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THEATER COMBAT SEARCH AND RESCUE

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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B.S., San Jose State University,
San Jose, California, 1976

Fort Leavenworth, Kansas
1993

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	6 May 1993	Master's Thesis, 3 Aug 92 - 4 Jun 93

4. TITLE AND SUBTITLE

Theater Combat Search and Rescue

5. FUNDING NUMBERS

6. AUTHOR(S)

MAJ Russell D. Carmody, USA

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

U. S. Army Command and General Staff College
ATTN: ATZL-SWD-GD
Ft. Leavenworth, KS 66027-6900

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for Public Release; distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This study investigates joint combat search and rescue (CSAR) doctrine and policies to determine if they support Theater CINCs' contingency and war plans. Theater CINCs require viable CSAR capabilities in areas of operations to prevent adversaries from capturing aircrews who are shot down while responding to crises situations. Rescuing American aircrews before they become POWs prevents and enemy from using them as bargaining pawns during peace negotiations and improves both the aviator's and the public's morale. Joint doctrine entrusts Theater CINCs the responsibility for CSAR in their areas of operation. Theater CINCs presently lack adequate CSAR capabilities because they rely on the services to provide personnel, organizations, and equipment during contingency operations and war. Unfortunately, the services have let their CSAR capabilities atrophy since the end of the Vietnam War. Six CSAR alternatives are evaluated. The preferred alternative is still the current joint doctrine described in various Joint Chiefs of Staff doctrine. This alternative provides enough CSAR assets to support Theater CINCs' air, sea, land, and special operations campaign plans. The study recommends that Theater CINCs place CSAR as one of their top priorities and pressure JCS to force the services to improve their CSAR capabilities.

14. SUBJECT TERMS	15. NUMBER OF PAGES
Combat Search and Rescue, CSAR, Search and Rescue, SAR, Special Operations, Special Operations Forces, SOF, Air Rescue Service	132
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

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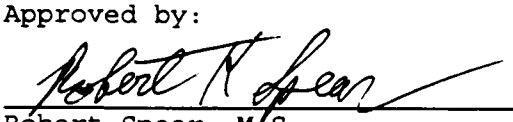
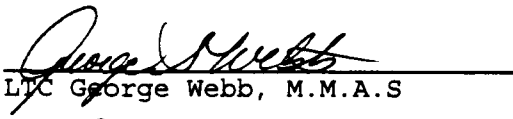
THESIS APPROVAL PAGE

Name of Candidate: MAJ Russell D. Carmody

Thesis Title: Theater Combat Search and Rescue

Approved by:


Robert Spear, M.S., Thesis Committee Chairman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Accepted this 4th day of June 1993 by:


Philip J. Brookes, Ph.D., Director, Graduate Degree Programs

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THEATER COMBAT SEARCH AND RESCUE by MAJ Russell D. Carmody, U.S. Army, 124 pages.

This study investigates joint combat search and rescue (CSAR) doctrine and policies to determine if they support Theater CINCs' contingency and war plans. Theater CINCs require viable CSAR capabilities in their areas of operations to prevent adversaries from capturing aircrews who are shot down while responding to crises situations. Rescuing American aircrews before they become POWs prevents an enemy from using them as bargaining pawns during peace negotiations and improves both the aviator's and the public's morale.

Joint doctrine entrusts Theater CINCs the responsibility for CSAR in their areas of operation. Theater CINCs presently lack adequate CSAR capabilities because they rely on the services to provide personnel, organizations, and equipment during contingency operations and war. Unfortunately, the services have let their CSAR capabilities atrophy since the end of the Vietnam War.

Six CSAR alternatives are evaluated. The preferred alternative is still the current joint doctrine described in various Joint Chiefs of Staff doctrine. This alternative provides enough CSAR assets to support Theater CINCs' air, sea, land, and special operations campaign plans.

The study recommends that Theater CINCs place CSAR as one of their top priorities and pressure JCS to force the services to improve their CSAR capabilities.

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CHAPTER 1

INTRODUCTION

During Operation Desert Storm General Schwarzkopf, the Theater Commander in Chief (CINC), assigned the mission of theater Combat Search and Rescue (CSAR) to joint Special Operations Forces (SOF). Using these forces was a change from existing doctrine. According to Joint Chiefs of Staff Publication 2, "each service is responsible for providing forces capable of performing CSAR in support of its own operations, in accordance with its assigned functions." It also states that Theater CINCs "have the primary authority and responsibility for CSAR in support of US forces within the commanders' area of responsibility."[1] Why did General Schwarzkopf choose to use special operations forces to command, control, and execute his CSAR plan? Was he forced into this decision because services' did not have the capability to conduct CSAR for themselves?

Other Theater CINCs may discover their peacetime search and rescue (SAR) assets are inadequate to recover aircrews from enemy territory during hostilities. This deficiency is caused by different requirements for peacetime and combat search and rescue.

Peacetime SAR is the rescue of distressed personnel in benign environments. SAR assets range from Coast Guard patrol boats, search fixed-wing airplanes, and helicopters. Almost any asset can accomplish rescue missions because there is no requirement for high technology devices compared to CSAR. Personnel performing SAR do not require specialized training except to operate rescue equipment, conduct search patterns, and provide first aid.[2]

Unlike peacetime SAR, CSAR is conducted in hostile environments. The key assets are CSAR helicopters. They are required to conduct day or night penetration flights into enemy airspace, locate and recover downed aircrews, and return to friendly territory. Their entire mission is flown while avoiding enemy intercepter aircraft and air defense weapon systems. CSAR requires specially equipped helicopters piloted by highly trained aircrews. Required high technology equipment includes night vision devices, accurate navigation equipment, electronic warfare countermeasures, and self-defense weapons.[3]

CSAR forces are important to the Theater CINCs' wartime and contingency plans.[4] The American public places a high value on life and expects the military to attempt the rescue of all downed aircrews from enemy territory.

This chapter introduces the thesis. It explains the significance of the study, states the primary and secondary research questions; provides a brief background description

of CSAR; defines key terms; outlines limitations and delimitations; and briefly describes study methodology.

Significance of the Study

This thesis is relevant for the following reasons: First, this nation spends vast sums of resources on training aviators in all services of the military. As an aviator gains experience, he becomes more valuable. CSAR provides a means of rescuing an aviator and returning him back to his service where he can continue to contribute to the combat effort. Recovering experienced aircrews becomes increasingly important as DOD decreases its forces after the fall of the former Soviet Union.

Second, CSAR improves morale of aviators flying deeply into enemy held territory. Aviators may be more aggressive knowing that they have a good chance of being rescued if shot down over enemy territory.

Third, preventing the enemy from capturing aviators and using them as hostages decreases the psychological impact of a conflict on the American public. The enemy cannot use POWs as bargaining chips, thus helping peace negotiators end a conflict.

Lastly, rescuing aviators from capture deprives the enemy from gaining intelligence through the use of torture. This prevents compromise of Theater CINCs' operational and tactical war plans.

Problem

As the United States reduces its military force structure, it must maintain the capability to respond to crisis situations around the world. After the swift victory of Operation Desert Storm, the American public expects quick conclusions of future conflicts with minimal casualties. Our country does not want to see American prisoners of war paraded on television by an adversary.

Future crises response requires highly trained military forces ready to support theater CINCs' wartime and contingency operations plans. While having the responsibility for CSAR in their area of operations, the CINCs have a dilemma; they must rely on service components to provide CSAR organizations, personnel, and equipment. Yet, services are not prepared to support Theater CINCs' wartime and contingency operations plans because of vague joint doctrine, budget reductions, and apathy in the services.[5]

Thesis

The purpose of this paper is two fold: first, determine if current Combat Search and Rescue (CSAR) joint doctrine supports Theater CINCs' wartime and contingency plans. Second, analyze the following alternatives and recommend the best option which supports theater CINCs. These alternatives are:

1. Maintain the status quo, continue with present policies and joint doctrine.

2. Use USSOCOM's Special Operations Forces (SOF) for all future theater CSAR operations.

3. Form a dedicated joint CSAR organization to support all Theater CINCs.

4. Provide quick-reaction CSAR support using SOF during time-critical, short term crisis situations. If short term crises develop into long term campaigns, then use multi-service CSAR assets.

5. Assign dual Navy/Air Force responsibilities for CSAR.

6. Assign one service responsible for CSAR.

Background

The concept of rescuing downed aviators was developed in the early days of World War II. Combat search and rescue has been used during all conflicts up to Operation Desert Storm. Unfortunately, lessons learned during each war were usually forgotten due to service apathy; lack of immediate need; higher procurement priorities during defense budget reductions; and the public pressure to demobilize military forces.[6]

As a result, military forces had to relearn CSAR lessons each time the U.S. became involved in a new conflict. This relearning process was often at the expense

of lives: those of CSAR personnel and the aircrews they attempted to rescue.

Aircrews who became prisoners of war (POWs) in the European theater were humanely treated during WW II, because all belligerents agreed to the provisions of the Geneva Convention and the Law of Land Warfare. This was not the case with Japan who systematically tortured, starved, or use POWs as slave laborers.

During the Cold War, the communists changed how they dealt with POWs. During the Korean and Vietnam Wars, the world saw adversaries use prisoners as political pawns to influence public opinion or gain advantages during peace negotiations.

> The North Vietnamese were quick to realize and capitalize upon the political value of prisoners of war. The majority of these men were downed aviators. Due to the brand of restricted warfare practiced by the U.S. in Vietnam and the strong antiwar sentiment dividing our population, the manipulation of the POW issue by our enemy significantly contributed to the outcome of the war--one which clearly favored the North Vietnamese. The prevention of POWs is one goal of combat SAR. Although the existence of even one American POW could be put to political advantage, the absolute minimization of their numbers is possible only through a thoughtful and concerted effort to maintain a viable combat SAR capability.[7]

Discussions on television talk shows about prisoners of war still evoke American's emotions. Today, 18 years after the end of the Vietnam War, there is still a strong public outcry at the possibility that U.S. POWs are alive and held against their will in Southeast Asia.

Research Questions

This thesis evaluates this nation's CSAR capabilities and determines if it supports theater CINCs' war plans. There are several questions that are associated with Combat Search and Rescue which this paper will address. The first questions are key to the thesis: does current Combat Search and Rescue (CSAR) joint doctrine support Theater CINCs' wartime and contingency operations plans? Are CSAR policies in various Joint Chiefs of Staff publications still valid? Secondary questions are:

1. Can services support joint doctrine?

2. Do their organizations, training, and equipment support their own CSAR doctrine?

3. Can theater CINCs implement their CSAR plans?

4. Why were United States Special Operations Command (USSOCOM) forces tasked to conduct CSAR missions during Operation Desert Storm? Is this a symptom that services had deficiencies preventing them from conducting their own CSAR operations during the air war?

5. Are there better CSAR alternatives that support theater CINCs' wartime and contingency operations plans?

Assumptions

This study uses the following assumptions:

1. President Clinton's national security strategy is not drastically different from the past Bush administration's strategies.

2. Department of Defense will not change CSAR doctrine during the course of this study.

3. U.S. military force structure will continue to decline. Any increase in CSAR assets will come from other forces within service components.

4. The U.S. will responded militarily to regional crisis that threaten our vital interests, just as it acted to the Iraqi invasion of Kuwait. Additionally, the U.S. will provide humanitarian assistance to countries in need, as it has for Somalia and Bosnia Hercegovina.

5. Resources will not be available to design and procure new rescue helicopters. Funding will be available only to modify existing helicopters with equipment required to conduct CSAR in hostile environments.

Definitions

Listed are definitions of terms used in the study:

Areas of the Battlefield. Combat operations are on non-linear battlefields where forces fight close, deep, and rear battles.

Close combat operations is two opposing forces committed in battle. The outcome of close combat operations ultimately determines the success or failure of an engagement or battle. Combat forces fighting the close battle consist of: ground maneuver units, Army, joint and combined aviation support, artillery and naval indirect

fires, command and control elements, tactical reserves and logistics support to committed units.

Deep combat operations are conducted in front of friendly units against enemy forces not in contact with friendly units engaged in the close battle. Deep operations influence conditions and shape the battlefield for future close battle operations.

Depending on the type echelon (brigades, divisions, corps, and echelon above units), rear battle operations are conducted behind friendly forces in the communications zone (COMMZ). These operations assure freedom of movement and continuity of operations and sustainment against interference from enemy actions. Enemy activities in the rear area are from special operations units, airborne forces, terrorists, and guerrillas.[8]

Blimp. A nonrigid airship used by the U.S. Navy in the Atlantic Ocean during World War II. Blimps patrolled shipping routes and protected convoys against German submarines. Lifted into the air by helium, blimps attain forward flight from two aircraft engines.

Combat Search and Rescue (CSAR) and Search and Rescue (SAR). CSAR is a specific task performed by rescue forces to recover isolated personnel from enemy controlled areas during wartime or contingency operations. SAR is the use of aircraft, surface craft, submarines, specialized rescue teams and equipment to search for and rescue

personnel in distress on land or at sea.[9] This thesis is concerned only with aerial recovery in combat environments on land.

Combat Search and Rescue System. The architecture for accomplishing CSAR and SAR. It is comprised of the following components: doctrine, organizations, training, and equipment.

Contingency Operations. Rapid deployment of military forces to time-sensitive crisis locations that threaten U.S. national interest in the world.

Crisis Planning. Conducted during emergencies when time is a critical factor. It is a six-step planning process completed within hours or days in response to crises requiring the use of military forces. Theater CINCs receive mission taskings through a warning order transmitted from the Joint Chiefs of Staff. This warning order allocates specific military forces that CINCs may use when planning various courses of action. The CINCs complete and recommend courses of action. These are sent to the Office of the Joint Chiefs of Staff and approved by the National Command Authority (NCA). The NCA consists of the President and the Secretary of Defense, and is the only approving authority to order execution of a military action.[10]

Deliberate Planning. Also known as peacetime planning, is conducted by a Theater CINC and his staff when time is not a critical factor. It is a five-step planning

process usually taking 18 to 24 months to complete. Theater CINCs receive mission planning guidance from the Joint Chiefs of Staff through the Joint Strategic Capabilities Plan (JSCP). This plan apportions which type military forces are used for various war plans. Theater CINCs approve the finished war plan, and it is reviewed by the Office of the Joint Chiefs of Staff.[11]

Joint Rescue Coordination Center (JRCC). A joint center staffed by personnel from two or more service components. The JRCC coordinates and controls CSAR and SAR operations within a theater or specific area of operation.

Rescue Coordination Center (RCC). A facility operated by personnel from a single service with the task of coordinating and controlling CSAR operations within a service component's area of responsibility.

Search and Rescue (SAR) Controller. A designated SAR representative of the Theater CINC with the authority and responsibility for the operation of the JRCC.

