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## Organizing for Search and Rescue:

### Force Structure in a Joint Environment

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**T**HE LETHALITY of air defenses has increased exponentially since the conclusion of World War II. Even with the advent of stealth technology, aircraft in combat face an undeniable risk of being forced down. With increased training costs and budget constraints, the military cannot afford to lose aircrew members who could otherwise return to fight again. Cost aside, the US is responsible to do everything possible to protect its military personnel. A pilot forced to eject over enemy territory should have confidence that help is on the way. Therefore, we need renewed emphasis on aerial Combat Search and Rescue (CSAR) forces. The CSAR mission, however, tends to be overlooked, and its doctrine is not keeping pace with the increasing CSAR capability available within today's joint forces. While the 1986 Goldwater-Nichols Department of Defense Reorganization Act made the unified commands the model for organization, CSAR forces are distributed unevenly, nonfunctionally, and redundantly at best—greatly reducing the theater commanders' abilities to support their forces with viable rescue units. Remedying the situation will require the military to rethink the way we organize and implement CSAR forces.

Concentrated efforts at recovering downed aircrews began after the United States' entry into World War II when General H. H. ("Hap") Arnold forged an agreement with the Royal Air Force to conduct combined search and rescue operations in the North Sea and English Channel.<sup>1</sup> These missions relied heavily on Catalina seaplanes and converted B-17 Flying Fortresses to drop rescue equipment to the crews. Land-based operations came about soon after in South Asia, consisting initially of ground teams but increasingly employing helicopters to effect rescues. Helicopters proved to be a quantum leap for rescue forces, and, despite their entry late in the war, their effectiveness helped fashion CSAR units of the future. The Air Rescue Service was formed soon after the end of the war, and rapidly developed its capabilities through the end of the Korean War. By the early 1960s, it was responsible not only for world-wide SAR activities in war and peace but recovery of space vehicles after splashdown and local base rescue teams as well.<sup>2</sup>

None of these missions, however, prepared the Air Rescue Service for the challenges it would face in Vietnam. The Air Force was reluctant to send additional units at the beginning of the war in an attempt to maintain the covert posture of its Farm Gate assistance operation (the US Air Force advisory support of the South Vietnamese Air Force early in the war). Any pilots unfortunate enough to be shot down had a better chance of being rescued by a passing Air America flight than they did by military forces.<sup>3</sup> As losses mounted, the equipment and units in place were deemed to be inadequate, and the mission was reevaluated. It was at this time that CSAR really began to find its legs. HH-43 helicopters were refitted with armor plating, door guns, and additional fuel tanks to increase their range; and were soon augmented by the arrival of the much more capable HH-3 Jolly Green Giant. Although well suited for extraction, the helicopters were extremely susceptible to fire from ground forces, who commonly set up

"flak traps," and waited for the rescue helicopters to come in before firing. Help came in the form of the Douglas A-1 Skyraider, a small, rugged aircraft capable of extended loiter in target areas, and capable of carrying a vast array of munitions. The Navy agreed in 1965 to provide the Air Rescue Service with A-1s on a rotating basis for escort duties.<sup>4</sup>

Typical rescue missions had a pair of Skyraiders, "Sandy High", providing escort for the helicopters and commanding the mission until arrival on scene. A second pair of A-1s, "Sandy Low", orbited the crash site determine the crew's condition and location and the composition of enemy forces in the area. Sandy Low was often assisted by forward air controllers who were typically familiar with the terrain and enemy strength in the area. Once the team arrived, Sandy Low assumed control and cleared the helicopters into the area. The pickup helicopter, "low bird", moved in while the "high bird" backup helicopter remained in an orbit.<sup>5</sup> While there were some variations for terrain and equipment available, this served as the military's model for CSAR for the entire war.

While rescue forces in Vietnam have rightfully been commended for their performance, there were definite shortcomings in our rescue abilities. Forces lacked a long-range rescue vehicle for missions into North Vietnam. During Linebacker II, for instance, not a single aircrew member was recovered from beyond the border. Time was also a critical factor. Slow-moving helicopters travelling long distances left crews on the ground for extended periods of time. This led to a disturbing statistic: a pilot's chances of being rescued were good if picked up within 15 minutes, but dropped off sharply after 30.<sup>6</sup> Of the 2,254 U.S. Air Force aircraft lost over Vietnam, only 635 crew members were recovered.<sup>7</sup>

Certainly there are many lessons to be learned from our experience in Vietnam. First, even peacetime forces must be prepared to engage in CSAR in varied situations. The Air Rescue Service, later the Aerospace Rescue and Recovery Service, had focused so much on emergency and space recoveries that they were ill equipped to deal with extraction under combat conditions. The vehicles were unarmed, unarmored, and they lacked the range and durability needed for combat.<sup>8</sup> It took nearly five years of combat experience to turn the ad-hoc grouping of secondhand equipment into a professional combat rescue service, a luxury we could not afford then and certainly will not have in future conflicts.

