MOBILE FORCES OR FANCIFUL WISHES?

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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## Abstract
Our current mode of operating our sealift ships independently steaming unguarded to the area of conflict is analyzed in view of the present threats. The analysis demonstrates the vulnerability of our sealift ships to attack by submarines, cruise missiles, aircraft and mines. The analysis was performed utilizing various unclassified sources and concentrated on lessons to be learned from the Desert Storm operation.

The present mode of operation was found to provide inadequate protection for sealift ships at departure sites, through choke points susceptible to mining or on open ocean transit to the area of operation. Convoy operations should be conducted as part of every major exercise involving overseas deployment of troops. Ready Reserve ships should be tested routinely. Minesweeping and air cover for convoys should be planned. During increased threat conditions our harbor entrances should be guarded.
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MOBILE FORCES OR FANCIFUL WISHES?

CHAPTER I

INTRODUCTION

At the operational level much more than at the tactical, logistics may determine what is possible and what is not; for "a campaign plan that cannot be logistically supported is not a plan at all, but simply an expression of fanciful wishes." 1

In reviewing the performance of our sealift ships in Operation Desert Storm, I was struck by the ease with which our logistics supply lines could have been interdicted. Our present mode of operations doesn't account for the threats our ships face on the transit to the area of conflict. Through the analysis of the various threats it becomes evident that if we are to prevent a future enemy from decimating our capability, U.S. naval forces must (1) escort our sealift ships, (2) actively prevent the closure of our ports by acts of terrorism and (3) enhance our ability to conduct successful minesweeping operations. These same defenses are also necessary for our amphibious and fleet logistics ships. With smaller future armed forces and fewer forces forward deployed, the importance of each ship is magnified.

This analysis was performed to demonstrate the danger we face by not recognizing the threat to our sealift ships and proposes alternative actions which could better prepare us to survive a conflict requiring opposed transit to the area of operations.
CHAPTER II

THE BATTLE OF THE ATLANTIC

In the trade with Norway in the spring of 1917 the loss rate was in the neighborhood of 25 per cent for the round trip. In April, on his own responsibility, the officer in charge of this shipping began convoys on that route. A month later the loss rate had dropped to 0.24 per cent, a 120-fold reduction.1

The Germans found profitable hunting in the Gulf of Mexico and Caribbean where no convoy system existed, and sank 41 vessels of 219,867 tons during May(1942), nearly half being tankers torpedoed off the Passes of the Mississippi. This onslaught was checked by the establishment of an Interlocking Convoy System which enabled ships to transfer at sea from one convoy to another.2

In modern warfare do we need to be concerned about protecting our merchant shipping from "World War II" threats such as diesel submarines or "dumb" mines? Or looking into the present era, do we need to protect our shipping from third world threats such as patrol boats with cruise missiles? Was our shipping in Desert Storm important with the enormous efforts publicized about airlift? Maybe our best authority on the importance of sealift in Desert Storm is General Hansford T. Johnson, USAF, Commander in Chief, U.S. Transportation Command. In April 1991 he made this comment in the article, "Sealift is our Bedrock" in the Defense 91 magazine, "Airlift will be the first to arrive in crisis or contingency, but ships will carry 90% of materials and equipment in a large-scale operation."3

In early 1942 German submarines in the north Atlantic were greatly decimating the American shipping. Losses in January were 327,357 tons, in February 467,451 tons and in March 537,980 tons.
These are remarkable numbers considering the fact that the German submarine commander, Donitz, never had more than a dozen submarines in the Western Atlantic during this time. But can this historical data be directly correlated to the just completed operation in the Persian Gulf? Taking into consideration the technological advancements in submarines during the last fifty years, we can probably say that six modern diesel submarines are equivalent to twelve World War II diesel submarines due to the greatly extended range of modern sensors capable of detecting merchant shipping. What would have been the chance of these six submarines finding targets to attack during the Desert Shield sealift operation? General Johnson described the sealift operation this way, "On Dec. 31 (1990), we had a figurative steel bridge across the ocean, with 132 ships enroute to Saudi Arabia and 47 returning to the United States. That's one ship for every 50 miles from Savannah, Ga., to the Persian Gulf." This steady stream of unguarded merchants on a known transit route might in a submariner's viewpoint be described as a gaggle of sitting ducks in a row. How many of our potential opponents have at least six modern diesel submarines? Jane's Defense Weekly of 23 March 1991 contained these statements from an interview of RADM Thomas Brooks, Director of U.S. Naval Intelligence, in an article by Joris Janssen Lok entitled, "USA revises third world threat."