Service Components. This term refers to Army, Navy, Coast Guard, Marine Corps, Air Force, and Special Operations Forces. Even though SOF is not a separate service, it is considered as service component in this study.

Special Operations Forces (SOF). Special operations are operations conducted by specially trained, equipped, and organized Department of Defense (DOD) forces. These forces are used against strategic and tactical targets in pursuit

of national military, political, economic, or psychological objectives. Special operations are conducted during periods of peace or hostilities. They may support conventional operations or are prosecuted independently when the use of conventional forces is either inappropriate or infeasible.[12]

Survival, Evasion, Resistance, and Escape Operations (SERE). These are activities necessary to return personnel downed behind enemy lines. Personnel must survive while evading enemy capture and know procedures for recovery by CSAR assets. If captured, they must survive while in captivity as a POW until returned with honor to friendly control once a conflict is ended.[13]

Operational Continuum. Modern warfare is characterized into three spectra of conflict depending on probability of occurrence, intensity, and level of lethality. These levels of warfare are low intensity, mid-intensity, and high intensity conflicts.

Low intensity warfare has a high probability of occurrence but a low lethality level. This level of warfare is characterized by the use of terrorism, guerrilla warfare, subversion, and insurgency tactics by irregular and unconventional armed forces. U.S. Special Operations forces, light infantry units, and conventional air power are used to defeat adversaries in low intensity conflicts.

Mid-intensity conflicts have a medium probability of occurrence and a medium level of lethality. World War II and the Korean War best characterize the violence and risk of mid-intensity conflict.

In addition to the weapons and arms of mid-intensity conflict, high intensity conflict is where adversaries use weapons of mass destruction, such as nuclear, chemical, and biological weapons, to achieve their military and political objectives. This level of conflict has a low probability of occurring but is the most lethal to warring factions.

Unified Combatant Commands. There are eight unified combatant commands in the Department of Defense. Commanders of these commands are designated as Commander in Chief (CINC). Their responsibilities are to organize and employ armed forces and commands to accomplish assigned military missions. Other responsibilities include developing and executing war plans, assigning tasks, and designating objectives. CINCs give authoritative direction for military operations, joint training, and logistics.

Five combatant commands are responsible for military operations in the following global regions: Pacific, Atlantic, Europe, Southwest Asia, and Latin and South America. These commanders are commonly referred to as Theater CINCs.

The other three combatant commands have functional responsibilities. These are the U.S. Special Operations

Command, U.S. Space Command, and U.S. Transportation Command. Functional unified commanders provide combat assets to the Theater CINCs and are not bound by any single geographic area.[14]

United States Special Operations Command (USSOCOM). A functional unified combatant command responsible for the selection, training, equipping, and when ordered, control of multi-service special operations forces.

Limitations

This study is conducted during the 1992 Presidential election. It used former President Bush's national security strategy because President Clinton had not published his strategies or policies when the study was completed in the spring of 1993.

Delimitations

1. Other assets (ship, submarines, search parties) are used to conduct searches and rescues during both war and peace. This study analyzes only the use of helicopters for Combat Search and Rescue during contingency operations and wartime. It evaluates service components' peacetime search and rescue force structures to determine if they are adequate to support theater CINCs' war or contingency plans.

2. Research conducted in the study uses only unclassified data. Classified interservice agreements and lessons learned from past conflicts are not used.

The next chapter describes the history of combat search and rescue. It evaluates historical experiences learned since World War II and uses this information to establish criteria for the analysis of CSAR alternatives.

Chapter 3 contains the review of literature on the subject of CSAR. It describes former President Bush's National Security Strategy as well as policies from the former Secretary of Defense and the Chairman of the Joint Chiefs of Staff. This chapter includes an evaluation of joint and individual services' CSAR doctrine.

The majority of contemporary information on CSAR issues is written by service members attending various armed forces service schools. Their theses provided insights into service component attitudes on CSAR and the problems in executing CSAR missions. Information from the review of literature is used in the analysis.

The analysis is conducted in chapter 4. It is divided into two segments: the first portion validates the thesis statement and the second portion selects a CSAR alternative which supports Theater CINCs. This chapter also explains the methodology used to analyze both the thesis and evaluation of alternatives.

Finally, chapter 5 gives the author's recommendation for one of the six alternatives, concludes the thesis, and suggests CSAR subjects for further study.

CHAPTER 2

HISTORICAL BACKGROUND

World War II

Germany formed the first rescue service in 1936 with fast patrol/rescue boats under Luftwaffe administrative control.[1] In 1939 it increased its rescue capabilities by using 14 Heinkel HE-59 seaplanes modified for air-rescue service. Special equipment and HE-59 aircraft modifications included medical equipment, respirators, electrically heated sleeping bags, a floor hatch with a collapsible ladder, and a hoist to lift injured personnel into the aircraft.[2] As German Armies conquered the European Continent, they positioned air-rescue assets in Norway, Holland, Denmark, and France. These forward positions allowed quick rescue of downed German Aviators (and sometimes British pilots who became prisoners) from the North Sea, Atlantic Ocean, and the English Channel.

The Royal Air Force was unprepared to conduct organized rescues when Britain entered the war. "Their search and rescue system depended upon Royal Air Force high-speed boats, any surface vessels in the vicinity and whatever aircraft might be available either from the Coastal Command or the home squadron of the missing plane."[3] As a

result, they had zero recovery rate and lost over a quarter of their pilots in the English Channel during the Battle of Britain."[4] This high rate of loss of British aviators caused Winston Churchill to write, "Their places could only be filled by 260 new, ardent, but inexperienced pilots drawn from training units, in many cases before their full courses were completed."[5] With only 1,000 available pilots, the United Kingdom could not afford high loss rates.

In 1940, the British formed a joint air-search organization. The Royal Air Force conducted air searches while the Royal Navy rescued aviators from the sea. This joint organization did not function smoothly, therefore, in 1941 responsibility for all rescues was assigned to the Coastal Command. Creation of this command greatly improved the success rate for recovering downed British aviators from the English Channel.

In the beginning days of World War II, the United States Armed Forces had no CSAR doctrine, organization, or equipment to rescue downed aviators. "On land, with no rescue procedures defined, any search for a missing aviator was conducted in a random fashion."[6] The Army Air Corps conducted land search and rescue while the Navy and Coast Guard were responsible for sea rescues. "Fortunately, we [the U.S.] were able to learn from our allies' experiences, and initially modeled much of our training on British doctrine and used British rescue equipment."[7]

The U.S. and British forces coordinated their efforts by dividing the areas for rescue responsibility in Europe. Even though the possibility of rescue from German occupied Europe was still remote, rescue from sea in the European Theater had a 90% success rate by 1944.[8] In addition, Navy blimps were used to rescue downed British and American aviators from the Bahama Islands and Brazil in 1944. After several attempts, blimp pilots learned the value of adding extra personnel and equipment for possible rescue missions.[9] The U.S. Navy had the primary American responsibility for rescue in the Pacific Theater due to the vast areas of water. The aircraft most used in this theater for rescue missions was the PBY Catalina. This slow seaplane cruised at 120 nautical miles per hour (kts), which was ideal for over water searching; however, its 600 to 800 nautical mile radius and its inability to land on rough seas limited its capabilities to pick up downed pilots from the water. The Air Force used modified B-17 Flying Fortresses and later, the B-29 Super Fortress bombers to conduct rescues at longer ranges. These aircraft located and dropped mahogany laminated-plywood boats and later, rubber dinghies, to downed aircrews in the water.

Late in the war, the Navy used submarines as rescue "lifeguards." Stationed close to enemy islands during Navy air raids, submarines recovered pilots who ditched at sea.[10] The Navy and Air Force coordinated the positioning

of rescue submarine "lifeguards" during B-29 bombing raids on Japan. During 1944 "Pacific submarines rescued 117 navy and air corps airmen."[11] One submarine, the USS Tang, picked up 22 airmen during a cruise off Truk Island.[12]

Rescue helicopters were first introduced in the Burma-China-India Theater during World War II. This theater of operations was characterized by dense jungles and high mountainous terrain. Before the arrival of the helicopters, miliary C-47, C-46, and B-24 aircraft searched for downed aircrews over vast areas. Once aircrews were located, these aircraft dropped survival equipment and supplies. The downed aircrews were then on their own, sometimes for weeks, until they either walked to friendly areas or were found by ground search and rescue teams. The 8th Emergency Rescue Squadron was the first unit organized specifically for air-rescue and equipped with Sikorsky R-6 helicopters. In its first 6 months of operation, the squadron recovered 43 airmen out of 100 rescue attempts. "The development of the helicopter came too late in the war to have a significant impact, but the implications for the future of rescue were immense."[13]

By 1945, U.S. Armed Forces developed joint and combined CSAR forces in all theaters. They improved rescue equipment, training, techniques, and procedures. Interservice coordination, adequate planning, and proper positioning of rescue surface vessels, submarines, and aircraft increased the recovery rate to 80 percent. Nearly

2,400 sailors and airmen manned rescue forces when the final B-29 bombing mission was flown against Japan on 14 August 1945.[14]

After World War II, there was a controversy over which service was responsible for CSAR. To meet its global mission, the Army Air Corps wanted to expand its own air rescue capabilities. The U.S. Coast Guard, backed by the U.S. Navy, wanted the air and sea rescue mission which had traditionally been theirs since 1915. The services compromised by dividing rescue missions between land and water areas. The Army Air Corps formed the Air Rescue Service (ARS) in 1945, with the responsibility for land rescues. The ARS established liaison and coordinated with the Coast Guard for rescues over water and along coastal areas.[15]

Unfortunately, the birth of the ARS was during a time when the armed forces were decreasing due to budget constraints. Also, the American public wanted the services to rapidly demobilize after World War II. Overseas bases, force structure, and equipment were dramatically reduced causing ARS to consolidate its organizations and equipment which decreased its rescue capabilities.

The National Security Act of 1947, established the Air Force as a separate service component equal to the Army and Navy. After meeting in Key West, Florida, the services agreed to specific roles, missions, and functions based on

land, sea, and air combat operations. As the primary proponent for air power, the new Air Force inherited ARS, along with other organizational forces and assets, from the old Army Air Corps.[16]

The Korean War

When the United States entered the Korean War, both the Navy and Air Force had their own CSAR doctrine, organizations, training programs, and equipment. The Air Force used two veterans from World War II, the modified SB-17 Flying Fortress and SB-29 Super Fortress bombers to conduct rescues at long ranges. Also introduced was the SA-16 Albatross, an amphibian seaplane used to rescue aviators who ditched in the seas around the Korean peninsula. The Albatross "was credited for 66 out of the 68 rescues by fixed-wing aircraft during the Korean War."[17] Eventually, the Albatross replaced the older SB-17 and SB-29 aircraft.

The Korean War saw the extensive use of helicopters by all services. Helicopters conducted air evacuation of casualties from the battle field, flew behind enemy lines to rescue shot-down pilots, and recovered downed aviators at sea. Forward deployed helicopters on islands and Navy ships, near bail-out areas, increased the probability of rescuing downed aviators thereby preventing enemy capture.

As helicopters increased CSAR missions over hostile territory, it became clear that they were vulnerable to enemy air defense and small arms ground fires. Several were

lost to enemy fire during rescue attempts before the Navy and Air Force began experimenting with the concept of integrating attack and fighter fixed-wing aircraft into rescue operations. Aerial fire from these aircraft could suppress and neutralize enemy ground fires while rescue helicopters picked up downed aircrews. Unfortunately, the services did not adequately implement this concept. They usually formed ad hoc fixed- and rotary-wing rescue teams after an emergency call for help was received by a downed aircrew's wingman. Fighter and attack aircraft, returning from strikes on enemy targets, were quickly tasked to protect the rescue helicopter already flying towards the downed aircrews position. Fixed-wing support during the rescue attempt was limited because they were usually low on fuel and ammunition. Therefore, they provided limited aerial fire support for slow flying rescue helicopters.

The lack of established rescue procedures, integrated fixed-wing and helicopter training, and coordinated command and control hampered many rescue attempts. The Korean War era helicopters provided a means to rescue personnel behind enemy lines, but they were slow and vulnerable to enemy ground fires. Knowing these vulnerabilities, the services still failed to adequately organize rescue task forces to provide fixed-wing fire support for rescue helicopters.

The decrease in defense budgets between the Korean and Vietnam Wars sharply reduced both Navy and Air Force CSAR capabilities. All separate rescue organizations and equipment, located on U.S. Air Force air bases, were consolidated under command and control of the Air Rescue Service. This expanded the inventory of helicopters in the Air Rescue Service but did not increase its capabilities. Also, during this period ARS detachments were equipped with light-weight, small, limited range HH-43 helicopters used to conduct local air base rescues. But, the Air Rescue Services were spread too thin to support U.S. Air Force's global strategic missions and provided detachments on all air bases for local search and rescue. As the ARS was reorganizing, the Air Force changed its doctrinal concept for CSAR.

In 1958, the Air Force changed its policy towards CSAR:

> ARS will be organized, manned, equipped, trained, and deployed to support peacetime air operations. No special units or specially designated aircraft will be provided for the sole purpose of wartime search and rescue. Wartime rescue operations will be dictated by the capabilities of equipment used for peacetime SAR.[18]

With the limited assets it had available, the Air Rescue Service concentrated on supporting the nation's space programs by locating and retrieving space capsules and personnel.[19] "By the end of 1960, the ARS was a skeleton command consisting of three squadrons and 1,450 personnel."[20]

The emphasis on its peacetime mission did not prepare the ARS for the future war in Southeast Asia. Lessons it learned during WW II and the Korean War were forgotten when the United States entered into combat during the Vietnam War.

The Vietnam War

In the opening days of combat in Vietnam and Laos the services were unprepared to conduct CSAR in the mountains and jungle of Southeast Asia. CSAR lessons they had forgotten since World War II and Korea had to be relearned again after pilots were shot down in communist held territory. Individual services had to develop and implement new CSAR doctrine, organizations, training programs, and equipment. Even though the Air Force deployed a Rescue Coordination Center to plan and execute rescue of Air Force aviators, there was no unified command operations center for CSAR in Southeast Asia.

