AIR WAR COLLEGE

RESEARCH REPORT

COMBAT SEARCH AND RESCUE - MILITARY STEPCHILD

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COMMANDER JOHN R. BONE

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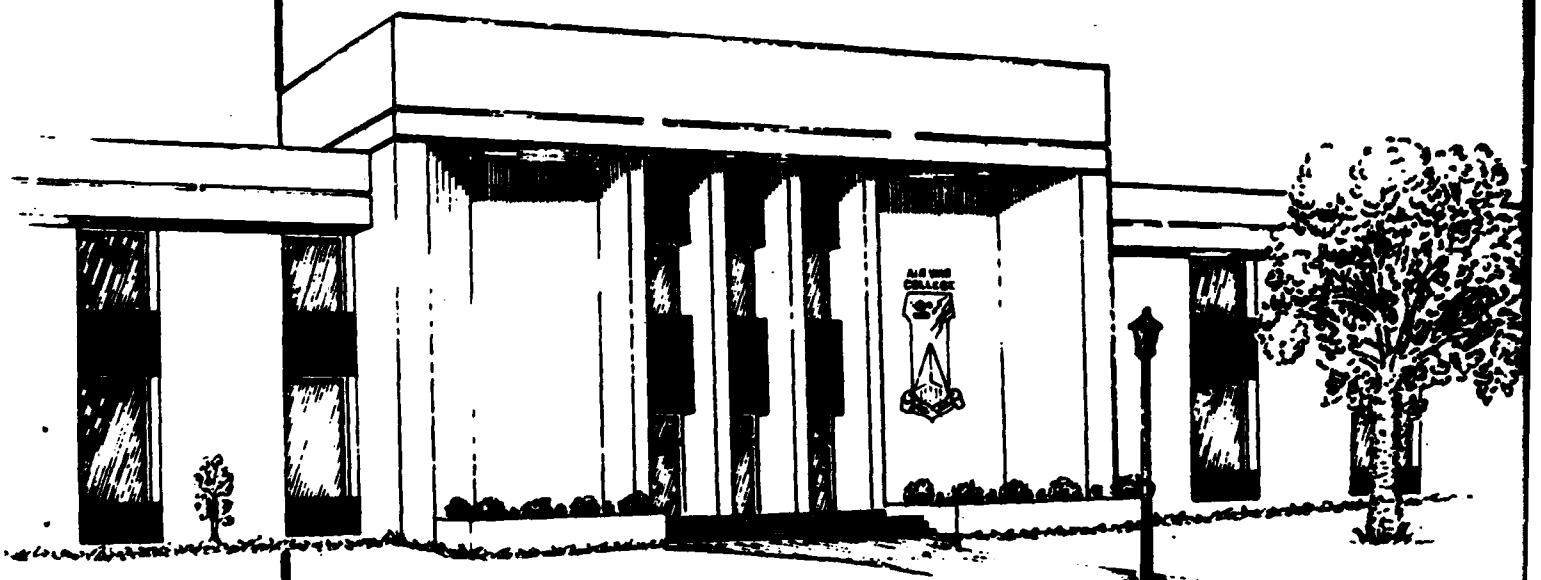

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UNITED STATES AIR FORCE
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COMBAT SEARCH AND RESCUE - MILITARY STEPCHILD

by

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Commander, USNR

A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE RESEARCH

REQUIREMENT

Research Advisor: Lieutenant Colonel Joseph Ryan

MAXWELL AIR FORCE BASE, ALABAMA

April 1988

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Combat Search And Rescue - Military Stepchild

Author: John R. Bone, Commander, USNR

The thesis of this paper is the analysis of the value of combat search and rescue (CSAR) as a warfighting asset illustrated in the history of its development.

