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THIRD AND FINAL REPORT

TO
THE SECRETARY OF THE NAVY
BY

FLEET ADMIRAL ERNEST J. KING, U.S.N.
COMMANDER IN CHIEF, U.S. FLEET
AND
CHIEF OF NAVAL OPERATIONS

ISSUED 8 DECEMBER 1945

Dear Mr. Secretary:

On 1 March of this year I presented to you my second annual report of the progress of our naval operations and the expansion of our naval establishment during the preceding year.

Since the terminal date of my second report major hostilities on all fronts have terminated victoriously for the nations allied against the Axis powers, and I transmit to you herewith my third and final report of operations of the United States Navy in World War II. This report covers the period 1 March 1945 to 1 October 1945.

The Navy built and manned by the united efforts of this country continued to carry the action to the enemy, engaged him by sea and air, maintained control of the essential lanes of sea communication and transported men and supplies over all oceans to all theaters. The significant role of amphibious operations in this war was strikingly portrayed in the capture of Iwo Jima and Okinawa, which were the outstanding operations of this type during the last months of the war. They exemplify the teamwork of all services which brought victory on both the European and Pacific fronts.

For the officers and men of the Navy, Marine Corps, and Coast Guard, I am happy to report, at the end of the war, that the missions and tasks assigned all of them, singly and collectively, have been successfully accomplished.

Ernest J. King

ERNEST J. KING,
Fleet Admiral, U.S. Navy,
Commander in Chief, United States Fleet
and
Chief of Naval Operations

The Honorable
James Forrestal,
Secretary of the Navy,
Washington, D.C.

I INTRODUCTION

My two previous reports carried to 1 March 1945 the account of the development of our naval strength and the participation of the United States Navy in combat operations. The present report is intended primarily to cover the period of the succeeding seven months, during which Germany surrendered and the war with Japan came to an end. This being my last report, however, I am including herein my considered general comment and observations on the war as a whole.

The major strategic decision of the war provided first for the defeat of Germany and then for the defeat of Japan. Both of these tasks have now been accomplished and we can view in clearer perspective the two major campaigns which led to victory. The contrast between them is at once apparent. The war in Europe was primarily a ground and air war with naval support, while the war in the Pacific was primarily a naval war with ground and air support.

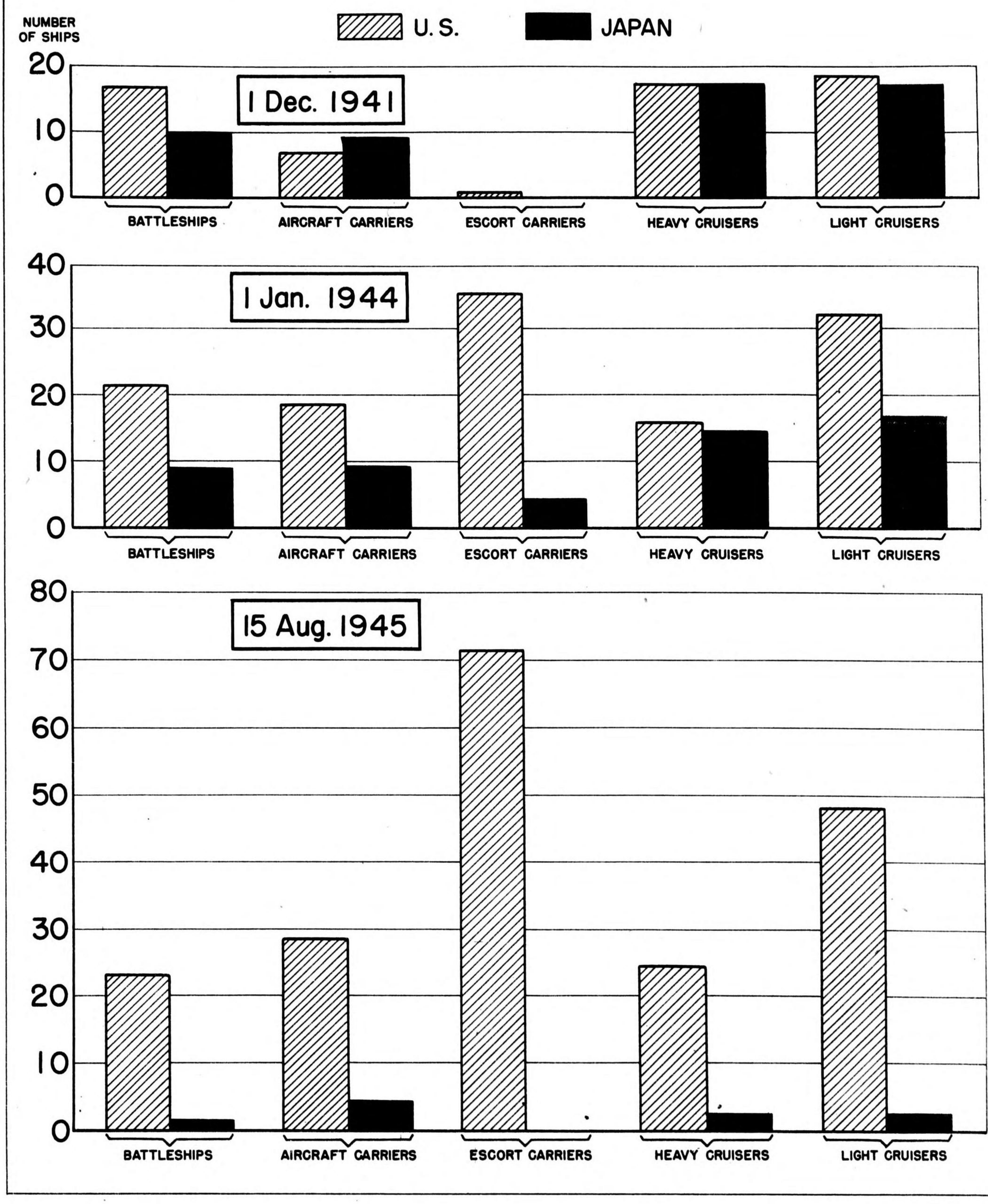
In the European war, sea power was an essential factor because of the necessity of transporting our entire military effort across the Atlantic and supporting it there. Without command of the sea, this could not have been done. Nevertheless, the surrender of the land, sea and air forces of the German Reich on 8 May 1945 was the direct result of the application of air power over land and the power of the Allied ground forces.

In the Pacific war, the power of our ground and strategic air forces, like sea power in the Atlantic, was an essential factor. By contrast with Germany, however, Japan's armies were intact and undefeated and her air forces only weakened when she surrendered, but her navy had been destroyed and her merchant fleet had been fatally crippled. Dependent upon imported food and raw materials and relying upon sea transport to supply her armies at home and overseas, Japan lost the war because she lost command of the sea, and in doing so lost--to us--the island bases from which her factories and cities could be destroyed by air.

From the earliest days of the war our submarines, operating offensively in the farthest reaches of the Pacific, exacted a heavy toll of Japanese shipping. At a conservative estimate, they sank, in addition to many combatant ships, nearly two thirds of the merchant shipping which Japan lost during the war.

Our surface forces--fast task forces composed of aircraft carriers, fast battleships, cruisers, and destroyers--carried the war to the enemy homeland and destroyed impressive numbers of naval vessels and merchant ships. Our amphibious forces, operating initially behind air offensives and under air cover launched from carriers, seized the island bases which made possible the achievements of land-based aircraft in cutting enemy lines of communications and in carrying devastation to the Japanese home islands.

Comparative Status of U.S. and Japanese Combatant Ships



Thus our sea power separated the enemy from vital resources on the Asiatic mainland and in the islands which he had seized early in the war, and furnished us the bases essential to the operations of shore-based aircraft from which the atomic bombs finally were despatched, and on which troops and supplies were being massed for the invasion of Kyushu and of Honshu. The defeat of Japan was directly due to our overwhelming power at sea.

The destruction of the Japanese Navy followed the Nelsonian doctrine that naval victory should be followed up until the enemy fleet is annihilated. Of 12 battleships, 11 were sunk; of 26 carriers, 20 were sunk; of 43 cruisers, 38 were destroyed; and so on throughout the various types of ships, which collectively constituted a fleet considerably larger than ours was before the war began. The few ships that remained afloat were for the most part so heavily damaged as to be of no military value.

In striking contrast is the record of our ships. Although 2 old battleships were lost at Pearl Harbor, 8 new battleships have since joined the fleet. Against 5 aircraft carriers and 6 escort carriers lost, we completed 27 carriers and 110 escort carriers. While we lost 10 cruisers, 48 new cruisers have been commissioned. We lost 52 submarines and built 203. The capacity of the United States to build warships, auxiliary ships and merchant ships, while supporting our forces and our allies all over the world, exceeded all former records and surpassed our most sanguine hopes. It proved to be a vital component of that sea power which Fleet Admiral Chester W. Nimitz has well defined in the following words:

> "Sea power is not a limited term. It includes many weapons and many techniques. Sea power means more than the combatant ships and aircraft, the amphibious forces and the merchant marine. It includes also the port facilities of New York and California; the bases in Guam and in Kansas; the factories which are the capital plant of war; and the farms which are the producers of supplies. All these are elements of sea power. Furthermore, sea power is not limited to materials and equipment. It includes the functioning organization which has directed its use in the war. In the Pacific we have been able to use our naval power effectvely because we have been organized along sound lines. The present organization of our Navy Department has permitted decisions to be made effectively. It has allowed great flexibility. In each operation we were able to apply our force at the time and place where it would be most damaging to the enemy."

In the successful application of our sea power, a prime factor has been the flexibility and balanced character of our naval forces. In the Atlantic the German Navy was virtually limited to the use of submarines, without surface and naval air support. In the Pacific, Japanese sea power was hampered by army control, and Japanese naval officers lacked the freedom of initiative so necessary to gain and exercise command of the seas. On the other hand, while ours was a vast fleet, it was also a highly flexible and well balanced fleet, in which ships, planes, amphibious forces and service forces in due proportion were available for unified action whenever and wherever called upon.

It is of interest to note, in connection with formulation of plans for the future strength of our Navy, that our fleet in World War II was not solely engaged in fighting enemy fleets. On numerous occasions a large part of the fleet effort was devoted to operations against land objectives. A striking example is the capture of Okinawa. During the three months that this operation was in progress our Pacific Fleet--the greatest naval force ever assembled in the history of the world--was engaged in a continuous battle which for sustained intensity has never been equaled in naval history; yet at this time the Japanese Navy had virtually ceased to exist--we were fighting an island, not an enemy fleet.

With the possible exception of amphibious warfare, which covers a field of considerably broader scope, the outstanding development of the war in the field of naval strategy and tactics has been the convincing proof and general acceptance of the fact that, in accord with the basic concept of the United States Navy, a concept established some 25 years ago, naval aviation is and must always be an integral and primary component of the fleet. Naval aviation has proved its worth not only in its basic purpose of destroying hostile air and naval forces, but also in amphibious warfare involving attacks in support of landing operations, in reconnaissance over the sea and in challenging and defeating hostile land-based planes over positions held in force by the enemy. In these fields our naval aviation has won both success and distinction. Because of its mobility and the striking power and long range of its weapons, the aircraft carrier has proved itself a major and vital element of naval strength, whose only weakness--its vulnerability--demands the support of all other types, and thereby places an additional premium on the flexibility and balance of our fleet. The balanced fleet is the effective fleet.

In a balanced fleet the several components must be welded together rather than simply coordinated. For example, submarines normally operate "on their own" and hasty consideration might lead to the false conclusion that it would be advantageous for submarines to constitute a separate independent service. However, careful consideration will disclose the fallacy inherent in reasoning from this premise. Actually, the commanding officer of a submarine, to fight his ship most effectively, must be familiar with all phases of naval tactics and strategy. It is also essential that officers in surface ships understand the capabilities and limitations of submarines. This is accomplished in time of peace by requiring that submarine officers alternate periods of submarine duty with duty in vessels of other types. By this means, the point of view of the officer corps as a whole is broadened and in the higher echelons of command there are always included officers who have had submarine experience.

