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## ANTI-SUBMARINE WARFARE: STILL AN ESSENTIAL WARFARE ART

BY

COMMANDER HUGH C. DAWSON, JR.  
United States Navy

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ANTI-SUBMARINE WARFARE: STILL AN ESSENTIAL WARFARE ART

AN INDIVIDUAL STUDY PROJECT

by

Commander Hugh C. Dawson Jr.  
United States Navy

Captain Ryan J. McCombie, USN  
Project Advisor

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## ABSTRACT

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As the post-Cold War military drawdown continues, the United States Navy must examine which post-war programs are still necessary and cost effective. In President Bush's final budget proposal funding was cut from two major Anti-Submarine Warfare (ASW) programs, the follow-on to the P-3C aircraft and the Seawolf submarine. While it is true the former Soviet Union, and now Russia, has drastically reduced the forward deployment of its submarines, the capability still remains. Additionally, the proliferation of diesel submarines continues unabated throughout many nations of the world. ASW is as much of an art as it is a science. It is a mission that requires modern equipment and well trained crews. The United States' industrial base that has produced the world's finest ASW equipment is in jeopardy with the cancellation of these two programs. As diesel submarine technology improves, the ability of existing ASW platforms to prosecute these submarines becomes more difficult. Should ASW again become the U.S. Navy's primary mission, will the industrial expertise to produce ASW systems still exist? How long would it take to recapture the U.S. Navy's ASW preeminence? This paper will examine the ASW issue as a whole, and will argue that the U.S. Navy and the United States needs to maintain the technological edge in ASW equipment and proficiency and not sacrifice these capabilities to the present day budget whims.



## INTRODUCTION

Our most likely areas for future US naval operations will be in the littoral seas of coastal nations, where the threat posed by smaller and quieter conventional submarines could be significant.<sup>1</sup> VADM Less, U.S. Navy  
March 1991.

The threat of the former Soviet Union's forward deployed submarine force has receded into the Russian coastal waters. Because of the Soviet's overwhelming budget problems, the popular thinking within the United States Navy, and the resulting Presidential budget, is that the submarine threat has diminished. Coupled with this diminished threat is the notion that anti-submarine warfare (ASW) is a mission area of shrinking importance. As late as 1990 ASW was at the forefront of the Navy's priority list, monies were plentiful and numerous new technological systems were planned. These systems included the Seawolf class attack submarine, a follow-on to the existing Los Angeles class and the P-7, a follow-on to maritime patrol aviation's (MPA) workhorse, the P-3C. These two systems were deleted from the Navy's Program Objective Memorandum (POM), as well as, the most recent Presidential budget proposal. These deletions represent a major oversight from a national military perspective.

Since its initial deployment, the submarine has proved an elusive foe for nations depending on the sea for national and military livelihoods. In the words of Radm Tornberg, Royal Swedish Navy, " . . . other nations ought to rethink or at least



test their threat perspectives, keeping in mind the German submarine campaign that almost cut off the sea lines of communication during World War II."<sup>2</sup> A modern example of this philosophy was the inability of the British ASW forces in the Falklands campaign to counter the one lone diesel submarine the Argentinean Navy put to sea. This single submarine disrupted battle plans, denied free access to desired water, and forced the Royal Navy to place ASW escort vessels in the vicinity of the high value ships of the line.<sup>3</sup>

Worldwide, the production of submarines is not on a decline. In fact there is a proliferation of submarines to Third World countries. These factors raise serious questions. How does this effect our National Military Strategy? Aside from the strictly military operational standpoint, there are numerous second order effects resulting from the cancelling of these two major ASW programs. What is the effect on the industrial base that supports both the submarine and the MPA forces? If a reconstitution effort was required could manufacturers support it? Can we maintain the technological edge that proved so beneficial during the Gulf War?

In this author's opinion, ASW is an art just as much as it is a science. It is a perishable skill that cannot be placed "on the shelf" to be removed and expected to work when the situation demands. Can the U.S. Navy or the nation afford to let ASW skills erode or become technologically obsolete? The object of this paper is to examine these questions and demonstrate the



necessity of maintaining a modern and effective ASW submarine and MPA force and to explain the necessity of returning the Seawolf and the P-3 follow-on to the defense budget. To rationalize the return to the budget process, the SSN and MPA communities must justify their existence to the Navy initially and then the United State's military establishment as a whole. To accomplish this both the SSN and MPA must demonstrate a multi-mission capability, necessitating their employment during any one specific time frame when no credible ASW threat exists. In other words, the SSN and MPA must be employable in various support roles of the United States' military strategy.