"India has acquired a large submarine force which is relatively well-maintained and which routinely operates at sea," Adm Brooks said, adding that last year, India took delivery of its seventh 'Kilo' class SSK from the Soviet Union, with the eighth expected to arrive in Bombay soon.

...some 41 countries collectively possess 393 submarines.
China has a large submarine force and its navy has now commissioned four HAN class SSNs.

Adm. Brooks said North Korea had the fifth largest submarine fleet in the world, as well as being the leading producer of mini-submarines.

It's evident that there are numerous countries that could be formidable enemies. A number of them including North Korea, India, China and of course the Soviet Union have submarine forces of significant size and quality.
Numerous recent articles have addressed the fact that the American merchant marine has atrophied in the last twenty years. It is forecast that there will be fewer than 220 merchant ships under U.S. flags by the year 2000.1 This article does not seek to address the rebuilding of the merchant marine, but instead looks at the present capability to support our military needs and our present mode of operation. It is important to remember that in the operational level of war the number of supply ships "arriving" at the theater of operation is much more important than the number of ships existing in the merchant marine.

From the April 1991 edition of American Shipper magazine in an article entitled "Lessons of War" by William J. Warren, we get somc valuable insight about the performance of our shipping industry during the Desert Storm operation.

The amount of cargo moved since August 7 is staggering: 2.9 million short tons of dry bulk, including 1,000 tanks, 1,500 helicopters, 2,000 armored personnel carriers and thousands of bombs; 878,000 tons of containerized cargo including everything from soda pop to talcun powder to undershirts and shoe laces; and 6.1 million tons of petroleum products.2

As of February 3rd 100 U.S.-flag ships and 84 foreign-flag ships were on charter by the MSC transporting dry cargo.3

If the U.S. military forces at their future reduced levels are to be a valid fighting force, then we must be capable of transporting both troops and equipment to the theater of
operations. Can we count on foreign shipping companies chartering their ships to us after the shooting starts?

We have assumed by our present mode of independent unguarded steaming of merchants that the United States Navy will have absolute command of the sea in all future conflicts requiring the transport of troops and equipment to distant shores. This theory is incorrect.
CHAPTER IV
OPPORTUNITIES FOR STRANGULATION

In 1989 an accident occurred in Kingsbay, Georgia. A dredge removing silt from the St. Marys River channel began to take on water during a storm and sank. No one was injured but the location of the sunken dredge was nearly a strategic disaster. From the bridge of USS Daniel Boone inbound to the Submarine Base at Kingsbay, we could see the top twenty feet of the exposed dredge just north of the center of the narrows of the jetty. If the dredge had drifted twenty more feet south, the Submarine Base would have been closed for months.

As USS Daniel Boone departed the Naval Weapons Station in Goose Creek, South Carolina for patrol in 1990, an inbound container ship entered the channel heading for the Wando terminal. We met at the treacherous "S" turns of Castle Pinckney, the world's largest container ship, over 800 feet long displacing 54,000 tons, inbound to Charleston, South Carolina and a 425 foot nuclear submarine outbound in a 400ft wide channel.