Aviation, though a specialty, is much more closely interwoven with the rest of the fleet than is the submarine branch of the Navy. It is, in fact, impossible to imagine an efficient modern fleet in which there is not a complete welding of aviation and surface elements. This is accomplished by requiring aviators to rotate in other duties in the same manner as do submarine officers, and by requiring non-aviators to familiarize themselves with aircraft operations--not a difficult matter since not only carriers but also battleships and cruisers are equipped with aircraft. Aviation is part of the ordinary daily life of the officer at sea.

Of course, it is not possible to effect rotation of duties of all submarine and air officers during war. As a matter of fact, this is true of duty in all classes of ships. It is necessary during wartime to train certain officers--especially the Reserves--for one particular type of duty and to keep them at it. However, the long periods of peacetime training, in which an officer obtains the rounded experience to fit him for higher command, have been utilized in the past to give officers experience in varied duties and the practice will be continued in the future. The wisdom of that system was proved during the war by the efficiency of aircraft carriers, commanded by qualified aviators who also were experienced in handling ships, and, particularly, by the efficiency of the high combat commands of the Pacific Fleet. Many of the major units of the Pacific Fleet, composed of carriers and vessels of all other types, were commanded by aviators. The strength of the Navy lies in the complete integration of its submarine, surface and air elements.

The epic advance of our united forces across the vast Pacific, westward from Hawaii and northward from New Guinea, to the Philippines and to the shores of Japan, was spearheaded by naval aviation and closely supported by the power of our fleets. In these advances, some of the steps exceeded 2000 miles and the assaulting troops often had to be transported for much greater distances. The Navy moved them over water, landed them and supported them in great force at the beaches, kept them supplied and, particularly at Okinawa, furnished air cover during weeks of the critical fighting ashore.

The outstanding development of this war, in the field of joint undertakings, was the perfection of amphibious operations, the most difficult of all operations in modern warfare. Our success in all such operations, from Normandy to Okinawa, involved huge quantities of specialized equipment, exhaustive study and planning, and thorough training as well as complete integration of all forces, under unified command.

Integration and unification characterized every amphibious operation of the war and all were successful. Command was determined chiefly by application of the principle of paramount capability. A naval officer was in over-all command of an amphibious operation while troops were embarked and until they had been landed and were firmly established in their first main objectives ashore. Beyond that point, an officer of the ground forces was in command and directed whatever naval support was considered necessary.

Unity of command at the highest military level, in Washington, (as an extension of the principle of unity of command) was never attempted nor, in fact, seriously considered. It is a matter of record that the strategic direction of the war, as conducted collectively by the Joint Chiefs of Staff, was fully as successful as were the operations which they directed. The Joint Chiefs of Staff system proved its worth. There is no over-all "paramount capability" among the Joint Chiefs of Staff to warrant elevating one of their members to a position of military commander of all the armed forces--nor, in my opinion, is there any known system or experience which can be counted upon to produce the man qualified for such a position. This war has produced no such man--for the records of the Joint Chiefs of Staff will show that the proposals, or the convictions of no one member were as sound, or as promising of success, as the united judgment and agreed decisions of all of the members.

In connection with the matter of command in the field, there is perhaps a popular misconception that the Army and the Navy were intermingled in a standard form of joint operational organization in every theater throughout the world. Actually, the situation was never the same in any two areas. For example, after General of the Army Dwight D. Eisenhower had completed his landing in Normandy, his operation became purely a land campaign. The Navy was responsible for maintaining the line of communications across the ocean and for certain supply operations in the ports of Europe, and small naval groups became part of the land army for certain special purposes, such as the boat groups which helped in the crossing of the Rhine. But the strategy and tactics of the great battles leading up to the surrender of Germany were primarily army affairs and no naval officer had anything directly to do with the command of this land campaign.

A different situation existed in the Pacific, where, in the process of capturing small atolls, the fighting was almost entirely within range of naval gunfire; that is to say, the whole operation of captureing an atoll was amphibious in nature, with artillery and air support primarily naval. This situation called for a mixed Army-Navy organization which was entrusted to the command of Fleet Admiral Nimitz. A still different situation existed in the early days of the war during the Solomon Islands campaign where Army and Navy became, of necessity, so thoroughly intermingled that they were, to all practical purposes, a single service directed by Admiral William F. Halsey, Jr. Under General of the Army Douglas MacArthur, Army, Army Aviation, and the naval components of his command were separate entities tied together only at the top in the person of General MacArthur himself. In the Mediterranean the scheme of command differed somewhat from all the others.

All these systems of command were successful largely because each was placed in effect to meet a specific condition imposed by the characteristics of the current situation in the theater of operations. I emphasize this fact because it is important to realize that there can be no hard and fast rule for setting up commands in the field. Neither is it possible to anticipate with accuracy the nature of coming wars. Methods adopted in one may require radical alteration for the next, as was true of World Wars I and II. It was fortunate that the War Department and the Navy Department working together for many years--definitely since World War I--before the war began, had correctly diagnosed what was likely to occur and had instituted, not rigid rules, but a set of principles for joint action in the field which proved sufficiently flexible to meet the varying conditions that were encountered during the war.

We now have before us the essential lessons of the war. It is my earnest conviction that whatever else may have been learned as to the most effective relationship of the ground, naval and air forces, the most definite and most important lesson is that to attempt unity of command in Washington is ill-advised in concept and would be impracticable of realization.

THE TIDES OF WAR IN THE PACIFIC 1941–1945

1	JAPANESE ATTACK PEARL HARBOR	7 DECEMBER 1941
2	JAPANESE ATTACK PHILIPPINE ISLANDS	8 DECEMBER 1941
3	BATTLE OF THE CORAL SEA	7-8 MAY 1942
4	BATTLE OF MIDWAY	3-6 JUNE 1942
5	SOLOMON ISLANDS CAMPAIGN	AUGUST 1942 - JUNE 1944
6	ALEUTIANS CAMPAIGN	AUGUST 1942 - AUGUST 1943
7	GILBERT ISLANDS OPERATION	NOVEMBER 1943
8	MARSHALL ISLANDS OPERATION	FEBRUARY 1944
9	HOLLANDIA OPERATION	APRIL 1944
10	MARIANAS ISLANDS OPERATION	JUNE - AUGUST 1944
11	WESTERN CAROLINES OPERATION	SEPTEMBER 1944
12	LEYTE LANDINGS - BATTLE FOR LEYTE GULF	OCTOBER 1944
13	LINGAYEN GULF LANDINGS	JANUARY 1945
14	IWO JIMA OPERATION	FEBRUARY - MARCH 1945
15	OKINAWA OPERATION	APRIL - JUNE 1945
16	BORNEO OPERATION	MAY - JULY 1945
17	PRE-INVASION OPERATIONS AGAINST JAPAN	JULY - AUGUST 1945
18	SIGNING OF JAPANESE SURRENDER	2 SEPTEMBER 1945

BERING SEA
SEA OF OKHOTSK
SEA OF JAPAN
KOMANDORSKI
ATTU
KISKA
PRIBILOF ISLANDS
KODIAK
VANCOUVER
SAN FRANCISCO
TOKYO
HONSHU
HOKKAIDO
KURILE ISLANDS
OKINAWA JIMA
IWO JIMA
FOOCHOW
CANTON
HONG KONG
FORMOSA
MARCUS
WAKE
HAWAIIAN ISLANDS
MIDWAY
PEARL HARBOR
JOHNSTON
CALCUTTA
BAY OF BENGAL
ANDAMAN ISLANDS
CEYLON
NICOBAR ISLANDS
SOUTH CHINA SEA
MANILA
LUZON
PHILIPPINE ISLANDS
SAMAR
LEYTE
MINDANAO
MARIANAS ISLANDS
SAIPAN
TINIAN
GUAM
PELELIU
PALAU ISLANDS
YAP
ULITHI
ENIWETOK
TRUK
CAROLINE ISLANDS
MARSHALL ISLANDS
JALUIT
MAJURO
MILI
BUTAJE
PALMYRA
CELEBES SEA
BORNEO
MOROTAI
HALMAHERA
BIAK
WAKDE
HOLLANDIA
GILBERT ISLANDS
HOWLAND
PHOENIX ISLANDS
NEW GUINEA
LAE
NEW IRELAND
RABAUL
NEW BRITAIN
BOUGAINVILLE
SOLOMON ISLANDS
GUADALCANAL
ELLICE ISLANDS
SANTA CRUZ ISLANDS
SAMOA ISLANDS
FIJI ISLANDS
JAVA
TIMOR
CORAL SEA
AUSTRALIA
NEW CALEDONIA

KEY

- Japanese position prior to 7 Dec. 1941
- Japanese aggression: 7 Dec. 1941 to 1 Jan. 1942; 1 Jan. 1942 to 7 Aug. 1942
- Status — 1 March 1944
- Status — 1 March 1945
- Status — 14 August 1945

II COMBAT OPERATIONS: PACIFIC

The final phase of the Pacific naval war commenced with the assault on Iwo Jima in February 1945, closely followed by that on Okinawa in April. These two positions were inner defenses of Japan itself; their capture by United States forces meant that the heart of the Empire would from then on be exposed to the full fury of attack, not only by our carrier aircraft but also by land-based planes, the latter in a strength comparable to that which wreaked such devastation against the better protected and less vulnerable cities of Germany. After Okinawa was in our hands, the Japanese were in a desperate situation, which could be alleviated only if they could strike a counterblow, either by damaging our fleet or by driving us from our advanced island positions. The inability of the Japanese to do either was strong evidence of their increasing impotence and indicated that the end could not be long delayed.

THE CAPTURE OF IWO JIMA

The strategic situation prior to the assault on Iwo Jima, the command organization for that operation and the forces involved, the landing on 19 February, and the first ten days of ground fighting, have been included in my previous report and will not be repeated herein. As March opened, fierce ground fighting on Iwo Jima was still in progress. The front line ran roughly parallel to the short axis of the island, the northeastern third of which was still held by the enemy. Our right flank (4th Marine Division) extended inland from the beach just beyond the East Boat Basin and faced the enemy's skillfully prepared defense positions in steep and rough terrain, which made progress difficult; our left flank (5th Marine Division) rested on Hiraiwa Bay directly across the island; in the center the 3rd Marine Division had pushed a salient along the central Motoyama Plateau to occupy Motoyama village and the near end of Airfield No. 3. By nightfall of 2 March this last airfield and the whole of the Motoyama tableland were under our control, leaving the enemy in possession of a diminishing horseshoe-shaped area fringing the northeastern end of the island.

Airfield No. 1 had for some days been in use by light artillery spotting planes, but on 3 March it came into its own when a B-29, after a strike against the Japanese mainland, made a successful forced landing at Iwo Jima. More of such landings followed as the tempo of air strikes against Japan was stepped up. On 6 March the first land-based fighter planes came in, made patrol flights the following day, and relieved carrier aircraft in close support of troops on the third day after arrival. Airfield No. 2 was operational on 16 March.

Progress during the first week of March was slow despite daily artillery preparation, supplemented by naval gunfire and air strikes before each ground attack. On the night of 7-8 March the 4th Marine Division killed about 1000 enemy troops who had organized a major infiltration. Subsequently the resistance to our attacks diminished somewhat, and during the next three days control was secured of all the eastern coastline to a distance of approximately 4000 yards south of Kitano Point at the northeastern

extremity of the island. On 16 March the northwest shore had been reached and Kitano Point isolated. Much mopping up remained to be done, particularly of a small stubborn pocket of resistance in one of the rugged gulches running southwest to the beaches from Kitano Point; but on 16 March all organized resistance was declared ended as of 1800, and the 4th Marine Division started re-embarking.