Of all the services fighting in Southeast Asia, the Air Force had the only organization dedicated to conduct CSAR operations, the Air Rescue Service. This organization, which was later redesignated the Aerospace Rescue and Recovery Service (ARRS), provided CSAR a cadre of well-trained experienced personnel, even though their doctrine was focused on peacetime missions. Deployed to Southeast Asia after the Gulf of Tonkin incident, the ARRS had limited success in rescue attempts because their HH-43 helicopters

lacked the operational capabilities to conduct long range rescue missions.[21]

As the war in Southeast Asia progressed the ARRS received helicopters with increased capabilities and they developed new CSAR tactics and doctrine. After losing rescue helicopters to enemy fire early in the war, the Air Force integrated armed escort fixed-wing aircraft with rescue helicopters.[22] As a result of these innovations and improvements, the ARRS is credited for 2,713 combat saves during the period from 1966 to 1973.[23]

The Navy was less successful in their rescue attempts during the early days of combat. They did not have a dedicated CSAR organization like the Air Force. "Without an inherent organizational structure, the Navy employed stripped down antisubmarine warfare helicopters and aircraft carrier 'plane guard' aircraft [helicopters] with ill-trained crews and bolt-on equipment."[24]

A comparison between the two services illustrates the difference in rescue attempts in a combat environment. "While the Air Force lost 1 [CSAR] aircraft per 4.5 rescues and experienced a SAR personnel loss of 1 per 5.2 rescues, the Navy experienced 1 lost [CSAR] aircraft per 1.4 rescues and lost 1 SAR crewman per 1.8 rescues."[25] The Navy improved their rescue rates by deploying a dedicated CSAR squadron to Southeast Asia in 1967. This squadron increased

the Navy's rescue success rates by saving "149 combat and non-combat rescues without a single loss of life."[26]

After the Vietnam War the Navy transferred its active duty CSAR squadron to the reserves. It now relies on organic anti-submarine and logistics helicopters to recuse downed aircrews.

Joint Army-Air Force Initiatives 16 and 17

The revitalization of SOF to counter increased terrorist activities in the early 1980s caused profound changes in CSAR. The development of newer helicopters and joint Army and Air Force initiatives affected this country's ability to conduct world-wide CSAR.

First, in 1980 was the failure of U.S. military forces to rescue hostages held by Iran. The Desert One debacle caused the Air Force to transfer its newly acquired long-range MH-43 PAVE LOW helicopters and their crews from the ARRS to the 1st Special Operations Wing (SOW).[27] The 1st SOW, Army aviation, and ground SOF units began joint training exercises in anticipation of a second hostage rescue attempt in Iran. This left the ARRS with an inventory of old 1960s and 1970s technology helicopters consisting of UH-1s, CH-3, and HH-3. "In effect, the ARRS had no means to accomplish the CSAR mission in the threat environments of the 1980s and 1990s."[28]

Second, in the early 1980s, the Army and Air Force formed a Joint Development Group to discuss 31 Initiatives

to eliminate duplication of various missions and equipment programs. Two of these initiatives, Initiatives 16 and 17, pertained to CSAR and aviation support to SOF. Initiative 17 was an agreement between the Army and Air Force Chiefs of Staff to consolidate all rotary-wing support for SOF into the Army. This meant that the Air Force would transfer its MH-53 PAVE LOW helicopters to the Army when the 31 Initiatives became official.

Initiative 16 would transfer part of the long-range rotary wing CSAR mission from the Air Force to Army Special Operations once Initiative 17 was implemented. This initiative divided the responsibilities for CSAR between Army SOF and the Air Force based on zones of operations within a theater. These zones were based on distances from friendly lines and helicopter range capabilities. Army SOF was responsible for CSAR and escape and evasion networks deep behind enemy lines, while the Air Force rescued its aircrews in friendly areas and in hostile areas close to U.S. lines. The Air Force remained the proponent for CSAR with "its own special operations forces providing backup capability[ies],"[29] and would continue developing tactics, techniques, and procedures for CSAR in their zones of responsibility. SOF would provide assistance in certain situations. "The Army and Air Force [would continue to] develop tactics, techniques, and procedures for SOF to conduct SAR beyond Air Force zones."[30]

Anticipating an agreement with the Army on the 31 Initiatives, particularly Initiatives 16 and 17, the Air Force disbanded the ARRS in 1983. "The Air Force tried to merge its special operations and combat search and rescue units under the 23rd Air Force, the forerunner of today's Air Force Special Operations Command."[31]

Army and Air Force Chiefs of Staff signed a memorandum making the 31 Initiatives official in 1984. Today, however, Initiatives 16 and 17 have not been implemented due to a reevaluation of CSAR requirements and interservice controversy on air support for SOF.[32]

After the 1984 signing, the Army/Air Force Joint Development Group reevaluated CSAR requirements and service responsibilities. They decided that the morale and customized training advantages of each service "taking care if its own outweighed the advantages of a rationalized single service C3 [command, control, and communications] of SAR."[33] Hence, the Air Force would retain responsibility for its own CSAR.

As soon as it was announced, Initiative 17 became embroiled in controversy.[34] There was resistance from the Air Force special operation community and Congress on the transfer of MH-53 PAVE LOW helicopters and consolidating rotary-wing support for SOF in the Army. The initial agreement was for the Army and Air Force to share the mission to support SOF until a time when the Army would

field its advanced special operations helicopters, the MH-47E and MH-60K. These two aircraft were modified versions of the Army's CH-47 Chinook and UH-60 helicopters equipped with specialized equipment required to fly special operations missions. Once the Army fielded these helicopters and assumed the rotary-wing support for SOF, under the auspices of Initiative 17, the MH-53 PAVE LOW helicopters would transfer from special operations back to the Air Force. Instead, the Air Force began modifying the rest of their CH-53 helicopters into the MH-53 PAVE LOW configuration to continue supporting SOF.

In 1986, "Congress and the President attempted to solve part of the confusion by passing and signing a law to consolidate all the services' special operations forces into one new agency."[35]

After its establishment, the U.S. Special Operations Command (USSOCOM) was to sort through the controversy of rotary-wing support for SOF. To date, however, SOF helicopter support is still shared by the Army and Air Force and Initiative 17 has not been implemented.

The controversy over Initiative 17 impacted CSAR support for theater CINCs. First:

> in 1985 the warfighting CINC's were convinced that the future battlefield was too lethal for the traditional quick reaction, stand-by, type of CSAR. All CSAR missions on this new battlefield would in effect be special operations. This vision gave credence to the transfer of assets from the ARS to the special operations forces.[36]

Theater CINCs' had no redundant CSAR forces in case SOF was committed supporting special operations missions.

Second, budget reductions in USSOCOM reduced the procurement of the required quantity of helicopters to support Theater CINCs' special operations missions. This decrease in available helicopters meant that USSOCOM would be hard pressed to fulfill its mission requirements to support SOF, much less conduct CSAR as add-on missions.

Last, USSOCOM's doctrine states:

> As with other military forces, certain SOF have the inherent capability to accomplish personnel recovery missions. However, SOF are not organized, equipped, or trained to conduct search and rescue (SAR) or combat search and rescue (CSAR) as continuing missions. The services maintain forces dedicated to SAR/CSAR tasks, which possess operational alert procedures and command and control structures. There may be situations, however, when the specialized capabilities of SOF may be required to recover isolated personnel whose recovery is beyond the capabilities of component combat rescue forces. Such personnel recovery missions would resemble DA [direct action] operations and would be characterized by detailed planning, preparations, rehearsal, and thorough intelligence analysis.[37]

Theater CINCs are in a dilemma. They can use SOF only when rescue of downed aviators is beyond the capabilities of the services' CSAR assets. This situation, plus the disbanding of the Air Force's ARS, set the stage for CSAR during Operations Desert Shield and Desert Storm in Southwest Asia.

ARS Reestablished in 1989

Realizing their predicament of having their SOF units dual-tasked to support special operations and CSAR, the Air Force reestablished the ARS as a separate command in August 1989. Starting from scratch, the new ARS faced several problems that prevented its participation in Operations Desert Shield and Desert Storm.

First, the majority of the ARS's aviation assets were still the vintage helicopters from the 1970s and early 1980s consisting older HH-3Es and CH-53Es. It had only four modern HH-60G helicopters, which were specially configured for rescue missions. These helicopters are equipped with in-flight refueling, an external rescue hoist and all-weather radar.[38]

Second, 59 of 80 ARS helicopters were in the reserve components. This meant that half of these helicopters were not readily available for immediate deployment to crisis areas in the world.

Last, what limited assets the ARS had on active duty were committed to provide support to Theater CINCs in Japan, Iceland, and the space program in Florida.

The newly established ARS could not provide a readily deployable, capable CSAR force to support Operations Desert Shield and Desert Storm. They eventually deployed personnel to Southwest Asia to assist in operating the JRCC.

Because of limited national CSAR assets during the early days of Operation Desert Shield, General Schwarzkopf placed his Theater Special Operations Command "100 percent in charge of combat search and rescue."[39] Air Force special operations (AFSOC) headquarters, along with augmentation personnel from the ARS, commanded the JRCC.

Special operations units from the Army and the Air Force had to conduct extensive night training exercises in CSAR tactics, techniques, and procedures during Desert Shield. Training included basic desert night flying tasks, CSAR procedures, night signalling and pick-up techniques, ground security and authentication procedures. Air Force Special Operations was assigned to operate the Joint Rescue Coordination Center. Prior to Operation Desert Storm, they perfected command and control procedures during three "full dress" rehearsals.

Once the air war started, these units deployed to forward launch sites to conduct 24 hour-a-day strip alert for possible CSAR missions. A total of eight rescue attempts were launched during Operation Desert Storm. Joint Army and Air Force SOF units rescued three out of four pilots shot down in Iraq. The fourth aviator was rescued by Kuwaiti resistance forces.[40] The only sea rescue during the war was conducted by a Navy special operations unit, stationed on board the USS Nicholas (FFG-47). Members from this unit flew in a Navy SH-60 LAMPS II helicopter and

rescued an Air Force pilot 35 minutes after he ejected from his damaged combat aircraft over the Persian Gulf.[41] Problems during several rescue attempts included:

a. Delay in coordinating diplomatic clearances through Turkey and Syrian airspace caused the capture of one downed aviator.

b. Inaccurate position reporting of downed aircrews by the E-3A AWACS prevented the rescue of several aircrews. Errors in distances were from 10 to 30 miles.

c. Several rescues were hindered because PRC-90 pilot survival radios were incompatible with location devices on rescue helicopters which could only detect PRC-112 radios.

Roles and Missions Controversy

After the conclusion of Operation Desert Storm, the American public and Congress increased pressure for a smaller military. The demand for a "peace dividend" has caused the Department of Defense and individual services to decrease their force structures and procurement of equipment. In light of the decreased threat from the former Soviet Union, Senator Sam Nunn (GA) gave a floor speech on 2 July 1992 titled, "The Defense Department must thoroughly overhaul the services roles and missions."[42] This reevaluation of roles and missions will have an impact on the future of CSAR and cause controversy among the services.

One of Senator Nunn's proposals is to consolidate Army and Air Force helicopter assets into the Army to prevent duplication of missions. He referred to Initiatives 16 and 17, which were not implemented because of political reasons as well as Army and Air Force interservice differences.[43] If Senator Nunn's proposal is adopted, then all helicopters will be transferred to the Army. The Army will then have the responsibility for theater CSAR. An Army Times article, dated 11 January 1993 states that Chairman of the Joint Chiefs of Staff (CJCS), General Powell, proposed "assigning the Army all combat search-and-rescue missions."[44]

Another proposal from the Department of Defense is to further assign all CSAR missions to Special Operations Forces (SOF). The Assistant Secretary of Defense for Special Operations and Low-intensity Conflict, James R. Locher III, expressed concern that special operations forces may not have enough aviation assets to support both special operations and perform theater CSAR.[45]

A memorandum from USSOCOM to CJCS, states that special operations could support all Theater CINCs' CSAR requirements if all ARS assets were transferred from the Air Force to USSOCOM. The memorandum then explains such a transfer would increase the force structure to an adequate level which gives special operations the capability to support both missions.[46]

The final decision on the future of CSAR was made by General Powell, Chairman of the Joint Chiefs of Staff, when he announced his finding on the roles, mission, and functions of the armed forces in February 1993. His recommendation was "all four services retain responsibility for CSAR operations. CSAR forces will be equipped to operate individually or together employing standardized joint doctrine, tactics, techniques, and procedures."[47] He also states that Joint Rescue Coordination Centers will control and coordinate all CSAR forces for Theater CINCs.[48]

General Powell admitted that "dedicated CSAR units were absorbed by other tasks and virtually disappeared from the military force structure."[49] He further explained that capabilities were rapidly "pieced together to meet battlefield requirements" during Operation Desert Storm.[50] He also states that services in the past have not implemented joint operational doctrine as they developed their individual CSAR programs. To overcome past mistakes, the services have implemented joint training exercises to improve CSAR procedures.[51]

Many in the Senate and Congress were critical of General Powell's recommendations. They felt that he did not consolidate the services roles and missions enough to further decrease the defense budget. They vowed to continue pressuring the Defense Department for more consolidation of the services functions. No doubt, future roles and mission

issues will continue to embroil CSAR in controversy while service components position themselves to retain or gain defense resources and power.

Conclusions

The history of CSAR is characterized by fits and starts. During war, there is a burst of activity to develop and implement CSAR systems to rescue downed aircrews. When the conflict is concluded, attention to CSAR is followed by periods of inactivity. This is usually due the public's demand to reduce military forces and spending. Lessons learned during past wars are forgotten, only to be relearned during the beginning of the next conflict. This cycle usually costs the lives of personnel not rescued and the individuals attempting the rescues. The following conclusions are made from the historical review of CSAR. These are discussed in terms of doctrine, force structure, training, and equipment.

CSAR doctrine has not been consistent since WW II. Peacetime attitudes and budget reductions have placed CSAR low on the lists of service priorities. This has affected funding for force structure, training, and equipment. During the 1950's, the Air Force's emphasis on peacetime operations left the ARS unprepared for combat rescues during the war in Southeast Asia. The Navy did not have a viable CSAR capability until it suffered unacceptable losses during the early days of the Vietnam War.

In past conflicts, Theater CINCs have not paid adequate attention to CSAR capabilities in their areas of operations. Part of their attitude was based on the misinterpretation of enemy threats and relying on the services to develop and field rescue forces.

Furthermore, come-as-you-are wars like Grenada and Panama demonstrated the problem of relying on CSAR forces in reserve components. Once mobilized, these forces would require extensive training time and can not respond to short notice, time-critical regional crisis situations.

When the services reduce their CSAR capabilities because of budget cuts, the Theater CINCs' rescue abilities also decrease. To rapidly respond to regional contingencies, Theater CINCs must convince the Department of Defense that CSAR is an important priority in their war and contingency plans. DOD must instruct service components to fund and maintain their CSAR capabilities during both war and peace. If attitudes of the services keep CSAR as a low priority, then DOD must evaluate alternative CSAR options.

Dedicated CSAR military organizations have higher rescue success rates compared to units that view CSAR as a collateral mission. As shown during the Vietnam War, the Navy had dismal rescue results until they deployed a dedicated CSAR unit. The U.S. Air Force was very successful in rescuing aviators during the last half of the war in Southeast Asia. Their successes are attributed to ARS

development of doctrine and tactics, CSAR command and control, training of rescue personnel, and capable helicopters.