The mission of CSAR in Vietnam was ultimately a successful one due primarily to the experience derived from on-the-job training, and the recognition by field commanders of its importance. However, initial efforts to perform the mission resulted in numerous failures because of the lack of hindsight and foresight of senior war planners. In the ensuing years following the Vietnam Conflict, the follow-on training, practice, and development of combat search and rescue has dwindled to the point of being inconsequential. The corporate knowledge gained in Vietnam is over twenty years old. It would seem prudent therefore, to have drawn from that experience during those years to produce and maintain a modern, ready CSAR force in the Air Force and Navy rather than to have ignored it. Will the aircrews in any future conflict have to learn how to rescue, and be rescued, on the job again?

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BIOGRAPHICAL SKETCH

Commander John R. Bone (B.S., University of West Florida) became involved in Navy Combat Search and Rescue in its infancy while serving in Helicopter Combat Support Squadrons One, Five, and Seven. He was an aircraft commander flying HC-7's HH-3A "Big Mothers" in Southeast Asia, and he trained rescue crews while assigned to HC-5 in Southern California. Following the Vietnam Conflict, he was assigned as operations officer for the Navy's first, and only training squadron for station search and rescue, flying the HH-46. It was during this tour that he was awarded a peacetime air medal for performing as a crewmember on a rescue that was declared the Rescue of the Year by the Navy Helicopter Association. Commander Bone is a graduate of the Air War College, class of 1988.

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CHAPTER ONE

Introduction

There have been numerous articles and service school papers written on various aspects of the mission of combat search and rescue. It is a subject that can be clinically evaluated or passionately extolled. This service school paper will examine technical and professional facets of the mission during its development and use in recent history, and the substantial barriers that mysteriously continue to hamper that development. An emphasis will be placed on the U.S. Navy's role in combat search and rescue, with the understanding, however, that the U.S. Air Force has been the primary practitioner. This examination will attempt to be clinical, and will undoubtedly be passionate.

In the movie The Bridges at Toko Ri, the main character, portrayed by William Holden, had to bail out of his stricken fighter after being hit by hostile fire from the North Koreans. Once on the ground, he had no alternative but to evade enemy forces until a rescue could be affected by his shipmates. The remainder of his squadron who participated in the mission observed his successful landing, relayed his problem and location via radio to the aircraft carrier, and provided air cover to delay his

discovery by the North Koreans.

Mickey Rooney and Earl Holliman were the fearless, eager crew of the rescue helicopter dispatched from the ship. Flying an underpowered, unarmored, and unarmed machine, they bravely entered the fray with only one goal in mind, and that was to rescue the pilot and return him safely to the ship, and ultimately, to his wife and two kids.

Unfortunately, the fighters flying cover eventually had to leave the scene because of fuel needs. The rescue helicopter arrived shortly thereafter and was immediately disabled by the small arms fire of the converging enemy soldiers. One crewman was slain at the helicopter while the other raced to the ditch where Bill Holden was hiding. They were both eventually shot and killed. The movie ended with the American admiral standing on the bridge of the carrier, looking at the sea, and saying, "From where do we get such men?"

The reason for recounting that bit of Hollywood make-believe is that the essence of the scenario is not make-believe at all. The mission of search and rescue under combat conditions was then, and remains now, an important but dangerous one. The problems of successfully performing it remain as prevalent today as they did in the 1950's. And the reasons for those problems remain also.

CHAPTER TWO

The Helicopter

Search and rescue efforts were conducted in World War Two with some degree of success using assets that were already available for other missions. Submarines, surface craft, and seaplanes participated in successful rescues at sea. The PBY-1 Catalina, a twin-engine, long range patrol craft with a boat hull, proved very useful in recovering downed airmen if they could be found. Submarines were, at times, prepositioned in an area where a battle was planned, and served as the primary rescue vehicle.