On 14 March the flag was raised officially and the establishment of military government was proclaimed. On 18 March the 5th Marine Division re-embarked. On 20 March the United States Army 147th Infantry Regiment of the garrison force arrived. At 0800 on 26 March, responsibility for the defense and development of Iwo Jima passed to the garrison force and the Commander Forward Area, Central Pacific. The capture of the island had taken 26 days of actual combat; over 20,000 enemy troops were destroyed; and our casualties ashore, as reported on 17 March, were 20,196, of whom 4,305 were killed in action.

The diminutive size of Iwo Jima and its general barrenness, lack of natural facilities and resources should lead no one either to minimize the importance of capturing it or to deprecate as unreasonable and unnecessary our heavy losses in doing so. It was important solely as an air base, but as such its importance was great. Not only was the pressure of air attack by our Marianas-based B-29's materially intensified by the availability of Iwo for topping them off with fuel and for supplying them with fighter cover from there on, but also there was an increase in combat effectiveness of the B-29's due to the heightened morale of personnel, heavier bomb loads, and decrease in abortive flights. There was, moreover, a substantial saving in valuable life in the number of B-29's which would have been shot down over Japan had there been no fighter cover, and in the number which would have been lost at sea had Iwo Jima not been available for emergency landings. It is estimated that the lives saved through this latter factor alone, subsequent to the capture of Iwo Jima, exceeded the lives lost in the capture itself.

This loss of life during the capture resulted inevitably from the strength of Iwo Jima as a defensive position and from the readiness of the enemy. Neither strategic nor tactical surprise was possible in our landing since, with Luzon and the Marianas in our hands, the seizure of some point in the Nanpo Shoto chain was obviously our next move, and Iwo Jima was by its location and the character of its terrain the most profitable objective.

It had no extensive coast line to afford invading troops a choice of landing points where they would meet little opposition, either on the beaches or in subsequent deployments for advance against enemy positions. Landing was feasible on only two beaches of limited extent, and they were so situated that a single defensive organization could oppose an assault against either separately or both simultaneously. The Japanese were, therefore, well prepared to meet us.

The defensive organization of Iwo Jima was the most complete and effective yet encountered. The beaches were flanked by high terrain favorable to the defenders. Artillery, mortars, and rocket launchers were well concealed, yet could register on both beaches--in fact, on any point on the island. Observation was possible, both from Mount Suribachi at the south end and from a number of commanding hills rising above the northern plateau.

The rugged volcanic crags, severe escarpments, and steep defiles sloping to the sea from all sides of the central Motoyama tableland afforded excellent natural cover and concealment, and lent themselves readily to the construction of subterranean positions to which the Japanese are addicted.

Knowing the superiority of the firepower that would be brought against them by air, sea, and land, they had gone underground most effectively, while remaining ready to man their positions with mortars, machine guns, and other portable weapons the instant our troops started to attack. The defenders were dedicated to expending themselves--but expending skillfully and protractedly in order to exact the uttermost toll from the attackers. Small wonder then that every step had to be won slowly by men inching forward with hand weapons, and at heavy costs. There was no other way of doing it.

The skill and gallantry of our Marines in this exceptionally difficult enterprise was worthy of their best traditions and deserving of the highest commendation. This was equally true of the naval units acting in their support, especially those engaged at the hazardous beaches. American history offers no finer example of courage, ardor and efficiency.

As a whole the operation affords a striking illustration of the inherently close relation between land, sea and air power. The fleet with its ships and planes delivered and supported the land forces. The Marines took an air base from which our land-based planes could operate with effectiveness far beyond that possible from our other bases in the rear. The same general pattern marked our long progress all the way across the vast central and western Pacific.

ASSAULT ON OKINAWA AND ITS CAPTURE

Our capture of the Marianas and Philippines had placed us on a strategic line some 1300 miles from the Japanese homeland and across its direct routes of communication to the south. The occupation of Iwo Jima had advanced this line to within 640 miles of Tokyo at the eastern end. The next step directed by the Joint Chiefs of Staff was to secure a position in the Nansei Shoto chain, which extends in a shallow loop from Kyushu, the southernmost of the main Japanese islands, down to Japanese held Formosa. Okinawa, the largest and most populous island in this chain, offered numerous sites for airfields from which almost any type of plane could reach industrial Kyushu, only 350 miles distant, and attack the enemy's communications to Korea, to the Chinese mainland, and to the Indo-China and Singapore areas. Since Okinawa also contained several excellent naval anchorages, it was chosen as the objective; the operations against it followed immediately on those for the capture of Iwo Jima.

From many standpoints the Okinawa operation was the most difficult ever undertaken by our forces in the Pacific. It was defended by about 120,000 men (including native Okinawans serving with the combat forces) with tanks and artillery. As possible reinforcements there were some 60,000 troops in various other positions in the Nansei Shoto chain, plus much larger forces in nearby Formosa, Kyushu, and the Shanghai area. Also of great importance was the large native population, which afforded the enemy an unlimited supply of labor, and which might easily become a serious problem to us by clogging roads and imposing a burden of relief.

20'
40'
128°
20'
27°
27°
IHEYA RETTO
IE SHIMA
40'
40'
OKINAWA
YONTAN AIRFIELD
HAGUSHI
KADENA AIRFIELD
20'
20'
KERAMA RETTO
KEISE SHIMA
BUCKNER BAY
NAHA
(DEMONSTRATION)
26°
26°
20'
40'
128°
20'

The most serious threat to us, however, lay in the very factor for which we had initiated the operation, namely the short distance from Okinawa to the Japanese homeland, where lay the main reserves of air and naval power. Just as we would be able to strike Japan to better effect after securing Okinawa, the Japanese could strike us while we were attacking that island. Japan's naval strength had been so reduced that it could not hope for success against our own in a decisive action; but hit-and-run raids, or perhaps forlorn-hope, honor-saving attempts, were a possibility. Air attack, particularly of the suicide variety, was the greatest menace, since the Japanese airfields within easy range of Okinawa were too numerous to permit more than their partial and temporary interdiction by our own air strikes against them. Severe damage and losses, therefore, had to be expected and accepted as the price of our success.

The operations for the capture of Okinawa were under the command of Admiral R. A. Spruance, Commander Fifth Fleet. Major forces participating under him were: the Joint Expeditionary Force (all elements engaged directly in the landings), Vice Admiral (now Admiral) R.K. Turner; the Expeditionary Troops (all ground forces engaged), the late Lieutenant General S.B. Buckner, USA; the Fast Carrier Force, Vice Admiral M.A. Mitscher, (including the battleships and other fire support vessels of the late Vice Admiral W.A. Lee's Striking Force); the British Carrier Force, Vice Admiral H.B. Rawlings; the Logistic Supply Group (tankers and cargo vessels which serviced the fleet under way close to the combat areas), Rear Admiral D. B. Beary; Service Squadron Ten (the repair, supply and service vessels of all kinds, based on Leyte Gulf, the Marianas, etc.), Commodore W. R. Carter; the Amphibious Support Force (comprising escort carriers, minesweepers, underwater demolition teams, gun-boats, and the gunnery ships assigned to bombardment missions), Rear Admiral W. H. P. Blandy; and the Gunfire and Covering Force (the battleships and other gunnery vessels not with the fast carriers), Rear Admiral M.L. Deyo. Numerous other participating task groups and units and their commanders are not mentioned herein. About 548,000 men of the Army, Navy, and Marine Corps took part, with 318 combatant vessels and 1139 auxiliary vessels, exclusive of personnel landing craft of all types.

The greater part of the intelligence information required for the operation was obtained from photographic coverage. Adequate small scale coverage for mapping purposes was first obtained on 29 September 1944 by B-29's of the XXI Bomber Command; from then on until the conclusion of the operation, additional photographing was done at frequent intervals by Army planes and planes of the Fast Carrier Force. The prompt developing, printing, and interpreting of these photos, and the early and wide distribution of the prints and of the information gleaned from them, was an important feature of the operation.

The island of Okinawa, which is about 65 miles long, is roughly divided into almost equal northern and southern parts. The northern area is generally rugged, mountainous, wooded and undeveloped. The southern area, which is generally rolling but frequently broken by deep scarps and ravines, is the developed part of the island, containing the greater number of towns, roads, and cultivated areas, the capital city of Naha, all five of the island's airfields, and the strongest defenses.

The preferred plan called for our ground forces to land on six miles of beach on the southwest shore, protected from the prevailing northeast trade winds and closely bordering the island's Yontan and Kadena airfields. Four divisions were to be landed abreast on these beaches. With the two center divisions advancing directly across the island to the east coast, and with the left and right flank divisions pivoting toward the north and south respectively, the Japanese forces in the southern part of the island would be isolated by these maneuvers, and were then to be overcome by attack from the north. Coincident with the main troop attack, there was planned for the southeast coast a demonstration, and an actual landing, if necessary.

Planned operations preliminary to, and in support of the main landings, included the following: the seizure of the islands of the Kerama Retto group, 20 miles to the southwest, in order to establish therein a logistics supply and naval repair base and a seaplane base; the seizure of the small island of Keise Shima, about 20,000 yards from the landing beaches and 11,000 yards from Naha city, and landing army artillery there to command the lower end of Okinawa; mine sweeping on a scale greater than in amy previous operation; the usual work by underwater demolition teams; and the intensive bombardments by air and naval forces.

Cargo and troops were loaded and embarked on the United States west coast, in the Hawaiian Islands, in the southwestern Pacific, the Marshalls, the Carolines, and Leyte. The various elements proceeded to assemble afloat at Ulithi, Guadalcanal, Saipan, and Leyte. Following rehearsals the several forces departed for the objective in the more than 1200 ships of all kinds which the Joint Expeditionary Force contained. Movement of all forces to the objective was carried out without enemy interference. Operational breakdowns en route were insignificant, a fact which speaks well for the efficiency of our material and our personnel in operation, maintenance, and repair. An indispensable element in the campaign as a whole was the covering operations of the Fast Carrier Force, which are given in some detail in the next section of this report.

The mine sweepers were in the van, and on L-minus-8 day, 24 March, commenced sweeping under cover of gunfire from battleships of the Fast Carrier Force, and continued this work up to L-day, 1 April. There were 75 sweepers; and the entire coastal perimeter of southern Okinawa was cleared of mines during this pre-assault phase, in addition to the sweeping necessary for the capture of Kerama Retto and Ie Shima. Including re-sweeping, over 3000 square miles were swept and declared safe prior to L-day. Some 177 mines were swept and about 80 floaters destroyed. The thoroughness of this task is evidenced by the safety with which bombardment and assault ships in great numbers closed the assault beaches without significant loss from mines.

On L-minus-6 day the assault on Kerama Retto was commenced, and by L-minus-1, 31 March, these islands and also Keise Shima had been occupied against minor resistance. Nets were immediately laid to protect the anchorages, and the seaplane base was established. Tankers, ammunition ships and repair vessels were brought directly to this anchorage, which assumed a progressively more important role as the principal haven for ships damaged by "kamikaze" attacks of suicide planes.

Since L-minus-7, 25 March, Okinawa itself had been under intermittent bombing and gunfire, and on L-day, 1 April, preceded by intense naval and air bombardment, the Tenth Army landed according to schedule over the Hagushi beaches on Okinawa against light enemy resistance. The assault waves, embarked in amphibious vehicles, hit the beach at 0830, moved rapidly inland, and by 1230 had captured both Yontan and Kadena airfields with light losses. Prior to dark the Tenth Army, with approximately 50,000 troops ashore, had gained a beachhead 4000 to 5000 yards in depth. Proceeding rapidly against initially weak resistance, our troops crossed the island to the east shore, and on 4 April the Yontan-Kadena segment of the island was in our hands.

