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Not since the Vietnam War has the U.S. Navy had much interest in a conventional riverine force. This changed in 2006 when the CNO reestablished the Navy's riverine squadrons (RIVRONs) to help contribute to the GWOT. Due to RIVRON success in OIF, the Navy plans to expand its riverine fleet and the scope of their operations. However, the Navy continues to be reluctant to invest in a naval air component to riverine warfare, disregarding the historical precedent set by Helicopter Attack Light THREE (HAL-3) in support of riverine operations in Vietnam, the 1990 Worthington study, and the 2006 Center for Naval Analysis (CNA) examination of the Navy's riverine capability; all three indicating the importance of integrated close air support (CAS) to riverine warfare.

Using Helicopter Sea Combat (HSC) MH-60S aircraft as RIVRON CAS assets would be the least costly way to integrate naval helicopters into riverine warfare. Unfortunately, utilizing naval armed helicopters as RIVRON CAS assets has not been a priority for the Navy as indicated by its lack of interest in this potential solution.

If the Navy truly intends to exploit the riverine environment it would integrate dedicated naval helicopter CAS assets into its riverine strategy. However, despite having its own armed helicopters already available for the task, this has not been the case. Therefore, riverine operations will be far less effective against future littoral challenges because of the Navy's failure to instill naval armed helicopters as assets in riverine warfare.

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MASTER OF MILITARY STUDIES

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**Where are the Seawolves?**

*The absence of organic helicopter close air support from naval riverine strategy*


SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
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## Executive Summary

**Title:** Where are the Seawolves? *The absence of organic helicopter close air support from naval riverine strategy*

**Author:** LCDR Chris Brinkac, United States Navy

**Thesis:** Riverine operations will be less effective against the littoral challenges of the 21<sup>st</sup> century because of the Navy's failure to instill naval armed helicopters as assets in riverine warfare.

**Discussion:** Not since the Vietnam War has the U.S. Navy had much interest in the development of a conventional riverine force. This changed in 2006 when the CNO reestablished the Navy's riverine squadrons (RIVRONs) to help contribute to the GWOT. Due to RIVRON success in OIF, the Navy plans to expand its riverine fleet and the scope of their operations. However, the Navy continues to be reluctant to invest in a naval air component to riverine warfare, disregarding the historical precedent set by Helicopter Attack Light THREE (HAL-3) in support of riverine operations in Vietnam, the 1990 Worthington study, and the 2006 Center for Naval Analysis (CNA) examination of the Navy's riverine capability; all three indicating the importance of integrated close air support (CAS) to riverine warfare.

Despite history and these formal recommendations, the Navy believes organic CAS is not a requirement because of the minimal air to ground interaction in support of riverine operations in OIF, as well as, the RIVRONs initial success leveraging coalition-air assets when needed. However, the ability to conveniently resource non-organic air power may not be possible during future deployments especially in undeveloped theaters in the western Pacific where the Navy advertises RIVRONs will operate.

Historically, the Navy made this same mistake before. The HAL-3 "Seawolves" were created as a temporary fix after it became obvious that CAS was needed by riverine forces patrolling the Mekong Delta during the Vietnam War. This time around, the Navy can avoid the mistake of underestimating the importance of riverine CAS by integrating its armed helicopters as assets for riverine warfare before the need arises in combat.

Using Helicopter Sea Combat (HSC) MH-60S aircraft as RIVRON CAS assets would be the least costly way to integrate naval helicopters into riverine warfare. HSC skill sets, armament, task organization, and Littoral Combat Ship (LCS) compatibility are favorable to RIVRON operations. Hence, the only requirement for integration is funding for more flight hours. Unfortunately, utilizing naval armed helicopters as RIVRON CAS assets has not been a priority for the Navy as indicated by its lack of interest in this potential solution.

**Conclusion:** Beyond the enthusiasm of the RIVRON success in OIF, the Navy's true commitment to riverine warfare is questionable. In reality, the commitment is only superficial, revealed by the Navy's disregard to the importance of CAS in riverine warfare. If the Navy truly intends to exploit the riverine environment it would integrate dedicated naval helicopter CAS assets into its riverine strategy. However, despite having its own armed helicopters already available for the task, this has not been the case. Therefore, riverine operations will be far less effective against future littoral challenges because of the Navy's failure to instill naval armed helicopters as assets in riverine warfare.

## Introduction

Not since the Vietnam War has the U.S. Navy had much interest in riverine warfare or the development of a conventional riverine force. Instead, the Navy has remained primarily focused on the procurement and improvement of assets applicable to the “blue water” fight. However, since 9/11, the Navy is once again looking inland. The Chief of Naval Operations (CNO) with the Quadrennial Defense Review (QDR) of 2006 rekindled the Navy’s brown water tradition by facilitating the reestablishment of its riverine squadrons (RIVRON). By 2009, all three RIVRONs had successfully completed deployments in support of Operation Iraqi Freedom (OIF) resulting in a continued push from naval leadership to expand their mission and size. The expectation of QDR 2010 is an allocation for a fourth squadron which will allow for more wide spread RIVRON deployments to areas such as in the western Pacific.<sup>1</sup>

As the reinvigorated brown water Navy prepares to go “all ahead full,” it must not overlook Vietnam history which highlights the strategic and operational requirements for such a commitment. In doing so, one would consider the value of dedicated helicopter close air support (CAS) to riverine warfare similar to what was provided by Helicopter Attack Light THREE (HAL-3) for the riverine forces operating in Vietnam. However, as the Navy expands its surface littoral and riverine fleet, with the introduction of more riverine squadrons and assets such as the Littoral Combat Ship (LCS), it continues to disregard Vietnam history indicated by its reluctance to devote much thought and resources into developing a naval air component to support riverine missions. Therefore, riverine operations will be less effective against the littoral challenges of the 21<sup>st</sup> century because of the Navy’s failure to instill naval armed helicopters as assets in riverine warfare.