Adequate CSAR forces are required to support Theater CINCs. Operation Desert Storm illustrated that there were not enough CSAR forces available to support the Theater CINC's air campaign. Much of the Navy's and Air Force's CSAR capabilities were in the reserves and were unable to deploy in a timely manner. As a result, General Schwarzkopf had to task his special operations force to rescue aviators downed in Iraqi territory. Future conflicts will require readily deployable CSAR forces from active duty components.

To successfully rescue aircrews from enemy territory, modern CSAR aircraft require special equipment such as rescue hoists, self-defense weapons, night vision devices, and sophisticated navigation equipment.[52] The German Luftwaffe realized this fact and went to great lengths to install rescue equipment in their float planes in WW II. During the Vietnam War, the ARS installed rescue hoists and other CSAR related equipment on their helicopters. This equipment enhanced the ability to recover aircrews in adverse environments, such as triple-canopy jungle and conduct over water rescues.

CSAR aircraft must have operational capabilities to conduct rescues deep within enemy territory. In the early period of the Southeast Asia War, the ARS was limited in

their rescue abilities because of the limited capabilities of their HH-43 helicopters. Future conflicts will require helicopters to have a night flight capability, highly accurate navigation systems, and long-range abilities to penetrate deep into enemy territory.

This chapter described the history of CSAR with the intent to discover lessons learned during four wars. These lessons learned are examined to develop criteria for use later in the study. The next chapter examines national policies, as well as joint and individual services' CSAR doctrine.

CHAPTER 3

REVIEW OF LITERATURE

Introduction

The purpose of the literature review is to gain a knowledge of various viewpoints, opinions, and lessons learned from experts in the military field of CSAR. The review examines reports and theses on CSAR subjects written by Army, Air Force, Special Operations, and Navy personnel. Also, Army Field Manuals (FMs), other service manuals, and Joint Chiefs of Staff publications are used during the thesis research. Information from these various materials answers the thesis question and establishes criteria for analysis of CSAR alternatives. The review of literature is divided into three parts: (1) national security and military strategy is reviewed to gain an overview of the President's and Department of Defense policies; (2) DOD joint doctrine and policies on CSAR are evaluated to ascertain if they support Theater CINCs; and (3) individual service components doctrine, force structure, training, and equipment are evaluated to determine if they support Theater CINCs' CSAR plans.

National Security and Military Strategic Policies

After the fall of the Soviet Union as a global threat, the United States reevaluated and changed its foreign policy and international relationships with other countries. In the past, the emphasis on foreign policy and military strategy was to contain communism and defend Western Europe from a possible attack by the Soviet Union. The United States changed its focus from stopping world-wide communism to responding to crises in regions vital to our national interests.

This section discusses changes in foreign policy and how they affect this nation's armed forces. It also explains why capable CSAR forces are important when using military power. These forces may prevent escalation of a crisis situation and assist peace negotiations.

In his pamphlet National Security Strategy of the United States President Bush changed this country's emphasis on international policy and military strategy. He explained how a decreased Soviet threat offered the United States an opportunity to "build an international system in accordance with our own values and ideas, as old patterns and certainties crumble around us."[1]

To achieve this "new world order," President Bush explains how the use of economic, political/diplomatic, informational, and national military elements of power will

achieve national interests and objectives vital to the United States. These interests and objectives are:

> 1. The survival of the United States as a free and independent nation, with its fundamental values intact and its institutions and people secure.
> 2. A healthy and growing U.S. economy to ensure opportunity for individual prosperity and resources for national endeavors at home and abroad.
> 3. Healthy, cooperative and politically vigorous relations with allies and nations.
> 4. A stable and secure world, where political and economic freedom, human rights and democratic institutions flourish.[2]

Even though the potential for global war with the former Soviet Union is reduced, former President Bush warns that the world "remains a dangerous place - a world of ethnic antagonisms, national rivalries, religious tensions, spreading weaponry, personal ambitions and lingering authoritarianism."[3] The dissolution of the Soviet Union's power and influence has created power vacuums and regional instabilities. Some countries, such as Bosnia Hercegovina, Iran, Iraq, and North Korea, with histories of military adventurism may upset regional balances and resort to armed conflict to gain political, religious, territorial, and revenge vendettas.

The goal of the U.S. national interests and objectives is to maintain regional balances and resolve disputes before they erupt into military conflicts. In other words, deter aggression, face ambiguous dangers, and counter threats. If deterrence fails, the United States must respond to global crises with military power, either

with the support of Allies or unilaterally. Armed conflict may involve operations short of war (counterterrorism and counter-narcotic interdiction) or actual combat, as in the case of Operation Desert Storm. Regional crisis situations may erupt with little or no warning. Potential regional adversaries possess advanced military equipment, often procured from a cash hungry Soviet Union.[4] Weapon systems may consist of cruise missiles, modern air defenses, chemical weapons, ballistic missiles carrying conventional or nuclear warheads, and large modern conventional ground forces.

The United States faces new regional military challenges while decreasing the size of its armed forces. President Bush proposed a base force, a minimum essential military force required to protect national interests and objectives. This base force consists of:

1. Strategic Forces to protect the United States against nuclear threats.

2. Atlantic Forces responsible for responding to crisis situations in Europe and Southwest Asia.

3. Pacific Forces which are essentially maritime forces protecting sea lines of communications and responding to crisis situations along the Pacific rim.

4. Contingency Forces which are U.S. based and respond to world-wide crises.

Former President Bush stated that these military forces have four demands, "to ensure strategic deterrence, to exercise forward presence in key areas, to respond effectively to crises and to retain the national capacity to reconstitute forces should this ever be needed."[5] Bush also indicated he is ready to use military force by stating, "in the face of multiple and varied threats to stability, we will increasingly find our military strength a source of reassurance and a foundation for security, regionally and globally."[6] Presumably, the Clinton administration will have a similar outlook.

If the United States is challenged by adversaries, it may have to use military forces from Theater CINCs or deploy CONUS based contingency forces to implement the President's policies. This requires ready trained military forces that are prepared to rapidly deploy throughout the world in a timely manner. In most cases, the U.S.'s immediate response to a crisis situation is the use of air power. A viable CSAR force must deploy with U.S. air power to provide combat rescue of downed aircrews from hostile territories.

In his Annual Report to the President and the Congress, former Secretary of Defense, Dick Cheney described in greater detail the military aspects of the President's National Security Strategy. He emphasizes that the new defense strategy focuses on regions where countries are

hostile to the United States and its allies. This new regional defense strategy recognizes that the long-standing global threat from the Soviet Union has disappeared. Now, the U.S. faces regional threats that are as potentially dangerous as any encountered during the Cold War.

Hostile third world countries are acquiring advanced weapon systems from an economically distressed former Soviet Union. Not only are they attempting to obtain modern sophisticated conventional weapons, but they are trying to procure chemical, biological and nuclear weapons as well as unemployed Soviet scientists.[7] Former Secretary Cheney warns, "Regional defense strategy acknowledges that non democratic powers might attempt to achieve hegemony in regions that remain critical to U.S. interests, and such threats could arise with little or no warning."[8]

Cheney also points out that the United States must maintain a credible military force to deter regional threats. He warns Congress against reducing the size of the military beyond the recommended base force. This base force is needed to implement the President's four basic security requirements: strategic deterrence, forward presence, crisis response, and reconstitution of new military forces during national emergencies.[9] Cheney states that after proposed military force reductions, the military will be the same size as it was prior to the Korean War.[10] He warns that if the U.S. doesn't maintain sufficient military power, other

hostile powers will fill the vacuum and present challenges in areas that are vital to national interests.[11]

Of the four elements of regional defense strategy, forward presence and crisis response are required to counter regional threats. Secretary Cheney explains that forward presence maintains global stability and U.S. influence abroad. It shows allies, friends, and potential adversaries that the U.S. is committed and lends credibility to alliances. He states that forward presence is vital to the maintenance of the collective defense between the U.S. and its Allies. When necessary, these forces can quickly respond to regional crisis situations as demonstrated during the 1986 air raid on Libya and troop deployments from Germany to support Operation Desert Storm.[12]

Crisis response is a key element of the regional defense strategy. This requires highly trained military forces that must respond with little or no notice to crisis situations that are vital to U.S. national interests. Based in the continental United States, these contingency forces consist of heavy and light ground units, air power, naval and amphibious task forces, space assets, and special operations. Ready-reaction contingency forces must have versatility, lethality, global deployability, and rapid responsiveness. Secretary Cheney states the following requirement: "Readiness and mobility must be among the

highest priorities, especially for forces designated to respond to short warning crisis."[13]

Secretary Cheney then acknowledges the personnel aspect of regional defense strategy when he argues for his recommended size for the base force. He states that personnel were responsible for the employment of advanced military technology, and the success of Operation Desert Storm by explaining: "The effectiveness of our weaponry and support capabilities depends on the quality of the men and women who operate it."[14] He continues describing how effective military forces are a result of dedicated personnel, training personnel and combat units. He concludes his discussion on base force by stating the necessity to reach a balance between active and reserve component force structures as the military reduces its size.

Secretary Cheney describes individual service component's role in executing regional defense strategies. He explains that naval aircraft carriers will probably project the bulk of tactical air power in future contingencies because airfields are not always available in times of crises.

He discusses how the Air Force will restructure itself into two major commands: one the Air Combat Command and the other the Air Mobility Command. Both commands will consist of composite air wings, combining tactical, strategic, and support functions into one organization.

Support aircraft as part of these commands provides reconnaissance airborne warning and control, electronic combat, and search and rescue functions. He was not clear if Air Force search and rescue provides support for just composite air wings or to all the forces assigned to a theater CINC.[15]

The National Military Strategy of the United States is written by the Chairman of the Joint Chiefs of Staff, General Colin Powell. It is his concept on executing the military element of the national security strategy and expands the key points from the President and Secretary of Defense policies.

General Powell warns that the United States still faces a variety of global threats. He specifically designates North Korea, a weakened Iraq, and a hostile Iran as regional threats to U.S. national interests. He also describes how historical antagonisms, now surfacing after the fall of communism, threaten the long-term security of Europe. General Powell is concerned that political and economic instabilities in the former Soviet Union may impact peace on the European continent.[16]

Among many elements of military power, General Powell explains that forward presence and crisis response are fundamental to the policy of regionally orientated strategy. He also states "our ability to project power, both from the United States and from forward deployed

locations, has strategic value beyond crisis response."[17] He explains that the application of military force, either as a preemptory or retaliatory measure, may defuse crisis situations before they escalate to a point requiring larger military intervention.[18]

Regional defense strategy requires highly-trained military forces that can deploy quickly to world-wide trouble spots. These quick-response contingency units are primarily from active components and organized into joint task forces to capitalize on unique capabilities of each service. This gives theater CINCs the flexibility to tailor military forces to specific threats in their area of operations.

National Security Conclusions

The United States will use military force against hostile countries that perpetrate regional crises which threaten our vital national interests. Simultaneous crises may erupt with little or no warning. Military response to these crises requires highly trained forces with capabilities to rapidly deploy world-wide. They may conduct unilateral operations or with assistance from allies.

Military forces responding to regional threats are deployed either from forward locations or the continental U.S.. In either case, it is the Theater CINCs that plan for and execute military operations in regional areas. They require highly-trained military forces primarily from active

duty units. Quick response to crisis situations may prevent escalation into a larger conflict.

Maritime or land based air power is usually the first use of military forces in regional conflicts. To contain potential crisis situations, the U.S. may use air power to deny a hostile country the use of its airspace. Current examples of this strategy are the use of U.S. air power to deny Iraq the use of air space south of the 32 degree parallel and the proposed air space denial to Serbian forces over Bosnia Hercegovina.

Viable CSAR forces are required to rescue downed aircrews to prevent their capture and exploitation by our adversaries. Capture of U.S. aircrews by hostile countries may complicate peace negotiations. American prisoners paraded on television by adversaries may have a negative impact on U.S. public opinion. Inflamed public emotions may pressure our government to prematurely settle a conflict or prolong it until prisoners are returned. In either case, public influence on negotiations may settle a conflict on terms unfavorable to the United States and its allies.

If ordered to use military power in crisis situations, Theater CINCs usually use air power as a first response. Before he can execute his air campaign plan, the CINC needs highly trained CSAR forces in his area of operations. This requires CSAR units to have the capability to deploy on short notice. Once in theater, CSAR forces

support the Theater CINCs' plans by quickly rescuing downed aircrews before they are captured by an enemy. The next section examines joint CSAR doctrine. It explains the Theater CINCs' authority and responsibilities for CSAR during contingencies and wartime.

Joint Combat Search and Rescue Doctrine

CSAR joint doctrine has been evolving since 1986. Three primary publications are used to establish CSAR responsibility and authority between Theater CINCs and service components. These are the JCS Pub 2, Unified Action Armed Forces (UNAAF); Joint Pub. 3-50.2, Doctrine for Joint Combat Search and Rescue (CSAR), (Test Pub); and a joint Air Force, Army, and Navy publication titled, AFR 64-3, AR 525-90, NMP 19-2, Combat Search and Rescue Procedures. These joint CSAR doctrine and policies require and authorize theater CINCs to develop CSAR plans and establish joint CSAR Rescue Coordination Centers. Joint doctrine, however, continues to state that individual services are still responsible providing CSAR for their own forces. Therefore, CINCs must rely on individual services to provide CSAR assets even though they are responsible for CSAR in their theaters. Before describing joint CSAR doctrine, it is important to explain how doctrine is developed and published at the Joint Chiefs of Staff level.

The overall system that governs joint doctrine is the Joint Publication System (JPS). The purpose of this

system is to enhance the combat effectiveness of all joint U.S. forces.[19] This is accomplished for the Chairman, Joint Chiefs of Staff by the J-7, who manages the development of Joint Tactics, Techniques, and Procedures (JTTP) for all services operating in joint environments.

Joint doctrine is separated into two categories: joint publications and multi-service publications. Doctrine labeled as "joint publications" are reviewed and approved by the Chairman, Joint Chiefs of Staff (CJCS) and are included in the JPS. Joint Publication (Pub) 3-50.2, Doctrine for Joint Combat Search and Rescue, is a CJCS approved doctrine. Publications not reviewed or approved by the CJCS are known as "multi-service publications." The manual titled, CSAR: Multi-Service Procedures for Combat Search and Rescue, is such doctrine. "Multi-service" publications are consistent with respective JPS doctrine because they state U.S. positions on joint or combined doctrine.[20]

JCS Pub 2, Unified Action Armed Forces (UNAAF) is the key document for all joint operations and individual services. Developed and published in 1947 and subsequently amended several times, this publication describes the functions of DOD and service components.[21] It also describes both the Theater CINCs' and service components' authorities and responsibilities for CSAR.