The Japanese had made no serious attempt to stop us at the beaches where we had landed; as the attack progressed from day to day, it was evident that they had withdrawn most of their forces into the southernmost part of the island, and had established their defenses in depth on terrain admirably suited for defense and delaying action tactics. The enemy defenses consisted of blockhouses, pillboxes, and caves, protected by double apron barbed wire and minefields. Here the enemy used his artillery unstintingly, and his defensive tactics were described as "artful and fantastic."

In the north progress was rapid against scattered opposition; on 22 April all organized resistance in the northern two thirds of the island had ceased, though patrolling and mopping up continued. In the south our advance was stubbornly contested. From 4 April to 26 May our lines had advanced only about four miles, and it took from 26 May to 21 June to cover the remaining ten miles to the southern tip of the island. On 21 June, after eighty-two days of bitter fighting, organized resistance was declared to have ended, although mopping up of two small enemy pockets remained to be done.

On 18 June, while observing the attack of the Marine 8th Regimental Combat Team, Lieutenant General Buckner, Commanding General of the Tenth Army and the Ryukyus Forces, was instantly killed by a shell burst. Command of the ground forces was then assumed by Major General Roy S. Geiger, USMC, until after the capture of the island, when he was relieved by General Joseph W. Stillwell, USA, on 23 June.

The general pattern of the operation for the capture of Okinawa was similar to those for the capture of Iwo Jima, the Marianas, the Marshalls, etc.; it differed mainly in the size of the air, naval, and ground forces employed, the length of time required to secure it after the initial landing, and the number of naval vessels damaged or sunk at the scene of operations by air attack, mainly of the suicide variety. Having been experienced in previous operations, this form of attack was not new, but the shorter distance from numerous air bases in Japan, and the desperate situation which would threaten the Japanese if our assault on Okinawa were successful, stimulated them to their greatest and most fanatical effort.

The time element was closely connected with the extent of our ship losses. By its very nature an amphibious invasion implies advancing a huge number of vessels, both combatant and noncombatant, from a zone dominated by one's own land-based air forces into one hitherto dominated by the enemy's. Our vessels are localized by the landing so that the enemy has not the problem of finding them, but only of hitting them. Thus exposed,

their protection depends wholly on their own antiaircraft fire, smoke, and on cover from our own carrier-based air forces, which are to that extent diverted from offensive missions. This precarious situation for shipping continues until progress ashore at the objective results in relief: first, by the establishment of our own air forces, air facilities, antiaircraft radars, and fighter-directors ashore in strength sufficient to dominate the area; secondly, and more important, by releasing most of the shipping so that there are fewer vulnerable targets presented to any enemy that gets through. The longer this relief is delayed by the continuance of ground fighting, the higher our shipping casualties mount. The longer the Navy must remain in support of assault troop operations, the more vulnerable it is to attack, and the higher is the proportion of personnel and ship casualties. Slow progress on the ground is directly reflected, therefore, in naval losses.

The first enemy air attack at Okinawa occurred on 24 March when the mine sweepers arrived; the first damage was done on 26 March; and by 21 June, when organized resistance had ceased, about 250 vessels of all classes, from battleships and carriers down to destroyers and landing ships, had been hit by air attack, by far the greatest proportion of them in suicide crashes. Some 34 destroyers or smaller craft were sunk. Early warning of impending attacks proved to be the best countermeasure and for this purpose destroyers and other small vessels were stationed as pickets at appropriate distances from the concentrations of heavier shipping. These pickets took the heaviest losses themselves, but in so doing they undoubtedly saved many bigger and more valuable vessels during a critical three months.

FAST CARRIER FORCE OPERATIONS IN SUPPORT OF OKINAWA INVASION

After the supporting operations for the Iwo Jima campaign were completed, Vice Admiral Mitscher proceeded with his fast carrier task force in support of the forth-coming Okinawa campaign. First he went toward the Nansei Shoto in order to obtain photographic coverage of that area. Planes were launched on 1 March, and excellent photo reconnaissance was obtained for use in planning the Okinawa campaign. While in this area, cruisers of the force bombarded Okino-Daito-Shima on 2 March, starting numerous fires and providing valuable training for the ships participating. The force then proceeded to Ulithi for a ten-day period of regrouping and logistic replenishment.

On 14 March the task force departed from Ulithi and proceeded toward Japan to carry out its part in the invasion of Okinawa. On 18-19 March, from a position 100 miles southeast of Kyushu, air strikes were launched against airfields on that island in order to eliminate future airborne resistance to our Okinawa invasion forces. Fleet units at Kure and Kobe were also attacked with considerable success.

On the morning of the 19th the carrier FRANKLIN was badly damaged by fires started when she was hit by two bombs from an enemy plane. Outstanding rescue operations saved 850 men from the water, but the dead and missing totalled 772.

During that afternoon the task force retired southward, launching additional sweeps against enemy airfields to forestall an organized attack on the slowly moving damaged ships and escorts. On 21 March 48 enemy planes were intercepted 60 miles from the force by 24 carrier-based planes. In the ensuing battle all the Japanese planes were shot down with a loss of only two of our fighters.

In a four-day period Vice Admiral Mitscher's forces destroyed 528 enemy planes, damaged 16 enemy surface craft, and either destroyed or damaged scores of hangars, factories, and warehouses. Our own plane losses were 116. As a result of this operation, the enemy was unable to mount any strong air attack against our forces on Okinawa for a week after the initial landing.

On 24 March, under the command of Vice Admiral Lee, battleships of the task force bombarded the southeastern coast of Okinawa. This was part of a diversionary move to cover up the actual location of our landing beaches; apparently the ruse was successful.

When the invasion of Okinawa began on 1 April, planes from the fast carriers began a series of almost continuous strikes and combat air patrols in direct support of the operation. For a few days enemy air opposition was almost nonexistent, but on 6 April the Japanese finally struck with fury against our ground and supporting forces. All units of the carrier force performed admirably during the day's attack, knocking down 248 planes, while losing only 2.

The carrier task force then proceeded northward, and on 7 April attacked strong Japanese fleet units which had been located in the East China Sea off Kyushu. Heavy weather handicapped our airmen, but in spite of this they sank the battleship YAMATO, the cruiser YAHAGI, and 4 destroyers. Fires were started on 2 other destroyers, and only 3 destroyers in the entire force escaped without damage.

While our planes were otherwise occupied in striking the YAMATO and those ships, the enemy resumed the heavy assaults of the previous day against the carrier force. Combat air patrols destroyed 15 planes over the force, and ships' gunfire knocked down 3 more. One suicide plane penetrated the antiaircraft fire, however, and dropped a bomb on the carrier HANCOCK; it then crashed on her flight deck, killing 28 men, and badly damaging the carrier.

On 11 April the enemy resumed the air attacks on the fast carrier task force. The number of Japanese planes participating was not large, but their pilots were determined to destroy themselves by diving their planes directly on the chosen target. Fortunately there were no direct hits, but 8 near misses caused some damage. During the day our carrier-based planes shot down 17 of these suicide planes, and ships' gunfire destroyed 12 more, but they still constituted a serious threat to our forces.

The next day the enemy shifted the weight of his suicide attacks to the ships anchored at Okinawa, and the combat air patrols from both fast and escort carriers had little difficulty in shooting down 151 enemy planes over the islands.

On 15 April the carriers launched a surprise attack against southern Kyushu airfields, destroying 51 enemy planes on the ground and setting numerous ground installations afire. The Japanese managed to launch some planes in opposition, and 29 of these were shot down before our aircraft returned to the carriers.

Fighter sweeps were again launched against Kyushu on 16 April in an effort to break up an obvious major enemy air attack. They shot down 17 air-borne planes and destroyed 54 on the ground. In spite of this success, however, the enemy launched heavy air attacks during the day against our Okinawa forces and the fast carrier task force. All ground support was cancelled, and every effort was concentrated on a successful defense of the task force. The final score for the day was 210 enemy aircraft shot down, against a loss of 9 of our planes. Heavy damage was caused to the carrier INTREPID when a suicide plane crashed on her flight deck at the height of the battle.

On 19 April Vice Admiral Lee commanded a division of fast battleships in the bombardment of the southeastern coast of Okinawa. This action coincided with the beginning of the Tenth Army's all-out offensive. The bombardment not only destroyed important military installations, but it assisted in making a feint landing at that point appear authentic.

On 29 April suicide planes again attacked the task force in strength, hitting and badly damaging two destroyers. The enemy paid for them, however, with 25 aircraft knocked out of the air by planes and guns of the task force.

After several days of relative calm, enemy aircraft returned in large numbers on 4 May to attack our land and amphibious forces in the Okinawa area. This attack was apparently part of a counter-landing operation to aid their own ground forces. The fast carrier task force was not attacked, however, and its fighters were free to defend the Okinawa area, shooting down 98 enemy aircraft, while losing only 5 planes.

On 11 May another major air battle was fought over Okinawa and the ships of the task force. Carrier-based planes shot down 69 enemy aircraft, ships' gunfire accounted for 3 more, while 2 were destroyed in suicide dives on the carrier BUNKER HILL. This ship was badly damaged, and 373 of her personnel were killed, with 19 missing.

The fast carriers moved northward on 12 May and launched additional air strikes against Kyushu airfields on 13-14 May. Few planes were found and virtually no air opposition was encountered over the fields. On the morning of the 14th, however, the enemy managed to launch a force of 26 planes against the ships of the task force. Of these 6 were shot down by ships' gunfire and 19 by combat air patrol; the remaining plane was destroyed in a damaging suicide crash on ENTERPRISE.

On 24 May the fast carriers launched a clean-up sweep by 98 planes against airfields in southern Kyushu. Except on Kanoya airfield little activity was found, and it was evident that the previous strikes against this area had been very effective. The score for the day was 84 enemy planes destroyed, while our losses were confined to 3 planes lost to antiaircraft fire off Kanoya.

On 28 May the late Vice Admiral J. S. McCain relieved Vice Admiral Mitscher as commander of the fast carrier task forces.

On 2-3 June further long-range sweeps were launched against Kyushu, but bad weather impaired their effectiveness. Only 30 enemy planes were destroyed, while our losses were 16. By 4 June the bad weather had developed into a typhoon, and the ships of the task force spent the next 24 hours in attempting to avoid the storm's center. Serious damage to 3 cruisers, 2 carriers, and 1 destroyer resulted.

Operations were resumed on 8 June when a final attack was made on southern Kyushu. It was well executed, but previous raids had so reduced Japanese air strength in this area that only 29 planes could be destroyed. Only 4 of our carrier planes were lost. On 8 and 9 June, cruisers and battleships from Vice Admiral McCain's task force bombarded Okino Daito and Minami Daito to the east of Okinawa. These attacks terminated the supporting action of the fast carrier task force, and on 10 June course was set for Leyte Gulf, where they anchored on 13 June for a period of replenishment and repair.