## **“Scramble Seawolves”**

*“In Vietnam, for maximum mobility and firepower over the jungles and rice paddies, the helicopter was the essential support vehicle for our riverine forces.”<sup>2</sup>*

Barry W. Enoch  
GMGC, U.S. Navy (Ret)  
SEAL Team 1

Soon after Operation Game Warden (Task Force 116) forces began patrolling the Mekong Delta in March 1966 during the Vietnam War, it was obvious that CAS was desperately needed. Game Warden PBRs (Patrol Boat, River) and PCFs (Patrol Craft, Fast; “Swift Boats”), while armed with .50 caliber machine guns, grenade launchers, and mortars, were very often outmatched against entrenched Viet Cong firepower along the densely vegetated waterways. Naval strategists quickly realized that sending these small, lightly armored craft into hostile waterways was extremely risky. Although the speed and firepower of the PBRs and PCFs increased their survivability, there were many situations in which brown water sailors needed fast and potent assistance. Air support became the obvious answer.<sup>3</sup>

Thus, in order to protect the riverine forces and enhance their effectiveness, Commander Naval Forces Vietnam (COMNAVFORV) ordered the establishment of a dedicated naval helicopter unit to serve a CAS role for Game Warden operations. By August 1966, after an abbreviated training syllabus, a small contingent of Navy pilots from Helicopter Combat Support Squadron ONE (HC-1) combined with eight Bell UH-1B gunships borrowed from the Army’s 197<sup>th</sup> Aviation Helicopter Company were verified combat ready and sent into action, later to be christened as the Helicopter Attack Light THREE (HAL-3) “Seawolves.”

Over the next five years, the Seawolves expanded their size and operational reach which allowed them to support numerous riverine campaigns.<sup>4</sup> At their peak, the Seawolves were organized into seven two aircraft detachments spread out throughout the Mekong Delta. Four

detachments were located on land while three detachments were based off specially configured LSTs (Landing Ship, Tank) anchored in the middle of main delta waterways.<sup>5</sup> From these strategic detachment locations, HAL-3 was able to cover the majority of CAS requirements over the vast Delta. When not airborne for a specific CAS mission, the Seawolves provided a five minute alert launch capability designed to respond to any emergency CAS or medical evacuation (MEDEVAC) requirement.<sup>6</sup> For example, in December 1966, when a group of PBRs came under insuppressible fire from a Viet Cong position along the bank of the My Tho River, HAL-3 aircraft were launched for CAS, resulting in 15 insurgents killed and 28 sampans destroyed.<sup>7</sup> This type of action became common for HAL-3 during the war.

One characteristic which made Seawolf gunships so formidable as CAS assets was their armament which included four externally mounted fixed forward M-60 (7.62 mm) machine guns fired by the co-pilot, fourteen 2.75-inch rockets housed in two externally mounted pods controlled by the pilot, two hand-held M-60 machine guns fired by the crew chief and door gunner, and two hand-held M-79 grenade launchers also fired by the crew chief and door gunner.<sup>8</sup> Further firepower enhancements included replacing the crew served M-60s with .50 cal machine guns for increased range.<sup>9</sup>

During its tenure, HAL-3 was lauded by many brown water sailors who “owe their lives to the suppressive firepower or medical evacuation capabilities of this air arm of Game Warden.”<sup>10</sup> The Seawolves compiled impressive statistics including the distinction of being one of the most decorated naval squadrons in history. Despite their value and tremendous success, the U.S. withdrawal from Vietnam marked the end of the Navy’s involvement in conventional riverine operations and led to the disestablishment of HAL-3 in 1972.

## Disappearing History

Historically, this departure from a brown water strategy was not the first for the U.S. Navy. Since as early as the end of the Civil War, during times of peace, the Navy has deliberately refocused all of its attention back upon the open ocean and its Mahanian ethos, quickly losing interest in maintaining a conventional riverine capability. This continual prioritization of blue water warfare above all else has hindered the development of standing riverine warfare doctrine leaving TTPs and valuable lessons learned with only veteran brown water sailors.<sup>11</sup> Furthermore, the short-term acceptance of riverine warfare coupled with the lack of doctrine hinders the Navy's ability to design the right type of force to dominate in the brown water when the need arises. When the time comes, detailed strategic and operational requirements for conducting riverine operations are underestimated even though the historical precedent has been set. This was the case in Vietnam, where HAL-3 was established not by any forethought, but after battle experiences which highlighted the obvious need for CAS. Then, when the war ended for the U.S., the paradigm continued; the HAL-3 concept along the Navy's riverine capability disappeared. PBR sailors went back to the blue water fleet while HAL-3 pilots and aircrew went back to hunting for submarines and flying logistics missions.<sup>12</sup>

This trend continued through the remainder of the Cold War. During this period, the Navy only completed one study on riverine warfare which occurred in August 1990. By direction from the Navy/Marine Corps Board, the Commander of Naval Special Warfare Command (NAVSPECWARCOM), Rear Admiral George Worthington, evaluated the Navy's potential to develop a conventional riverine capability from existing naval infrastructure. Besides recommendations for a battalion sized riverine force, an extensive command element, and organic combat service support elements, Admiral Worthington recognized the importance

of CAS and included an air dimension to his riverine model, in this case, U.S. Marine aviation.<sup>13</sup> By incorporating a Marine air-to-ground task force (MAGTF) into his riverine concept, dedicated CAS assets would be available to provide the support to the riverine vessels in the same fashion as HAL-3 provided for Task Force 116 operations in Vietnam. However, this study received little attention because naval leadership was once again focused on more expensive projects centered on its blue water fleet. For them, as in the past, riverine warfare was not thought of as a mission for the main stream Navy, but rather only as a component of special operations and the U.S. Marines.<sup>14</sup> As a result of the disregard to history and the lack of naval doctrine, the proper force structure, the demand on logistics, and the importance of air support are just a few of the components of riverine warfare not fully understood and prioritized by the Navy when it reinstated its riverine force in 2006.