These examples demonstrate the susceptibility of our sealift to blockage by forces other than just by diesel submarines. We have intercepted numerous Iraqi merchants during the blockade operations enforced as a result of the U.N. resolution after the Kuwait invasion. We frequently look at these merchants as innocent, but during war they could become very effective weapons.
We viewed airplanes as carriers of weapons before the kamikazes of World War II proved them to be not carriers of weapons but actual weapons themselves. Our experience in Beirut, Lebanon with the bombing of the Marine barracks should remind us of the different world we live in today.

Most of the ports I have entered on the East Coast of the United States including New London, CT., Norfolk, Va., Charleston, S.C. and Mayport, Fl. could easily be blocked by mines or by simply scuttling a large merchant in the center of the main channel. An illustration of this tactic would be the Tampa Bay Sunshine Skyway bridge which has been dropped twice by merchants closing the channel to the north.

We’ve addressed the problem with the departure points and with the open ocean transit, but there is another area of vulnerability. Certainly submarines are threats at choke points such as the Suez Canal and the Strait of Gibraltar. However, many such areas are able to be blocked by much less sophisticated means. Mines are a real threat in modern warfare. They have many advantages to third world adversaries. First, they are relatively cheap and are easily deployed. Second, they are hard to locate and neutralize. Third, they may be deployed with deniability. That is to say that it’s difficult to prove who placed a mine in a channel “after” it has already exploded.

One of our past NATO strategies was the sharing of responsibilities for different warfighting capabilities with other member nations. As a result of this policy, the United States
concentrated its construction efforts and limited budgets in the building of major warships such as aircraft carriers and nuclear submarines. This informal agreement depended upon the allies to accomplish the missions such as minesweeping and coastal defense with diesel submarines and patrol boats. But what if the NATO alliance partners don't choose to enter the fight, such as in the Persian Gulf? It may be a common misconception that "NATO" forces were employed in the Desert Storm operation. Surely the British commander on CNN is evidence that British forces were involved. In fact, ground forces were supplied by the United Kingdom, France, and the Netherlands in addition to other nations.1 Also almost all of the NATO nations contributed air or naval forces, but "NATO" as an alliance is limited by charter to a specific geographical area of operations which does not include the Persian Gulf.2 Also our largest NATO partner, Germany, is constitutionally prohibited from deploying military forces out of the country. So this leads to an important conclusion, if the conflict is not in the "NATO" area of operations then the "NATO" allies may not be participants.

As an example, suppose the United States becomes involved in an operation requiring an amphibious landing to retake the Panama Canal from an aggressor nation. The landing sites have been mined. Who will supply the minesweepers? There is only one answer to this question, the United States.

Additional threats are faced by our supply ships enroute to the area of operations. Two of these threats involve antiship cruise missiles. The first is the threat of sea-launched cruise
missiles from coastal patrol boats. The second is the threat of land-based antiship cruise missiles such as the Silkworm or the Exocet. The range of both of these threats is roughly 50 miles. We could also assume that the patrol boats would not venture more than 200 to 300 miles from the host nation. The Silkworm sites are mobile and could be moved frequently to make targeting by defensive forces more difficult. These threats necessitate the protection of supply shipping as it approaches land.

The risk of air attack by a third world nation is also a possibility as the British discovered in the Falkland Island War. Sophisticated planes are not necessary to score hits on large merchants with iron bombs. As illustrated by the Desert Shield operation, international straits don't always permit supply ships to transit to the area of operations out of range of land based aircraft. The majority of Desert Shield/Desert Storm supply ships transited through the Mediterranean Sea and the Suez Canal.

So the question remains, "If the United States forces are to be mobile worldwide to respond to protect the interests of the United States, then who is to protect them?" The obvious answer is that the forces of the United States must be capable of performing the necessary operations in minesweeping, antisubmarine warfare, antisurface ship warfare and antiair warfare.
CHAPTER V

THE FUTURE FORCES OF THE UNITED STATES

In the 21st century the armed forces of the United States will be significantly different from the present forces. First, our forces will be smaller. By 1995 active military end strength will fall to 1.653 million, 24 percent below the post Vietnam-peak of 2.174 million in 1987.1 The Army will consist of only 12 active divisions rather than the present 18 divisions.2 Other forces in both Airforce and Navy will be correspondingly reduced.