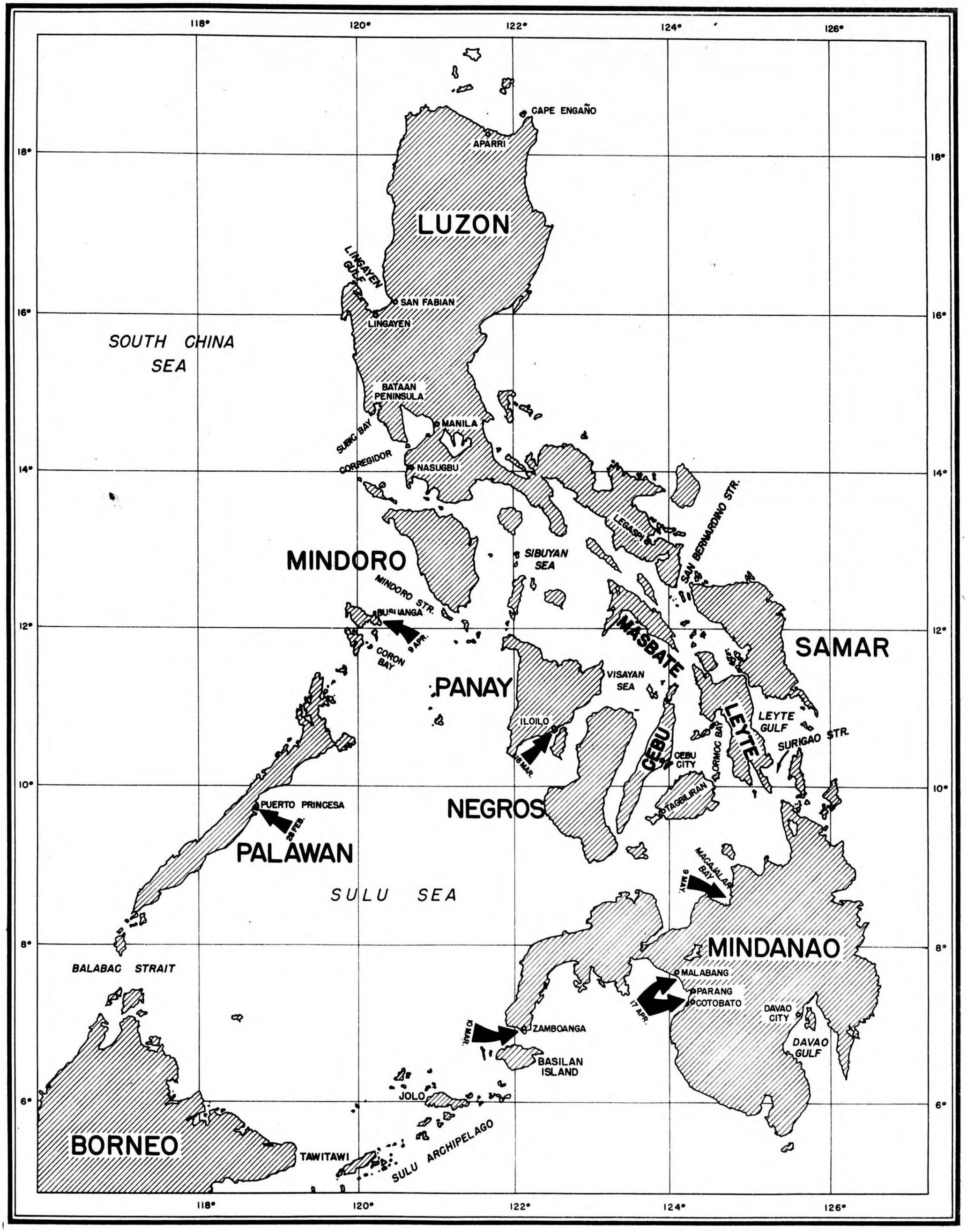
For a period of nearly three months, the fast carriers and their escorts had operated in and near the Okinawa area, giving invaluable support to our occupation forces. During this time the task force had destroyed 2336 enemy planes, while losing 557 of its own aircraft. In addition, widespread damage had been inflicted upon shore installations in Japan, the Nansei Shoto, and upon important units of the Japanese fleet. This remarkable record detracted considerably from the ability of the enemy to oppose our landing forces on Okinawa, thereby contributing notably to our final success.

British Carrier Operations

A fast British carrier task force, under the command of Vice Admiral Rawlings, was assigned to Admiral Spruance's Fifth Fleet to assist in the air support operations for the Okinawa assault. From 26 March to 20 April, and again from 4 May to 25 May, planes from this force rendered valuable service in neutralizing the enemy air installations on Sakishima Gunto, southwest of Okinawa. Carriers of the force were subjected to frequent attacks by suicide planes, but none of them was put out of action. Battleships and cruisers of the force bombarded Miyako Jima on 4 May with satisfactory results.

JOINT OPERATIONS IN THE PHILIPPINES AND BORNEO

The situation in the Philippines on 1 March 1945 found United States forces controlling all of Leyte and Mindoro, most of Samar except a small area in the north, the central part of Luzon from Lingayen Gulf to Manila and certain areas to the south. Isolated resistance was still encountered within a few buildings in Manila and islands in the bay. Guerillas controlled substantial areas of the Visayan Islands and Mindanao. Landings had been made on 28 February at Puerto Princesa on the east coast of Palawan with practically no opposition. Control was quickly extended over adjacent territory, providing airfields from which enemy sea traffic in waters to the westward and southward could be observed and attacked. Japanese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18°
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CAPE ENGAÑO
APARRI
LUZON
LINGAYEN GULF
SAN FABIAN
LINGAYEN
SOUTH CHINA SEA
BATAAN PENINSULA
MANILA
SUBIC BAY
CORREGIDOR
NASUGBU
MINDORO
MINDORO STR.
BUSUANGA
9 APR.
CORON BAY
SIBUYAN SEA
LEGASPI
SAN BERNARDINO STR.
MASBATE
SAMAR
PANAY
VISAYAN SEA
ILOILO
16 MAR.
GEBU
CEBU CITY
TAGBILIRAN
ORMOC BAY
LEYTE
LEYTE GULF
SURIGAO STR.
NEGROS
PUERTO PRINCESA
24 FEB.
PALAWAN
SULU SEA
MACAJALAR BAY
9 MAY.
MINDANAO
BALABAC STRAIT
MALABANG
PARANG
COTOBATO
17 APR.
DAVAO CITY
DAVAO GULF
10 MAR.
ZAMBOANGA
BASILAN ISLAND
JOLO
BORNEO
TAWITAWI
SULU ARCHIPELAGO

concentrations still existed in many key cities of the Philippines and along certain of the routes which our ships had to travel to bring up vitally needed supplies and munitions. In addition, though their general air strength in the area had greatly diminished, the Japanese still controlled a number of airfields which permitted harassing attacks.

A series of operations was undertaken to gain control of the important straits leading into central Philippine waters in order to cut off enemy reinforcements and to set the stage for the ultimate reduction of remaining Japanese strongholds in the Philippines. The capture of Palawan provided an effective barrier on the west and gave us a base for naval and air operations which controlled the Balabac Strait entrance from the South China Sea to the Sulu Sea. At the same time we secured the most direct sea lane to Manila with an amphibious assault on Lubang Island, controlling the Verde Island Passage just south of the capital. The islands of Bruias and Ticao were siezed on 4 March and Romblon and Simara on 12 March. Possession of these islands afforded protection to our shipping through San Bernardino Strait and obviated the need for the roundabout route through Surigao Strait which was still subject to air attacks from the Visayas.

The campaign to complete the reoccupation of the Philippines resolved itself naturally into a series of amphibious landings to seize control of coastal cities and other strongly held Japanese positions. In March three such landings were made by forces of Admiral Thomas C. Kinkaid's Seventh Fleet.

The first of these landings was made on 10 March at Zamboanga, at the southwest tip of Mindanao, in order to obtain control of the passage from the Sulu to the Celebes Sea, secure naval and air facilities with which to compress the Japanese remaining in the central Philippines, and provide a further steppingstone down the Sulu Archipelago for future operations towards Borneo. The attack group was under command of the late Rear Admiral F.B. Royal. Light cruisers and destroyers bombarded enemy positions there for two days while mine sweepers made sure the approaches were clear. On 10 March the 41st Division was put ashore under moderate enemy artillery and mortar fire. The troops quickly overran Zamboanga City and the two airfields nearby, driving the Japanese back into the hills. A further landing was made on Basilan Island on 16 March without enemy opposition.

On 18 March a similar assault force landed at Iloilo on the island of Panay. To clear this island and establish radar and air facilities as well as motor torpedo boat bases, the 40th Division was staged from Lingayen Gulf. Only token opposition to the landings was offered, and naval gunfire preparation was withheld to save the lives of natives. The assault group was commanded by Rear Admiral A. D. Struble. Iloilo City was secured on the 20th; the docks and harbor area were found practically undamaged. Subsequent minor operations had by the end of March virtually cleared Panay and nearby smaller islands.

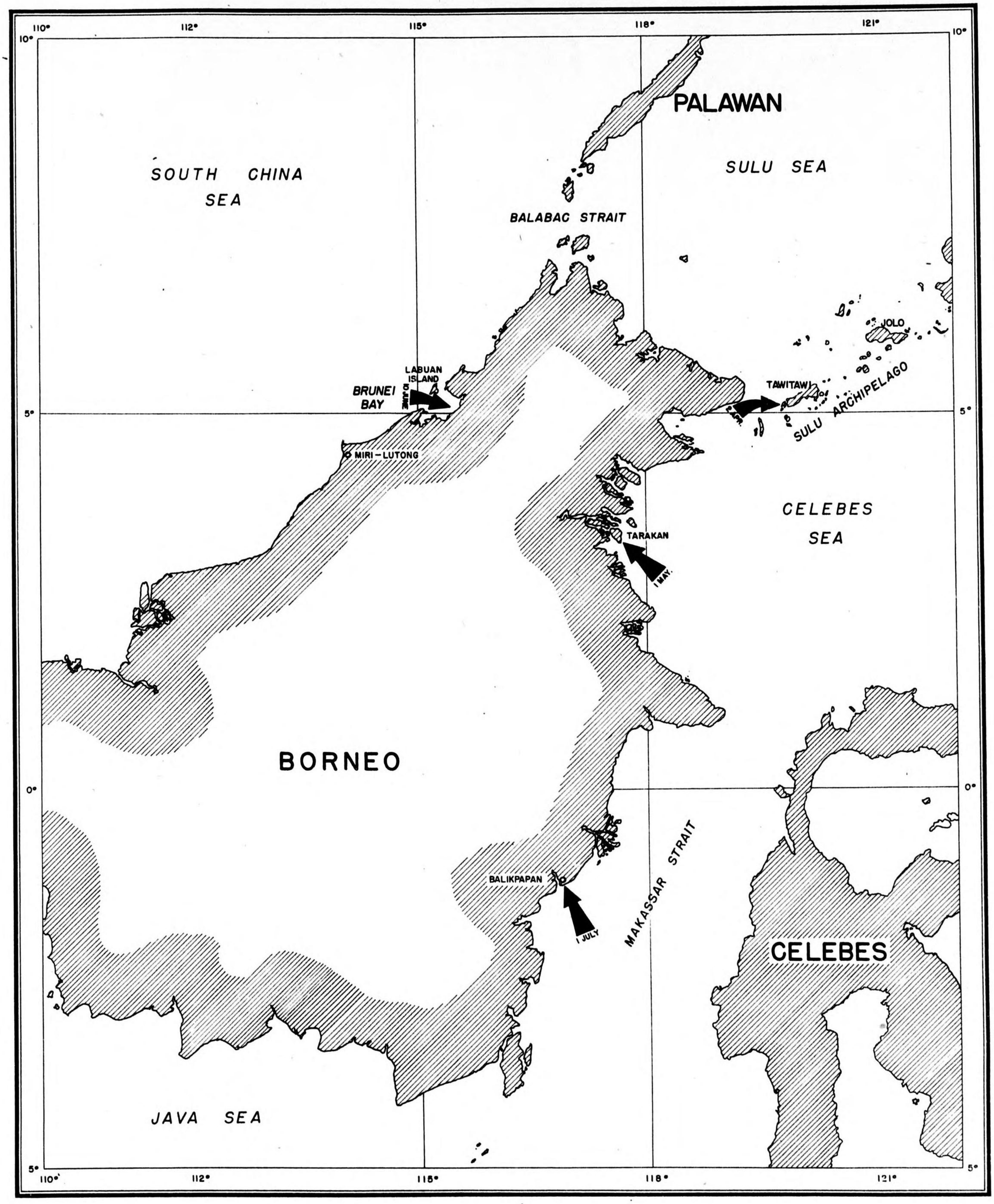
Troops of the Americal Division were used for the landing at Cebu on 26 March. Captain A.T. Sprague, Jr., commanded the attack group, which was supported by a covering group of cruisers and destroyers under the command of Rear Admiral R.S. Berkey. Although the beaches were well organized for defense, the enemy positions there were found abandoned. Cebu City was captured on the next day, but considerable opposition to the advance of the troops inland developed, requiring extensive ground operations to clear the island.