## SUBMARINE PROLIFERATION

Concerns about the proliferation of weapons technology have focused on the development of weapons of mass destruction- nuclear, chemical, and biological. However, the spread of advanced submarines and submarine technology across the globe . . . constitutes a major problem as well. Third World countries buy advanced conventional submarines because they want effective counters to surface naval power.<sup>4</sup> Joseph I. Lieberman, June 1992.

Although the United States has reduced the production of new construction fast attack submarines in recent years, other major producers continue to build at a sustained or only slightly reduced rate. In fact, until just recently, the CIS Navy was producing approximately six submarines per year, including probably at least three nuclear submarines in 1991. Fleet Admiral Chernavin has stated that the CIS would ideally produce two nuclear submarines each year but due to budgetary constraints, realistically could expect three every two years. He further espoused that the CIS envisioned building two diesel submarines each year, one of these strictly for export.<sup>5</sup>

The CIS is not the only submarine exporter. Other sellers of submarines include Norway, Sweden, China, Netherlands and Germany. All submarines exported thus far have been diesels, although Argentina has explored the possibility of constructing a nuclear variant. The buyers of these diesel submarines include Iran, Algeria, Israel, India, Saudi Arabia, Libya and Syria. In



addition, Japan and South Korea are among those countries building their own and therefore, could become future exporters.<sup>6</sup>

Countries exporting submarines obviously are in business to generate revenue, but also to maintain their submarine technological industrial base. Considering their economic plight, the CIS continues to place a very high priority on this. Since the cost is substantial, those countries importing the diesel submarines must also have a definite objective. For example, the price of the export version of the German type 209 ranges from \$100-\$150 million.<sup>7</sup> Given the size of many Third World budgets a submarine purchase represents a significant percentage of their Gross National Product (GNP). Nevertheless, these countries recognize the strategic implications of the submarine. As stated by military historian John Keegan, "It (the submarine) is the ultimate deterrent. . . . It is now also the ultimate capital ship, deploying the means to destroy any surface fleet that enters its zone of operations."<sup>8</sup> The United States must always be capable of countering this expanding capability.



## ASW: ART vs. SCIENCE

ASW is hard. Sensor operator skills are highly perishable, and lost capabilities cannot be readily reconstituted. While all ASW is force-intensive, even more ASW assets are required for anti-diesel submarine operations in harsher water than those required for antinuclear operations in deep water.<sup>9</sup>" RADM Maness, U.S. Navy, August, 1992.

If we must move troops and equipment from the continental United States (CONUS) to the region where a conflict might erupt, it is very unlikely that the ASW role of the United States will diminish. The U.S. Navy must not let the technological advances made in equipment and training erode. As Admiral Maness stated, skills must be constantly honed or they will deteriorate. The ocean environment in which ASW is performed is very unpredictable. Historically, ASW was basically an open ocean mission, tracking Soviet submarines on predictable patrols. Comprehensive data was collected and the U.S. Navy's ASW forces became proficient against this known threat type. The current and future threat is not nearly as predictable. Which country poses the threat? Who produced their submarine? In which body of water will the ASW battle take place? What are the ASW variants of these areas? These are unknowns that U.S. Navy ASW forces must investigate and unknowns for which little empirical data exist.

Data must be collected on shallow water environments such as the Persian Gulf and the Baltic Sea. If a navy can be expected



to perform the ASW mission in littoral waters, shallow water tactics must be explored and developed. In the past, the Los Angeles class (SSN-688) class and the P-3C aircraft have performed well in the open ocean role. Are they the proper platform for this new littoral environment? Research and development must continue and must be tested at sea to validate requirements and tactics. If indeed the technology of the existing platforms is discovered lacking, then new technology must already exist in the development stage to fill the void. As stated by CIA Director Gates, "Keeping track of burgeoning foreign navy capabilities will be one of our greatest challenges in the years ahead. The potential for technological surprise in the Third World is growing, as restrictions on foreign access to military-related technology are progressively loosened."<sup>10</sup>



## BUDGET vs. ASW

For those weapons programs already cancelled or curtailed, there is still sufficient direct or related production remaining that critical manufacturing capabilities will not be lost while we conduct assessments to assure the long-term viability of the essential elements of the defense industrial base . . . . As a consequence, it is imperative that critical manufacturing process which would be difficult to reconstitute or restart at a later date be maintained."<sup>11</sup> Under Secretary of Defense, 20 May 92.