### **Riverine Operations Re-visited**

*"I believe our Navy is missing a great opportunity to influence events by not having a riverine force. We are going to have one."<sup>15</sup>*

Admiral Mike Mullen (as CNO)

The impetus for riverine warfare reemerging as a priority in 2005 was a desire from the CNO to help contribute to the Global War on Terror (GWOT), a primarily overland campaign, and the focus of naval strategy on the littorals and away from the high seas.<sup>16</sup> This vision caused the Navy to once again re-establish a conventional riverine force, this time with a 30 year absence from operating in the brown water and with no doctrine to reference. With the Quadrennial Defense Review (QDR) decision to "provide a Navy riverine capability,"<sup>17</sup> Riverine Group (RIVGRU) ONE was established in May 2006 under the Naval Expeditionary Combat Command (NECC). Concurrently, RIVRON 1, the first of three riverine squadrons, was

established and immediately began training for deployment. In 2007, the second and third riverine squadrons (RIVRON 2 and RIVRON 3) became operational expanding the Navy's new brown water force to 36 specialized boats and approximately 700 sailors.<sup>18</sup> By March, after only one year of training, RIVRON 1 deployed to OIF marking the first time a Navy riverine squadron deployed since the Vietnam War.<sup>19</sup> This accelerated workup to deployment was facilitated through training provided by the U.S. Marines who owned the riverine mission in Iraq in the Navy's absence as well as tactical lessons learned from Vietnam riverine veterans acting on their own behalf.<sup>20</sup> Commander William Guarini, the first commanding officer of RIVRON 1 said, "The combat skills training at Camp Lejeune (N.C.) with the Marine Corps and firefight introductions training took us from blue water Sailors – open water Navy – to become an expeditionary force."<sup>21</sup> The reliance on pre-deployment training facilitated by non-Navy entities has been standard for all RIVRONs prior to their departure to OIF. This is especially true for the training of RIVRON Joint Terminal Air Controllers (JTACs) who provide detachments the capability to call in air support.<sup>22</sup> So far, the primary mission for the RIVRONs in OIF has been to conduct stability operations, provide maritime security, and to train coalition partners in riverine operations.<sup>23</sup>

By 2009, all three RIVRONs have successfully completed at least one OIF deployment maintaining the security of key waterways in Iraq.<sup>24</sup> Their success has instilled confidence and a desire from naval leadership to expand their mission and size. The current CNO, Admiral Gary Roughead explained that "you may in the future see an increase in riverine capability."<sup>25</sup> This desire was also highlighted in his 2010 CNO guidance on building the Navy's future force which "moved Naval Expeditionary Combat Command operations into our base budget and funded procurement of one Joint High Speed Vessel [JHSV] and three Littoral Combat Ships [LCS] to

improve our capability and capacity to operate in the littorals.”<sup>26</sup> Furthermore, the Navy’s investment in the JHSV, LCS, and riverine forces are being advertised to have “reduced littoral and brown water gaps” for future challenges and opportunities.<sup>27</sup> Operationally, this means RIVRON forces will have the flexibility and capacity to engage with other navies in other parts of the world.<sup>28</sup> Captain Anthony Krueger, Commodore RIVGRU 1 confirmed that there is an expectation for his forces to grow with the potential allocation for a fourth squadron from QDR 2010.<sup>29</sup> Additionally, he emphasizes the high demand for his units by the combatant commanders and the extensive amount of opportunities for his RIVRONs outside of Iraq.<sup>30</sup> Future RIVRON training evolutions are scheduled with “counterparts from Thailand, Singapore, Brunei, and the Philippines” in the western Pacific which, according to Captain Krueger, will “be our entry into that theater.”<sup>31</sup>

The Commodore’s assessment of potential riverine missions outside of Iraq coincides with a Center for Naval Analysis (CNA) evaluation which surveyed the countries in the world that have river systems within 175 miles of the coastline and also have potential for military conflict. A total of 22 countries fit these criteria including Burma, Columbia, North Korea, Nigeria, Venezuela, and Vietnam.<sup>32</sup> Additionally, the desire for fresh water, like oil, is another natural resource that will likely be the cause of future conflicts thus making the protection of river infrastructure, such as dams and treatment facilities, even more important. However, while the demand may be there, the question remains whether the RIVRONs are capable of independent operations beyond the support structure of a coalition.

## RIVRON Readiness

As the brown water fleet prepares to deploy to new theaters, the Navy has failed to critically evaluate the RIVRONs actual readiness but rather makes biased assumptions on their capability based on their initial success in OIF. Additionally, it appears that the Navy is not prioritizing organic CAS for riverine warfare as it did during the Vietnam War.

