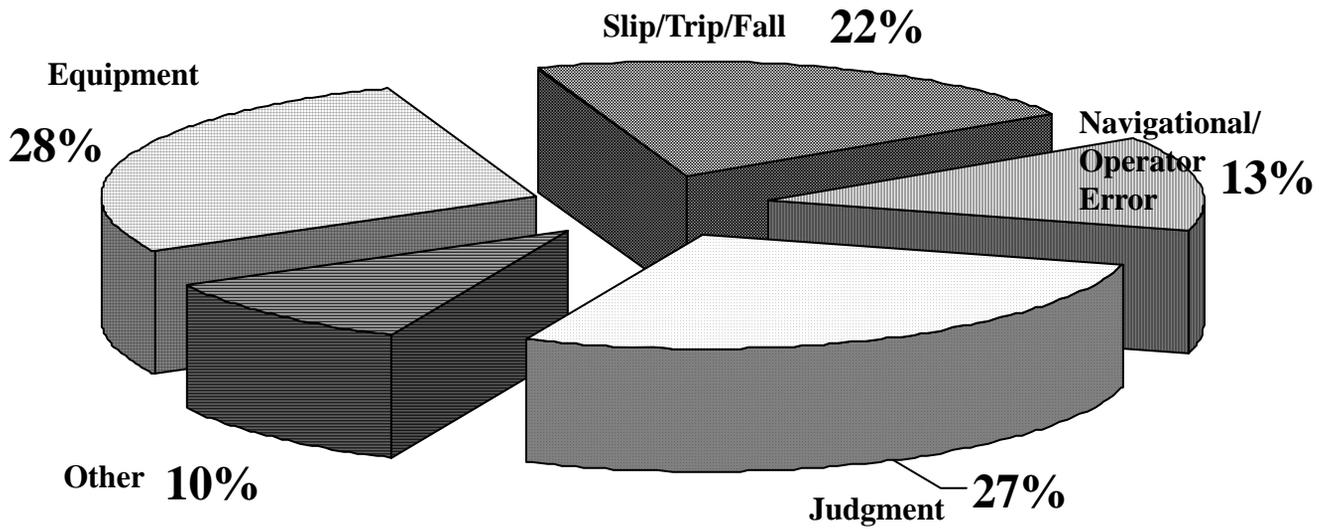


Looking at the mishap rate for cutters, we see that Enforcement of Laws and Treaties, Ice Ops, SAR, Short-Range ATON, and Training comprise the majority of mission types for mishaps. There was a noticeable increase in the SAR-related mishap rate from FY00 to FY01, but this 31 point increase equated to only 4 more mishaps. Compare this to ELT where a 10.7 point decrease translates into 22 fewer mishaps in a years time. Here you can see the effect resource hours have on rates; there were around 13,500 resource hours each year for SAR compared to over 200,000 resource hours each year for ELT.

In addition to the missions you see above, 93 mishaps took place during Maintenance and Repair periods, both in port away from and in homeport. These are not computed as rates since there are no resource hours reported for M+R.

There were 16 mishaps reported as a result of injuries incurred during personnel 'free time' while underway, i.e. horseplay in berthing areas, lifting weights, sports on the flight deck, etc. All of these mishaps were preventable had personnel paid more attention to their surroundings in the ever-changing marine environment.

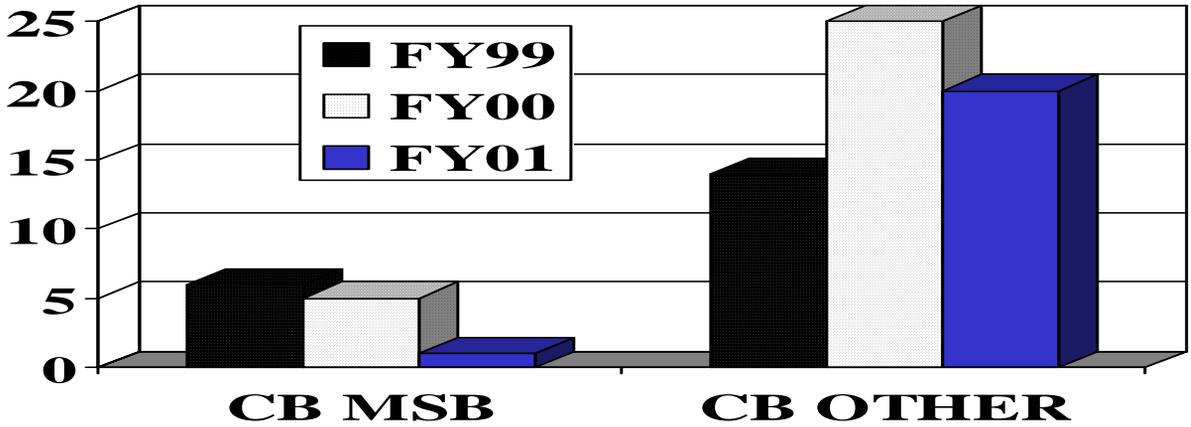
Causal Factors to Cutter Mishaps



*62% of cutter mishaps are due to human error.