In the late 1980's the Navy was budgeting for follow-ons to both the Los Angeles class attack submarine and the P-3C Orion. The Seawolf class submarine was designed to be the improved ASW submarine and the P-7 the advanced ASW MPA platform. Additionally, the P-3C Update II versions would be modernized with an update IV modification. This update was basically a computer upgrade to improve ASW capabilities. The P-7 program was cancelled in 1990 and the Update IV was cancelled in 1992. As far as the Seawolf program is concerned, the production scheduled to maintain the submarine production line open until production of the Centurion class in the late 1990's was terminated after producing only one submarine in 1992.

These production cancellations can impact the ASW submarine and MPA forces in at least two areas. The first, as mentioned above, concerns ASW capability in uncharted waters. If the U.S. Navy does not possess the requisite ASW skills necessary in the littoral waters of the emerging world, the assessment of the



research and development necessary for a possible quick fix may not be available. U.S. Senator Leiberman stated, "As the U.S. military continues to shrink, high-technology weapons will be the key to maintaining its superiority on the battlefield. To maintain this technological edge, the United States must maintain an adequate defense industrial base."<sup>12</sup>

Secondly, in order to support the reconstitution pillar of the National Military Strategy, the ASW industrial base must be maintained. Presently, there are only two shipyards constructing submarines. Unless enough work is created overhauling aging submarines, the cancellation of the Seawolf program may cause the closing of one of the facilities. Lockheed Aircraft Corporation is the only domestic aircraft company currently producing operational MPA aircraft. That production line is only open because of a South Korean foreign military sales (FMS) buy of the P-3C. According to present Lockheed budgetary plans, once that buy is complete the Lockheed line will shut down unless additional foreign military sales customers are forthcoming. That is not even an option for the submarine community since the United States does not export current submarine technology. Therefore if both these production lines are allowed to close, the capability of the U.S. Navy ASW industrial base will be placed on a deteriorating glide path.



#### ADDITIONAL NATIONAL SECURITY IMPACT

Serious damage is possible if the United States faces an enemy that, according to Jane's Fighting Ships, 'understands better the significance of sea-control and is properly equipped to contest it, particularly by submarine warfare.' In such a campaign, the Navy could suffer losses of capital warships and valuable merchant bottoms. Such losses could become sources of great public outcry and debate, resulting in a military campaign lost on the political front, while the Navy was getting up to speed in ASW. No other warfare area contains this trap."<sup>13</sup>  
RADM Holland, U.S. Navy (Retired), August 1992.

Looking beyond the reconstitution pillar of national military strategy, ASW forces play a vital role when the remaining three pillars are examined. The mission of ASW forces in support of the strategic deterrence and defense pillar cannot be overemphasized. The CIS (Russia in particular) still has a large and very capable ballistic missile submarine (SSBN) force. Although not presently an immediate threat, the capability still exists. The United States must base our plans and efforts on capabilities and not perceived intentions. The most capable platforms to search and destroy those units are the U.S. Navy's SSN and MPA forces. They were effective in the Cold War and must be allowed to remain effective should the threat resurface.

The pillars of forward presence and crisis response, coupled with the ability to project power, require a viable ASW capability. As numerous ground forces are repositioned to CONUS, for the United States to respond effectively to contingencies it



must be able to control the seas. Submarines can disrupt the orderly flow of troops and equipment to the contingency area. Rear Admiral Holland states, "Power projection is clearly the mission of interest for all services, as the Soviet Union seems to dissolve. While that may be the mission, sea control is its foundation. At sea, submarines are the only challenge to the maritime supremacy of the United States."<sup>14</sup>

What would have been the effect during the Gulf War had Iraq had a few diesel submarines capable of deploying, or if Libya had employed its submarines in the Mediterranean in support of Iraq? This would have changed the complexity of the campaign, forcing ASW sweeps in the extremely volatile Persian Gulf and the possibility of convoy operations in the Mediterranean. Although not an overwhelming opposition force, these submarines would have caused the United States to operate differently and, most likely, even more deliberately. If the steady, almost continuous line of support shipping was replaced by convoy operations, the build-up in the Persian Gulf region would have taken much longer. The loss of a major capital ship and the associated lives and equipment due to opposition submarines could also have had dramatic political impacts. The American public has come to expect a "clean" and quick war. Submarines can make war "dirty" and prolonged and costly.