On 17 April, after naval bombardment and air strikes, the X Corps with two divisions landed at Malabang (on Moro Gulf in southern Mindanao) and moved overland toward Davao Gulf against light opposition. Rear Admiral A. G. Noble commanded the naval task group and Rear Admiral R. S. Riggs the cruiser force which covered the landing. Cotobato and its airfield were secured on the next day. A novel feature of this campaign was the successful use of light landing craft on rivers leading inland. Davao Gulf was reached late in April and Davao City was captured on 4 May, followed by further extension of control along the shores of the Gulf. In the meantime, troops also advanced northward and effected a junction on 23 May with a regimental combat team which had been landed at Macajalar on the north coast on 9 May. These operations effectively sealed off enemy garrisons in the interior of the island where they could be mopped up at leisure.

The landing at Malabang was the last large amphibious assault necessary for the reoccupation of the Philippines, but a number of minor landings on the small islands were required in order to eliminate their garrisons. The most important of these were: the crossing of a regimental combat team from Iloilo to Pulupandan Point on northern Negros on 29 March, to assist in clearing that island of the enemy; the landing of another at Legaspi, Luzon, on 1 April to facilitate the clearing of the Bicol Peninsula; and landings by a third such unit at Sanga Sanga in the Tawi Tawi group on 2 April and at Jolo on 8 April. Such landings were generally supported by naval gunfire, as well as by air strikes. Landings were also made at Masbate on 3 April; on Busuanga Island, lying between Mindoro and Palawan, on 9 April; and at Tagbiliran, Bohol Island, on 11 April. Bohol was the only major island in the Philippines on which we had not yet established a firm hold. From this time until the close of hostilities, most naval operations in the Philippines involved small groups transporting and covering American troops and guerillas in shore-to-shore movements. The major units of the Seventh Fleet were occupied with the invasion of Borneo to the south.

The operations against Borneo, which began in May, were designed to deny the enemy the fruits of his conquests in the Netherlands East Indies and his use of the approaches to those areas. These included the capture of Tarakan to obtain its petroleum resources and to provide an airfield for support of the Balikpapan operation; the seizure of Brunei Bay to establish an advance fleet base and protect resources in that area; and the occupation of Balikpapan to establish naval air and logistic facilities and to conserve petroleum installations there. Vice Admiral D. E. Barbey was designated the commander of the Borneo attack force.

The first Borneo operation was directed against the island of Tarakan, approximately 185 miles southwest of Tawi Tawi, to overcome some 3000 Japanese that were estimated to be on the island, and to develop facilities for future operations. Australian and American cruisers and destroyers began shelling the island on 27 April and continued through 1 May. At the same time the mine-sweeping group cleared the necessary approaches. Numerous neutralizing air raids had been made on airfields in the area. On 1 May the attack group under Rear Admiral Royal moved in. Units of the 9th Australian Division were landed on schedule with only small arms opposition.


110°
112°
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121°
10°
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SOUTH CHINA SEA
PALAWAN
SULU SEA
BALABAC STRAIT
JOLO
LABUAN ISLAND
1 JUNE
BRUNEI BAY
TAWITAWI
SULU ARCHIPELAGO
MIRI – LUTONG
CELEBES SEA
TARAKAN
1 MAY
BORNEO
BALIKPAPAN
1 JULY
MAKASSAR STRAIT
CELEBES
JAVA SEA

In the second Borneo operation the 9th Australian Division, reinforced, was transported from Morotai to the Brunei Bay area of northern Borneo. Three separate landings were made at Labuan Island and on the mainland at Bintang and Cape Polompong. Air support was furnished by the United States Thirteenth Air Force and the Australian First Tactical Air Force. For ten days preceding the target date air strikes neutralized enemy air-fields and harassed troop movements and shipping in Borneo, with emphasis on Brunei Bay targets the last three days. Mine sweeping began on 7 June under the protection of Rear Admiral Berkey's covering force of cruisers and destroyers. The mine sweeper SALUTE struck a mine and sank with many casualties.

Beginning on 9 June a distant covering group of cruisers and destroyers under Rear Admiral Riggs patrolled 50 miles west of Brunei Bay to prevent enemy surface interference.

The attack group commander was again Rear Admiral Royal. On 10 June, after an hour of heavy bombardment which caused the enemy to retreat from the beaches, the assault waves landed without opposition and moved inland against slight resistance.

When the landings had been successfully executed and one of the two Japanese cruisers in the area had been sunk off the Malay coast by a British submarine, the distant cover group was withdrawn on 11 June. Throughout the operation motor torpedo boats rendered valuable assistance strafing shore targets and patrolling the area. One hundred twenty miles to the south at Miri-Lutong a supplementary landing was made by combined forces after a week of mine sweeping in which 458 mines were swept.

The operations against Balikpapan were carried out under Rear Admiral Noble as commander of the attack group, and Rear Admiral Riggs as commande of the cruiser covering group. In preparation for the attack heavy air strikes had been made for a month using the Army, Navy and Australian air forces with as many as 100 sorties a day. The target date was set for 1 July. Sixteen days prior to this, mine sweeping and underwater demolition activities began with covering fire from cruisers and destroyers. This was met with intense reaction from enemy coastal guns. Three mine sweepers were damaged by enemy fire and three were sunk and one damaged by exploding mines. There was some doubt as to whether the target date could be met, but finally on 24 June destroyers were able to get close enough inshore to smother the enemy guns before the landing. An escort carrier group under the late Rear Admiral W. D. Sample provided day and night air cover, since land planes were based too far distant to assure their presence in the case of bad weather.

The attack force consisted of the largest number of ships used in the Southwest Pacific area since the Lingayen landings. In the cover and carrier groups were 9 cruisers (including 2 Australian and 1 Dutch), 3 escort carriers and destroyer escorts. The attack group was of comparable scale. After an intense two-hour bombardment on 1 July, the assault waves moved ashore. In spite of enemy artillery, mortar and small arms fire, seventeen assault waves landed without a single casualty. Stiffening resistance was met as the troops progressed inland and fire support was rendered by cruisers both day and night. This support continued through 7 July. A further landing at Cape Penajam was made without casualties on 5 July. There was no surface or subsurface interference with the attacking forces, and only four light harassing attacks were made by enemy planes with no damage to our ships or personnel.

While the period covered by this report witnessed no single naval operation of the size and scope of the Leyte or Lingayen landings, the numerous amphibious operations in which the Seventh Fleet participated contributed materially to the consolidation of our positions in the Philippines and the wresting of vital resources from the enemy in Borneo.

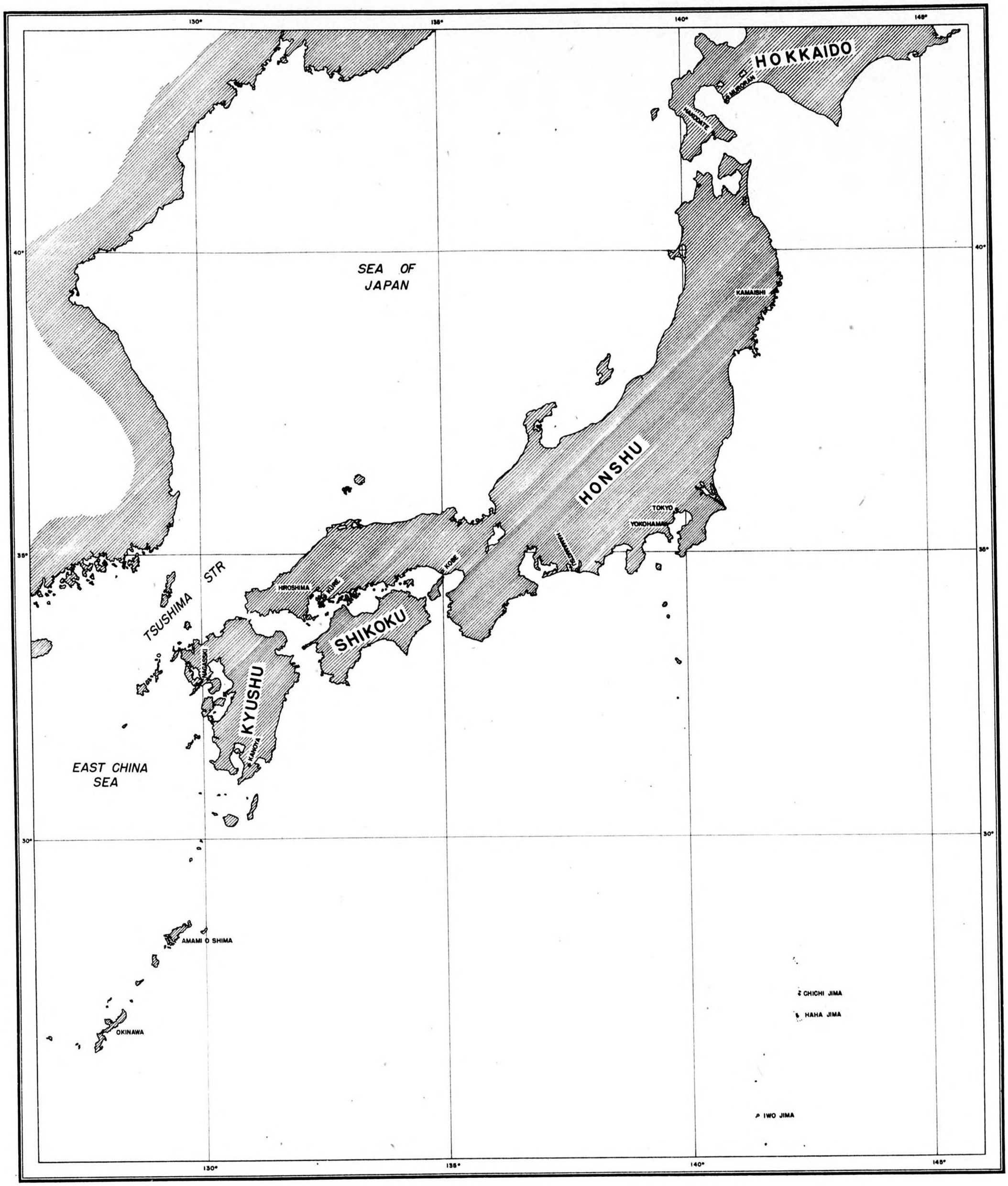
These numerous amphibious landings were conducted on short notice and in many instances were so closely spaced that for all practical purposes they were concurrent operations. Their successful completion on schedule reflects great credit on the commanders responsible for their planning and execution. In addition to the landing operations, unremitting and constantly mounting pressure was maintained on the enemy by Seventh Fleet submarines, aircraft, and motor torpedo boats, which by June had brought to a virtual standstill all enemy sea-borne and coastal transport in the Southwest Pacific area.

Of equal importance with the offensive operations mentioned above were the large movements of men and supplies into the Philippines, and the extensive redeployment of men and equipment within the area in preparation for the staging of the projected landings on the Japanese home islands. The control and protection of the large number of ships employed for this task were successfully accomplished without loss from enemy action, although a considerable strain was placed on the available facilities and forces.