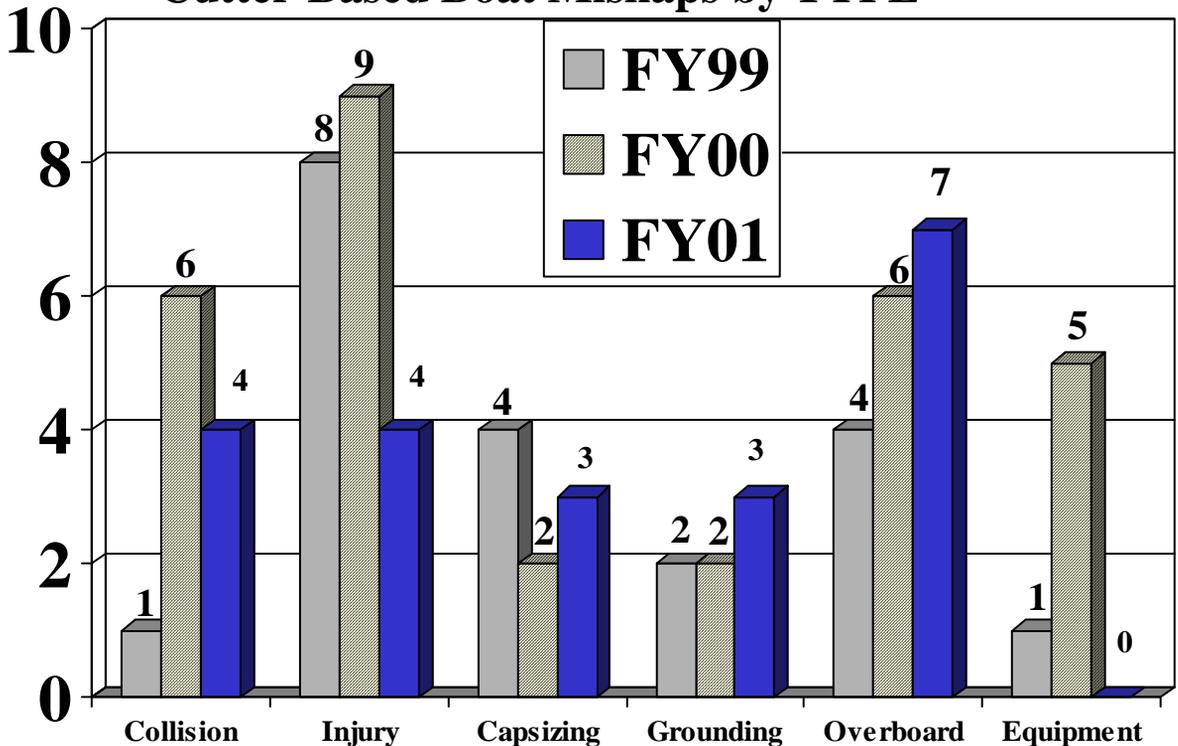
Cutter-Based Boat Mishaps



The above graph is a comparison of cutter boats for FY99, FY00, and FY01.

Below, the mishaps are broken down into various “types” for the last three years. A consistent rise in the number of overboard mishaps is of concern because of the increased potential for severe consequences anytime someone unintentionally goes into the water.