Recognition of the requirement for a land rescue vehicle led to the development of Igor Sikorsky's helicopter for that mission. The first U.S. squadron to use helicopters in rescue operations, the 8th Emergency Rescue Squadron, was formed in China in May '45, flying the Sikorsky R-6.[1]

In Korea, helicopters became more prevalent. The small Sikorsky H-5 was instrumental in the medical evacuation mission for the Army. The Air Force utilized the venerable H-19 and the fixed wing SA-16 for utility and rescue missions. The Navy also used the H-5, the HU-2P, and eventually the H-34.

It was during the Korean Conflict that combat search and rescue by air made its first noticeable impact on senior military and political leaders. The 3rd Air Rescue Squadron was the first unit in the war to receive the Presidential Unit Citation, and, at the end of the war, unit members had been awarded over 1,000 personal citations and commendations.[2]

It was in Korea, also, that Lieutenant Junior Grade John Thornton became the first Navy helicopter rescue pilot to be captured by the enemy when his aircraft ran out of fuel during a rescue mission. Lieutenant Thornton was a POW for over two years.[3]

At this same time, the helicopter was introduced in Vietnam by the French for medical evacuation purposes using the Hiller 360, the H-5, and the H-19.[4] When U.S. Forces became involved in that country, the Air Force put to good use the homely, but forgiving HH-43, the famous "Jolly Green Giant" HH-3, and the "Super Jolly Green Giant" HH-53.[5] The Army performed the majority of its rescue, exfiltration, and medevac missions with the ubiquitous, reliable H-1 "Huey" which eventually became the most recognized sight and sound of the war. The Navy workhorses were the H-46, the H-2, and the H-3. The Marines flew the H-34, H-46, H-1, H-53, and the AH-1 Cobra.

Navy Rescue Training

Helicopter Combat Support Squadron One (HC-1) was one of the oldest and largest squadrons in the Navy in the mid-'60's. It was originally designated as a Utility Helicopter Squadron (HU-1) and, interestingly, the helicopter flown in the movie mentioned earlier belonged to HU-1. In 1965, the squadron was manned, equipped, and tasked with flying the following missions: combat search and rescue, vertical replenishment, minesweeping, and Antarctic utility missions. The following aircraft were assigned: H-13, H-19, H-2, H-46, and RH-3.

HC-1 was responsible for training crews to man six operational detachments composed of four pilots and one H-2 helicopter each, for assignment to various destroyers operating off the coast of Vietnam. These crews were the Navy's first aviators trained specifically for the helicopter combat search and rescue mission.

Based at Ream Field, located between San Diego and Tijuana, HC-1 trained combat pilots and aircrewmen in the H-2 Sea Sprite, an armored, single-engine, turbine-powered aircraft manufactured by KAMAN. A major portion of the sixteen weeks of pilot training was devoted to learning aircraft systems, ground schooling, and flight instruction. Faced with the possibility of being forced down themselves, the pilots spent five weeks in survival, evasion, resistance

and escape training. One of these weeks was spent at the Navy's formal survival school in the mountains at Warner Springs, California, learning to live in hostile territory with a minimum of food and water. The final part of that week was devoted to learning how to cope as a prisoner of war under realistic circumstances. The final two weeks of training was devoted to physical conditioning and hand-to-hand combat instruction.[6]

In 1967, because of its cumbersome size, three new Navy squadrons were spawned from HC-1's assets, HC's -3, -5, and -7. HC-3's mission was vertical replenishment; HC-5 inherited the crew training mission; and HC-7 became the Navy's combat search and rescue squadron.

The rescue aircrewman training syllabus at HC-5 was certainly no less strenuous and encompassing than the pilots'. In some cases it was more so. The syllabus was fourteen weeks long, consisting of three weeks of extensive swimming and first aid, two weeks of hand-to-hand combat, one week of survival training, one week of night vision indoctrination and combat pistol instruction, three weeks of plane captain and rescue crewman duties, and finally, four weeks of flight training.[7]

Airwing Training

Training was not just relegated to the helicopter crews. On a periodic basis, prior to deployment, carrier air wings would congregate at the Navy Air Facility at Fallon, Nevada, to fly numerous training sorties, practicing all of the facets of air combat and support that they would perform during their cruise in Southeast Asia. Included in this training were simulated ejections, evasion, and actual search and recovery training flights. Prior to each mission, rescue procedures were briefed with the entire strike flight by the senior SAR pilot.