The second major difference will be in the deployment of our forces. Due to the projected Conventional Forces in Europe (CFE) reduction agreement, the United States forces will be reduced in size and forward-deployed forces in Europe will be scaled back.3 Smaller forces are also projected for the Korean peninsula.

Our fleet of battle force ships is also projected to be 451 ships down from the present 545 ships with only 12 active aircraft carriers.4 That translates to fewer ships deployed throughout the world unless we desire to go back to the greater than 50% deployment schedules of the 1960's and the 1970's which destroyed our retention of quality personnel.

Joint forces will also be required for a much greater percentage of the operations conducted because of the lack of individual force capability to perform large missions. This integration can be beneficial to the overall force structure and
reduce the costly redundancy in weapon systems.

Simply stated, we will have fewer overall forces. we will be forced to jointly work together for most operations and a higher percentage of our forces will be stationed in the continental United States.
CHAPTER VI

THE SEALIFT SHORTFALL

We have accounted for some of our shortfall in sealift by utilizing Afloat Pre-positioned Ships and Maritime Pre-positioned Ships (MPS) and stockpiled (POMCUS) equipment overseas. Having ships loaded with equipment, ammunition and supplies allows us to rapidly respond to areas of conflict. This system was fully tested by Desert Storm.

"Most of the sealift cargo moved on reserve ships: 78 Ready Reserve vessels, eight fast sealift ships, 13 maritime prepositioning ships (Ro-Ros) and 11 prepositioning ships (nine cargo ships and two tankers."1

By airlifting our troops and marrying them to their equipment in the theater, we can have a fighting force on the ground rapidly to face an enemy. Newsweek gave us an indication of how these ships were able to react in Desert Storm.

As a realist, Bush knew that it might ultimately take a war to defeat Saddam,...He agreed to send a tripwire force of 2,300 men from the 82nd Airborne's lightly armed 'ready brigade,' to be protected by Navy carrier planes and Air Force F-15s. A 16,500-man Marine amphibious brigade with heavy armor aboard its pre-positioned ships would steam in next....2

Two factors are important when discussing these pre-positioned ships. First, they are designed for initially outfitting our troops and provide only a limited endurance. In the case of the MPS ships each of the three squadrons provides 30 days of supplies for a Marine Expeditionary Brigade of 16,500 troops.3 Second, these ships are usually pre-positioned in known areas in groups.
This gives them a vulnerability to preemptive attack. We must be able to protect these ships while they are stored at the prepositioned sites and during the transit to the area of operations. They are our initial strike and defense capability and we would be greatly limited in our surge capability if these ships were destroyed.
CHAPTER VII

OPPOSED TRANSIT

It's the year 1996 and again Saddam Hussein's forces from Iraq have invaded Kuwait. Learning from his previous defeat, Saddam has formed a coalition with Libya and Yemen and has received assurances from Cuba of support. India has covertly been supplying arms to Iraq in exchange for oil. U.S. forces intercepted an Indian merchant carrying arms enroute to Iraq and impounded the ship. India has filed a complaint with the United Nations and has declared that the ships at Diego Garcia will be sunk if they attempt to leave port before the Indian merchant is released.

A Libyan merchant was observed by Egyptian aircraft dumping mines off the fantail as he traversed the Suez Canal. The merchant has been apprehended but crew interrogation revealed 92 mines to have been implanted in the Suez Canal and the entrance to the Red Sea. A Kuwaiti tanker, formerly the Bridgeton, struck a mine in the Suez canal this morning and is sinking by the stern, effectively blocking the canal to all traffic.