Cutter-Based Boat Mishaps by TYPE

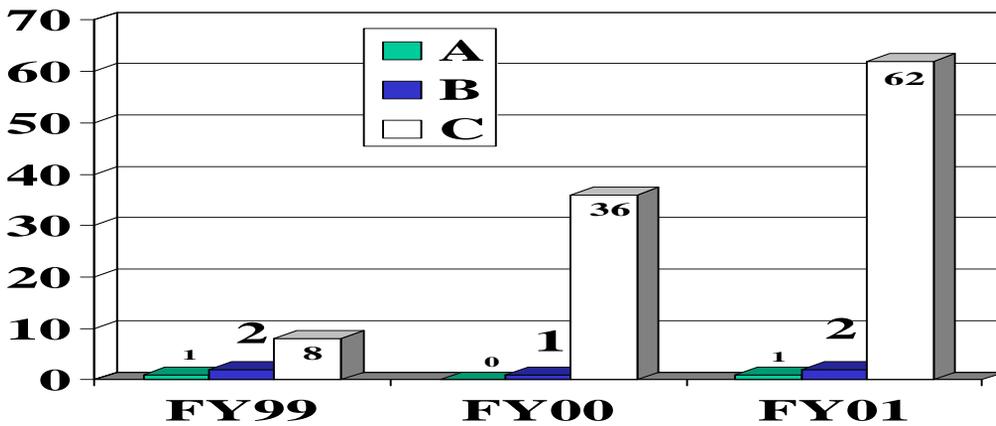


SHORE-BASED



BOATS

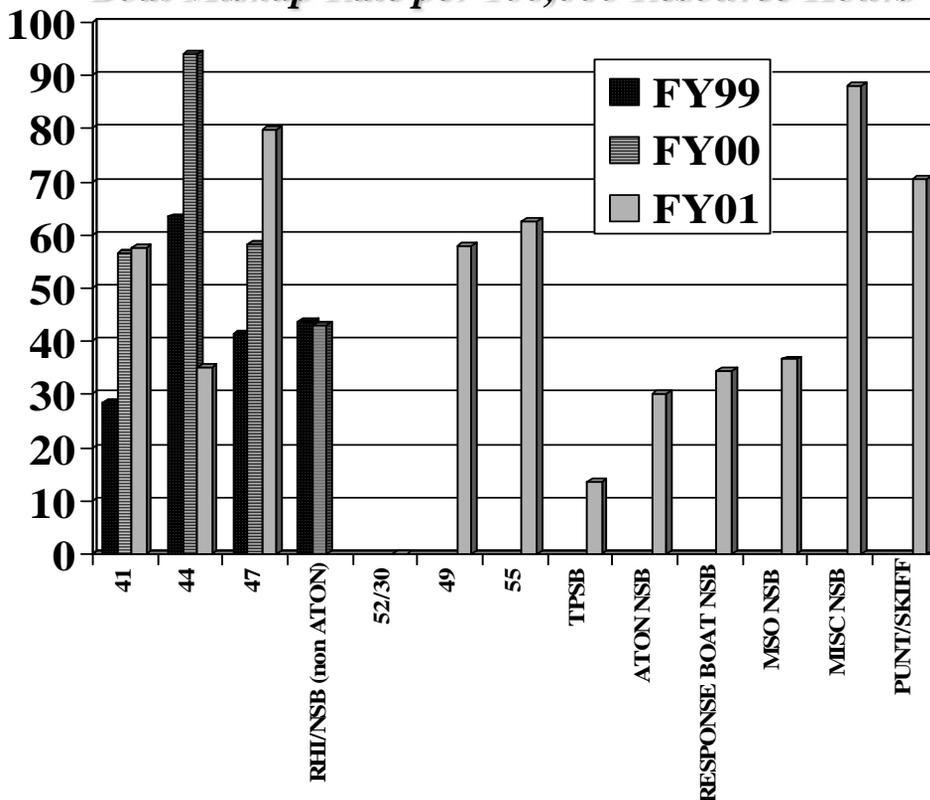
Number of Shore-Based Boat Operational Mishaps



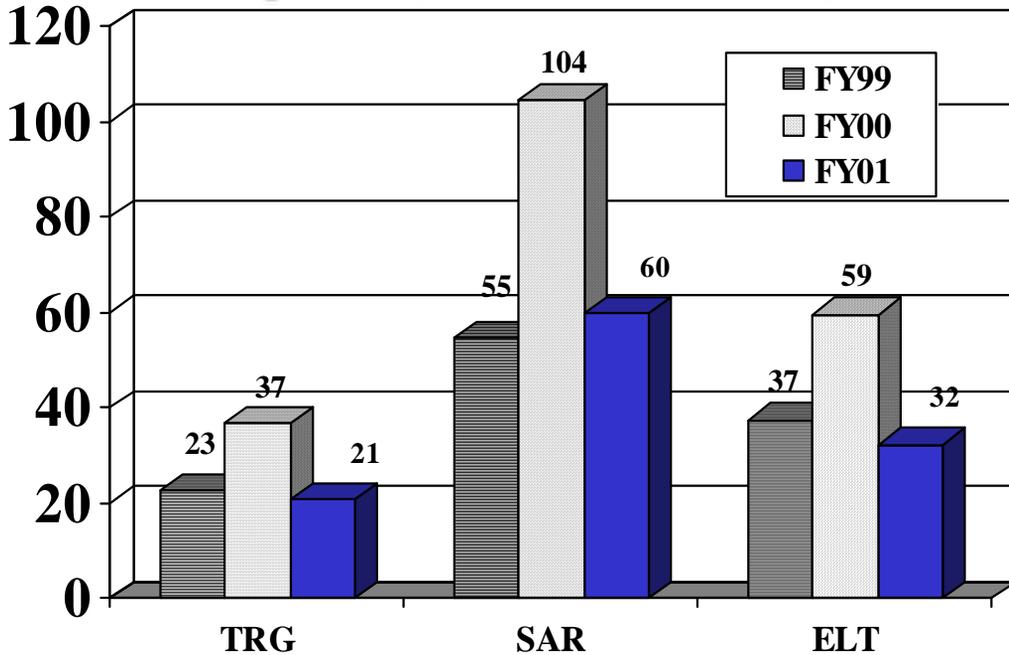
The above graph depicts the major (Class A-C) mishaps associated with Shore-based boat operations from FY99 to FY01. There was a significant increase of class C mishaps in FY01. A sweep of data revealed that many groundings and PIW's were not reported as class C mishaps in the past. The data for FY01 was thoroughly examined to ensure proper classification for all mishaps.