With the cessation of hostilities, the Commander Seventh Fleet was relieved of all responsibilities as senior naval officer in the Southwest Pacific area and with a reconstituted Seventh Fleet assigned the tasks of occupying and controlling the waters of the Yellow Sea, Gulf of Pohai, the coastal waters of China south to twenty degrees north and the navigable portion of the Yangtze River; the landing and establishing of United States Army troops in Korea, and United States Marines in North China; the evacuation of ex-prisoners of war and internees; the support of operations of United States forces in the China Theater; the clearance of mine fields and opening of ports in the Seventh Fleet area; and the routing and protection of friendly shipping. The planning for and execution of these tasks in the initial stages were necessarily accomplished in great haste and with certain improvisations. However, the new organization has been perfected rapidly with attendant uniformly satisfactory progress.

FAST CARRIER FORCE PRE-INVASION OPERATIONS AGAINST JAPAN

After nearly three weeks of replenishment in Leyte Gulf, subsequent to their support of the Okinawa operation, the fast carrier forces of Admiral Halsey's Third Fleet, comprising the greatest mass of sea power ever assembled, proceeded northward on 1 July toward Japan. This huge armada was to complete the destruction of the Japanese fleet, conduct a pre-invasion campaign of destruction against every industry and resource contributing to Japan's ability to wage war, and maintain maximum pressure on the Japanese in order to lower their will to fight.


130°
135°
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SEA OF JAPAN
HOKKAIDO
MURORAN
HAKODATE
KAMAISHI
HONSHU
TOKYO
YOKOHAMA
NAGOYA
KOBE
HIROSHIMA
KURE
SHIKOKU
KYUSHU
KAGOSHIMA
KANOYA
TSUSHIMA STR
EAST CHINA SEA
AMAMI O SHIMA
OKINAWA
CHICHI JIMA
HAHA JIMA
IWO JIMA

On 10 July the force arrived in the launching area, 170 miles southeast of Tokyo. On that day strikes were made against airfields and industrial plants in the Tokyo area; 72 planes were destroyed on the ground and extensive damage inflicted on other targets. No attempt was made to conceal the location of the fleet but, in spite of this, little enemy air opposition was encountered.

Admiral Halsey then moved north to attack northern Honshu and southern Hokkaido on 14-15 July. Aerial strikes dealt a severe blow to critical water transportation facilities between Hokkaido and Honshu, when 5 railroad ferries were sunk and 4 others damaged. Again, little air opposition was encountered by our planes. Simultaneously with these air strikes heavy units of the force shelled Kamaishi and Muroran, causing damage to the steel mills and oil installations in those cities.

On 17 July the Third Fleet moved south and was joined by units of the British Pacific Fleet under the command of Vice Admiral Rawlings. Admiral Halsey was in over-all command and, on that day, ordered the first combined American-British bombardment of the Japanese homeland. Battleships fired 2000 tons of shells into the coastal area northeast of Tokyo and encountered no enemy opposition during the operation.

On the following day American and British carrier-based planes struck at enemy fleet units concealed at the Yokosuka naval base in Tokyo Bay. The NAGATO, one of two remaining Japanese battleships, was badly damaged. Numerous shore installations and transportation facilities were also hit.

On 24 and 25 July the combined British and American naval forces launched extensive air strikes against targets in the Inland Sea area. The planes concentrated on the major fleet units still afloat at the Kure naval base. Six major ships were badly damaged and, in all, 22 naval units totalling 258,000 tons were either sunk or put out of action, sounding the death knell of Japanese sea power. Intensive antiaircraft fire was met, and for the first time the enemy mounted aggressive, air-borne opposition. A total of 113 enemy aircraft were destroyed during the two-day attack, while only 12 British and American planes were lost.

A follow-up attack was made on Kure and the Inland Sea area by the carrier-based planes on 28 July. Reconnaissance indicated that the enemy fleet units had been effectively reduced by the previous strikes, but additional bombs were dropped for good measure. Extensive damage was also done to merchant shipping and to vital shore installations, particularly railroad facilities. Strong air opposition was encountered once more, but our aircraft knocked down 21 Japanese planes air-borne and destroyed 123 on the ground for a total of 144 for the day, while our forces lost 36.

On 30 July the Tokyo area was harassed for the third time in three weeks by aircraft from the fast carriers, our airmen destroying 121 enemy planes during the day and inflicting severe damage on lighter enemy fleet units found in the region. Meanwhile, the fast battleships were shelling the port of Hamamatsu on the east coast of central Honshu, spreading havoc in that area.

For the first eight days of August the harassed Japanese homeland was given a temporary respite while Admiral Halsey's fleet was riding out a heavy typhoon. On 9 and 10 August, however, the offensive was renewed with another air attack on northern Honshu. It was known that the enemy had withdrawn a large part of his air force to fields in this area, and the strikes were designed to destroy as many of them as possible. The plan was partially successful, for during the two days 397 enemy planes were destroyed and 320 others damaged. Almost no air-borne opposition was encountered, and all but 10 of the destroyed planes were caught on the ground. The British and Americans lost only 34 planes. While these air strikes were in progress, battleships from the Third Fleet bombarded the coastal city of Kamaishi for a second time, inflicting further heavy damage on the steel mills in the area.

Admiral Halsey's final blow was delivered against Tokyo on 13 August. Airfields and other military installations were the primary targets, with 46 planes being destroyed on the ground. The Japanese tried to get through to the surface ships, but 21 planes were shot down in the futile attempt. The strong protective screen around the fleet was too much for the fading enemy air strength.

On 15 August the order of Fleet Admiral Nimitz to "cease fire" was received too late to stop the first of the day's air strikes planned for Tokyo. It knocked 30 enemy planes out of the air and destroyed 10 more on the ground. The second strike had also been launched, but it was recalled in time; its pilots were ordered to jettison their bombs and return to their carriers.

Since 10 July the forces under Admiral Halsey's command had destroyed or damaged 2804 enemy planes, sunk or damaged 148 Japanese combat ships, sunk or damaged 1598 enemy merchant ships, destroyed 195 locomotives, and damaged 109 more. In addition, heavy blows had been struck at industrial targets and war industries effectively supplementing the bombing by B-29's. This impressive record speaks for itself and helps to explain the sudden collapse of Japan's will to resist. Naval air power, acting in close conjunction with naval surface power and Army bombers, had beaten enemy land-based air power besides inflicting critical losses on naval ships and seriously damaging many shore targets.

CONTRIBUTORY OPERATIONS

Although somewhat obscured by the more spectacular amphibious assaults and carrier force operations which marked our major advances toward the Japanese homeland, there were many other vital and necessary activities which by their nature had more the form of a continuous pressure than of major individual operations against the enemy. Outstanding parts were played by the submarines (whose achievements are summarized in a later chapter), by the land-based air forces, and, to a lesser extent, by the Northern Pacific forces.

Northern Pacific Forces

Although usually hampered by foul weather, which ran the gamut of fogs, rain, gales, snow, and floating ice fields, naval and air forces of the Northern Pacific continued to exert pressure against the Japanese-held northern Kurile Islands, posing a constant threat to the enemy's northern flank.

Army and Navy aircraft flew such searches as weather permitted, bombed and rocketed Japanese shipping and bases in the Kuriles several times each month, and maintained photographic coverage to detect any increase in enemy installations. Light naval task forces, usually consisting of 3 of the older cruisers and from 5 to 7 destroyers, bombarded coastal positions in the Kuriles once in March, once in May, twice in June, and once in July, and even penetrated the Okhotsk Sea in search of enemy shipping. On 11-12 August cruisers and destroyers commanded by Rear Admiral J. H. Brown, Jr., combining a high-speed antishipping sweep on both sides of the central and northern Kuriles with bombardments of enemy shore installations, intercepted two enemy convoys and destroyed 10 trawlers and a subchaser.

Land-Based Air Forces

With the exception of the B-29's of the Twentieth Air Force, the principal missions of land-based air forces of the Pacific Ocean Areas were support of the Iwo Jima and Okinawa operations, attacks on Japanese shipping, and continued neutralization of by-passed enemy bases.

During the period of this report, the greatest expansion of land-based air forces took place in the Army's Twentieth Air Force. Airfields in the Marianas were constantly increased to accommodate greater numbers of B-29's. When Iwo Jima became available for emergency landings, greater bomb loads were carried safely, and fighter support became possible. From that time until the end of hostilities, strategic bombing against vital Japanese industries and cities was constantly stepped up, coordinating with bombing by fleet planes, and many thousands of mines were dropped in Japan's harbors and sea lanes. Destruction resulting from these raids, and the final blows dealt with two powerful atomic bombs, undoubtedly were a major factor in forcing Japanese capitulation.

Of less spectacular nature, yet also important in their effect on the war, were the operations of other land-based air forces against enemy shipping and by-passed islands in the Pacific. With the capture and development of airfields on Okinawa, Army and Marine Corps bombers and fighters of the Tactical Air Force and Fleet Air Wings One and Eighteen were brought within easy range of the China coast, Korea, Shikoku, Kyushu, and even Honshu, and were enabled to bring Japanese shipping in these waters to a virtual standstill. Okinawa, as did Iwo Jima, returned rich dividends for the investment involved in its capture by hastening the war's end.

Support of the Iwo Jima and Okinawa campaigns, routine searches, and constant neutralizing attacks against the many islands of the Pacific still in the hands of enemy garrisons, were tasks which absorbed much of the time and effort of Army, Navy, and Marine land-based aviators throughout the Pacific, and were well coordinated with the air operations of the fast carrier task forces in the advance toward Japan.

The last night of the war saw the first and only offensive mission carried out from Okinawa against Japan by the B-29's of the recently deployed Eighth Air Force, with their target the industrial city of Kumagaya in northern Honshu.

Antisubmarine Warfare in the Pacific

By 1 March Japanese submarines had been nearly driven out of the central Pacific by our countermeasures. Only an occasional supply or reconnaissance submarine ventured into this area. Near the beginning of March Japanese submarines were encountered near Iwo Jima, and during the Okinawa campaign the Japanese made their main submarine effort around that island. After the fall of Okinawa, most of the Japanese submarines were drawn back to the homeland to aid in the defense against our expected invasion. In addition to these anti-invasion employments, the enemy was building and using a number of cargo submarines in an attempt to supply by-passed positions. A considerable number of his submarines were also employed for antisubmarine work. Our submarines made many reports of sighting hostile periscopes and torpedo wakes. A number of German U-boats continued to operate out of Penang, even after the surrender of Germany.

In the main the Japanese submarines were ineffective, and our antisubmarine measures, bolstered by the advanced techniques used in the Atlantic, took heavy toll. In return we suffered very light losses, with the exception of the sinking--with heavy loss of life--of the heavy cruiser INDIANAPOLIS, probably by an enemy submarine, on 30 July. In March and April antisubmarine measures executed by screening vessels, by planes from land bases and carriers, and by regular hunter-killer groups, effectively checked the Japanese submarines and accounted for several kills. It is interesting to note that several of these kills were made by our own submarines. Through May, June, July, and August the Japanese put an increased underwater fleet around Okinawa and managed to cause some damage, including the sinking of a destroyer escort in July. For these operations the Japanese were building and operating large numbers of midget submarines and human torpedoes. It is believed that the destroyer escort mentioned above was sunk by ramming a human torpedo. The Japanese submarine effort was rapidly descending to the suicide level; but by the end of the war it was well under control, as the Japanese shipyards were taking heavy damage from the air and more escorts were being released from the Atlantic after the surrender of Germany.

THE SURRENDER AND OCCUPATION OF JAPAN

With the reduction of Okinawa in June 1945, the campaign against the Japanese Empire was concentrated on the home islands, with intensified bombing by the Army Strategic Air Force from the Marianas, a rapid acceleration of attacks by the Okinawa-based Tactical Air Force, and far-ranging air attacks and bombardments by the Third Fleet. These operations were climaxed by the employment of the atomic bomb against Hiroshima and Nagasaki and, almost simultaneously, Russia's entry into the war to open a strong three-pronged attack on Japanese forces in Manchuria and Korea.