Second, forces must be tailored to peculiarities of their operational areas. In several cases, extensive modifications had to be made to existing aircraft in an attempt to find a suitable rescue platform, including fuel tanks, weapons systems, and armor. The H-5, the first helicopter sent to Vietnam, had wooden rotors that deteriorated rapidly in the humid climate. The original extraction cables were too short to reach through the dense triple canopy of Vietnamese and Laotian rain forests. Had forces been trained and stationed in country, they would already have prepared for these contingencies.

Third, joint efforts produce better results. When the Air Force saw it needed armed escorts, the Navy had the capability to provide them. When the Air Force needed additional helicopters, Army helicopters were made available. The result was a combination of capabilities more efficient than any service could have provided on its own. No one service had enough resources to spare for a separate CSAR unit.

Finally, tactics have to be modified to suit the nature of the rescue. Prior to Vietnam, formal doctrine on combat rescue was virtually nonexistent, leading to experimentation with techniques and equipment. It was not the doctrine of the individual services that made CSAR effective in Vietnam but rather the ingenuity of the rescue forces, which made do with impromptu arrangements of whatever forces happened to be in the area at the time. . While Vietnam provided the most experience for our forces, the shortcomings mentioned above should keep it from being accepted as our model for CSAR.

It was nearly 20 years before a CSAR operation of Vietnam's magnitude would be seen again. In Operation Desert Storm, Special Operations Command (SOCOM) was tasked with providing all rescue forces in the theater. While SOCOM was well equipped with helicopters and pararescue forces, it lacked escort planes for them. The Sandy mission was turned over to Air Force A-10s, which were assigned to specific rescue units. Coordination between the two was more difficult, as SOCOM was loathe to reveal many of its covert tactics to regular forces. On 21 January, a Navy F-14 pilot, Lt. Devon Jones, and his Radar Intercept Officer, Lt. Lawrence Slade, were shot down over Iraq by a surface-to-air missile. Slade was captured immediately, but Jones landed far enough away to avoid detection. Digging himself a foxhole in the sand, Lieutenant Jones waited as several Iraqi farmers passed within a few feet of his position. When he finally turned on his survival radio, he found that rescue forces were already looking for him. Two A-10s were sweeping the area, trying to pinpoint his location. They did so, then returned to their base to refuel and escort a helicopter in. Jones waited anxiously, then noticed an Iraqi truck headed directly for his position. Before it reached him, however, the truck erupted in flames. The A-10s had returned, destroying the truck with their 30-mm guns. Lieutenant Jones was rescued after spending eight hours on the ground.<sup>9</sup>

The tactics of the mission bear a striking resemblance to Vietnam. In the CSAR community, the leadership was very much a remnant of Vietnam. However, there were certainly differences. The terrain of Iraq provided much less cover than did Vietnam, necessitating rapid response of rescuers to prevent capture. Lieutenant Jones spent eight hours on the ground waiting for rescue forces to get a helicopter to a known location. Had SOCOM been more willing to integrate with regular forces, the rescue time could have been shortened dramatically. Iraq's terrain also provided less cover for enemy ground troops, preventing the "flak traps" so prevalent in Vietnam. This allowed helicopters to enter the scene without fear of an ambush, which had hindered so many rescues in Southeast Asia. Organizationally, rescue forces were consolidated under the command of the joint forces air component commander (JFACC) rather than an Air Force agency, giving the rescue crews the ability to organize and plan their missions more effectively. However, the fundamental tactics of CSAR hadn't changed much, and neither had the prevailing attitude of the services that rescue was a contingency mission to think about once hostilities had already begun, and one that they could handle on their own.

Air Force service doctrine concerning CSAR reflects this afterthought attitude, as well the lack of joint consideration. Air Force Manual 2-36, *Search, Rescue, and Recovery Operations*, states that "operational control of specific SAR forces may be passed to the air component commander of a joint force",<sup>10</sup> indicating that the Air Force is willing to turn over control of SAR forces, such as in Desert Storm. However, it furthers the view that rescue is a secondary mission by stating that "it is impractical to establish a static SAR force structure of sufficient strength to have forces close at hand, regardless of area".<sup>11</sup> Some A-10 pilots do receive special SAR training, but not all. What happens when SAR qualified pilots are shot down and only pilots unfamiliar with SAR operations are left to rescue them?<sup>12</sup>

The Navy doesn't have a single text to deal with CSAR; it is dealt with as an extension of other missions. On a typical aircraft carrier, only three helicopter crews (out of eight) are trained to perform SAR missions.<sup>13</sup> The Marine Corps places even less emphasis on rescue missions because the time spent diverting forces to conduct a search detracts from a unit's primary function.<sup>14</sup> Because CSAR is so dependent on a conflict to be implemented, it is not likely to receive the attention it deserves until a more cost-effective means of maintaining an active rescue force is accepted.