ASW forces have been and continue to be necessary to U.S. National Security. "Meanwhile, most of the U.S. Navy has lost sight of ASW's difficulty and importance. Admiral Isaac Kidd,



U.S. Navy (Retired), preaches that. 'We have had too many campaigns in benign environments since World War II at sea. We have long come to expect it.'"<sup>15</sup>

As is readily apparent, the need for quality ASW platforms must still remain in the vital interests of the United States. One type of ASW platform is insufficient to adequately tackle this proliferating problem. MPA are necessary because of the insufficient number of attack submarines to face the ever expanding threat. Submarines must also be in the vicinity of an adversary's submarine to be immediately effective. Based on updated intelligence or a change in the tactical situation, the SSN does not have the ability to rapidly reposition. MPA has the unique ability to respond and reposition quickly to changing situations. A long range platform, it has the ability to move hundreds of nautical miles to respond to updated threat intelligence. MPA, however, is not the sole answer. Without adequate air control MPA becomes a very vulnerable target. The submarine is unique in its ability to close an adversary's coastal waters with little risk of counterdetection regardless of air superiority. The SSN is also the most capable platform to prosecute enemy submarines under the ice. It is therefore imperative that both ASW platforms be maintained in the United States Navy's inventory. MPA and SSNs complement each other synergistically. To remain in the U.S. Navy's inventory however, each platform must demonstrate versatility in other mission areas.



Although this versatility in mission areas is well known in the MPA and the SSN communities, it is not universally understood in the rest of the U.S. Navy or the "sister" services. MPA and SSNs must aggressively prove to all services the multi-mission capabilities of each platform. CINCs, as well as Battle Group Commanders, must be aware of the multitude of capabilities that both MPA and SSNs bring to the campaign. This is not to dismiss the importance of ASW for either platform. As mentioned earlier, it is a skill that requires continuous training on expected subsurface threats. However, at this point, it is beneficial to examine certain intrinsic capabilities and some mission areas that MPA and SSNs could expand into effectively. What additional capabilities do MPA and attack submarines provide the CINC or the Battle Force Commander?



## FROM THE SEA

The new direction of the Navy and Marine Corps team, both active and reserve, is to provide the nation:

Naval Expeditionary Forces- Shaped for  
Joint Operations  
Operating Forward From the Sea- Tailored  
for National Needs

This strategic direction, derived from the National Security Strategy, represents a fundamental shift away from open-ocean warfighting on the sea toward joint operations conducted from the sea . . . . We will be part of a "sea-air-land" team trained to respond immediately to the Unified Commanders as they execute national policy. ... From the Sea, September 1992.<sup>16</sup>

The above quotation represents a major shift in Navy/Marine Corps warfighting focus. Although not formal doctrine, "...From the Sea", provides the U.S. Naval Team a new direction. The emphasis is away from service parochialism, blue water engagements, and toward full participation in joint warfighting on the littoral. The new strategy concentrates on rapid response to emerging regional crises. Open ocean warfare on the sea, which dominated naval strategy since the buildup of the former Soviet Union's naval fleet in the late 1950's and early 1960's, has been subordinated to operations from the sea in the littoral regions of the world.

In order to execute successfully, this new Naval Strategy requires four key operational capabilities: command, control, and surveillance; battlespace dominance; power projection; and force sustainment.<sup>17</sup> ASW alone is not adequate for the SSN and



MPA communities to support the emerging requirements stated in the White Paper. Other roles must not only be vocalized but demonstrated. What can the attack submarine and maritime patrol aircraft contribute to the new strategy? Not only capabilities to justify their current utility, but to convince the powers of the purse that there will be a viable need for follow on equipment?



## MARITIME PATROL AVIATION

..."maritime patrol aviation has, over two world wars and one consistent cold war, been a key player in antisubmarine warfare, while sustaining competence in its other primary mission areas. The patrol aviation community was not generated during the Cold War to counter a Soviet submarine threat, and it has not had to invent a multimission role as Soviet submarines have returned home to political turmoil".<sup>18</sup> RADM Maness, August 1992.

As alluded to by Rear Admiral Maness, maritime patrol aircraft were descendants from the flying boats and bombers that contributed to the defeat of the German and Japanese submarine forces and also played a significant surveillance role throughout World War II. Although, until recently, viewed by most United States military officials as almost strictly an ASW platform, MPA are demonstrating the versatility that has been inherent in the platform for years.