In past analyses of boat mishap rates, all boats other than 41s, 44s, and 47s were lumped into a generic "other" category. This year they have been broken out, and future trend analysis can be done once historical data is established. Rates for 44' UTBs significantly decreased, while mishap rates for 47s have risen consistently over the past three years. This correlates to a rising number of 47' knockdowns... a 80% increase from FY00 – FY01.

Boat Mishap Rate per 100,000 Resource Hours

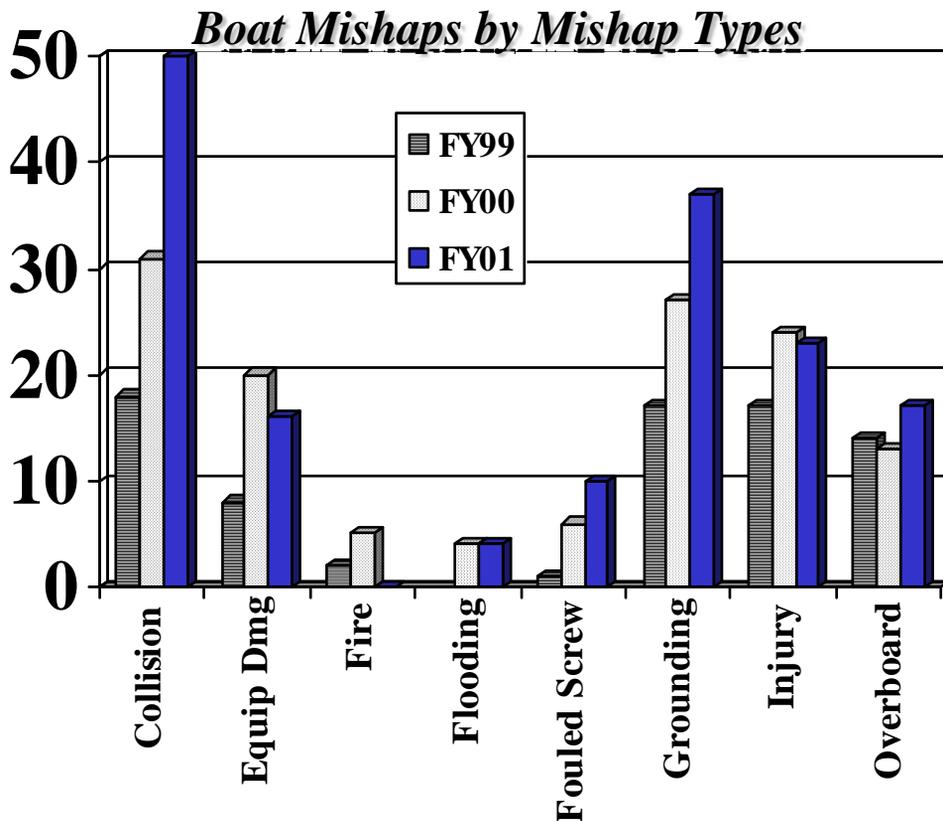


***Boat Mishap Rates by MISSION
(per 100,000 Resource Hours)***

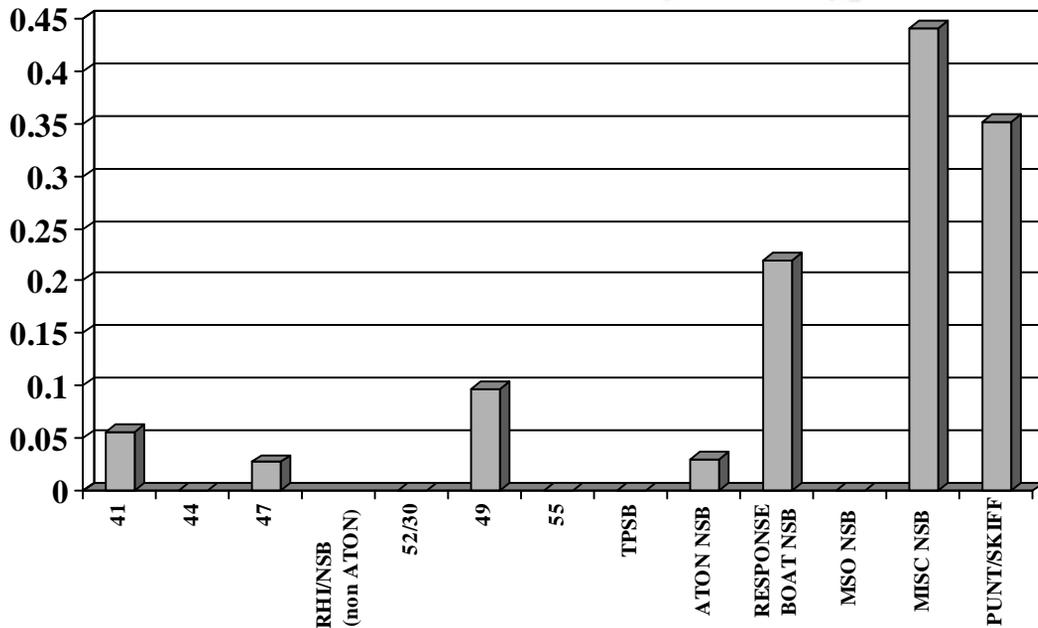


Above is a comparison of the mishap rates for the three most significant missions for shore boats over a period of three years.