During this week-long evolution, Navy fixed-wing aviators flying A-4's, A-7's, and, during the earlier stages of the war, A-1's, would practice Rescue Combat Air Patrol (RESCAP) procedures with the SAR crews. They learned the flight limitations of the helicopter, the desired altitude at which the helicopter crews would cross the enemy coastline inbound based on expected enemy firepower, proper radio procedures for those in the air and on the ground, and the method for suppressing enemy fire during the actual rescue.

The coordinated teamwork that evolved from this training paid significant dividends throughout the final six years of the Vietnam War. Unfortunately, this teamwork did not exist prior to 1967.

CHAPTER THREE

Vietnam - Initial Stage

The first years of serious American involvement in Vietnam, 1964-65, provided the training ground for combat search and rescue.

The Air Force began operating the first Vietnam rescue forces in '64, with 127 combat saves through the end of 1965.[8] The 3d Aerospace Rescue and Recovery Group (ARRGp) was responsible for all Air Force rescue and recovery operations in Southeast Asia, with over 1 million square miles of territory to cover. The Navy was responsible for rescue operations in the Gulf of Tonkin and the shoreline of North Vietnam inland up to five miles.[9]

A typical Air Force rescue mission would begin with a prepositioned HC-130 receiving the "mayday" distress call. A mission coordinator (usually the crew commander) aboard the airplane would attempt to establish a bearing on, or location of, the downed pilot, launch the rescue forces, and coordinate for a FAC or fighter to initially locate and cover the survivor. The SAR team usually consisted of four A-1 "Sandy" fixed-wing aircraft, and two to four helicopters employed in pairs, either HH-3's, or -53's. The Sandys would confirm the location and identification of the downed

pilot, often with his assistance using the survival radio all pilots carried, and provide fire suppression if needed. Other strike aircraft could be coordinated by the HC-130 if enemy forces were substantial. When the threat was diminished, the helicopters would be called in. One would go in for the pick-up while the other remained orbiting high overhead in the event the first helicopter experienced difficulties.[10]

These procedures worked very well after the Air Force rescue pilots gained experience and confidence. But, in the beginning, the on-the-job training proved difficult and dangerous. The helicopters were extremely vulnerable to hostile fire; the HH-43 had limited range and limited lift capacity; the HH-3 was power limited in high temperatures, and at high altitudes. However, there was no lack of courage and professionalism among the aircrews.

The Navy's initial foray into combat search and rescue was disastrous. The concept was "woefully inadequate both tactically and philosophically."[11]

The scenario used by the Navy was very similar to the Air Force's. An on-scene commander (OSC), a tactical pilot involved in the strike mission, would receive the distress call and initiate the SAR mission. Two helicopters would launch from the carrier and fly inbound with a rescue escort (RESCORT) of four to six tactical aircraft. The OSC

would authenticate the survivor, and direct the helicopters to the scene. He would also attempt to suppress enemy fire.[12] The similarity is obvious, so why was it "woefully inadequate?" Very simply, the Navy had failed to plan and train for the mission.

The SH-3 was the rescue helicopter used, and it was unsuitable. The machine was designed for the anti-submarine warfare (ASW) mission, and was equipped to perform that mission. It had no armor and no weapons, making it tremendously vulnerable to enemy fire. It was power limited in hot weather, and it was white and gray in color.

The pilots of these aircraft were brave, determined, and totally unprepared for what they faced during the SAR mission. They were trained for the ASW mission; the business of rescue became their responsibility because no one else was available. Sadly, they paid a horrible price. HS-2, an ASW Squadron based at Ream Field, lost six of eight aircraft; the commanding officer, executive officer, and several other pilots and crewmen perished during a single cruise.