Well known in the P-3C community, the aircraft's sea surface surveillance capabilities are now gaining visibility in the joint arena. MPA has been a workhorse in the "Drug War" being waged in the Caribbean and the Pacific. During Operations Desert Shield and Desert Storm, U.S Navy P-3s deployed rapidly both to the Persian Gulf and the Red Sea providing surveillance of all surface traffic transiting these bodies of water. In all, MPA identified and evaluated more than 6,300 ships, as well as all designated critical contacts of interest.<sup>18</sup> MPA have remained in the region since the termination of the conflict, providing



surface intelligence to the military commanders in the region. Most recently, MPA forces have been providing surface intelligence to the United Nations' forces to aid in enforcing sanctions imposed in the on-going conflict in the former Yugoslavia. In essence, MPA forces continue to provide significant contributions to the Joint Task Forces (JTFs) waging the "Drug War", Central Command (CENTCOM), and European Command (EUCOM). Unlike previous support, it is not in patrol aviation's "primary" mission area of ASW. What additional capabilities can MPA bring to the fore to support " . . . From the Sea"?

A basic tenet of " . . . From the Sea" is that naval forces must be "swift to respond, on short notice, to crises in distant lands."<sup>19</sup> MPA is ideally suited to support this tenet. Presently with squadrons forward deployed in the Caribbean, the Northern Atlantic, the Mediterranean, the Persian Gulf region, the Indian Ocean, and the Pacific Ocean; coupled with the P-3C's ability to reposition in excess of 3,000 nautical miles without refueling makes MPA an extremely responsive asset. In addition to responsiveness, MPA bring a variety of capabilities to the CINC or Force Commander.

As previously discussed, in the area of command, control and surveillance, MPA is well suited and highly experienced. Traditionally surface surveillance was conducted primarily in open ocean areas but with the advent of the Inverse Synthetic Aperture Radar (ISAR) the surveillance areas now include the littoral waters of the world. ISAR provides a long range imaging



capability enabling MPA crews to identify the class of a target without closing within an adversary's surface to air missile envelope or while maintaining an adequate standoff from an adversary's coastline. This ability, in conjunction with global positioning system (GPS), Satellite Communications (SATCOMM) and data link capabilities, enable the P-3C to be an excellent command, control and surveillance platform. "... From the Sea"'s required operational capabilities of power projection and battle space dominance are closely associated, even somewhat intertwined. If the United States is to project power ashore with either the Army, the Marine Corps or both, battle space dominance is an essential prerequisite. In any area bounded by an ocean, control of the seas is necessary. MPA, with its ASW and command, control and surveillance capabilities, assist other naval assets in achieving sea control. MPA's ability to fire the long range air to surface Harpoon missile and drop a variety of bombs and mines bring versatility to the Force Commander in achieving and maintaining sea control.

In addition, MPA can and must be an asset in the land campaign. As crews become more proficient in ISAR targeting, this radar can be used in over-land intelligence collection and targeting. As an example, MPA can be an ideal real-time targeting platform for enemy maneuver formations, mobile missile launchers and support operations. This capability frees up assets the land component commander presently has to commit to targeting and concentrate those forces in the interdiction role.



To perform this role, or more importantly to gain the land component commander's confidence in MPA's targeting abilities, MPA must play an active role in joint operations and exercises. It is essential that MPA leaders insist that the P-3 not be utilized merely in the traditional sea control role in these exercises. It is necessary to learn and refine overland tactics and to understand overland doctrine. It is also imperative to learn its strengths and weaknesses and eliminate deficiencies. MPA can be a force multiplier in a non-traditional role.

By actively pursuing and refining the overland capability, MPA becomes a sustainment force not only during the sea campaign but also in the land campaign. MPA squadrons' abilities to replenish weapons and fuel from bases usually well removed from the scene of action typically enables around the clock presence of a combat ready platform; a platform the Force Commander can utilize in a variety of mission areas.

This is not to suggest that the MPA force has no limitations. Obviously, with no present organic air-to-air capability, MPA is vulnerable to enemy fighter aircraft. By no means is the P-3 a "stealthy" aircraft and although it can fly at low altitude it cannot truly "fly under" enemy radars. A second limitation is that a single MPA can only give limited on-station time. This on-station time is dependent on the distance from the on-station area to the "home airfield", but typically will range anywhere from four to eight hours. Providing that multiple aircraft and crews are available, this limitation can be



overcome, but if only a limited number of aircraft are available gaps in MPA presence may exist.