Below is a look at the types of Class A-D mishaps occurring. Note the increase in collisions (both fixed and floating objects) and groundings over the past three years.

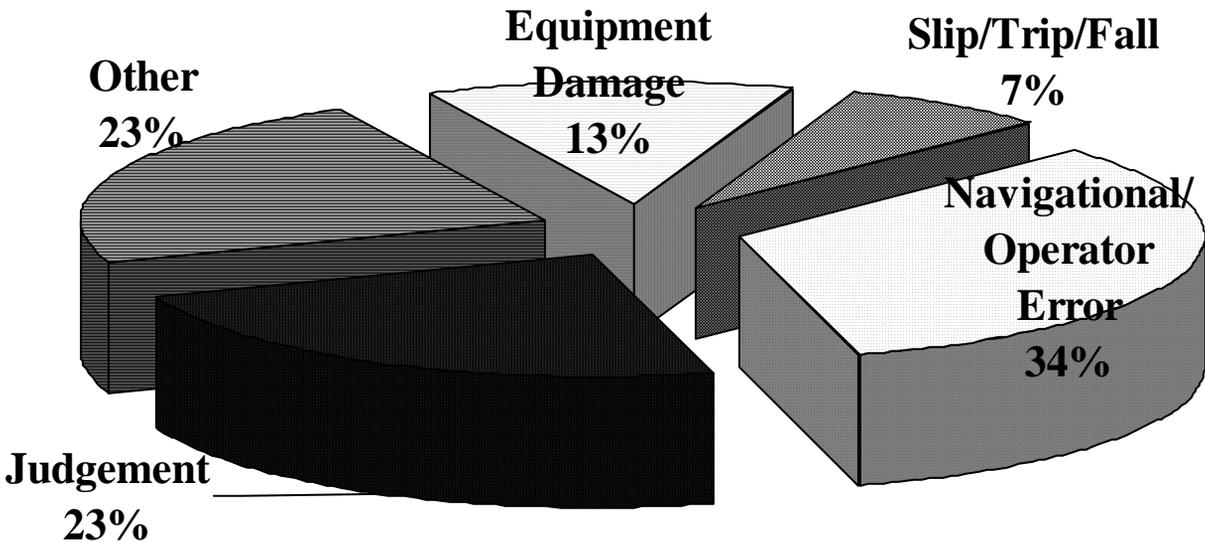


Overboard/PIW Rates by Boat Type



The above graph depicts the rate of mishaps in which personnel unintentionally enter the water by type of platform. Overall, the rates this type of mishap occurring on a non-standard boat was five times that for standard boats.

Causal Factors to Boat Mishaps



*64% of the boat mishaps are due to human error.

CLASS A AND B MISHAP SUMMARY

Table 1 below summarizes the Class A and B mishaps for boats and cutters for the last five fiscal years. The primary cause of 62% of the serious cutter mishaps was human error. Mechanical and environmental causal factors accounted for the remaining 38% of those mishaps. Human error accounted for the primary cause in 78% of the serious small boat mishaps, while environmental factors accounted for the remaining 22% of those mishaps. Human error was the primary cause in 100% of the cutter and small boat Class A mishaps, and was the primary cause in 54% of the Class B mishaps.

While it is well known that mishaps are seldom the result of a single cause, these statistics clearly show that human error continues to be the leading causal factor. That conclusion underscores the importance of training programs that focus on minimizing human error, such as Team Coordination Training, and implementing those concepts through the Operational Risk Management policy.