This study examines all three publications to determine Theater CINCs' CSAR responsibilities and

authorities. The primary publication studied is Joint Pub 3-50.2 because it is the newest doctrine published, approved by the CJCS, and takes precedence over individual service CSAR doctrinal publications.[22] The other publication, CSAR: Multi-Service Procedures for Combat Search and Rescue is used to explain approved doctrine by individual service components. All three of these joint publications give Theater CINCs the authority and responsibilities to establish CSAR "in support of U.S. forces within their areas of responsibilities."[23]

The Unified Action Armed Forces (UNAAF), JCS PUB 2, was written in December 1986. This joint publication describes CSAR responsibilities of Theater CINCs and service components. It states that individual services are responsible for providing forces capable of performing CSAR in support of its own operations. This statement is in accordance with the services' assigned functions. All services must take into account the availability and capability of SAR forces of the other services.[24]

Theater CINCs are responsible and have the authority for CSAR in support of US forces within their areas of responsibility. The CINCs may delegate CSAR authority to subordinate commanders. CINCs will establish and operate joint rescue coordination centers in their areas of responsibility.[25]

Both Joint Pub 3-50.2 and the publication CSAR: Multi-Service Procedures for Combat Search and Rescue make the same statements as JCS Pub 2. They repeat the same statement about the Theater CINCs' and services' CSAR authority and responsibilities. They also explain that each service is responsible for establishing individual RCCs in their areas of operations. Additionally, both publications state that units within each service are responsible for unit CSAR.

Joint Pub 3-50.2 is, however, more authoritarian in its explanation of CINCs' responsibilities. It states in the introduction that it is "authoritative and not directive."[26] This doctrine further explains that Theater CINCs are required to establish a JRCC by a memorandum from the CJCS.[27]

The publication, CSAR: Multi-Service Procedures for Combat Search and Rescue, explains in detail that the CINCs may delegate their CSAR authority to the following:

a. subordinate commanders.

b. the Coast Guard, if available.

c. by mutual agreement, to military commanders of other commands.

All three joint publications explain that Theater CINCs are directed by the Chairman, Joint Chiefs of Staff to conduct the following:

a. establish a Joint Rescue Coordination Center.

b. exercise control of CSAR forces when they are committed on an operation.

c. ensure mutual CSAR support between service components.

d. provide CSAR support to adjacent Unified Commanders and ensure continuity of CSAR support for military operations that cross area boundaries.

e. develop and publish Standard Operating Procedures (SOP).

f. prepare CSAR annexes to concept and operations plans.

The CINC has the authority to assign CSAR missions to units based in his area but not assigned to him.[28] Subordinate component commanders are responsible for training and providing CSAR forces in support of their operations and also take into account the availability and capability of CSAR forces of other services. These commanders must provide personnel to the joint rescue coordination center. Subordinate commanders will establish a Rescue Coordination Center and controllers in their commands. Additionally, each service component commander must:

a. exercise control of CSAR forces through a subordinate CSAR controller.

b. ensure all personnel are familiar with CSAR tactics and procedures used during recovery operations.

c. ensure timely production and distribution of CSAR time-critical intelligence.

d. when directed, provide mutual CSAR support for other services.

e. provide CSAR tactics, planning, and intelligence to subordinate and gaining unit commanders

f. prepare CSAR plans as annexes to emergency orders.

Doctrine for Joint Special Operations, JCS PUB 3-05 states that CSAR is "A specific task performed by rescue forces to affect the recovery of distressed personnel during wartime or contingency operations."[29]

Special operations forces have an inherent capability and may be selectively tasked to perform several collateral missions including CSAR.[30]

SOF are not trained, organized, or equipped to conduct CSAR as a primary mission. When tasked, SOF performs retrieval of personnel who are in environments beyond the capabilities of conventional services. Such missions are conducted as direct action operations. These missions are characterized by detailed planning, meticulous preparations, mission rehearsal, and thorough analysis of intelligence and combat information.[31] In other words, SOF normally does not conduct stand-by alert in anticipation of time-critical CSAR missions.

The National Search and Rescue Manual (NSM) describes procedures for peacetime world-wide search and rescue (SAR). Sponsored by U.S. Coast Guard, this two part manual explains rescue organizations and procedures for all DOD, federal, state, law enforcement, and civilian agencies. The NSM also explains international SAR treaties and instruments in appendix B. It outlines responsibilities of various DOD services tasked to support peacetime SAR efforts with various agencies. Peacetime SAR duties for the following services include:

1. The U.S. Army is the SAR coordinator for all military assistance during national disasters.

2. U.S. Coast Guard is responsible for SAR networks in designated maritime areas. It is assisted by the Coast Guard Auxiliary.

3. The SAR coordinator for all inland area of the lower 48 continental United States is the U.S. Air Force. It coordinates with federal, state, and local agencies when tasked with SAR missions and usually uses the Civil Air Patrol (CAP).

4. When tasked, the U.S. Navy assists SAR coordinators in handling SAR missions. The Navy has a vast array of assets (air, surface, and subsurface) to conduct SAR in international waters or assist the Coast Guard in their designated areas of responsibilities.

Like other joint publications, the National Search and Rescue Manual states that services provide SAR for their own operations. Theater CINCs are responsible for peacetime SAR for their own military forces in their areas of responsibility. They must understand international SAR treaties and coordinate with U.S. embassies for establishing SAR procedures with various host nations.

Theater CINCs may use the National Search and Rescue Manual to train and evaluate CSAR forces during joint training exercises during peacetime. Also, the description of SAR organizations in this manual closely parallel those described in another joint publication, CSAR: Multi-Service Procedures for Combat Search and Rescue.[32]

Mullarky (1990) is critical of JCS Pub 02 because it only addresses the tactical application of CSAR from the services point of view. He maintains joint doctrine must be written from the CINC's perspective and employed at the operational level of war. To support Theater CINC's operational plans, Mullarky recommends that CSAR must:

> 1. Be both organic to assigned forces and within the CINC's area of operation to facilitate rapid response and force integration.
> 2. Capable of operating in the same environment as the striking forces.
> 3. Able to perform effectively in joint or combined operations.
> 4. Be a well trained and equipped force, rehearsed in all scenarios for operations under the CINC's control.[33]

Mullarky accuses the services of not providing CSAR trained crews and equipment. He insists the services

improve their capabilities in order to support Theater CINCs. In the interim, he recommends that either special operations or Marine Expeditionary Units provide CSAR support because they are organic to the CINC and under his control. He also recommends the CINCs list CSAR as a high priority funded requirement.

Mullarky further states that ad hoc CSAR organizations tend to have to relearn lessons forgotten in past wars. Today, CSAR forces responding to crisis situations do not have the opportunity to relearn these lessons because CSAR "is a complex operation requiring rapid response, extensive coordination and sophisticated equipment."[34]

Joint Doctrine Conclusions

Joint Pub 3-50.2, Doctrine for Joint Combat Search and Rescue (CSAR) warns readers to distinguish between two lines of authority of individual service components and Theater CINCS. Services recruit, organize, train, and equip military forces for use by Theater CINCs. The CINCs have command authority of these forces once they are deployed into his area of responsibility. The CINCs are responsible and have the authority to establish CSAR in their theaters. They rely on service components to organize, train and equip CSAR forces. If the services are remiss in this duty, not only is it their problem but the CINCs' problem as well. Mullarky explains in his report "Combat Search and Rescue-

the CINC's Dilemma" that the lack of service's preparedness affects theater CINC's planning for wartime and contingency operations. The next section examines individual services' CSAR doctrine to determine if they can support Theater CINCs' wartime and contingency plans.

Service's Combat Search and Rescue Doctrine

Army

FM 1-100, Army Aviation in Combat Operations explains the doctrine for employment of aviation on the battlefield. Even though the Theater CINC, through his Air Component Commander, has overall responsibility for theater CSAR, Army aviation forces are inherently responsible for unit-level searches and rescues across all spectrums of conflict.[35] This includes aviation at theater, corps, division, and battalion levels. FM 1-100 states that Army aviation must have dedicated CSAR forces and equipment in specially prepared aircraft. It also explains that CSAR is a combat support mission. Special equipment on aircraft includes: rescue hoists, self-defense weapons, aerial refueling capability, and improved navigation and communications equipment.[36] Presently, this equipment is only available in special operations aviation units. Considerations for successful rescue operations are: current and accurate intelligence, development of Survival, Evasion, Resistance, and Escape Operation (SERE) plans, coordination with ground forces in the search areas, and

unescorted penetrations into hostile airspace.[37] The identification of special operations aviation conducting search and rescue operations in FM 1-100 gives the impression that they are always available to support conventional Army aviation CSAR efforts.[38]

FM 1-101, Aviation Battlefield Survivability devotes an entire chapter to combat search and rescue. Most of the information explains "how-to-do;" describing CSAR tactics, techniques, and procedures. Subjects include survival radio operation techniques, using visual signals, five CSAR operational stages, and recovering or destroying battle damaged aircraft.

While going into great detail describing CSAR techniques and procedures, FM 1-101 fails to explain the overall structure of theater CSAR. Even though it briefly discusses the Rescue Coordination Center (RCC) Coordinator, the manual does not explain the duties of the RCC and how it relates to the CINC's overall CSAR plans.[39]

CSAR: Multi-Service Procedures for Combat Search and Rescue states that the "Army has no dedicated CSAR units or aircraft." CSAR missions are collateral missions for all Army Aviation helicopter units, special operations forces, and other units tasked by the unified commander. MEDEVAC helicopters may be used if it does not interfere with their air-evacuation mission of casualties from the battle field.[40]

There were almost no magazine articles on CSAR missions conducted by Army Aviation during the Vietnam War. This was not surprising since the Army considers CSAR a collateral mission, conducted by either MEDEVAC helicopters or other mission aircraft. After an extensive search through many volumes of Army Aviation Digest, one article was found; written by CPT William Wahl, titled "Where's the First Team?"

CPT Wahl criticizes the Army for the lack of search and rescue capabilities during the Vietnam War. He states that Army doctrine of assigning all Army Aviation units a secondary mission of SAR was inadequate for the following reasons:

a. Responsibility for CSAR belongs to the parent aviation units. Unfortunately, a unit may not provide immediate SAR for one of its downed aircrews because of other mission commitments. CPT Wahl states that immediate recovery is the key to successful SAR efforts.

b. Requesting CSAR support from another aviation unit, either for rescue helicopters or attack helicopter protection, is unfeasible if the unit is committed to other missions.

c. Sending unprotected aircraft on CSAR missions may cause the loss of another aircrew to enemy ground fire.

Wahl recommends that each Army Corps organize a dedicated CSAR aviation unit. These units should have their own organic attack helicopter support, trained personnel, special SAR equipment, and command and control. He also explains that SAR units must develop and practice standard SAR procedures.[41]

In the Army Aviation, Desert Shield/Desert Storm, After Action Report, MG Ostovich wrote that the Army expected the Air Force to meet its CSAR requirements during Operation Desert Storm. He explained that Army assault helicopter units were unprepared to conduct CSAR because these rescue tasks were not included in their mission essential task lists, a document listing critical training tasks. MG Ostovich also admitted that CSAR procedures are not listed in Army manuals. He explained, however, that it was more practical for the Army to rescue its own pilots, than the Air Force, because Army aviation's physical location on the battlefield lends quick response to downed aircrew situations. The Air Force may be unavailable because it is recovering its own pilots.[42]

As demonstrated in Operation Desert Storm, the Army plans on using its attack helicopters and air assault forces in the deep battle in future operations. Conducting operations in the deep battle area increases the probability of Army aircrews being shot down by hostile ground fires. The Army must reevaluate its CSAR policy to return its

aviators to friendly forces. Future conflicts dictate the establishment of dedicated CSAR aircrews and aircraft at battalion or brigade levels. This provides for responsive and rapid recovery of Army aircrews shot down behind enemy lines. The Army can no longer rely on combat helicopters to conduct CSAR as collateral tasks. Combat aircrews conducting attack or air assault operations must concentrate on mission accomplishment and not worry about rescuing fellow aviators shot down from enemy fire.

Navy

Known as "Strike Rescue," the Navy integrates CSAR into all of their combat operations. The Navy considers Strike Rescue as a primary mission, but does not have dedicated CSAR forces because of limited space on aircraft carriers. Instead, they use organic helicopters assigned to the Carrier Battle Group (CVBG). In order of priority, Strike rescue is performed by:

1. Reserve CSAR pilots flying various types of anti-submarine helicopters.

2. The embarked anti-submarine squadron, flying newer SH-60 helicopters, conduct assign CSAR missions.

3. A light anti-submarine helicopter squadron flying SH-2 Light Airborne Multi-purpose System (LAMPS) helicopters.

4. Other helicopter detachments using CH-46 or CH-53 cargo helicopters.[43]

not support their own CSAR doctrine. To revitalize their

Prior to deployment with a CVBG, Navy helicopter pilots receive minimal CSAR training usually consisting of day, overwater and overland training in low threat environments. There is no rescue training in high threat environments which requires avoidance of enemy interception aircraft and sophisticated ground based defense systems. The Air Group Commander of a CVBG is required to conduct at least one rescue exercise, integrating both fixed-wing and rescue helicopters, prior to deployment.[44]

Nearly all of the Navy's CSAR expertise is in the Naval Air Reserve. There are two designated reserve helicopter squadrons serving both the Atlantic and Pacific commands: Helicopter Combat Support Squadron (HCS) 4 supports Atlantic Command (LANTCOM) and HCS 5 supports Pacific Command (PACOM). These two squadrons are manned with a combination of part time and full time active duty reserve personnel. Full time active duty reserve personnel can rapidly deploy with some of their equipment on short notice. If more assets are required, part time reserve personnel are activated and deployed later. To use these reserve CSAR assets, the Department of the Navy must request support through the Naval Air Reserves.

Reserve HCS have similar capabilities as USSOCOM's special operations aviation units. Both HCS 4 and 5 train in nap-of-the earth and terrain flying techniques, night flying in hostile environments, and low-level terrain

navigation. Additionally, they are authorized eight HH-60H helicopters each; the Navy variant of the Army's UH-60 Blackhawk.[45]

The Navy designates an Officer in Tactical Command (OTC) with the responsibility of providing CSAR support for the CVBG. He establishes a Rescue Coordination Team (RCT) that plans, controls, provides liaison with the JRCC, gathers intelligence, and coordinates with the strike planning teams for fighter and attack fixed-wing squadrons. The RCT integrates fighter protection and submarine support during CSAR operations.