Overall, however, MPA provides a Battle Force Commander with a diversity of equipment and capabilities. MPA is a proven ASW, ASUW mining, sea surface surveillance and interdiction, and intelligence collecting platform. With additional and improved ISAR hardware and tactics, MPA can be effective in both the traditional sea control campaign and the overland campaign. MPA has operated independently, covering large ocean areas, and has operated in close coordination with the carrier battle group. Maritime patrol aviation must maintain and refine these abilities and expand its role to make effective joint operations routine.



## NUCLEAR ATTACK SUBMARINES

There is a fundamental change taking place . . . . It involves a major shift in submarine warfighting thinking away from deterrence of global conflict to support of U.S. national interests in regional conflicts- from ASW oriented thinking to roles that highlight the superb multi-mission capabilities of today's nuclear attack submarines. VADM Roger F. Bacon, U.S. Navy, June 1992.<sup>20</sup>

As with the MPA force, the nuclear attack submarine community is shackled by the traditional belief of military planners that it is predominantly an ASW platform. While it is true that ASW was the primary mission design of the United States SSN fleet during the Cold War, SSNs fulfilled numerous other roles. They are well suited to support regional conflicts in the littoral waters of the world. Once again it is useful to examine the capabilities of the SSN in the context of " . . . From the Sea": command, control and surveillance; battlespace dominance; power projection; and force sustainment.

Although not thought of as an ideal command, control and surveillance platform in the traditional sense, the SSN is the ideal platform to surveil the littoral. This is especially valid if an actual conflict has not been initiated or if air superiority has not been achieved. The ability of an SSN to close an adversary's coastline undetected or actually enter his port is unmatched except by overhead imagery. Even then, the imagery and intelligence garnered by a submarine is from a different perspective and contributes significantly to completing



the intelligence "picture". The intelligence collected by the SSN alone, can be supplemented by the SSN's ability to insert ashore "small groups of special operations forces . . . with elements of surprise and secrecy essential to their missions."<sup>21</sup> Whether utilizing these special operations forces in an intelligence gathering role or in interdiction roles the SSN, with its SATCOM capability, provides the Force Commander with a real time close aboard surveillance team.

As previously discussed, power projection and battlespace dominance are intertwined. As was the case for MPA, the submarine plays a pivotal role in sea control. The SSN is the only naval platform capable of realistically interdicting enemy surface and subsurface assets in the littoral without friendly air cover or air superiority. The mere knowledge of one or more SSNs present in the vicinity of an adversary's coastal waters may restrict that nation's maritime activities. The SSN brings to the sea control battlespace the lethality of the MK-48 torpedo, an excellent mine laying capability and "stealth". As demonstrated in the Persian Gulf War, submarine launched Tomahawk missiles contributed both in establishing air battlespace dominance prior to the ground campaign and power projection once ground forces were committed. Presently, SSN launched Tomahawks have the ability to strike at 650 nautical miles. This distance will be significantly improved with the introduction of the improved Block III Tomahawk, which will place approximately



seventy-five per cent of the world's landmass within the SSN's reach.<sup>22</sup>

Unlike a single MPA, the SSN can remain on station, undetected, for weeks, providing the Force Commander an extremely flexible response platform. However, as with MPA, the nuclear attack submarine has limitations. The SSN's ability to reposition is limited by a relatively slow speed of advance. Nevertheless, not requiring at sea refueling, the SSN can operate far from normal sea lines of resupply. The major limitation of the SSN is the limited weapon's load aboard an individual platform. There is a finite number of torpedoes, mines and cruise missiles carried. Once the weapons are expended the SSN must return to a suitable port to rearm. Therefore, judicious utilization of valuable SSN weapons is required.

The advantages provided by the SSN overwhelm its limitations. As with MPA, the SSN provides the Battle Force Commander a variety of capabilities, some of which are unique to the submarine. Proven performance in ASW, ASUW, special forces operations, strike warfare and mining make the SSN an essential asset in the total force equation. The submarine community, must publicize the various roles the SSN can bring to the battlefield and visibly participate in joint exercises. The nuclear attack submarine community can no longer trumpet the phrase "the silent service" and expect others to understand and support them.