CLASS A AND B MISHAP SUMMARY FY97 – FY01

DATE	CL	NARRATIVE	CAUSE
02/12/97	A	WHILE CONDUCTING RESCUE OF SAILING VESSEL, 44' UTB CAPSIZED CAUSING THE DEATH OF 3 OF 4 CREWMEMBERS AND DESTRUCTION OF THE BOAT.	POOR JUDGMENT, LOSS OF SITUATIONAL AWARENESS, FLAWED RISK ASSESSMENT.
03/08/98	A	WHILE REPLACING A LIGHT ON A 41' UTB, CG MBR APPEARS TO HAVE SLIPPED, HIT HIS HEAD AND FALLEN INTO THE WATER. THERE WERE NOT WITNESSES TO THIS ACCIDENT. THE DIVE TEAM RECOVERED MBR'S BODY, AND WAS PRONOUNCED DEAD.	DROWNING. THE EXACT CAUSE IS UNKNOWN, BUT NO EVIDENCE EXISTS TO SUGGEST THIS WAS ANYTHING OTHER THAN AN ACCIDENT.
06/11/98	A	CG MBR WAS ALOFT ON THE MAINMAST WITH TOOLS TO PERFORM MAINTENANCE AND FELL APPROX. 100 FT FROM THE RIGGING. NO WITNESSES TO INITIAL FALL. MBR WAS PRONOUNCED DEAD WHILE ON A HELO EN ROUTE TO HOSPITAL.	NO EVIDENCE TO DETERMINE THE EXACT CAUSE OF FALL OR TO SUGGEST THAT THERE WAS ANY FAILURE OF EQUIPMENT OR RIGGING. HUMAN ERROR PRIMARY FACTOR IN THAT MBR APPARENTLY DID NOT PROPERLY CLIP TO A SECURE POINT.
10/04/98	A	DURING SAR RESPONSE, RHI LOST PROPULSION AND CAPSIZED IN THE SURF. BOAT WAS STRANDED FOR MORE THAN 24 HOURS.	ENGINES STALLED DUE TO EXCESSIVE SEA CONDITIONS, RESULTING IN CAPSIZE. BREAKDOWN IN OVERALL DECISION-MAKING PROCESS, LOSS OF SITUATIONAL AWARENESS.
02/24/00	A	WHILE MOORING AT HOMEPORT PIER, WHEC EXPERIENCED 2 FT BY 4-INCH GASH IN PORT SIDE, FLOODING ENG ROOM AND DESTROYING THE GAS TURBINE ENGINE (ESTIMATED DAMAGE OVER \$1M). GASH CAUSED BY PROTRUDING FENDER ANCHOR BOLT.	INADEQUATE PIER FENDERING, CREW FATIGUE, CREW DISTRACTION.
03/23/01	A	WHILE UNDERWAY FOR A MLE PATROL, A RHI STRUCK A WAVE AND CAPSIZED. 2 OF 4 POB DROWNED AND THE SURVIVERS SUFFERED HYPOTHERMIA.	INABILITY TO SAFELY MANUEVER IN EXISTING SEA STATE, SAR DELAY DUE TO VESSEL'S DEVIATION FROM ORIGINAL PLAN, EXTENDED EXPOSURE TO COLD WATER.
05/14/97	B	WLB COLLIDED WITH A 757 FT CONTAINER SHIP IN REDUCED VISIBILITY CAUSING APPROX \$890K IN DAMAGE.	HUMAN ERROR BY THE PILOT OF THE CONTAINER SHIP IN NAVIGATING HIS VESSEL, INCLUDING EXCESSIVE SPEED AND LOSING AWARENESS OF THE EBBING CURRENT DURING THE TURN. POOR COMMUNICATIONS AND NEAR ZERO VISIBILITY CONTRIBUTED TO THE MISHAP.
07/26/98	B	CG MBR PLACED BOILER FUEL CONTROLS IN MANUAL, ALLOWING FUEL TO ENTER THE COMBUSTION CHAMBER WHILE FILLING THE BOILER W/ FEEDWATER. BOILER EXPLODED CAUSING BURNER ACCESS DOOR TO VIOLENTLY SWING OPEN, STRIKING AND INJURING MBR.	FAILURE TO FOLLOW ESTABLISHED PROCEDURES FOR LIGHTING OFF BOILER AND TAG-OUT, LACK OF QUALIFIED SUPERVISION, INADEQUATE DIRECTION IN NIGHT ORDERS.
10/02/98	B	DURING A SAR RESPONSE, RHI WAS STRUCK ABEAM BY A WAVE CAUSING IT TO CAPSIZE. THE RHI LATER WASHED UP ON SHORE WITH ESTIMATED DAMAGE OF \$50K.	SUDDEN, UNANTICIPATED WORSENING OF SEA STATE AND LIMITED VISIBILITY.
11/17/98	B	WHILE AT ATON DETAIL, MBR CAUGHT GLOVED HAND BETWEEN A BLOCK AND WIRE ROPE, SEVERING PARTS OF THREE FINGERS AND CAUSING TENDON DAMAGE IN FOREARM.	LACK OF SITUATIONAL AWARENESS, INATTENTION.
08/22/99	B	TWO TPSB'S COLLIDED NEARLY BOW ON WHILE TRANSITTING CHANNEL IN VICINITY OF CATALINA ISLAND FERRY.	FAILURE TO CONDUCT PRE-MISSION BRIEF, FAILURE TO COMMUNICATE WITH OTHER VESSELS IN THE AREA, FAILURE TO MAINTAIN PROPER DISTANCE FROM THE FERRY AND MANUEVER SAFELY IN THE CHANNEL.

CLASS A AND B MISHAP SUMMARY (cont.)