Another prevalent problem was the fact that the OSC had very little, if any, training in rescue techniques. He could be any tactical pilot in the airwing, and the odds were excellent that he would have no knowledge of helicopter

performance capabilities, flight profile requirements, tactical routing to avoid enemy weapons, or evasive techniques. Since neither the tactical pilots, nor the helicopter pilots knew exactly what they were doing, the problem was certainly compounded.[13]

The Navy's philosophy remained unchanged throughout the war. The intention was to affect the rescue as quickly as possible; i.e., quick contingency planning. The Air Force responded in like manner, however, the rescue force was larger, and required more coordination.[14]

Vietnam - HC-7's Emergence

Helicopter Combat Support Squadron Seven (HC-7) was an offshoot of HC-1, and was based in Atsugi, Japan. A part of the squadron's mission was vertical replenishment using the H-46, but its primary mission was combat search and rescue using the HH-3 and the H-2. Modifications to these aircraft included armor plating, automatic weapons, high speed hoists, and, in the case of the H-3, a dull, dark gray paint scheme.

HC-7's Detachment 110 was unique in that it remained at sea from its inception. Personnel rotated in and out of the detachment every fifty days or so from Japan, but the

H-3 s were continually operational aboard the Yankee Station Carrier. When a carrier was relieved, the detachment and its personnel would cross-deck to the oncoming carrier.

On a typical crew day, the H-3 aviators slated to fly the Big Mother mission at the North SAR station (a destroyer designated as such) would depart the carrier in the morning and fly 100, or more, miles to the ship and land. This in itself was no easy task, for the DLG's were designed to handle aircraft the size of the H-2. The H-3, significantly larger than the H-2, had to be landed precisely on spots painted on the deck of the ship, otherwise, the rotor blades might contact the ship's structure, or the tail wheel might go off the aft edge of the flight deck.

When a strike flight from the carrier was scheduled to commence an operation, the Big Mother crew would fly to a preposition point approximately 12 miles off of the coast and orbit, waiting for any mishap to occur. If the flight departed the country safely, the helicopter would return to the DLG and wait for further operations. If, however, a SAR mission was initiated, the crew would fly toward the coast, be picked up by the RESCORT, and continue toward the rescue site

The following day, the original crew would be replaced by another and return to the carrier.

In 1971, Big Mother pilot Lieutenant Jeff Wiant flew a daylight mission over fifty miles inland to make a mountain rescue. Because of the distance and time involved in the search and eventual rescue, LT Wiant had to fly into Laos to refuel his aircraft. He was awarded the Navy Cross for his successful mission.

Although not as famous as the Jolly Greens, the "Big Mother Truckers", or simply "Big Mothers" of HC-7 established a reputation for getting the job done. Vice Admiral Malcolm Cagle wrote, "One of the truly great success stories of TF 77 operations in the Gulf of Tonkin is the development ...of a combat Search and Rescue capability..."[15]

HC-7 also had several single aircraft detachments of H-2's aboard non-aviation ships such as cruisers and destroyers, which cruised about thirty to fifty miles off of the coast of North Vietnam. Smaller than the H-3, the "Hookey Two" pilots did a superb job in some difficult situations.

Detachment 104, aboard the USS Preble (DLG-15), received notice of a downed F-4 shortly after midnight, June 19, 1968. The pilot, Lieutenant Junior Grade Clyde Lassen and his crew, launched at 0022 and flew at maximum speed toward the coastline. The night was very dark due to a low, heavy overcast. LTjg Lassen received initial navigation

guidance from the ship, and, as he closed on the site, the on-scene-commander provided assistance. He was also able to home in on the transmission of the survival radio of one of the downed crewmen.