To protect our Maritime Pre-positioned Ships at Diego Garcia USCINCPACFLT has ordered an Aegis cruiser and three frigates enroute to the Gulf to deviate from their previous track and convoy the ships from Diego Garcia to Saudi Arabian ports. The Kennedy Carrier Battle Group in the Arabian Sea has been tasked to pick up the air cover for the MPS ship convoy before they get within range.
of land-based cruise missile or aircraft attack. Eight mines have been found in the Strait of Hormuz and the channel has been closed to traffic until the minesweepers can clear the channel.

The Eight Fast Sealift Ships (SL-7s) have been tasked to move heavy armored forces from U.S. east coast ports to the Persian Gulf. The ships will be loaded and deployed in two convoys. A nuclear cruiser, an oiler, and two frigates have been tasked to convoy the first four SL-7s to the Persian Gulf at maximum speed around the tip of Africa due to the closed Suez canal. In open ocean, relatively safe areas, the convoy will transit at 28 knots with refueling slowdowns for the frigates. The transit track deviates from the Great circle standard route for operational deception. It slows to an 18 knot speed of advance in choke point areas to permit better searching for enemy submarines by the warships. The departure time of the convoy has not been published.

CNN news has filed a suit under the Freedom of Information Act desiring coverage of the weeping families at the pier. Minesweepers have been sweeping the departure channel for three days.

Three Cuban foxtrot class submarines have been unaccounted for during the last two weeks. A tanker mysteriously caught fire and sank in the Northwest Providence channel of the Bahamas two days ago. No survivors were found. Cuban MIG-29 fighter aircraft have been conducting exercises in the Caribbean and the Gulf of Mexico. The aircraft have not approached any U.S. warships but apprehension is building due to the imminent deployment of an
amphibious taskforce from North Carolina.

This scenario was formulated to demonstrate the dangers we may face during our next crisis which involves the overseas deployment of U.S. forces. Even though we may be tasked to fight in a conflict with a third world aggressor nation, the weaponry we face may be the best money can buy. The proliferation of advanced weaponry means that if we again fail to provide any protection for our supply shipping, as we failed to do in the Desert Storm operation, we may lose a significant portion of our national military capability to threats on the way to the area of operation.
CHAPTER VIII
OLD SOLUTION TO A NEW PROBLEM

We must learn lessons from the Desert Storm victory. With the changes in Europe and the restructuring of the United States military, we will have a force that is much smaller than the present force. More of our military force will be stationed in the continental United States so sealift will take on a new importance in the coming decade. As the Soviet Union suffers with its economic problems and with the demise of the Warsaw Pact Organization, the United States must maintain its ability to respond worldwide to protect American interests, people and property. Our forces must become mobile and they must be able to be protected. With smaller forces we cannot afford to lose 41 ships in a month before we learn the lessons of the past.

Our military sealift must be protected from the present threats if we are to execute the strategies that we have formulated. These threats are well known. The enemy, who ever it may be, can intercept our ships with submarines, mines, cruise missiles from land sites and patrol boats and with acts of terrorism, such as kamikaze merchant ships. In order to make our forces viable as mobile forces, we must overcome these threats.

The first step in protecting our sealift forces is the use of convoy operations. If we fail to recognize the importance of convoying our ships, we may again see historic notes such as this:

*Long-range 1,100-ton (Type IX-B) U-boats had launched*
operations off Freetown, West Africa in May 1941 highlighted by the record success of U-107, which sank some 87,000 tons of shipping in a single patrol and obliged the Admiralty to divert convoys well west of the Canaries. 1

My seventeen years of sea duty on submarines has taught me one fact vividly. merchants are extremely easy to find in a modern submarine. I have personally held merchant contacts for days as they transited across the Atlantic. Most merchant ships make copious amounts of machinery noise and can be tracked with precision by a modern submarine sonar system at well over fifty miles.