In March 2006, the CNA completed an examination of the Navy's past, current, and future riverine capability. One of their ten key takeaways from studying riverine history was that "any new U.S. Navy riverine operational concept must include built-in close air support for surveillance and fires and robust logistic support to augment the inherent small carrying capacity of the craft."<sup>33</sup> Despite this recommendation, the Navy continues to believe organic CAS is not a requirement. This oversight can be attributed to additional reasons beyond not having standing naval riverine doctrine: First, the OIF theater encompasses a wealth of air support assets that could be leveraged by the riverine squadrons during deployment. Until recently, the majority of RIVRON air support requirements fell under the responsibility of the II Marine Expeditionary Force (MEF) while the squadrons were operating on the Euphrates River above and below the Hadithah Dam.<sup>34</sup> Currently, the RIVRONs are operating in and around Basra, Iraq where they can be supported by Army aviation as required.<sup>35</sup>

The second reason RIVRON CAS requirements are being taken lightly is due to the fact that there has been minimal air to ground interaction in support of riverine operations in OIF. However, Vietnam history shows this may not always be the case. Moreover, the ability to conveniently resource non-organic coalition air power may not be possible during future deployments especially in undeveloped theaters in the western Pacific where the RIVRONs may be asked to operate. Since there is currently no naval air asset assigned to be on call to support

riverine operations, RIVGRU leadership will have to rely on written request for forces (RFFs) through their chain of command to try to obtain support.<sup>36</sup>

Besides for actual combat applications, not having an organic CAS asset hinders the RIVRONs ability to effectively train for battle. RIVRON JTACs require integrated training with CAS aircraft in order to maintain their proficiency. This is a current problem because aircraft integration in RIVRON training is accomplished purely ad hoc. For example, when the RIVRONs conduct training at Fort Pickett, Virginia they rely on local Army helicopter assets for support.<sup>37</sup> JTAC training does not occur if local assets are not available or if aviation units are not co-located at the training location. Therefore, not having an organic naval CAS element available for RIVRON support hinders their ability to prepare for combat and could severely limit riverine operations in potential new areas of responsibility. Inevitably, this predicament will force the Navy to search again for a HAL-3 capability.

### **Naval Helicopter CAS Options**

*We will emphasis production of ships and aircraft that provide capabilities across the widest spectrum of conflict and can quickly adapt and scale to the needs of a dynamic security environment, while continuing development of capabilities for specialized missions.*<sup>38</sup>

CNO Guidance for 2010

As previously discussed, HAL-3 was created as an afterthought, out of necessity due to the tactical environment present in the Mekong Delta during the Vietnam War. At the time, the problem was that the Navy had no attack helicopters capable of performing either a CAS role or aircrews trained for that mission. Therefore, the Navy had to go outside the fleet and obtain a joint service agreement with the Army for the needed aircraft and training.<sup>39</sup> Remarkably, the



combination of Army UH-1B aircraft, volunteer Navy pilots and aircrew, and a quick abbreviated training syllabus resulted in the birth of such an effective fighting force.

Currently, the Navy is on course to make the same mistake again. Based on the vastness of the world's river systems, the density of population centers near the coastline, and the unpredictability of the irregular threat, it is only a matter of time before a CAS requirement becomes a reality for riverine forces deployed. Even if the RIVRONs do not encounter intense combat like the riverine forces experienced in the Mekong Delta, they will inevitably still need helicopter support for MEDEVAC, reconnaissance, and logistic missions. And once again, due to the Navy's apparent lack of interest in developing an organic RIVRON air support asset, it will not be ready. However, this does not have to be the case because, ironically unlike 1966, the Navy already possesses an armed helicopter capability that could be integrated into riverine training and operations if so acknowledged, allowed, and funded. This capability lies with the Helicopter Sea Combat (HSC) and Helicopter Strike Maritime (HSM) H-60 communities.

### *Helicopter Sea Combat (HSC)*

The HSC option for RIVRON support, as a whole, fits comfortably within the HAL-3 operational template. Their aircraft of choice for RIVRON operations would be the MH-60S because, aside from its obvious flight performance superiority over the UH-1B, the aircraft has a CAS capability that closely matches what the Seawolves brought to battle (HSC legacy HH-60H aircraft, although capable, will not be analyzed in this paper). HSC squadrons encompass key Seawolf-like characteristics such as similar pilot and aircrew skill sets, aircraft armament, and their task organization. Through analysis of these factors it is apparent that the HSC community is a viable option for RIVRON support.

First and foremost, the Seawolves Primary Mission Area (PMA) for RIVRON support was CAS. Secondary missions included reconnaissance, logistics, and MEDEVAC. What is not well recognized around the fleet is that CAS is a unique capability trained to by HSC squadrons. This can be attributed to the fact that there have only been a few times where HSC aircraft have been used in an actual CAS role and that the HSC community treats CAS not as a PMA but rather as a skill set that can be applied towards multiple PMAs such as Naval Special Warfare (NSW) support, Combat Search and Rescue (CSAR), and Anti-Surface Warfare (ASUW). Therefore, although RIVRON support or CAS is not specifically mentioned as a PMA, aircrews could adapt to that mission because of their skill sets acquired under the NSW and ASUW training blocks. Just at the squadron level alone, under the Seahawk Weapons and Tactics Program (SWTP), there are 16 required individual pilot training sorties that emphasis CAS and 25 individual aircrew sorties emphasizing crew served weapons employment.<sup>40</sup> Additionally, there are numerous CAS training opportunities during the Helicopter Advanced Readiness Phase (HARP) and throughout pre-deployment training such as at Naval Strike and Air Warfare Center (NSAWC) and during strike group level exercises. Furthermore, RIVRON and HSC CAS integration would be transparent since procedural standardization is not an issue because RIVRON JTACs and HSC aircrews both train as per the Joint CAS (JCAS) manual.

Another HSC skill set that is comparable to HAL-3 deals with aircraft employment tactics such as formation flying and air to ground gun employment. In Vietnam, Seawolf helicopters usually flew in section formations called “fire teams” in order to provide mutual support to each aircraft and to double their firepower.<sup>41</sup> In combat their most common tactic was to fly a circular orbit over the target with each helicopter alternately engaging the enemy while

providing cover.<sup>42</sup> Likewise, for actual combat NSW and CSAR missions, HSC community utilizes similar type tactics to the Seawolves as per their NTPP manuals.