## CONCLUSION

As equipment and environments become more complex, individual and collective operator skills become more important. Among the most severe challenges to Navy leadership will be to develop and maintain real ASW skills in times of want, when it has not been entirely effective in building such expertise in times of plenty.<sup>23</sup> RADM Holland.

The proliferation of submarines is an expanding problem. It is a reality and is becoming more diverse. The ASW forces of the U.S. Navy are the finest in the world and have been so since World War II. The Navy, as well as the Department of Defense (DOD), needs recognize the necessity of a modern and technologically proficient ASW force to meet the proven threat. Perishable ASW skills must not be allowed to deteriorate. In addition, new and improved skills must be developed. The time for investment is now. The Navy must not delay the development of new and more technologically sophisticated equipments such as Seawolf and the follow-on MPA platform. The Navy cannot depend on monetary support from other DOD armed services if it does not exhibit a multi-mission ability that supports the Joint Commander. ASW is not a "multi-service" mission, it is a Navy mission and the Navy should fund it appropriately.

ASW supports the four pillars of the National Military Strategy and the Navy should support the strategy with the best equipment available. Of major concern is the support of the reconstitution pillar. By cancelling the two major ASW



acquisition programs the industrial base supporting these programs could be dealt an irreparable blow. Reviving the Seawolf and P-3C upgrade programs are in the National Security interests of the United States. Therefore, fiscal support necessary to maintain the United States' ASW predominance should be returned to the Navy's POM and aggressively supported through the budgetary process.

To convince military and Congressional leaders follow-on platforms are necessary, it is essential, especially in the post-Cold War era, that the MPA and SSN communities demonstrate that these platforms are multi-faceted. The Maritime Action Group (MAG) concept is a first step. A MAG consists of two surface combatants, a nuclear attack submarine and maritime patrol aircraft. This group trains and operates together utilizing the strengths of each platform and fuzing them into one force.<sup>24</sup> This is a force independent of the carrier and gives the CINC additional flexibility in the employment of naval forces as the MAGs operate in various theaters.

The MAG concept is a good initiative. However, it is necessary to expand into the joint arena. The CINC's must be convinced that MPA and SSN forces offer a variety of valuable capabilities that are operationally tested and viable. CINCs are playing a large role in the budgetary process through their integrated priority list (IPL). BY demonstrating a versatility in both naval and joint operations, the maritime patrol aviation and nuclear attack submarine communities can expect CINC support.



CINC involvement may prove to be a vital link to follow-on programs; programs that are necessary to maintain supremacy not only of ASW but of sea control and joint warfighting.



## ENDNOTES

- <sup>1</sup>. Anthony Less quoted in Stan Zimmerman, "Modern Nonnuclear Subs Are Cheap and Deadly," Armed Forces JOURNAL International, June 1991, 76.
- <sup>2</sup>. Claes Tornberg, "Meeting the Submarine Threat," U.S. Naval Institute Proceedings, March 1991, 48.
- <sup>3</sup>. Anthony R. Maness, "Maritime Patrol: Gotcha Covered," U.S. Naval Institute Proceedings, August 1992, 88.
- <sup>4</sup>. Joseph I. Lieberman, "The Reasons Why," U.S. Naval Institute Proceedings, June 1992, 56.
- <sup>5</sup>. Edward D. Sheafer, Jr., "The Ups and Downs of Commonwealth Submarines," U.S. Naval Institute Proceedings, August 1992, 32.
- <sup>6</sup>. Richard Sharpe, ed., Jane's Fighting Ships 1992-1993, (Surrey, UK: Sentinel House, 1992).
- <sup>7</sup>. Zimmerman, 76.
- <sup>8</sup>. W.J. Holland, Jr., "ASW Is Still Job One," U.S. Naval Institute Proceedings, August 1992, 31.
- <sup>9</sup>. Maness, 87.
- <sup>10</sup>. Maness, 87.
- <sup>11</sup>. Don Yockey, "Defense Acquisition," UNDER SECRETARY OF DEFENSE MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS, 20 May 1992, 1-2.
- <sup>12</sup>. Lieberman, 55.
- <sup>13</sup>. Holland, 34.
- <sup>14</sup>. Ibid., 30.
- <sup>15</sup>. Ibid., 31.



<sup>16</sup>. Sean O'Keefe, Frank B. Kelso, and C.E. Mundy, Jr.,  
"...From the Sea", Navy and Marine Corps White Paper, September,  
1992, 2.