Theses, written by Naval personnel attending various service colleges, explain the requirement to improve the Navy's CSAR capabilities. Several theses such as: "Strike Rescue: Achilles Heel of Naval Aviation" by CDR Cain; "Strike Rescue. The Forgotten Child of Strike Warfare" by CDR Fackrell; and "Combat Search and Rescue Policy for the United States Navy" by CDR Murphy, are critical analyses of the Navy's policy of having dedicated CSAR assets and expertise in Naval Reserve squadrons. These assets are not available to train or deploy in squadrons assigned to active duty fleets. These theses also recommend solutions to the Navy's CSAR problems by changing force structure, specialized aircrew training, and procuring advanced CSAR aircraft.

"Nobody Asked me, but---Why not Improve Combat SAR Training Now?" by CDR Hinman criticizes the Navy for

transferring all their CSAR assets and expertise into the Naval Reserve after the Vietnam War. He states that these assets are needed in the active Navy now instead of treating CSAR as a collateral mission with helicopters responsible for other missions.

Another thesis titled, "Combat Search and Rescue-Military Stepchild" by CDR Bone, states that the services have forgotten valuable CSAR lessons learned during the Vietnam War. He questions if the services are able to perform future CSAR missions without high casualties until old lessons are relearned.

As the U.S. changes its focus from containing communism to responding to regional conflicts, the Navy is the primary service for power projection. In most cases, aircraft from Navy aircraft carriers are the first to respond to crisis situations. The 1986 air raid on Libya, Operation Desert Shield, relief efforts in Somalia, and air space denial in Iraq are examples of the use of Naval forces and air power. Viable naval CSAR forces are required to support air operations over hostile territories. These rescue forces must operate in the same environment as Navy Strike aircraft.

Marine Corps

According to CSAR: Multi-Service Procedures for Combat Search and Rescue, the Marine Corps doctrine and policies state that CSAR is a secondary or self-supporting

mission "which should not detract from primary functions." They consider training helicopter crews in CSAR skills and equipping helicopters with additional armor and self-protection weapons only reduces combat training time and tactical payloads. As a result, the Marines have neither dedicated CSAR aircraft nor aircrews trained in rescue tactics, techniques, and procedures.[46]

The Marine Air-Ground Task Force (MAGTF) commander is responsible for CSAR support during his combat operations. He ensures all subordinate units are familiar with CSAR recovery procedures as well as escape and evasion networks. The Marine Corps uses the same CSAR procedures as the Navy, which are found in Naval Warfare Publication 19-2, Combat Search and Rescue Manual, Navy Supplement to NWP 19-2 (Revision A).

Normally, the MAGTF commander retains operational control of all his organic air assets. If he has additional sorties available that are not required to support an operation, he provides them to the Theater CINC through the air component commander. If necessary, the MAGTF provides personnel to augment the JRCC and assets if participating in joint operations "as required and directed by higher authority."[47]

Air Force

The Air Force has a unique organization dedicated to CSAR. Known as the Air Rescue Service (ARS), this

organization supports the Air Force's tactical and strategic missions. Once under the overall control of the Military Airlift Command, the ARS was transferred to the new Air Combat Command when the Air Force changed its doctrine and restructured itself after the demise of the former Soviet Union. The ARS has specially trained personnel, organizations, and aircraft to support CSAR. They also have personnel and equipment to perform CSAR controller duties for the theater CINCs' Rescue Coordination Center.[48] Other ARS capabilities include:

ARS has access to a variety of other Air Force assets to provide additional support to CSAR operations. If necessary, the ARS may task fighter and attack jet aircraft to provide aerial fire support during rescue attempts. These fix-winged aircraft conduct Rescue Escort (RESCORT) and Rescue Combat Air Patrol (RESCAP) operations to neutralize or destroy enemy air intercept or air defense systems while rescue helicopters are flying to recover downed aircrews.

Air Force reserve units provide HC-130 aerial refueling tanker aircraft. These conduct air-to-air refueling of specially equipped rescue helicopters day or night. HC-130 tankers give rescue helicopters the ability to fly long distances to rescue aircrews.

ARS units also contain Pararescue personnel. As an integral part of rescue aircrews, Pararescue specialists are

highly trained in helicopter duties, medical emergency procedures, and security operations. They provide local security to rescue helicopters when landing in hostile areas, conduct ground search and rescue procedures, authenticate aircrew survivors, and administer emergency medical treatment. Pararescue personnel are also trained to conduct water rescues for disabled aviators.[49]

The Air Force has the most capable CSAR organization of the services. The next section discusses Air Force CSAR capabilities and doctrine from various authors, who have written articles or theses on this subject.

Even though the Air Force has one of the best rescue organizations in DOD, they seem to have reduced their emphasis on CSAR when they published their new doctrine in March 1992. Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force explains air power principles of war for use into the next century, but fails to mention CSAR. Unlike the newer edition, the 1984 version of AFM 1-1 stated "the Air Force will prepare forces to conduct the specialized task of Aerospace rescue and recovery."[50]

Perhaps the most germane thesis to this study is by two authors, LTC Renuart, USAF, and LTC Brown, USA, who wrote "Combat Search and Rescue: A Search for Tomorrow." This study explains why Special Operations Forces were used to coordinate and execute CSAR missions during Operation Desert Storm. They state that the Air Force didn't have

adequate CSAR forces to send to Southwest Asia because most of the assets were in the reserves and active duty units were committed to other theaters. They also recommend several alternatives to solve the CSAR problem; one is to align Air Force CSAR units with Combat Air Wings.

In his article, "Air Rescue Service: A Direction for the Twenty-first Century," CPT Westermann explains that the reestablished ARS will enter the next century with outdated equipment, helicopters, and training techniques. This situation means the ARS cannot perform CSAR missions in a modern, sophisticated high threat environment.

Westermann is critical of the Air Force's decision to transfer long-range MH-53 PAVE LOW helicopters from the ARS to special operations. This left the ARS with old helicopters of 1970s and 1980s vintage technology. He also complains that a long-standing rivalry between the rescue and special operations communities has hindered ARS training because mission profiles are similar.

Westermann recommends improvements in modern helicopter equipment and training to modernize the ARS and to provide night and adverse weather flight capabilities. These improvements are similar to equipment found on special operations helicopters. Equipment includes Global Positioning System (GPS), night vision devices (night vision goggles and forward looking infrared), terrain following radar, air-to-air refueling, an enhanced avionics package,

and a Low Altitude and Targeting Infrared System for Night (LANTIRN). ARS pilot training should be similar to training received by special operations pilots.

In the conclusion of his article, Westermann states that CSAR and special operations must cooperate. They both fly similar mission profiles and require sophisticated night vision and precise navigation equipment. He then states that a modern equipped ARS may perform secondary clandestine, low-visibility operations such as evacuation of U.S. personnel from flash points throughout the world. These secondary missions are similar to the special operations mission; the very topic he criticized earlier in his article.

Another author, LTC Bushboom, USAF, writes in his thesis, "BAT 21: A Case Study," a detailed analysis of individual preparation, justification for better aircraft capabilities, and the CSAR decision making process. He also compares historical contents in his thesis to illustrate that today's CSAR is unable to perform missions in a high threat environment.

Coast Guard

The Coast Guard's CSAR duties are an extension of their peacetime mission. Their helicopters have no self-defense aerial weapons and have limited survivability in combat environments. Operations in a low-intensity conflict is their maximum limit on combat operations without

augmentation from other services. In the Pacific and Atlantic theater, the Coast Guard is responsible for operating Joint Rescue Coordination Centers.[51]

The Coast Guard is the coordinating service proponent for a joint publication titled, National Search and Rescue Manual. The contents of this manual are explained in the joint CSAR doctrine section of this chapter.

U.S. Special Operations Command (USSOCOM).

Even though SOF has the capability to perform CSAR, they are not resourced nor are their personnel trained and their aircraft equipped to perform stand-by alert rescue missions. Theater CINCs may task SOF to perform long-range CSAR missions deep in hostile territories, but this support is at the expense of special operations support missions. SOF is responsible for conducting CSAR for its own forces which includes Army, Navy, and Air force special operations units.[52]

General Schwarzkopf chose to use special operations forces, both aviation and ground units, to conduct theater-wide CSAR for two reasons. First, "because SOF possessed the best capability in theater to conduct long range personnel recovery missions given the threat in the Kuwaiti theater of operations (KTO)."[53] Second, the services had let their CSAR forces atrophy and were unable to rescue their own personnel who were shot down over Iraq.

Even after the conclusion of Operation Desert Storm, "the CINC continues to call upon SOF for theater level CSAR."[54] In fact, Theater CINCs consider special operations aviation their "defacto force of choice for providing theater-wide CSAR."[55] The problem with this attitude is that when CINCs use limited SOF assets for CSAR, they adversely impact support for special operations missions. By public law, USSOCOM has structured its forces, training, command relationships, and funding to support only special operations.

Conclusions

The purpose of the review of literature is to research changes in national security strategy, joint CSAR doctrine, and individual services CSAR doctrine. All these subjects affect how Theater CINCs respond to crisis situations with military power and rescue downed aircrews from hostile territories. Information from this chapter develops operational criteria used to conduct the analysis in the next chapter.

Operational criteria trends are:

1. Theater CINCs require highly trained CSAR forces with the ability to rapidly deploy to regional crises. These forces must have the capabilities to operate in the same environment as combat operations. Last minute ad hoc CSAR organizations are usually not successful in conducting rescue operations in high threat environments.

2. The Army and Marine Corps should evaluate their doctrine that CSAR is a collateral mission, performed by any helicopter that is available. Theater CINCs could task these services to conduct long range attack and assault mission deep into enemy held territory, similar to attack helicopter operations deep in Iraq during Operation Desert Storm. Although Army and Marines do not have to have dedicated units like the Air Force's ARS, they should, identify and train aircrews in each aviation company or squadron for CSAR duties. Also, they should equip dedicated aircraft with required CSAR equipment.

3. Services and Theater CINCs must not use SOF as defacto theater support CSAR forces. This detracts from SOF's primary mission of conducting clandestine insertion, resupply, aerial fire support, and extraction of special operations teams.

CHAPTER 4

ANALYSIS

Introduction

This chapter is divided into two segments, the first examines the doctrinal issue by testing the validity of the thesis statement: joint CSAR doctrine and policies do not support theater CINCs' contingency and war plans. Second, the study analyzes six proposed CSAR organization alternatives. The objective of the analysis is to determine the best CSAR option that maximizes the CINC's ability to rescue downed aircrews from enemy territory. The next section explains the analysis methodology.

Thesis Validation Methodology

The thesis validation methodology uses information extrapolated from the history of CSAR and review of literature to test the validity of the thesis statement. This analysis concentrates on information from joint and service component CSAR doctrine and policies. The objective is to prove or disprove the thesis statement.

The thesis statement: "Joint CSAR doctrine and policies do not support Theater CINCs' contingency and wartime operational plans," is invalid. This study finds

that established joint CSAR doctrine is adequate, but the doctrine presumes the services would maintain CSAR capabilities to support their operations. Theater CSAR is inadequate because service components' resource policies do not provide enough CSAR assets to support theater CINCs. The following section explains this conclusion.

Joint CSAR doctrine assigns Theater CINCs the responsibility and grants the authority to develop and implement viable CSAR plans for their areas of operations. CINCs are required to establish JRCCs in their theaters. These coordination centers establish procedures and monitor individual services' rescue operations. Even though Theater CINCs have overall responsibility for CSAR, Joint doctrine stipulates that individual services are still responsible for providing CSAR forces to support their operations. If a service component is unable to conduct a rescue, the JRCC coordinates and tasks other services' CSAR assets for assistance.

Doctrinally, with each service providing its own CSAR forces, Theater CINCs should have enough CSAR assets to support their air, land, sea, and special operations campaign plans. Therefore, Theater CINCs depend on the services to provide personnel, organizations, and equipment.

The services cannot support theater CINCs because they cannot provide adequate CSAR assets for their own combat forces. Their past and present resource policies do

not support their own CSAR doctrine. To revitalize their CSAR capabilities, the services must allocate additional resources, increase their force structures and training programs, and modify equipment and helicopters for CSAR missions.

The thesis statement is invalid because inadequate CSAR support to Theater CINCs is not a doctrinal problem, but a resource problem of the service components. They consider CSAR a low priority during peacetime. As a result of this attitude, they cannot support their own CSAR programs, much less provide forces to support joint doctrine and theater CINCs. Should DOD and service components consider changing joint doctrine from individual service responsibility for CSAR to another alternative? The next section of this study evaluates six CSAR alternatives that could improve Theater CINCs ability to rescue downed aircrews from hostile territories.

CSAR Alternatives

This portion of the study uses a comparison analysis to select a preferred CSAR alternative. The objective is to determine which alternative provides theater CINCs the best option for CSAR operations during combat. The analysis is divided into five parts and uses assumptions described in chapter one.

The first part introduces and describes six CSAR alternatives. This is followed by a section that explains

the criteria used to evaluate the alternatives and the rationale for assigning weights to each criterion. Next, the analysis examines the advantages and disadvantages of each alternative and measures them against the evaluation criteria. Then, each alternative is compared with one another to determine which best satisfies the criteria. Finally, the conclusion, at the end of the chapter, discusses the results of the analysis.

Description of CSAR Alternatives

The analysis evaluates six alternatives derived from the study of CSAR history, review of literature, and briefing slides used to brief the JCS DEPOPSDEPS on CSAR issues. The following section provides a detailed description of CSAR alternatives.

Alternative 1: Status Quo

Current joint doctrine and policies are adequate to support Theater CINCs who retain responsibility and authority to establish CSAR in their areas of operation. They exercise their responsibilities through their JRCCs which have the authority to coordinate and task services for CSAR support as required. Service components remain responsible for providing CSAR forces capable of rescuing their aircrews from enemy territory. They develop their individual doctrines, organize force structures, train CSAR forces, and procure CSAR aircraft and equipment.

Alternative 2: Single Service Responsibility

The Air Force's ARS is responsible for all theater CSAR missions. It provides CSAR assets to all five Theater CINCs and operates their JRCCs.

Alternative 3: Dual Service Responsibility

The Air Force's ARS conducts over-land CSAR missions and operates theater JRCCs, while the Navy is responsible for all maritime CSAR operations. The Navy establishes an equivalent JRCC afloat if no theater JRCC is available.

Alternative 4: Special Operations Forces (SOF)

SOF is responsible for all theater CSAR operations during contingencies and war. They conduct CSAR for all services and operate the JRCC.

Alternative 5: Joint CSAR Organization

DOD forms a joint CSAR command and resources it with CSAR assets from all services. The joint CSAR command provides CSAR support to all Theater CINCs and operates their JRCCs.

Alternative 6: Phased Support

SOF conducts Theater CSAR during short duration contingencies; other services are responsible for CSAR during long-duration campaigns. SOF provides CSAR support to Theater CINCs during short duration contingency operations similar to Operation Urgent Fury and Just Cause.