After arriving on scene, Lassen orbited overhead while he talked with the survivors who were on the side of a hill. At this time, his copilot, LTjg Leroy Cooke, noticed blinking lights all around which he immediately recognized as small arms fire. Lassen attempted an approach to the hill but the darkness precluded him from finding a suitable spot for a pickup. After waving off, he requested flares from the orbiting RESCAP aircraft. The A-1 did as requested and dropped several high intensity flares which lit up the area. With visibility provided by the flares, Lassen made another approach and found a small clearing surrounded by trees. He entered a hover and called to the survivors. The small arms fire became heavier, and the copilot and crewman returned fire. While he was urging the downed aviators to hurry, the flares extinguished, resulting in an instantaneous pitch black darkness. Unable to see, and being fired upon, LTjg Lassen drifted into a tree. Fortunately, although damaged, the aircraft was not disabled, and Lassen immediately added power and gained altitude.

To complicate matters, one of the F-4 crew's radios

was beeping continuously on the Guard (Rescue) frequency preventing LTjg Lassen from communicating. Also, RESCAP ran out of flares.

After landing in an open area at the bottom of the hill, they continued to receive heavy enemy fire. The downed crew could not get to where they were, so Lassen once again took off, and since there were no flares available, he turned on his landing light. This, of course, made him an attractive target, but it also enabled him to spot an area and land close to the survivors. Fortunately, they scampered aboard without being injured, and the helicopter departed.

Crossing the beach outbound, they came under additional heavy automatic fire and flak. LTjg Lassen, his crew, and passengers arrived safely aboard the USS Jouett (DLG-29) with five minutes of fuel remaining. For fifty-eight minutes they were feet dry over enemy territory, and for fifty of those minutes they were being fired upon.

For this mission, LTjg Lassen was awarded the Congressional Medal of Honor.[16]

"A special squadron, ...HC-7 rescued over 150 pilots from the combat zone without losing a crew to enemy action. Success came from using dedicated assets, mission specialization, and standardized tactics."[17] The squadron, like

its sister unit in the Air Force, was awarded the Presidential Unit Citation.

Vietnam - Operational Success

Air Force and Navy combat SAR missions were unnecessarily dangerous when first attempted, and the results were abysmal. In fact, the Navy's experience in North Vietnam resulted in one rescue aircraft lost per 1.4 rescues; one rescue crewman killed per 1.8 rescues.[18]

However, the influence of training and experience came to the fore, and combat search and rescue became "...one of the few bright spots of the Vietnam War."[19]

In 1966, the saves for the ARRS were 403; by 1968 that had increased to 572. The total combat saves at the end of 1972 was 2,614, of which 1,263 were aircrew members, representing an approximate savings of $379 million in replacement training costs alone to the Air Force, as well as greatly enhancing the morale of the aircrews who went to war.[20]

CHAPTER FOUR

Post-Vietnam CSAR

Following the withdrawal of U.S. forces from Vietnam, the active Navy's involvement with combat search and rescue significantly diminished with the decommissioning of HC-7 in 1975. Squadron assets were transferred to HC-9, a reserve squadron based at Naval Air Station, North Island.

HC-9 remains the only practitioner of CSAR for the Navy today, and it continues to utilize the same equipment used in Vietnam. Squadron personnel train and practice new techniques with innovative, newly designed equipment (night vision goggles, for example), however, plans for the development and introduction of a new rescue platform to replace the HH-3 are uncertain, and, at best, a proposition for the distant future.

The pilots and crewmen of HC-9 are professionally dedicated to the mission, and their status as inactive reservists in no way denigrates their willingness and ability to respond when needed. However, basic facts cannot be denied: an outbreak of hostilities between the U.S. and a foreign power could be days old before the squadron was fully mobilized and available; squadron manning and assets could be severely restricted in areas of responsibility (AOR) simply because HC-9 is only one squadron. HC-7 was

the Navy's sole combat SAR unit in Vietnam, but the squadron's ADP was limited, and assets were sufficient. The Navy's reliance on HC-9 to perform equally as well today without support is unrealistic.