The final skill set that HSC aircrews possess that could be employed for RIVRON support resides from their familiarity with operating around small tactical craft such as the MK V, RHIBs, and CRRCs. Whether providing sniper over-watch during a Visitation Board Search and Seizure (VBSS) mission or defending a high value target against an enemy small boat attack, HSC aircrews are familiar with the environment consistent with RIVRON operations, one which demands detailed coordination and difficult engagements in close proximity to friendly forces. This skill set is important because like CAS, formation flying, and air to ground gun employment, it could be seamlessly transferred to a RIVRON support mission. Thus, no new skill sets need to be developed by HSC aircrews to integrate into riverine warfare.<sup>43</sup>

In comparison to the lethality of the UH-1B, the MH-60S is a close equivalent. Its armament can include up to eight infrared (IR) guided AGM-144 (variant) Hellfire missiles, crew served GAU-16 (.50 cal) or M-240 (7.62 mm) machine guns mounted on either side of the airframe, and an aircraft survivability equipment (ASE) suite that includes a Helicopter Infrared Suppression System (HIRSS) for IR defense. The major difference between airframes (other than the differences between rockets versus missiles), is that the UH-1B had fixed forward M-60 machine guns. However, that capability may also be added to the MH-60S in the future. Incidentally to RIVRON support, is FY 09/10 funding allocated for the Naval Air Systems Command (NAVAIR) to conduct research and development (R&D) on a fixed forward gun capability for the MH-60S. The driving force behind this project is not RIVRON support but rather enhancement of MH-60S force protection capability. The weapon leading R&D test so far is the M-197, the same 20mm three barreled gun that is already utilized by the AH-1 Cobra.<sup>44</sup> If

the M-197 is approved for the MH-60S and further funding is allocated for fleet implementation, HSC aircraft will have a significant CAS strafing capability that would cover situations where Hellfire missiles could not be fired due to employment limitations inherent to the laser guided munitions.

One characteristic that enabled HAL-3 to cover such a vast operating area was made possible by their practice of detaching their forces to different areas in the Delta. Undoubtedly, this will be a requirement for helicopter CAS assets in future riverine campaigns. Due to its task organization, the HSC community has this capability. HSC squadrons are either aircraft carrier based, as part of the Carrier Strike Group (CSG), or expeditionary based, detached to Expeditionary Strike Group (ESG) LHA/LHD amphibious assault or replenishment ships. From the base squadrons, two to three aircraft detachments can be sent out for independent overwater and overland operations away from the strike groups.

In January 2009 for example, HSC-9 (at the time designated as HS-3) detached three armed helicopters from the USS THEODORE ROOSEVELT (CVN-71) operating in the Northern Arabian Sea to the USS SAN ANTONIO (LPD-17) operating in the Gulf of Aden to support CTF-151 anti-piracy operations. What is important about this detachment is that it highlights two concepts: First, that a CVN based HSC squadron can effectively divide and operate as two independent units. Second, it proved that an HSC squadron could draw from related PMAs, in this case ASUW and NSW, and incorporate those skill sets in a mission not specifically trained to before.

Although important, this detachment was not the first for the HSC community away from the carrier. In actuality, detachments such as this have been common since 9/11 due to the ever increasing demand from the combatant commanders for naval helicopters to expand their roles.

In October 2003, HS-11 (will be designated HSC-11 in 2011) sent an armed helicopter detachment to support Operation Tusker where they provided an on-call CAS capability for SOF units under CJTF-HOA.<sup>45</sup> Likewise, numerous legacy HS squadrons have detached away from the carrier in support of OIF such as during the spring of 2006 when HS-4 detached to Basra, Iraq in support of MND-SE.

Besides detaching from ships, HSC squadrons can deploy units directly to satisfy the needs of the combatant commander. This is currently being done by HSC-84 who has deployed overland in support of the CJSOTF-AP in OIF since 2003. There HSC-84 provides critically needed air support to numerous SOF units on the ground in Iraq. In this same manner, the HSC community has sent detachments to support air-ambulance operations based out of Kuwait, Maritime Interdiction Operations (MIO) in the Philippines, and, most recently, for humanitarian assistance operations out of Haiti. Therefore, when looking to the future, HSC squadrons, whether originating from the carrier or from their home air field, have the capability and the capacity to detach a portion of its armed helicopters to support RIVRON operations when required.

#### *Helicopter Strike Maritime (HSM)*

HSM aircraft are also capable of supporting RIVRON operations with the SH-60R. (HSM legacy SH-60B aircraft will not be analyzed in this paper.) Like the MH-60S, the SH-60R also has significant aircraft flight performance capabilities that exceed those of the UH-1B. For that matter, both the MH-60S and SH-60R are virtually the same aircraft in terms of flying qualities. The major differences between the two with regard to their ability to support RIVRON operations are found in their avionics and weapons systems. Besides aircraft differences, there

are a few training differences between HSC and HSM as well. Therefore, although a viable option, it is for these reasons that the HSM community will have to evaluate the extent in which HSM squadrons support RIVRON operations.

Like HSC, HSM does not designate CAS as a PMA. Rather, HSM squadrons train for an overwater variant to CAS called Maritime Air Support (MAS). The MAS skill set is applied primarily to their ASUW PMA and trained for throughout the pre-deployment period. The differences between the two are minor; however, JTACs do not train to MAS. Therefore, slightly more specific CAS training would be required to integrate HSM detachments with RIVRON JTACs. Otherwise, HSM air to ground gun employment and their familiarity operating with small boats on VBSS and anti-piracy missions, lend them to have the skill sets required to be acceptable as assets in RIVRON operations.