Services have also resisted the integration of their equipment into a joint package on anything less than an emergency basis. The Navy's reason for doing so is to retain independence: "Battle Group

Commanders want the capability to do CSAR... with organic battle group forces".<sup>15</sup> It shows its true non-joint mentality in stating that "existing [CSAR] texts are from other services and not always compatible with Navy operating procedures".<sup>16</sup> The services are unwilling to sacrifice their own CSAR capabilities despite the fact that all rescue operations in every major conflict in the past 30 years have been conducted by joint forces.<sup>17</sup> The Air Force is currently tasked with providing CSAR forces for the entire military, but the other services were unwilling to elevate the status of the joint rescue coordinator to joint rescue commander, fearing that it would give the Air Force another vote (with the JFACC) on the unified commander's staff.<sup>18</sup>

The current force structure is limited in its range and scope. There are approximately 200 Air Force aircraft dedicated to the SAR mission, and the majority fall under the Air Force's only SAR wing, the 39th Aerospace Rescue and Recovery Wing (ARRW) based at Eglin AFB, Florida.<sup>19</sup> These forces consist mainly of HH-3, CH-53, and -60 helicopters, with HC-130 aircraft acting as command and communication platforms. Several problems arise in adapting this structure into an effective CSAR force. First, the wing does not possess any rescue escort aircraft, such as A-10s, so training for CSAR is sporadic at best.<sup>20</sup> Also, by having only one dedicated ARRW, the Air Force is limiting its ability to react to overseas crises. The Navy has limited ship-borne rescue capability, but does have two Naval Reserve squadrons dedicated to CSAR. The continued acquisition of HH-60s is expected to upgrade the overall capability of Navy rescue forces.<sup>21</sup> This lack of attention to CSAR projection seriously degrades the ability of the services to construct an effective force in a regional conflict, and this was seen in the reaction time of rescue forces in Desert Storm.

This attitude is changing, but slowly. Joint Publication 3-50.2, *Doctrine for Joint Combat Search and Rescue*, was due for final approval in September 1993, but is still undergoing changes. The very fact that it is being drafted as a joint publication is a quantum leap from the current lack of cooperation among recovery forces.

The importance of CSAR is being noted as well. A single captured pilot can cause national furor, as was witnessed recently in the case of Army Warrant Officer Michael Durant in Somalia. The public will not stand for Americans being held as prisoners, and this concern for American prisoners of war (most of whom can be expected to be aviators in a Desert Storm scenario) has forced the services to take a hard look at how they train for rescue. Some A-10 and all OA-10 forward air controller pilots receive routine training in CSAR, and the Navy is trying to expand their helicopter rescue capabilities, favoring the rugged HH-60 over the much larger (and expensive) tilt-rotor V-22 Osprey. The Osprey, although much faster and having longer range, is a larger target for anti-aircraft fire and is already far over budget and behind its development time line.<sup>22</sup> Budget constraints are likely to limit procurement of any pure rescue equipment, which helps explain the Air Force's reliance on Special Operations to take on CSAR responsibilities, allowing helicopter technology to receive funding in one place. Trying to reemphasize the CSAR mission in light of dwindling resources requires an organizational change to do more without expanding the size of the force.

In 1986, the Goldwater-Nichols Act placed the impetus of joint operations on the unified commands. A single commander was placed in charge of all Air Force, Army, Marine, and Navy assets in his theater of operations. CSAR forces, however, were not incorporated into the command force structure, remaining under the owning service's control. This seriously limits a commander's choices when confronted with a mission requiring CSAR support. The commander does not have a designated rescue unit available for immediate response to a crisis. What forces are available are spread among the various services, have had little experience working together, and have no defined CSAR chain of command. However, the unified command structure does provide a model for a better CSAR organization, and with

minimal difficulty. In order to make our CSAR forces more capable and efficient, it will be necessary to organize them at the theater level.

First, those units with the best CSAR capability in-theater must be identified by the command. This may be any combination of service components, including fixed- and rotary-wing aircraft. These units would then be tasked with providing CSAR for the entire theater as a primary mission. In Pacific Command (PACOM), for example, Army helicopters, Air Force OA-10s, and fighter support units are all based within twenty miles of Seoul, South Korea. If a squadron of each was tasked with CSAR, they could be immediately employed by PACOM as an organic joint rescue unit under direct control of the commander in chief (CINC). This would allow them to react rapidly with a known command structure in place. Similar conditions exist in Germany, England, Panama, Japan, Turkey, Hawaii, and on both coasts of the US. Being region-specific units, each would be prepared, trained, and equipped to deal with peculiarities of terrain, weather, and enemy threats. Units in the Middle East would certainly use different tactics and equipment than those in Central America. This would also prevent the need to deploy an outside, inexperienced CSAR force because the local unit would be responsible for operations in their theater. The proximity of these forces would allow joint training for CSAR on a regular basis. As the training would not require the units to relocate or deploy elsewhere, they would still be free to train as usual for other service-specific missions. The frequent training would help remove the obstacles that have hindered smooth joint CSAR operations in the past, obstacles such as inconsistencies in tactics and breakdowns in logistics and in communication, command and control. In effect, this arrangement emphasizes CSAR as a vital mission but does not force the commands to form a separate, dedicated rescue group.