The convoys are important not only for the protection of the convoy ships from submarine threats but also from aircraft, and cruise missile attack. Convoying our ships will cause a delay in the supplies reaching the area of operations. We also need to address another issue. If we charter foreign ships as we did for Desert Storm, how will we coordinate the non-english speaking crews into a cohesive unit inorder to protect them by convoy? Do we give each ship a "convoy tech manual" as they report and expect them to be able to execute the convoy operations with 30-40 other ships in close proximity? With the downsized fleet of the next decade we simply won't have enough escort ships to provide services for small numbers of ships. The World War II convoy operations included air cover to defeat the German diesel submarine threat. Will we utilize a carrier battle group to escort every convoy? Our helicopter capable frigates are the workhorses necessary for convoy operations but they are also the protectors of our carrier battle
groups. Do we have enough frigates to simultaneously perform both missions especially if many of them are transferred into the reserves?

Mines are readily available in the third world. They may well be our worst enemy. We are not presently able to clear mines from all of our east coast ports and have any assets available to clear choke points on the transit routes. We simply don't have enough minesweepers to do the job. Our mindset needs to be changed. We have specified as a prerequisite for the SL-7 ship class that they be able to transit at greater than 30 knots. It may be more important to delay their transit for 5 or 6 days to ensure they make it to open ocean rather than being sunk by mines in the channel. Mines can be laid by anything that floats. The small craft traffic from our ports especially small shrimp or fishing boats make clearing an outbound channel a continuous job. Our combatant ships are just as vulnerable to mines as our sealift ships. We can not afford to clear minefields with Ticonderoga class cruisers.

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CHAPTER IX

RECOMMENDATIONS FOR FUTURE OPERATIONS

For our future operations we need to practice the way we intend to fight. The Marines practice operations with the Maritime Prepositioned Ships routinely even to the point of totally unloading them and exercising the equipment in a land operation. If we are to depend on our ready reserve ships in times of national crisis, we need to prove that the system is operational or we need to discontinue it and find another solution to the sealift problem. This excerpt from the April 1991 issue of American Shipper magazine indicates that the state of our Ready Reserve Ships is poor.

Only 21 of the 78 ships activated over the course of the sealift had ever been sent out on sea trials after they went into the fleet. Some of the vessels had been idle for more than a dozen years.1

We would not think of depending on a transport aircraft to transport cargo after it had been stored for a dozen years without testing. We should not depend on a ship to do that either. It is a fact that over 90% of all cargo and equipment used by our forces in Desert Storm was transported by sealift. Convoy operations should be a part of all of our major exercises involving the overseas deployment of troops. These convoy operations should be coupled with mine countermeasures during port departures. The convoys should exercise all aspects of protecting our forces from threats over, under and on the seas. We should include some of our Ready Reserve ships in every exercise. We should require the
operation of every ready reserve ship on a seatrial cargo run at least every two years. Neither our escort warships nor our merchants have experience in convoy operations. The only way we will fix that problem is by practice.

We need to factor the time of realistic transit into our deliberate planning processes. In our peacetime supply operations speed is our gauge of success. In our wartime supply operations, certainty of reaching the forces in combat is a more valid gauge. Our primary goal is to ensure we don't leave our forces stranded on a distant shore short of ammunition or supplies due to our lack of protection for our sealift ships.

During increased threat conditions such as those during the Desert Storm operation, we raised security requirements to enter Naval Bases and installed concrete blockades at the gates. We need to consider some similar precautions for the approaches to our major Naval Bases by sea as well. Small runabouts may stop a terrorist in a speed boat, but what have we done to stop the terrorist in the 20,000 ton cargo ship? The solution may be to station a frigate or Coast Guard cutter off the entrance to our major departure points at a heightened threat condition.

In any crisis serious enough for the United States to deploy troops to a distant area, we should consider it equally important to our opponent to attempt to intercept our forces on the transit.
NOTES

Chapter I


Chapter II

2. Ibid, p. 553.

Chapter III


Chapter IV


Chapter V

2. Ibid, p. 4.


Chapter VI


Chapter VIII


2. Sorenson, p. 69.

Chapter IX

1. Warren, p. 32.
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