In reality, the only factors which may limit HSM involvement with RIVRON operations is the weapons and IR defensive systems of the SH-60R, as well as, the traditional maritime philosophy of the community. The SH-60R can be outfitted with up to four Hellfire missiles but only can be armed with one crew served GAU-16 (.50 cal) or M-240 (7.62 mm) machine gun on the right side of the airframe and there are no future gun improvements on the horizon. The M-197 could be installed on the SH-60R but currently there is no funding or desire for R&D of that project.<sup>46</sup> For survivability, the SH-60R has an ASE suite but is not equipped with HIRSS which makes it more vulnerable to IR missile systems than the MH-60S. Consequently, the limited amount of firepower and reduced IR defense of the SH-60R will have to be weighed against the specific CAS requirement and to the tactical environment when determining the suitability of HSM support of RIVRON operations. Additionally, the HSM community will have to accept their aircraft operating in an overland tactical environment one in which they are

not traditionally used to fighting. However, the advanced avionics systems of the SH-60R over the MH-60S, including their radar and ESM capability, may be capabilities that make HSM aircraft vital assets in riverine warfare.

The task organization of the HSM community is similar to HSC. HSM squadrons are responsible for sending one or two aircraft detachments to the Navy's air capable cruisers, destroyers, and frigates. Soon, HSM squadrons will also begin deploying on the CVN, as part of the CSG. When detached on cruisers, destroyers, and frigates they support a multitude of missions hence their term LAMPS (Light Airborne Multipurpose System). Missions include anti-submarine warfare (ASW), ASUW, anti-piracy, VBSS, and force protection. Generally, once an HSM detachment becomes established on its ship it remains there as an operational asset to the ship throughout deployment. Therefore, the HSM detachment mother ship must be within range of the RIVRON operating area for SH-60R aircrews to have the capacity to support RIVRON operations.

### *The LCS Multiplier*

Future HSC/HSM - RIVRON integration could naturally be facilitated through one of the Navy's top investment priorities – the Littoral Combat Ship (LCS). Recently, in January 2010 the Navy commissioned its second LCS, the USS INDEPENDENCE (LCS-2). Additionally, by the end of FY 2010 a contract will be awarded for up to ten additional LCS class ships continuing the effort to expand the Navy's brown and green water capabilities.<sup>47</sup>

The key LCS characteristic that would make HSC/HSM - RIVRON integration possible, resides in the ship's modular design which provides the capability to support a multitude of missions such as anti-surface and anti-submarine warfare, mine countermeasures, special

operations, and maritime interdiction. The modular design of the LCS enables specific mission packages or “mission modules” to be up or down loaded based on operational requirements. In order to enhance the different mission modules the LCS was built with a flight deck and hangar that can support up to two H-60 helicopters. Likewise, the LCS has the capability to support small boat operations with its internal bay and watercraft launch and recovery system.<sup>48</sup>

Currently, the naval helicopter concept of operations (CONOPS) has committed H-60S/R aircraft to support the LCS anti-submarine warfare, anti-surface warfare, and mine countermeasure modules (the only modules available at this time).<sup>49</sup> This will begin early in 2010 when the USS FREEDOM (LCS-1) makes its maiden deployment with a “tailored surface warfare package” to conduct counter-drug enforcement operations.<sup>50</sup> To support this mission HSC-22 will detach two armed MH-60S helicopters to LCS-1 for the deployment.<sup>51</sup> Outfitting LCSs with helicopters will continue as more littoral combat ships become ready for deployment.

Looking to the future, this ship could be used to directly support riverine warfare with either a special operations or anti-surface warfare module. Ideally, the potential of a riverine module should be examined. If that is too costly, at a minimum the LCS could indirectly support riverine operations with its embarked helicopters especially since they could very well be operating in the same areas as the RIVRONs. Essentially, the LCS could serve in the same manner as the LST did for HAL-3 aircraft, PBRs, and PCFs.

### **Armed Helicopter / RIVRON Integration Shortfalls**

The main factor preventing the integration of Navy H-60 helicopters in RIVRON operations is the lack of funding resulting from the absence of any operational guidance from naval leadership on the subject. Just like the other branches of the armed forces, the Navy is



under increasing pressure to do more with less. The CNO makes this clear in his guidance for 2010: “The balance between mandatory and discretionary spending at the national level, and high national debt over the next decade, will further increase the fiscal pressure on defense accounts. Growing demands for Navy forces and rising manpower, operating, and ownership cost challenge our ability to increase Fleet capacity while maintaining operational demands and our commitment to our people.”<sup>52</sup> Therefore, it is only natural that the Navy will look to adapt existing force capabilities to perform new missions with minimal investment. The term COTS or “commercial off the shelf” is common in acquisition discussions meaning that the product is already available for purchase rather than something that has to be developed. The financial benefits for utilizing COTS products are obvious. That is why the Navy invests its resources in projects like the M-197 since it is a COTS product, on top of its known compatibility with shipboard safety requirements.<sup>53</sup>

In this same spirit, when looking for operational gains with minimal investment it is apparent that utilizing the HSC and or HSM option for RIVRON support would be beneficial for the Navy. The HSC option, by far, would be the least costly course of action to take to integrate armed helicopters into riverine warfare. Since the skill sets, the armament, and the task organization are already in place, the only requirement is funding for more flight hours for integration training. However, despite making claims to invest in aircraft that can “provide capabilities across the widest spectrum of conflict,”<sup>54</sup> it is apparent that the Navy does not see any value or at least the return on investment gained from utilizing naval armed helicopters as RIVRON support assets. The reality is that the Navy’s budget is priority driven. If the Navy was truly serious about riverine warfare and considers Vietnam lessons learned, they would make the investment. So far, this has not been the case.