10/31/99	B	CRANKCASE EXPLOSION TO NO. 2 MDE ON WPB WHILE TRANSITTING ON ELT PATROL. ESTIMATED DAMAGE \$414K.	MECHANICAL FAILURE.
03/09/00	B	WHILE DRYING OUT A CRACK IN THE HULL OF A RHI, CG MBR IGNITED GASOLINE FUMES TRAPPED IN THE BILGE, CAUSING THE BOAT TO EXPLODE.	UNFAMILIARITY WITH CONSTRUCTION OF RHI, INADEQUATE TRAINING IN REPAIR PROCEDURES.
10/01/00	B	CG MBR EJECTED FROM RHI AND SUBSEQUENTLY STRUCK IN THE HEAD BY SKEG AND PROP FROM RUNAWAY RHI.	COXSWAIN ERROR CAUSED INITIAL MISHAP OF CREW EJECTION AND RUNAWAY OF RHI; INAPPROPRIATE RISK ASSESSMENT TO STOP THE RUNAWAY RHI.
11/25/00	B	WHILE PREPARING TO LAUNCH A MSB FOR A LE BOARDING, AFT DAVIT ARM SNAPPED, EVENTUALLY CAUSING THE MSB TO ROLL TO PORT AND CAPSIZE AFTER ENTERING WATER. THE CREW WAS EJECTED, BUT SUBSEQUENTLY RECOVERED WITH NO SERIOUS INJURIES. MSB COULD NOT BE RECOVERED, SO IT WAS ABANDONED AND DECLARED A HAZARD TO NAVIGATION.	UNFORESEEABLE METALLURGICAL FAILURE DUE TO METAL FATIGUE OF THE AFT DAVIT ARM.
01/10/01	B	WHILE CONDUCTING A LE MISSION, DPB SUBJECTED TO SUDDEN WX CHANGE. HEAVY WAVE ACTION FLOODED THE ENGINE COMPARTMENT DAMAGING BOTH ENGINES.	WX CONDITIONS, POTENTIAL DESIGN FLAW IN DPB, INATTENTION BY BOAT CREW.
02/10/01	B	WHILE CROSSING THE BAR, VESSELS STERN WAS LIFTED 20 DEGREES BY A SWELL CAUSING BOTH GENERATORS AND MDES TO STALL AND STEERING TO FAIL. VESSEL THEN STRUCK THE JETTY, CAUSING DAMAGE TO THE BOW AND FORWARD AREAS.	PARTIALLY AIR BOUND FUEL SYSTEM DUE TO LOW FUEL LEVEL AND WEATHER CONDITIONS.

Table 1



AFLOAT SAFETY INITIATIVES

Team Coordination Training

The Team Coordination Training (TCT) program continues to evolve and improve in response to the needs of program managers and the field. ALCOAST 044/01 established the qualification code “CT” for qualified TCT facilitators who have conducted at least five TCT sessions. The most recent TCT policy change recognizes the TCT taught by the PACAREA Station Training Group as meeting Commandant TCT requirements per COMDTINST 1541.1. The biennial TCT unit-level requirement has been modified to include separate initial (two-day) and refresher (one-day) training sessions, dependent upon unit needs. Certain programs/schools are also recognized for integrating a significant amount of TCT into their curricula, thereby meeting the “initial” training standards. Once the initial training is successfully completed, only the one-day refresher training is required thereafter on a biennial basis. If more than 24 months elapse since the last TCT session, initial training must be repeated. See ALCOAST 574/01 for more details.

Significant progress has been made on the web-based TCT measurement tool. One purpose of this multi-benefit, application-oriented tool is to enable units to take a snapshot assessment of their personnel’s’ ability to apply TCT skills on the job. TCT facilitators and various headquarters, area and district staff members may also benefit by querying the database. This tool supports pre- and post-test assessments and for performance trend analysis. More details are forthcoming, and service-wide implementation is expected by spring 2002.

Most recently, the American Council on Education (ACE) just finished reviewing the TCT Correspondence Course (course # 0652) and recommended 3 semester hours of upper level credit in decision-making and problem solving. The ACE identification number is CG-1406-0011 and is effective for classes attended since March of 1996.

TCT statistics for FY01 are as follows:

- **Total number of students receiving exportable, TCT unit-level training (as reported by district administrators and area training teams): 6949 (4099 active duty, 597 reservists, 2253 Auxiliarists)**
- **Total number of active district TCT facilitators is 98 (does not include area training team instructors).**
- **The exportable, TCT unit-level training program averaged about \$19.00/quota, which keeps it competitive for limited training dollars.**
- **Total number of students receiving TCT resident training: 130 (77 Cutter Operations (includes those attending Prospective Operations Officer course), 25 Group Operations, 28 Facilitator course)**

Current (as of Feb 02) district TCT administrators (and work phone numbers) are listed below for reference:

D1(reserve):	CDR M. Cicalese	(617) 227-3979
D5(oax):	CWO W. Orvis	(757) 398-6509
D7(oax):	CWO R. Flynn	(305) 415-7053
D8(oax):	CWO B. Barr	(504) 589-6620
D9(osr):	LT N. Novotny	(216) 902-6118
D11(osr):	QMC S. Tierney	(510) 437-5366
D13(cc):	LT R. Howes	(206) 220-7001
D14(osr):	LCDR J. Rendon	(808) 541-2312
D17(oan)	MCPO D. Coffman	(907) 463-2266

Helpful web site information:

- **Afloat Safety (G-WKS-4) and TCT/ORM links:**
www.uscg.mil/hq/G-W/g-wk/g-wks/g-wks-4/index.htm

Operational Risk Management

The Operational Risk Management (ORM) program, as described in COMDTINST 3500.3, continues to flourish. This Instruction provides a standard risk management process to guide all Coast Guard missions and daily activities. The Afloat Safety Division continues to focus its efforts on ORM by facilitating policy implementation, with the help of MLC safety staffs. In essence, our goal is to help units *put into practice* the concepts that programs such as TCT and Crew Resource Management have been *teaching*. Job aids to assist units integrate ORM into their daily missions and activities are included in the ORM link to the Afloat Safety Division web site. Afloat Safety is building a list of ORM “success stories”, built largely from the results of voluntary ORM integration visits into PACAREA by a “tiger team” of Afloat Safety and MLCPAC staff personnel in FY00. This list will be added to our web site by Spring 2002. Similar visits to various LANTAREA operational units were scheduled but put on hold due to the impact on unit availability because of the September 2001 terrorist attacks. Future visits to units interested in this type of assistance are possible, funds permitting. Shore and afloat MLC compliance checklists have also been modified to help the MLCs evaluate ORM integration efforts in the field.



Common Mishap Discrepancies

Failure to use the proper message format

The format for submitting mishap message reports was changed in June of 2001 and promulgated in change 5 to the Safety & Environmental Health Manual, COMDTINST M5100.47. This change can be downloaded from the G-WKS web-site at the link provided on the last page of the report.

Misclassification of Mishaps

The table to the right outlines the mishap classification criteria. Probably the most frequent misclassifications involve groundings and personnel injuries. All groundings, no matter how minor are Class C mishaps. Likewise, any mishap in which an individual is placed on more than 30 days of limited duty or is determined to be Not Fit For Duty (NFFD) or sick in quarters for one or more days.

Failure to include the cost of property damage

Mishaps have an economic impact on the service... replacement parts, commercial repairs, even the value of Coast Guard man-hours that could be spent doing other important work. We need to do a better job of capturing these costs.

Failure to capture lessons learned from Near-Misses

Some of the best lessons learned come from those that did not happen. HIPOs range from those events in which nothing short of divine intervention prevent a mishap from occurring to ones in which ORM or strong team skills broke the error chain. Please consider sharing your HIPOs with the field.

What are the Mishap Descriptions?

Mishap Severity	Description
Class A	<p>Cost of reportable property damage is \$1,000,000 or greater.</p> <p>Vessel is missing or abandoned, recovery is impossible or impractical, vessel cannot be repaired economically.</p> <p>An injury or occupational illness results in a fatality or permanent total disability.</p>
Class B	<p>Cost of reportable property damage is \$200,000 or more, but less than \$1,000,000.</p> <p>Injury/Illness results in permanent partial disability.</p> <p>Three or more people are inpatient hospitalized.</p> <p>For small boats 30 feet in length or greater, damage is \$50,000 or more.</p> <p>For small boats less than 30 feet in length, damage is equal to, or greater than, half of the replacement cost of the boat.</p>
Class C	<p>Cost of property damage is \$20,000 or more, but less than \$200,000.</p> <p>Non-fatal injury/illness results in any loss of time from work beyond the day or shift on which it occurred, or more than 30 days of limited duty.</p> <p>A person falls overboard accidentally.</p> <p>Any grounding, capsizing, rollover, or knockdown greater than 90 degrees from an even keel that does not meet higher criteria.</p>
Class D	<p>Cost of property is between \$1,000 and \$20,000.</p> <p>Non-fatal injury/illness does not meet criteria of a Class C.</p> <p>Any firearm discharge, or electrical shock occurs that does not meet the criteria of a higher classification</p> <p>HIPO: Near mishaps, lessons learned events, or other events with a High POtential for injury or damage.</p>

CONTACT US

Your comments of this report, how to improve it's content, and any other suggestions concerning the afloat safety program will be greatly appreciated. Please feel free to call, fax, or e-mail (preferred) us with any comments, questions or concerns.

AFLOAT SAFETY DIVISION (G-WKS-4)

CDR Robert Wagner (202) 267-6863
LCDR Dennis Becker (202) 267-2965
LTJG Scot Brown (202) 267-1491
CWO Josh Henley (202) 267-2964
FAX: (202) 267-4355
<http://www.uscg.mil/hq/G-W/g-wk/g-wks/g-wks-4/index.htm>

MAINTENANCE & LOGISTICS COMMAND SAFETY POCs

MLC ATLANTIC (kse)

Mr. Vincent Andreone (757) 628-4412
CWO Chris Shultis (vsl specialist) (757) 628-4409
<http://cgweb.lant.uscg.mil/KDiv/kseHomePage.htm>

MLC PACIFIC (kse)

Mr. Kenneth Koutz (510) 437-5928
<http://cgweb.mlcpac.uscg.mil/mlcpk/SafEnvHlthBran.htm>