While such a group would be extremely effective, it is also cost prohibitive. It would require a command to train aircrews and operate and maintain aircraft specifically for the CSAR mission, all the time wondering when a conflict will arise in which the group can be utilized. Tasking separate units helps to highlight the importance of CSAR without detracting from service capabilities, allowing them to do more with the same amount of resources.

Budgeting constraints must be considered as well. Because training for CSAR would fall under the direction of the unified commands rather than the individual services, the funding would be provided by the commands themselves. USSOCOM would receive less money for rescue training but would still maintain mission-specific rescue capability, including hostage rescue and forced extradition, and would have forces available to augment the theater-level forces in extreme circumstances. Likewise, the individual services would keep their organic forces for noncombat rescue but would not field a fully capable CSAR unit, thus preventing redundancy. This is likely to cause some grumbling at the service level, but this is precisely the attitude that has to be overcome if we are serious about maintaining our combat effectiveness during a drawdown. New rescue-specific equipment is not likely to receive funding, so it is critical to get the most out of the resources we already possess, and to investigate the CSAR applications of new technologies already being brought into the services, such as global positioning system (GPS) tracking.<sup>23</sup> The financial posture of the military relies on its ability to justify expenditures, and joint organization will provide the most efficient way of spending our defense dollars.

The military is at a critical juncture. Simply downsizing the forces we possess to save money will likely result in a decrease in effectiveness. A real drawdown requires a rethinking of the way we organize, a new paradigm around which to base our force structure. The current CSAR capability reflects the lack of attention and thought given to it by the services. It is inefficient, and, if not seriously reevaluated, will find itself ineffective as well. The resources are available in-theater, but are not organized into an effective joint force. The current organizational structure and the attendant interservice rivalries are



preventing us from realizing the true potential of these resources and will continue to hinder effective CSAR force utilization until there is a serious effort to realign them.&127;

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## Notes

1. Tilford, Earl A., Jr, Search and Rescue in Southeast Asia (Washington: Center for Air Force History, 1980), p. 6.
2. Ibid., p. 18.
3. Ibid., p. 47.
4. Ibid., p. 66.
5. Ibid., p. 94.
6. Lewis, Brian, "Helicopters and Search and Rescue: Doctrine Driving Technology Driving Tactics", (Colorado Springs: USAFA, 1993), p. 6.
7. Tilford, Search and Rescue in Southeast Asia, p. 155.
8. Lewis, "Helicopters and Search and Rescue", p. 5.
9. DeRechi, Kerry, "'I Got Lucky', Says Pilot Rescued in Iraq", Norfolk (Va.) Pilot 27 March 91.
10. U.S. Department of the Air Force, Air Force Manual 2-36 "Search, Rescue, and Recovery Operations" (Washington D.C.: HQUSAF, 1967), p. 9.
11. Ibid., p. 2.
12. Steiger, Bill, "Pilots Heroes at Home", Charleston (S.C.) News and Courier 23 Jan 91.
13. Joint Chiefs of Staff, "Doctrine for Joint Combat Search and Rescue", Joint Pub 3-50.2 (Washington: Government Printing Office, 18 May 1993), p. B-16.
14. Ibid., p. C-1.
15. Mills, John B., CMDR, USN, "Navy Combat Search and Rescue: Past, Present, Future" (Maxwell AFB, AL: Air University, 1988), p. 25.
16. Ibid., p. 26
17. Fielder, Tom, "Downed Pilot Snatched From Iraq", Miami Herald 22 Jan 91.
18. Keiselbach, John, CMDR, USN, Telephone Interview, 2 Dec 93.
19. Yenne, Bill, The United States Air Force Today (New York: Gallery, 1986), p. 71.

20. Roberts, Michael, The Illustrated Directory of the United States Air Force (New York: Crescent, 1989), p. 58.

21. Joint Chiefs of Staff, Joint Pub 3-50.2, p. B-2.

22. Mills, "Navy Combat Search and Rescue", p. 26.

23. Hoddy, C.C., "Search and Rescue as an Instrument of National Policy" (Maxwell AFB, AL: Air War College, 1970), p. 90.

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