In June 2008, Helicopter Sea Combat Wing Atlantic (HSCWL) did a detailed analysis of both NSW and RIVRON training support requirements. Their findings showed that HSC squadrons, while having the capability, were only funded to support 3% of RIVRONs mission critical training requirements.<sup>55</sup> This limitation is due to a shortage of CNAL funded training and readiness (T&R) flight hours and airframe availability.<sup>56</sup> Additionally, it was concluded that “as NECC matures and NSW strengthens, the appetite for Navy Helo support will continue to grow.”<sup>57</sup> But according to Captain Schreiber, Commodore CHSCWL, “there’s been no traction at the OPNAV level to support this NECC requirement and subsequent funding.”<sup>58</sup> Therefore HSCWL squadrons currently only have enough flexibility in their flight hour budgets to provide limited training support to the riverine squadrons. Moreover, because of the shortage of flight hours across naval aviation, HSC squadrons must get a minimum amount of mutual training benefit from the RIVRONs that can be applied to their other PMAs. In other words, HSC aircrews must get a high return on their invested flight hours especially since there has been no guidance from naval leadership that Navy helicopters should support RIVRON operations.

The lack of operational guidance on helicopter/RIVRON integration stems from the fact that the Navy has no doctrine on riverine warfare. Therefore, it is not a HSC or HSM PMA. Additionally, there is no mention of RIVRON support in the HSC ROC/POE (required operational capabilities/projected operational environment), the document which defines HSC PMAs, for example. Consequently, the HSC community will not likely receive any additional funding specifically for RIVRON support unless it becomes part of the ROC/POE.<sup>59</sup> Some make the argument that RIVRON support falls under the NSW PMA. However, this approach would not increase the overall funding from CNAL and would only put RIVRON and NSW in competition for training flight hours. Rather, what needs to happen is for the Navy to make a

decision about helicopter support for RIVRON operations. With guidance in favor of integration, HSM and HCS leadership could instill RIVRON support in their respective ROC/POE and as a PMA to obtain funding. At a minimum, a formal statement citing its importance, would be reason enough for the HSC and HSM communities to include RIVRON support as a training priority even though not officially a PMA. Navy helicopters have historically performed missions outside of their PMAs such as counter-piracy and air-ambulance operations. If required, the helicopter communities would make it happen. Unfortunately, a decision of this nature will probably not happen because history shows that Navy's interest in riverine warfare is temporal and artificial. Therefore, when OIF ends the RIVRONs will return and future actual combat deployments will be limited despite what the Navy is currently advertising.

### **Recommendations**

First, make RIVRON support a HSC PMA and designate the HSC community as the primary naval helicopter support asset for RIVRON operations. This move would greatly enhance the Navy's riverine warfare capability and would be the most cost effective way to do so. If that absolutely cannot be done, at a minimum, the Navy should provide guidance on the importance of helicopter support for RIVRON operations. With that direction the HSM and HSC communities would make RIVRON support a training priority. From there the HSM and HSC communities with RIVGRU 1 should examine how to integrate RIVRON support training into their respective HARP training periods without any additional T&R funding. On the HSC side, for example, during the ASUW training block a two hour sortie could be broken into one hour of FLIR tracking/ATFP and a one hour of RIVRON CAS training. Likewise, numerous

SWTP sea combat syllabus cards could be completed in conjunction with RIVRON assets using them either as a red or blue force. Completing these cards with RIVRON assets would provide a far better training value than completing these events in the flight simulator or against a target that could not simulate an evasive adversary. Incorporating RIVRON support into the HARP period will be especially of value for detachments or CVN based squadrons that will be deployed to theaters in the vicinity of RIVRON operations

### **Conclusion**

Riverine warfare is once again a major component of naval strategy as indicated by the highest leadership of the Navy. Time will tell whether this component remains a lasting priority. History, however, suggests that this interest will only be temporary. In all likelihood, this will be the case because indications are present that hint the Navy will likely lose interest in it. Beyond the enthusiasm of the RIVRONs success in OIF, the Navy's true commitment to riverine warfare is questionable. In reality, the Navy only has a superficial commitment to riverine warfare that is revealed by its disregard to the strategic and operational requirements for RIVRON support that were exemplified in Vietnam. If the Navy truly intends to exploit the riverine environment it would not fail to integrate dedicated helicopter CAS assets into its riverine strategy just as it did with HAL-3. Unfortunately, despite having its own armed helicopters already available for the task, this has not been the case. Therefore, riverine operations will be far less effective against future littoral challenges because of the Navy's failure to instill naval armed helicopters as assets in riverine warfare.