In the case of long duration campaigns, like Operation Desert Shield/Desert Storm, SOF supports CSAR during the initial deployment and build up of conventional forces. Once there are enough forces to conduct combat operations, CSAR support transfers from SOF to individual service components and possibly the reserve components.

Analysis Criteria

To employ CSAR forces successfully in a crisis region, Theater CINCs require supporting CSAR forces to have certain operational capabilities. The analysis uses operational capabilities as criteria to evaluate CSAR alternatives. Historical experiences described in chapter Two and information from the review of literature help in the development of criteria. These measure, evaluate, and rank order each alternative during the analysis. They facilitate the selection of the preferred alternative. A detailed explanation of analysis criteria is listed in the following section.

Evaluation Criterion 1: Deployment

Defined as the capability for rapid world-wide deployment. CSAR forces must rapidly deploy into crisis regions to provide to time-critical support to Theater CINCs. Rapid response requires ready trained active duty CSAR forces which have honed their skills by conducting extensive training in joint exercises. CSAR forces

responding to contingencies must not have competing commitments to other Theater CINCs or government agencies such as NASA or the Coast Guard's support of counter-drug operations. The capability to deploy and be operational in a theater in four days is an advantage. Rapid deployment with trained aircrews and capable helicopters receives a higher score.

Evaluation Criterion 2: Forces

Defined as providing adequate CSAR support for all Theater Combat Operations. Once deployed into a theater experiencing a crisis situation, the CINC must have enough CSAR forces to support simultaneous operations. An example of simultaneous operations in the same theater is providing CSAR support to combat operations in Saudi Arabia and Somalia at the same time. CSAR forces must have the depth to support the entire theater campaign to include air, sea, and land combat operations. They must operate in the same hostile environment and scenarios as the forces that require CSAR support. Having enough CSAR forces to support all the Theater CINCs' campaign plans receives a higher score.

Evaluation Criterion 3: Command and Control (C2)

Defined as how quickly a command and control headquarters can respond to downed aircrew situations by rapidly tasking CSAR assets and coordinating additional support from other services. This criterion evaluates

decentralized versus centralized command and control and the ability of CSAR aircrews to receive mission taskings. Decentralized C2 is described in JCS Pub 3-50.2, Doctrine for Joint Combat Search and Rescue (CSAR). Decentralized C2 is better because individual service RCCs respond more quickly to downed aircrew situations. These RCCs receive notice of downed aircrews from subordinate units, analyze threat situations, make GO/NO-GO decisions, and task their organic CSAR assets to rescue their aircrews. If required, service RCCs request additional CSAR support, other combat assets, or assistance from the theater JRCCs.

Several alternatives in this study use centralized command and control structures. Individual services' RCC are eliminated and all CSAR assets are assigned and controlled by the theater JRCC. Service component operations centers transmit requests for unplanned CSAR support through their headquarters to theater JRCCs, who in turn task CSAR units. This layering of command and control headquarters between requesting units, Theater CSAR headquarters, intermediate units and CSAR units could delay rescue attempts. If these units are in other parts of the theater, it may take some time to fly to a service component's area of operations and conduct rescue missions. Centralized C2 increases CSAR response times which may cause unsuccessful rescue attempts. Decentralized C2 is an advantage, and therefore, receives a higher score.

Evaluation Criterion 4: Environments

Defined as the ability to conduct CSAR operations across the operational continuum. Since CSAR forces must successfully conduct rescue missions in all levels of conflict, the ability to affect these rescues in high threat environments, with a reasonable chance of success, is an advantage. Successful rescues depend on aircrew and staff training, correct assessment of the threat situation, and capable aircraft. CSAR aircrews must fly deep into enemy-held territory, avoid sophisticated threats, rescue downed aircrews, and successfully return to friendly held areas. Helicopters require long range capabilities, night vision devices, self protection weapons, accurate navigation systems, personnel location devices, and compatible communications suites. CSAR aircrews must have the same clandestine flying abilities as special operations aircrews. Command and control must coordinate aerial refueling fixed-wing tanker aircraft and aerial or ground fire support (J-SEAD) to protect CSAR helicopters during daylight rescue missions. The ability to conduct successful rescues in high threat environments is an advantage and receives a higher score.

Evaluation Criterion 5: Demands

Defined as the degree of conflict that exists between performing CSAR operations and other "competing" combat missions. The following are examples of competing

demands for limited resources by both CSAR and combat requirements.

Assigning a service component the responsibility for theater CSAR could reduce the ability to conduct its primary mission. Such was the case during Operation Desert Storm where there were not enough special operations aviation assets to conduct Theater CSAR and provide adequate aviation support for SOF.

One alternative in this study proposes forming a joint CSAR organization and equipping it with personnel and helicopters transferred from the other services. While there is a possibility of increasing overall theater CSAR capabilities, this alternative could vastly impact on several services' ability to conduct combat operations because they use their helicopters for many roles. In an era of declining defense budgets, it is doubtful that these services could replace the assets they transferred to a joint CSAR organization.

Assigning combat aircrews the additional task of conducting CSAR while they fly combat missions could decrease the probability of successful rescue attempts. Combat aircrews may lack CSAR training and rescue equipment. Dedicated CSAR assets are more successful in recovery attempts than non-dedicated assets, because aircrews are trained to perform CSAR tasks and operate specially equipped

rescue helicopters. Fewer competing demands between combat operations and CSAR requirements receives a higher score.

Weighting of Criteria

Several criteria used in the analysis are more important than others. This section describes the rationale used to weight certain criterion.

First, to support their air, land, sea, and special operations campaign plans, Theater CINCs must have adequate CSAR forces in their areas of operations. CSAR forces must have enough assets to simultaneously support multiple theater operations in separated geographic areas. This criterion is the most critical; therefore, FORCES is four times more important than COMMAND and CONTROL and competing DEMANDS.

To support the initial stages of a contingency, CSAR forces must deploy rapidly into a theater with ready trained forces. They must have the capability to conduct successful rescues in hostile environments. Theater CINCs do not want CSAR aircrews shot down along with the pilots they were sent to rescue. As a result, the DEPLOYMENT criterion is three times more important and the ENVIRONMENT criterion is twice as important as COMMAND and CONTROL and competing DEMANDS.

Finally, COMMAND and CONTROL is equal to competing DEMANDS. They both have a value of one. Even though Theater CINCs require a viable command system to effectively control CSAR assets, they have the option of assigning

service components the responsibility for theater CSAR. General Schwarzkoph exercised this option during Operation Desert Storm. This option has an element of risk because it could interfere with the services' ability to adequately conduct combat missions. This situation might have existed if Operation Desert Storm was longer in duration and General Schwarzkoph wanted to deploy more SOF units into Iraqi territory. SOF did not have enough helicopter assets to adequately conduct theater CSAR and simultaneously provide aviation support special operations activities, their primary mission.

Analysis of CSAR alternatives

This portion of the study evaluates the advantages and disadvantages of CSAR alternatives based on the criteria discussed in the previous section. The objective is to determine which alternative maximizes CSAR support for Theater CINCs. Table 1, in Appendix B, provides an illustrated summary of the results of this analysis.

Analysis of Alternative 1: Status Quo

Continue to use joint doctrine where Theater CINCs retain the responsibility and authority to establish CSAR in their areas of operation. Service components remain responsible for providing CSAR support for their own operations.

Advantage of Forces

Current joint doctrine assigns all services the responsibility for providing CSAR forces for their own operations. Theoretically, there are enough forces in all the services to support all air, land, and sea combat operations. In actuality, the services have let their CSAR capabilities decline over the last two decades. As a result, many services have difficulty rescuing aircrews from hostile enemy areas.

Advantage of Command and Control

Decentralized command and control allows individual service's RCCs to quickly respond and task CSAR assets to conduct time-critical rescue missions. If RCCs need additional CSAR or external support, such as fighter air cover or aerial refueling tankers, they coordinate with Theater JRCCs.

Disadvantage of Deployment

U.S. Navy CSAR assets deploy with the fleet and most cases are available to support naval air operations. Support for extensive fleet operations may require mobilization of reserve CSAR forces. Most naval [illegible] expertise is in the reserves.

U.S. Air Force currently has [illegible] that can deploy with combat air [illegible] CSAR capabilities are in the reserve [illegible]

ARS has commitments to support other Theater CINCs and government agencies, such as NASA, which limits availability and response times to some crisis areas.

U.S. Coast Guard has limited assets and is heavily committed to counter-drug and sea interdiction of illegal emigration. USCG could support several Theater CINCs simultaneously only if their reserves are mobilized.

U.S. Army and U.S. Marine Corps limited assets deploy with their main forces and response time is dependent on Theater CINC's Time Phased Force Deployment list (TPFDL) deployment schedule.

Special Operations Forces habitually conduct rapid deployment for training or response to real-world crisis. Although not specifically trained in CSAR tasks, SOF could conduct CSAR for Theater CINCs with minimal training, like they did in Operation Desert Storm.

Disadvantage of Environment

Only SOF has the capability to conduct rescues in high threat environments (even though they are not extensively trained in CSAR tasks). Other services have only capabilities to rescue their aircrews in low threat environments because they lack the training and equipment to penetrate sophisticated enemy defenses. CSAR is a collateral mission for the Army and Marine Corps. Their probability of success for rapid deep rescue missions is low because of a lack of CSAR training and equipment.

Disadvantage of Demands

There is some interference between CSAR missions and combat operations under current joint doctrine. Non-dedicated CSAR assets in the Army, Marine Corps, and SOF may interfere with combat operations because CSAR uses combat mission aircraft and aircrews.

Analysis of Alternative 2: Single Service Responsibility

U.S. Air Force's ARS conducts all theater CSAR missions.

Advantage of Deployment

Ready trained ARS assets can deploy rapidly to world-wide crisis areas. However, they cannot provide CSAR support for unilateral U.S. Navy air strikes if aircraft carriers operate far away from land based airfields. Conceivably, if ARS are pilots are trained and their aircraft modified, they could operate from naval vessels.

Advantage of Demands

As a dedicated CSAR unit, ARS has minimal impact on Air Force combat operations. Some combat power is diverted if fighter aircraft provide aerial protection for rescue missions.

Disadvantage of Forces

Air Force ARS or any single service responsible for CSAR does not have enough forces to support simultaneous combat operations in separate geographical areas that

involve extensive air, ground, special operations or sea combat operations.

Disadvantage of Command and Control

This alternative has centralized C2. The ARS operates the JRCC for the Theater CINC. Advantages of this alternative are the ability to coordinate for additional fighter protection support during daylight rescues and aerial refueling tanker support. The disadvantage of ARS' centralized command and control is increased response times to process CSAR mission requests from other services before tasking specific ARS assets for rescue missions.

Disadvantage of Environment

The probability of ARS rescue success is moderate due to their dedicated unit's force structure, CSAR training, and ability to coordinate fighter protection with other Air Force units. However, they still lack the capabilities to conduct CSAR in high threat environments.

Analysis of Alternative 3: Dual Service Responsibility

ARS conducts over-land CSAR missions while the Navy is responsible for maritime CSAR operations.

Advantage of Deployment

Compared to the single service alternative, this option increases the ability of CSAR forces to quickly respond to crisis situations. The Air Force can rapidly

deploy its ARS assets to land air bases in close proximity of crisis areas and support land or sea launched air strikes. Likewise, the Navy can support unilateral sea launch air strikes with its CSAR assets.

Advantage of Demands

There is minimal interference with combat operations because CSAR is a dedicated mission in both the Air Force and Navy. There is some degradation in combat operations if fighter assets are required to protect rescue helicopters.

Disadvantage of Forces

Both the Navy and Air Force lack enough CSAR assets to support their own combat operations and simultaneously provide Army, Marine Corps, and special operations CSAR support during their combat missions.

Disadvantage of Command and Control

This alternative is a semi-centralized C2 structure. The ARS would operate the CINC's JRCC while coordinating land and water CSAR areas of responsibilities with the Navy. Similar to the single service alternative, both the Navy and Air Force have the advantage of coordinating additional support from their respective services. Response times for Army, Marine Corps, and SOF CSAR requests may increase because of multi-layered headquarters and CSAR assets positioned in areas of the Theater from which support could not be quickly rendered.

Disadvantage of Environment

There is a moderate probability of rescue success for Navy and Air Force assets because they have dedicated CSAR organizations. Similar to the single service alternative, the ARS requires extensive training and helicopter modifications to conduct rescues in high threat environments. The Navy requires less training and equipment modification if they are only responsible for maritime rescues which are considered to be in a low threat environment.

Analysis of Alternative 4: Special Operations Forces (SOF

SOF is responsible for all theater CSAR operations during contingencies and war.

Advantage of Deployment

SOF habitually trains for and conducts real-world rapid deployments to crisis areas. Although not specifically trained in CSAR tasks, they could provide CSAR support to Theater CINCs. Most helicopter crews are qualified to operate from U.S. Navy aircraft carriers and other vessels. Conceivably, SOF could deploy on naval vessels and provide CSAR support for Navy and Marine Corps operations.

Advantage of Environment

SOF has the capabilities to fly penetration missions into high threat areas and rescue downed aircrews. They have the advantage of extensive training, and their

helicopters are equipped with navigation and night vision devices which allow night/all-weather flights deep into enemy territory. SOF requires minimal additional training in CSAR tasks.

Disadvantage of Forces

SOF does not have an adequate force structure to conduct theater CSAR missions and simultaneously provide aviation support for special operations activities. They especially lack the assets to conduct CSAR missions and special operations support in several geographically separate theaters of operations.

Disadvantage of Command and Control

The SOF alternative is a centralized CSAR command and control. A SOF operated JRCC would have to coordinate with other services for aerial protection and aerial refueling tanker support. This could delay reaction times for time-critical CSAR missions. SOF CSAR reaction times could experience delays due to support of special operations missions or their assets being positioned in inappropriate locations within a theater.

Disadvantage of Demands

There is a large impact on combat operations if SOF is responsible for CSAR and special operations support. Unless SOF receives a substantial increase in force

structure, it cannot provide adequate support for both missions.

Analysis of Alternative 5: Joint CSAR Organization

Transfer all CSAR assets from service components and assign them to a new joint DOD CSAR sub-command.

Advantage of Deployment

Once formed, the joint CSAR force could have the capability to deploy rapidly to crisis areas with ready trained aircrews.

Disadvantage of Forces

A joint CSAR organization is an option to support all air, land, special operations, and maritime combat operations if adequately resourced. They may not have enough CSAR forces to support all aspects of a Theater CINC's campaign plan because of resource constraints, particularly personnel, in an era of declining military budgets.

Disadvantage of Command and Control

A Joint CSAR headquarters is a centralized C2 system and operates the theater JRCC. Centralized C2 could delay rescue response times.