<sup>17</sup>. Ibid., 7.

<sup>18</sup>. Maness, 86.

<sup>18</sup>. Ibid., 87.

<sup>19</sup>. O'Keefe, 3.

<sup>20</sup>. Roger F. Bacon, "Submarine Warfare It's A- Changing,"  
U.S. Naval Institute Proceedings, June 1992, 52.

<sup>21</sup>. Ibid., 53.

<sup>22</sup>. Ibid., 53.

<sup>23</sup>. Holland, 33.

<sup>24</sup>. Robert O. Crawshaw, "What Is a Maritime Action Group,"  
U.S. Naval Institute Proceedings, January 1993, 28.



## BIBLIOGRAPHY

1. Anthony, Ian. The Naval Arms Trade. New York: Oxford Press, 1990.
2. Bacon, Roger F. "A Voice for the Silent Service." Sea Power, July 1991, 9-18.
3. \_\_\_\_\_. "Submarine Warfare It's A-Changing." U.S. Naval Institute Proceedings, June 1992, 52-54.
4. Byron, John L. "A New Target for the Submarine Force." U.S. Naval Institute Proceedings, January 1990, 38-39.
5. Crawshaw, Robert O. "What Is a Maritime Action Group?" U.S. Naval Institute Proceedings, January 1993, 28-31.
6. Faltas, S. Arms Markets and Armament Policy. Dordrecht, The Netherlands: Martinus Nijhoff, 1986.
7. Foxwell, David. "Submarine Programs- a sea of uncertainty." International Defense Review 6, vol. 25 (1992): 513-520.
8. Ireland, Bernard. Sea Power 2000. London: Arms and Armour Press, 1990.
9. Hill, J.R. Anti-Submarine Warfare. Annapolis, Maryland: Naval Institute Press, 1989.
10. Holland, W.J. "ASW Is Still Job One." U.S. Naval Institute Proceedings, August 1992, 30-34.
11. Kelley, William C., Jr. "The Reconstitution Fallacy." Sea Power, June 1992, 5-6.
12. Lieberman, Joseph I. "The Reasons Why." U.S. Naval Institute Proceedings, June 1992, 55-58.
13. Maness, Anthony R. "Maritime Patrol: Gotcha Covered." U.S. Naval Institute Proceedings, August 1992, 86-90.
14. Mason, L.G. "Why Submarines?" Canadian Defence Quarterly 21, no. 6 (1992): 21-23.
15. Moore, John E. "Fishing in Deeper Waters." Defense & Foreign Affairs XVII, no. 10 (1989): 8-12.
16. Preston, Antony. "The Market For Diesel-Electric Submarines." Naval Forces XII, no. 1 (1991): 18-25.
17. Prina, L. Edgar. "CBO Sees Lean Days Ahead For Shipbuilding



- and Aircraft Industries." Sea Power, March 1992, 19-24.
18. Sharpe, Richard, ed. Jane's Fighting Ships 1992-1993. Surrey, UK: Sentinel House 1992.
  19. Sheaffer, Edward D., Jr. "The Ups and Downs of Commonwealth Submarines." U.S. Naval Institute Proceedings, August 1992, 33.
  20. Starr, Barbara. "New roles for the US submarine fleet." International Defense Review 6, vol. 25 (1992): 520.
  21. Stefanick, Tom. Strategic Antisubmarine Warfare and Naval Strategy. Lexington, Massachusetts: D.C. Heath and Company, 1987.
  22. Tornberg, Claes. "Meeting the Submarine Threat." U.S. Naval Institute Proceedings, March 1991, 48-50.
  23. Truver, Scott C. "Tomorrow's Fleet." U.S. Naval Institute Proceedings, June 1992, 43-51.
  24. "Funding for Major Weapons." CQ, 17 October 1992, 3263-3264.
  25. Wanstall, Brian. "Cat and Mouse With Submarines and ASW Budgets." Interavia Aerospace Review 45, no. 6 (1990): 480-488.
  26. Wettern, Desmond. "The Threat That Never Was." Sea Power, November 1991, 31-34.
  27. Yockey, Don. "Defense Acquisition." UNDER SECRETARY OF DEFENSE MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS, 20 May 1992.
  28. Zimmerman, Stan. "Modern Nonnuclear Subs Are Cheap and Deadly." Armed Forces JOURNAL International, June 1991, 76.