## Notes

- <sup>1</sup> Andrew Scuto, "In-demand riverines may add 4<sup>th</sup> unit," *Marine Corps Times*, November 2, 2009.
- <sup>2</sup> Daniel E. Kelly, *Seawolves: First Choice* (New York: Ivy, 1998), ix.
- <sup>3</sup> Thomas J. Cutler, *Brown Water Black Berets* (Annapolis, MD: Naval Institute Press, 1988), 191.
- <sup>4</sup> Jim Mesko, *Riverine: A Pictorial History of the Brown Water War in Vietnam* (Carrollton, TX: Squadron/Signal, 1985), 42-45.
- <sup>5</sup> Philip D. Chinnery, *Vietnam the Helicopter War* (Annapolis, MD: Naval Institute Press, 1991), 72.
- <sup>6</sup> Chinnery, 108.
- <sup>7</sup> Mesko, 43-44.
- <sup>8</sup> Cutler, 193.
- <sup>9</sup> *Ibid.*
- <sup>10</sup> Cutler, 195.
- <sup>11</sup> Daniel A. Hancock, "The Navy's Not Serious About Riverine Warfare," *Proceedings* 134, no. 1 (January 2008): 2, <http://www.proquest.com/>.
- <sup>12</sup> Cutler, 195.
- <sup>13</sup> Robert Benbow et al., *Renewal of Navy's Riverine Capability: A Preliminary Examination of Past, Current and Future Capabilities*, (Alexandria, VA: The Center for Naval Analyses, 2006), 18-19.
- <sup>14</sup> *Ibid.*
- <sup>15</sup> Chief of Naval Operations, "Remarks delivered to the Naval War College," August 31, 2005, <http://www.navy.mil/navy-data/cno/speeches/mullen05081.txt>, (accessed December 16, 2009).
- <sup>16</sup> Hancock, 2.
- <sup>17</sup> U.S. Department of Defense. *Quadrennial Defense Review Report*, February 6, 2006, <http://www.defense.gov/qdr/report/Report20060203.pdf>, (accessed December 30, 2009).
- <sup>18</sup> Hancock, 3.
- <sup>19</sup> John K. Hamilton, "Navy's First Riverine Squadron Deploys," *Navy.mil*, March 8, 2007, [http://www.news.navy.mil/search/print.asp?story\\_id=28208&VIRIN=42417](http://www.news.navy.mil/search/print.asp?story_id=28208&VIRIN=42417), (accessed October 5, 2009).
- <sup>20</sup> Mandy McLaurin, "Navy Establishes First Riverine Group," *Navy.mil*, May 26, 2006, [http://www.navy.mil/search/display.asp?story\\_id=23854](http://www.navy.mil/search/display.asp?story_id=23854), (accessed January 3, 2010).
- <sup>21</sup> Hamilton, 1.
- <sup>22</sup> LCDR Robert Hochstedler, telephone conversation with author, January 12, 2010.
- <sup>23</sup> Matthew D. Leistikow, "NECC Establishes Riverine Squadron 3," *Navy.mil*, July 10, 2007, [http://www.navy.mil/search/display.asp?story\\_id=30481](http://www.navy.mil/search/display.asp?story_id=30481), (accessed January 6, 2010).
- <sup>24</sup> Chief of Naval Operations, "CNO guidance for 2010," September 2009, [www.cffc.navy.mil/cnog\\_2010.pdf](http://www.cffc.navy.mil/cnog_2010.pdf), (accessed December 23, 2009), 1.
- <sup>25</sup> Scuto, 33.
- <sup>26</sup> Chief of Naval Operations, 2.
- <sup>27</sup> Chief of Naval Operations, 5.
- <sup>28</sup> Scuto, 33.
- <sup>29</sup> *Ibid.*
- <sup>30</sup> *Ibid.*
- <sup>31</sup> *Ibid.*
- <sup>32</sup> Benbow et al., 41-43.
- <sup>33</sup> Benbow et al., 21.
- <sup>34</sup> LCDR Robert Hochstedler, telephone conversation with author, January 12, 2010.
- <sup>35</sup> *Ibid.*
- <sup>36</sup> *Ibid.*
- <sup>37</sup> RIVGRU 1/HSCWL Weapons School interoperability meeting, January 28, 2010.
- <sup>38</sup> Chief of Naval Operations, 5.
- <sup>39</sup> Cutler, 191.

- <sup>40</sup> U.S. Department of the Navy, *MH-60S Helicopter Sea Combat (HSC) Seahawk Weapons and Tactics Program (SWTP)*, COMHELSEACOMBATWINGPAC/COMHELSEACOMBATWINGLANT Instruction 3502.4 CH-1, July 21, 2008.
- <sup>41</sup> Cutler, 192.
- <sup>42</sup> Cutler, 194.
- <sup>43</sup> CDR Jeffrey Hutchinson, telephone conversation with author, January 12, 2010.
- <sup>44</sup> CAPT Thomas Fitzgerald, email message to author, January 11, 2010.
- <sup>45</sup> CDR William T. Cox J., *"HS-3 Armed Helo Detachment Focused Maritime Sweep After Action Report,"* Unclassified power point brief, 2009.
- <sup>46</sup> CAPT Thomas Fitzgerald, email message to author, January 11, 2010.
- <sup>47</sup> U.S. Department of Defense, "Navy to Commission Littoral Combat Ship Independence," *Navy.mil*, January 13, 2010, [http://www.navy.mil/search/display.asp?story\\_id=50499](http://www.navy.mil/search/display.asp?story_id=50499), (accessed January 15, 2010).
- <sup>48</sup> U.S. Department of the Navy, "LCS-2," *Navy.mil video*, <http://www.navy.mil/navydata/featurePlay.asp?id=62>, (accessed January 15, 2010).
- <sup>49</sup> CDR Jeffrey Hutchinson, telephone conversation with author, January 12, 2010.
- <sup>50</sup> Philip Ewing, "Freedom's trail deployment to include Coast Guard team," *Navy Times*, December 21, 2009.
- <sup>51</sup> CDR Scott Starkey, telephone conversation with author, January 8, 2010.
- <sup>52</sup> Chief of Naval Operations, 4-5.
- <sup>53</sup> CAPT Thomas Fitzgerald, email message to author, January 11, 2010.
- <sup>54</sup> Chief of Naval Operations, 5.
- <sup>55</sup> CAPT Steven Schreiber, *"Navy Helicopter Support to NSW/NECC,"* Unclassified decisional power point brief, June 13, 2008.
- <sup>56</sup> *Ibid.*
- <sup>57</sup> *Ibid.*
- <sup>58</sup> CAPT Steven R. Schreiber, email message to author,
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