Disadvantage of Environment

A Joint CSAR organization would experience a low probability of successful rescue attempts until it is

organized, trained, and its equipment is standardize. Some assets from service components are more capable compared to others. On the average, assets assigned to a joint CSAR organization lack capabilities to conduct rescues in high threat environments. All helicopters require some level of modification to give them deep penetration abilities. Aircrews require extensive training to standardized CSAR tactics, techniques, and procedures.

Disadvantage of Demands

There would be an impact on the services that lose their CSAR assets to the joint CSAR organization. In an era of declining military budgets, it is doubtful if losing services can replace assets transferred to a joint CSAR organization. Additionally, individual services would probably experience a decrease in their budgets to pay for the fielding of joint CSAR units. The long term benefit, however, is that the service components would not have to dedicate assets for CSAR support for their operations. The short term benefit is a disadvantage.

Analysis of Alternative 6: Phased Support

SOF provides CSAR support to Theater CINCs during short duration contingency operations. In the case of long duration campaigns, SOF supports CSAR during the initial deployment and build-up of conventional forces. Once these

forces are strong enough to conduct combat operations, CSAR support transfers from SOF to individual service components.

Advantage of Deployment

SOF is superb at responding to crisis situations even though they are not trained in CSAR tasks. SOF habitually trains for and conducts real-world rapid deployments to support contingency operations. They could support short duration CSAR operations until conventional services deploy into a theater, build up their forces, and assume their CSAR missions.

Advantage of Command and Control

SOF operates an equivalent centralized JRCC until the CINC's JRCC and service components' RCCs are established in theater.

Advantage of Environment

SOF can successfully operate in a high threat environment.

Disadvantage of Forces

If supporting CSAR during the initial phase of a contingency, SOF may not have enough assets to support simultaneous special operations missions. Once conventional active duty or reserve units (if the President directs a 200K reserve call-up) assume the rescue mission, SOF air

assets are able to support their own forces. Conventional CSAR support is the same as the status quo alternative.

Disadvantage of Demands

There is an impact on conducting special operations missions. SOF aviation may not have enough assets to support both CSAR and special operations requirements in two separate theaters of operation.

Comparison of Alternatives

Deployment

a. SOF conducting CSAR is first. They habitually deploy world-wide for training and crises response.

b. Dual service is second. CSAR assets onboard U.S. Navy vessels can support unilateral Navy air strikes when land based CSAR is unavailable.

c. ARS is third. They can rapidly deploy their CSAR assets on Air Force airlift aircraft.

d. Joint CSAR is fourth. They have more assets to deploy into a theater and it would take them longer than the ARS.

e. Phased support and status quo tie for fifth.

Forces

a. Status quo is first. This alternative theoretically provides enough CSAR forces to support air, land, sea, and special operations combat operations.

b. Phased support is second. SOF does not have enough forces to provides CSAR for extensive combat operations and support special operations missions in the initial phases of a contingency. There should be enough CSAR forces to support Theater CINCs when service components complete their deployments and assume the CSAR mission from SOF.

c. Dual service responsibility is third. The U.S. Navy supports maritime CSAR while the ARS is responsible for land rescues. Both services lack enough active duty CSAR forces to support Theater CINCs in a timely manner. The Air Force would be hard pressed to provide CSAR support for simultaneous Army, Marine, and special operations activities.

d. Joint CSAR is fourth. It may not have the quantity of CSAR forces compared to status quo, but a joint CSAR force could provide limited support for Theater CINCs' campaign plans.

e. SOF is fifth. It lacks enough forces to support all aspects of the CINCs' campaign plans. If required, SOF can use Air Force and Army aviation assets for Theater CSAR.

f. ARS is last. Their CSAR forces are smaller when compared to SOF.

Command and Control

a. Status quo is first. This is the most decentralized alternative compared to the other choices.

Individual service RCCs conduct rescues in their areas of operation. It provides the quickest response time to rescue downed aircrews.

b. Dual service support is second. Both U.S. Air Force and Navy control their respective land and maritime CSAR forces. This reduces the time required to respond to land and water rescues.

c. Phased support is third. SOF's command and control is very centralized until Theater JRCC and services' RCC are established.

d. Joint is fourth.

e. ARS and SOF ties for fifth because of their centralized command and control structures.

Environment

a. SOF is first. Compared with the other alternatives, they are most trained and equipped to fly clandestine missions in hostile enemy airspace.

b. Phased support is second. SOF provides their unique capabilities to support CSAR during short duration contingencies and initial stages of campaigns. Other services abilities to conduct CSAR in hostile environments vary.

c. Status quo is third. It is similar to the Phased support alternative. The services' abilities to conduct CSAR support vary from most successful for SOF to minimum success for Army and Marine Corps.

d. ARS is fourth. ARS requires extensive modifications to their helicopters in order to successfully conduct rescues in hostile environments.

e. Joint CSAR is fifth. It is similar to the ARS alternative. To survive in hostile environments, a joint CSAR organization would require extensive modifications to various helicopter types they inherit from other services.

f. Dual service support is last. It is similar to the ARS alternative. Navy CSAR helicopters lack necessary equipment and training to conduct CSAR in hostile environments.

Demands

a. ARS is first. This dedicated CSAR organization is already established. Minimal interference with combat operations occurs if ARS requires support from aerial refueling tankers or fighter aircraft for protection.

b. Dual service support is second. Both the Air Force and Navy have dedicated assets for CSAR.

c. Status quo is third. Army, Marine Corps, and special operations consider CSAR a secondary mission and task combat helicopters to conduct rescues. CSAR and combat requirements could compete for the same helicopter assets.

f. Phased support is fourth for the same reasons as the SOF and status quo alternatives.

d. SOF and joint tie for fifth. SOF cannot effectively conduct Theater CSAR and support special

operations missions simultaneously until relieved by conventional forces. Joint CSAR could have an impact on the services' long term operations. It may take a long period of time as individual services rebuild force structures and replace equipment transferred to the joint CSAR organization.

Analysis Results

Results of the analysis show the status quo alternative as the preferred CSAR option. It provides enough CSAR forces to support the Theater CINCs' air, land, sea, and special operations campaign plans. Additionally, this alternative meets three out of the five evaluation criteria. While not the best alternative to satisfy ENVIRONMENT, it satisfies the two most weighted criteria, FORCES and DEPLOYMENT.

The second preferred alternative is dual CSAR responsibility between the U.S. Air Force and U.S. Navy. Even though it only meets DEPLOYMENT criteria, this alternative provides Theater CINCs rapid CSAR response to crisis regions with minimal interference with combat operations. The decision matrix illustrated in Table 2 of Appendix B supports the recommended alternative.

Analysis Conclusions

The analysis establishes that joint doctrine is theoretically adequate but service component's resource

policies do not provide enough CSAR assets to support theater CINCs. This conclusion validates the thesis statement: current joint Combat Search and Rescue joint (CSAR) doctrine and policies do not support Theater CINCs' wartime and contingency operations. Even though the thesis statement is correct, the analysis recommends the present joint doctrine as the preferred alternative for the following reasons:

1. It provides enough CSAR forces to support Army, Navy, special operations, and Marine Corps combat operations.

2. Decentralized control, using individual service components' RCC, provides quicker response time compared to other alternatives.

3. There are enough CSAR forces to support separate campaigns in several geographical theaters of operations.

Current joint CSAR will support Theater CINCs as the services resource and support their own CSAR doctrine and policies. The final chapter offers recommendations to improve CSAR capabilities to support Theater CINCs. It also recommends areas for future studies to correct CSAR deficiencies.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The research of combat search and rescue is important for many reasons. One paramount reason is that the inability to rescue downed aircrews from potential capture could negatively impact domestic political support for, and diplomatic outcome of crises that involve the United States. This chapter explains the study conclusions and makes recommendations to improve the military's CSAR capabilities and suggests subjects for future theses.

Rescuing downed aircrews from high threat environments prevents them from becoming prisoners of war. Adversaries may use captured U.S. aircrews as pawns, complicating peace negotiations. Also, an enemy may use U.S. POWs in their propaganda campaign to adversely influence the American public through world-wide media networks. This negative influence may place pressure on peace negotiators to end a conflict on unfavorable terms for the United States. Adversaries may use various torture methods to gain intelligence information which may compromise a military response to a crisis situation.

Theater CINCs may find themselves distracted by potential POW issues rather than on concentrating on executing their military campaigns. Public, congressional, and media pressure may cause him to devote much of his time to responding to questions about the status of POWs. Theater CINCs and DOD officials should remember that the public is still emotional about the possibility of POWs and MIAs remaining alive in South East Asia twenty years after the Vietnam War.

The U.S. military needs viable CSAR capabilities to prevent the capture of aircrews. Unfortunately, our CSAR forces have declined during the past two decades. As a result of this decline, the services could not rescue their own downed aviators from Iraqi territory during Operation Desert Storm.

This study analyzes U.S. military's inability to conduct combat search and rescue in combat environments. It invalidated the thesis statement that joint CSAR doctrine and policies do not support Theater CINCs' war and contingency operations. Although joint doctrine is published and assigns Theater CINCs the authority and responsibility for CSAR in their area of operations, they must rely on service components to provide CSAR forces, to include trained aircrews and capable aircraft. Unfortunately, services have allowed their CSAR capabilities to atrophy since the end of the Vietnam War. If the

Department of Defense's objective is to possess viable CSAR capabilities, then the services need to implement and resource their own CSAR doctrine.

In addition, this study analyzed six CSAR doctrinal and force structure alternatives to determine if there is a preferred option which improves military CSAR capabilities. After conducting a comparative analysis, the study determines current doctrine maximizes CSAR support to Theater CINCs and minimizes resources to improve CSAR capabilities. To improve future CSAR support, Theater CINCs and the Joint Chiefs of Staff might consider implementing recommendations described in the next section.

Recommendations

Theater CINCs should assign CSAR operations the same priority as combat missions. Improvement of CSAR capabilities must receive emphasis not only from Theater CINCs, but JCS and individual services as well. This is particularly important if the U.S. uses air power, in such places as Bosnia Hercegovina, to enforce United Nations' resolutions through the use of military force. If CSAR capabilities continue to decline, the U.S. could face diplomatic complications if aircrews are shot down and captured by hostile forces.

Theater CINCs must pressure JCS to force the services to improve their CSAR forces. JCS may have to reallocate scarce resources to improve CSAR training and

equipment. They may consider instructing the Army and Marine Corps to revaluate their doctrine and change the status of CSAR from a collateral mission to one that is supported by dedicated assets.

When conducting joint training exercises, Theater CINCs must exercise their assigned CSAR forces. This allows an objective evaluation of CSAR abilities, the opportunity to hone procedures, discover deficiencies, and develop solutions. Lessons learned and deficiencies corrected during peacetime exercises increase the combat readiness of CSAR forces and prepares them for operations in future regional conflicts.

JCS should form a joint CSAR training center to standardize doctrine and training throughout the Department of Defense. Services would send designated CSAR personnel to this DOD funded center to learn JRCC/RCC operations, command and control procedures, mission planning, tactics, techniques, and CSAR procedures. This center could conduct future studies to determine methods to improve CSAR forces, methods, and equipment. A CSAR training center would improve joint interoperability between all the services and Theater CINCs.

Recommendations for Future CSAR Studies

There are several areas for future studies which would enhance military CSAR.

DOD should evaluate using space technology to aid rescue forces in accurately pinpointing the location of downed aircrews. During Operation Desert Storm, SOF rescue helicopters experienced difficulties locating the exact position of downed aircrews. In several cases, rescue helicopters had to conduct searches in Iraqi territory while avoiding enemy fire. During several rescue attempts, the location of downed personnel given to them by the E-3 AWACS was in error from ten to thirty miles.

Accurately locating downed aircrews may require a data up-link from a survivor's radio to a satellite and a down-link to a rescue helicopter or JRCC. Integrating space technology with rescue assets has the potential to decrease recovery times and increase survival chances for both CSAR helicopters and downed aircrews.

Joint STARS (JSTARS), an intelligence aircraft used in Operation Desert Storm, also has the potential to quickly locate downed personnel behind enemy lines. This aircraft uses a sophisticated radar/computer combination to detect enemy forces deep in hostile areas. This information is data-linked to ground station modules (GSM) in combat forces' and Theater CINCs' tactical operations centers and provides real-time data on enemy activities.

A JSTARS rescue system would require additional equipment for pilots and modified radar/computer systems. This includes a coded radar-transponder type device

installed in the pilot's survival radios which can be detected by JSTARS' radar. Computer software alerts a systems operator to a downed aircrew situation and accurately locates their position. The operator sends this information, by data-link, to the theater JRCC and services' RCCs. Using GSMs, these rescue centers could quickly locate downed aircrews and task CSAR helicopters or other assets to conduct recoveries.

Other studies are required to specify new rescue aircraft and force structures needed to support future CSAR operations. One study should specify required operational capabilities for future vertical lift rescue aircraft or equipment required to modify existing helicopters. Another study should determine the amount of CSAR helicopters and force structure required to support various types of combat air units in all the services.

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APPENDIX B

TABLE 1

SUMMARY OF ANALYSIS RESULTS

	DEPLOYMENT	FORCES	C2	ENVIRON	DEMANDS
Status Quo	DISADV	ADV	ADV	DISADV	DISADV
Single	ADV	DISADV	DISADV	DISADV	ADV
Dual	ADV	DISADV	DISADV	DISADV	ADV
SOF	ADV	DISADV	DISADV	ADV	ADV
Joint	ADV	DISADV	DISADV	DISADV	DISADV
Phased	ADV	DISADV	ADV	ADV	DISADV

Abbreviations:
ADV=Advantage
DISADV=Disadvantage

APPENDIX B

TABLE 2

CSAR DECISION MATRIX

	DEPLOYMENT	FORCES	C2	ENVIRON	DEMANDS	VALUE
WEIGHT	(x3)	(x4)		(x2)		
Status Quo	5.5 (16.5)	1.0 (4.0)	1.0 (1.0)	3.0 (6.0)	3.0 (3.0)	**13.5 (30.5)**
Single	3.0 (9.0)	6.0 (24.0)	5.5 (5.5)	4.0 (8.0)	1.0 (1.0)	19.5 (47.5)
Dual	2.0 (6.0)	3.0 (12.0)	2.0 (2.0)	6.0 (12.0)	2.0 (2.0)	15.0 (34.0)
SOF	1.0 (3.0)	5.0 (20.0)	5.5 (5.5)	1.0 (2.0)	5.5 (5.5)	18.0 (36.0)
Joint	4.0 (12.0)	4.0 (16.0)	4.0 (4.0)	5.0 (10.0)	5.5 (5.5)	22.5 (47.5)
Phased	5.5 (16.5)	2.0 (8.0)	3.0 (3.0)	2.0 (4.0)	4.0 (4.0)	16.5 (35.5)

Low Numbers Represent Perferred Option.
High Numbers Represent Least Desirable Option.

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