The Air Force is essentially in as poor a position as the Navy. In fact, with a few exceptions, the Air Force has shunned the use of the helicopter. In what would be an excellent arena for learning and practicing the CSAR mission, the Red Flag Exercise, there is no military search and rescue practiced at all. Appallingly, if an actual SAR mission is required, according to a Nellis Commander, civilian helicopter companies are contracted and called upon to perform it.

Air Force combat search and rescue is now a part of the Air Force Special Operations Force, a joint command, and performs within the guidelines established by the Commander-in-Chief of Special Operations Command (CINCSOC). Aircraft for the mission are Vietnam era H-3's and -53's, using modern equipment for the special ops scenarios.

The question that needs to be answered is, how available will these SOF crews be for performing routine, everyday CSAR missions? Several Air Force general officers have indicated that the tactical crews will have to be prepared to evade capture for days!

The Incongruous Mindset

From a cost versus benefits point of view, the lack of interest in combat search and rescue makes no sense. By the time a military pilot is fully qualified to wear wings and perform a mission, his training has cost this country approximately one million dollars. The aircraft he is trained to fly costs several million dollars. The average cost to conduct a CSAR attempt in Vietnam in 1973 dollars was around $70,510.00.[21] That amount would probably be doubled in today's dollars, but looking at it in another way, one pilot would have to be rescued seven times before his dollar worth was exceeded.

From a practical standpoint, preparing in peace time, in a scaled-down mode, at moderate expense, for wartime exigencies is fiscally responsible. Ignoring, or paying scant heed to an aspect of war that is sure to happen is irresponsible in all realms.

Brigadier General Thomas J. Dubose, Commander of the Air Rescue Service from 1952-1959, once said, "To me it has always been a source of wonder and pride that the most potent and destructive military force ever known should create a special service dedicated to saving a life. Its concept is typically American...we hold human lives to be the most precious commodity on earth."[22]

That concept unquestionably remains true today. However, "observation of SAR practices and concepts...indicate that little effort, interest, or enthusiasm is manifested in the various related aspects of SAR. No thorough, definitive Research and Development System approach is evident."[23] That comment was written in 1969, and its theme remains true today. So, where is the disconnect? Equating the loss of an American pilot in terms of dollars is facetious: but losing the expertise that those dollars represent is not. More pervasive on the American conscience is the loss of a friend or family member to death, capture, or the horrors of never knowing, as in the case of MIA's. The experience of Vietnam was, and remains, a vivid lesson to those who fought there, and those who waited at home.

Conclusion

It is easy, yet simplistic, for those whose missions will put them at risk of being the subject of a search and rescue effort to speak lightly of the degraded CSAR capabilities of their services. But the concept that BGen Dubose mentioned does remain true today; when the situation arises, the American commander wants to do whatever is possible to recover his personnel. Forces called upon to affect that recovery will eagerly and professionally carry out the

combat search and rescue using the training and equipment provided. And those requiring rescue will be betting their futures on that training and equipment.

What about the lives of those Air Force and Navy rescue crews? Among the last remains recovered from Vietnam were those of Ensign Don Frye. Ensign Frye was a member of the antisubmarine warfare squadron mentioned earlier that attempted to conduct CSAR without being properly prepared, and lost so many crews and aircraft. Ensign Frye had worn Navy wings for less than a year when he was killed. His death was a direct result of poor prior planning.

It is inconceivable that today's senior leaders of the Air Force and Navy, who were in the thick of things in Vietnam, could allow the same situation to develop again. It is irresponsible to recognize the benefits of a successful, viable combat search and rescue capability and ignore it. A successful rescue provides immediate benefits: it is an instant force multiplier, and it enhances the morale of those involved to a degree that is hard to imagine. Without the support of those commanders at the highest level, the United States once again will face the sure probability of being unable to conduct rescue missions in future conflicts.

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