On 14 August Japan declared her acceptance of the terms of the Potsdam Proclamation, which involved complete disarmament and surrender of all military forces and equipment as set forth by the heads of the states of Great Britain, the United States, and China. The instrument of surrender was presented to Japanese representatives by General of the Army MacArthur at Manila on 19 August 1945. This instrument provided that Commander in Chief, Army Forces, Pacific should receive the surrender of the Imperial General Headquarters, its senior commanders, and all ground, sea, air, and auxiliary forces in the main islands of Japan, minor islands adjacent thereto, Korea south of 38° North latitude, and the Philippines; whereas the Commander in Chief, U.S. Pacific Fleet was designated to receive the surrender of the senior Japanese commanders and of all ground, sea, air and auxiliary forces in the Japanese mandated islands, Ryukyus, Bonins, and other Pacific islands.

For this purpose the Third and Fifth Fleets, which had heretofore been alternative organizational titles for much the same assemblage of ships, were now each assigned approximately equal forces and became separate entities. Correlating the fleet assignments with the various zones of responsibility assigned the various Army commands, Commander in Chief, U.S. Pacific Fleet assigned naval responsibility to the Third Fleet for the zone of the Eighth Army (to the northward and eastward of a line crossing Honshu west of Yokohama and Tokyo); to the Fifth Fleet for the zone of the Sixth Army (the remainder of the Japanese home islands to the southward and westward of that line); to the Seventh Fleet for that of the XXIV Corps (Korea south of 38° North latitude), as well as any operations which might be carried out in Chinese waters; and to the Commander, North Pacific, local responsibility for northern Honshu and for Hokkaido.

Similarly, the three amphibious forces were coordinated with the respective fleets and armies; the Third Amphibious Force under the Commander Third Fleet for operations of the Eighth Army; the Fifth under the Commander Fifth Fleet for operations of the Sixth Army; and the Seventh under the Commander Seventh Fleet for operations of the XXIV Corps and of any troops which might require transportation to China. B-day (the date designated by Commander in Chief, Army Forces, Pacific for the initiation of operations) was proclaimed as 15 August 1945. At that time orders were issued to the U.S. Pacific Fleet and to other forces under the command of Fleet Admiral Nimitz to cease offensive operations against the Japanese.

On 28 August a small force of our Army Air Force technicians landed at Atsugi Airfield, 14 miles southwest of Tokyo, to prepare the way for a subsequent large-scale air-borne landing and for the landing at the Yokosuka naval base of Marine and Navy units. Originally it had been planned that this preliminary air-borne force should land at Atsugi on the 26th, and that General of the Army MacArthur should land there personally on the 28th to discuss occupation arrangements with members of the Imperial General Staff; simultaneously, Marine and Navy units should land at the Yokosuka naval base below Tokyo, as well as at points in Sagami Bay.

The beginning of the occupation, however, was delayed 48 hours by a typhoon, which also caused postponement from 31 August until 2 September of signing of the formal instrument of surrender, a copy of which Japanese emissaries had brought back from Manila. Nevertheless, on the morning of 27 August an advanced unit of the Third Fleet, guided by a group of Japanese naval officers, harbor pilots, and interpreters, and provided with maps and charts, moved into Sagami Bay, which is just southwest of Tokyo Bay.

On 29 August Fleet Admiral Nimitz arrived from Guam to break his flag in the battleship SOUTH DAKOTA. Aboard the MISSOURI, Admiral Halsey, Commander Third Fleet, entered Tokyo Bay and anchored off Yokosuka naval base. The following day General of the Army MacArthur arrived at Atsugi Airfield to set up General Headquarters at Yokohama. With him came an aerial armada of troop-carrying planes. At the same time about 10,000 Marines and naval personnel landed and took possession of the Yokosuka base and neighboring fortress islands. Working toward a junction, the two forces deployed. The last day of August many American prisoners of war were freed and the area of occupation was expanded; new forces came ashore from transports, some groups reaching the outskirts of Tokyo.

The Japanese naval base of Tateyama, across the bay from Yokosuka, was occupied by Marines on 1 September, as American control spread smoothly and swiftly throughout the whole area south of the capital.

The formal surrender of the Japanese Imperial Government, the Japanese Imperial General Headquarters, and all Japanese and Japanese-controlled armed forces wherever located, was signed on board the battleship MISSOURI in Tokyo Bay at 0908 on 2 September 1945. General of the Army MacArthur signed as Supreme Commander for the Allied Powers, and Fleet Admiral Nimitz signed as representative for the United States.

Even before the formal surrender of the Japanese government, the Japanese commander of Mille Atoll in the Marshall Islands had surrendered on 22 August aboard the destroyer escort LEVY, Mille being the first of the many Japanese island possessions to capitulate as a result of the Emperor's acceptance of the Potsdam Proclamation. Nine days later, on 31 August, on board the destroyer BAGLEY, Rear Admiral F.E.M. Whiting received the surrender of Marcus Island.

The largest-scale island surrender, however, came shortly after the senior Japanese Army and Navy officers at Truk Atoll had received word of the capitulation of the Imperial government. By the act of signing the terms of the surrender, the Commander of the 31st Imperial Japanese Army committed the following islands under his control to laying down their arms and awaiting United States occupation: Truk, Wake, the Palaus, Mortlock, Mille, Ponape, Kusaie, Jaluit, Maleolap, Wotje, Enderby, Mereyon, Rota and Pagan. The affixing of the signature of the Commander of the Imperial Japanese Fourth Fleet further entailed the surrender of the Japanese Navy-controlled bases of Namorik, Nauru, and Ocean. In the case of both Army and Navy surrenders, the actual capitulation by individual islands was effectuated over a period of several days following; however, their submission became only a matter of time after the Truk ceremony.

It was estimated that a total of 130,000 Japanese military personnel were involved in the Truk surrender--on Truk itself a total of 49,000 military and 9,000 civilians; on Babelthuap in the Palaus, 27,000 military and 12,000 civilians; on Ponape 8,900; and additional large groups on Rota and Yap, with the remainder spread thinly throughout the Caroline and Marianas Islands. On 3 September the surrender of the Bonin Islands was received, and four days later the capitulation of 105,000 Japanese Army and Navy forces in some 60 islands of the Ryukyu group was signed at General Stilwell's Tenth Army Headquarters on Okinawa.

Five days after the formal Japanese surrender, General of the Army MacArthur entered Tokyo, and his troops raised the United States flag over the American Embassy. It was the same flag which had flown over Washington, D.C., on 7 December 1941; which had been hoisted over Rome and Berlin; and which had been flown on the battleship MISSOURI while the Japanese signed their surrender there.

Our access to the Japanese homeland gave opportunity at last for securing reliable information as to conditions there, both by our own observation and by conversation with Japanese officials who no longer had the incentive or the ability to deceive either their enemies or their own people. It was at once apparent that while the damage to their cities and production centers by strategic bombing was fully as great as photographic reconnaissance had indicated, the strangulation from our less obvious but relentlessly effective surface and submarine blockade and from our carrier-based air attacks had been a decisive factor in the enemy's collapse. Their merchant marine had been reduced to a fraction of its former size; of the few remaining ships, mostly small ones, only half were still operable. Their food situation was critical, and their remaining resources in fuel and all strategic materials were not less so. It had been known that their few remaining carriers and heavy naval vessels had been damaged, but it appeared that the fury of our carrier strikes had forced them to withdraw all but a handful of men from these ships, practically abandoning them.

Never before in the history of war had there been a more convincing example of the effectiveness of sea power than when a well-armed, highly efficient and undefeated army of over a million men surrendered their homeland unconditionally to the invader without even token resistance.

True, the devastation already wrought by past bombings, as well as the terrible demonstration of power by the first atomic bombs, augured nothing less for the Japanese than total extinction; yet without sea power there would have been no possession of Saipan, Iwo Jima and Okinawa from which to launch these bombings. True, the Japanese homeland might have been taken by assault in one final amphibious operation of tremendous magnitude, yet without sea power such an assault could not have been attempted.

III LOGISTICS AND BASES -- PACIFIC

Before the conclusion of the war, plans were maturing for the invasion and occupation of the main Japanese islands. Two major operations were projected: the first, with the code name of "Olympic", against southern Kyushu; after consolidation there, the next--"Coronet"--into the Tokyo plain area which is the industrial heart of Japan. The amphibious parts of these operations--involving the preparation of landing beaches by mine sweeping, underwater demolition teams, bombardment and bombing; the transportation of the assault troops; and the initial landing for the establishment of firmly held beachheads--were to have been the responsibility of Fleet Admiral Nimitz.

The large-scale bombardments and bombings of the Third Fleet that began on 10 July were actually in preparation for operation "Olympic". In mid-August, as the war ended, the United States Navy had in the Pacific 90 per cent of its combatant vessels of submarine size or larger and 42 per cent of its combatant aircraft. These ships, aircraft, support auxiliareis and landing craft included:

Battleships	23
Aircraft carriers	26
Escort carriers	64
Cruisers	52
Destroyers	323
Escort vessels	298
Submarines	181
Mine craft	160
Auxiliary vessels	1,060
Large landing craft	2,783
Combat aircraft	14,847
Transport, training and utility aircraft	1,286

All six Marine divisions, or 100 per cent of the Marine Corps combat strength, were also available for Pacific operations. The "Olympic" and "Coronet" operations as planned would have been the largest amphibious operations in history. While the Third Fleet provided strategic cover and support for the amphibious forces making the invasion, the Fifth Fleet was to have executed the amphibious phases of the invasions of Kyushu and Honshu by transporting their troops and equipment to the attack position on shore. By the application of naval force they would have established the necessary ground troops in positions favorable for further maneuvers to complete the destruction of Japanese ground forces.

In discharging its responsibilities for the amphibious phase of the Kyushu or "Olympic" operation the United States Navy would have employed 3033 combatant and noncombatant vessels of a size larger than personnel landing boats. Although the application of our sea power in its various forms proved sufficient to bring Japan to terms without the necessity of invading her home islands, the possibility of invasion on the scale contemplated indicates the amazing progress in matters of supply and support that had been made in less than four years of war.

In this evolution advance bases have play ed a vital role. The 1940 Navy had no properly equipped advance bases other than Pearl Harbor. More than 400 have since been established in the Atlantic and Pacific areas in order to maintain the fleet and air forces in the forward areas where there was fighting to be done. As we progressed across the Pacific, islands captured in one amphibious operation were converted into bases which became spring boards for the next advance. These bases were set up for various purposes depending upon the next operation. At first they were mainly air bases for the support of bombers and for the use of protective fighters. This gradually changed to the establishment of staging bases for the anchoring, fueling and refitting of armadas of transports and cargo ships, and for replenishing mobile support squadrons which actually accompanied the combat forces and serviced them at sea. Further advances made necessary the development of repair and refitting bases for large amphibious forces. As we progressed further and further across the Pacific, it became necessary to set up main repair bases for the maintenance, repair and servicing of larger fleet units. The first of such large bases was set up at Espiritu Santo in the New Hebrides and was followed by a main repair base at Manus in the Admiralty Islands. It was then determined that so long as ships were in condition to function in the battle line, minor battle damage and derangements should be rectified in the forward area, thus eliminating the necessity of returning ships to continental bases or even to the Hawaiian Islands.

These conditions were recognized and steps were taken to support the entire fleet in the Marianas, Philippines and Okinawa areas. A very large base, capable of supporting one third of the Pacific Fleet, was set up at Guam; another large base was established at Leyte-Samar; a third was in process of construction at Okinawa when the war ended. Each of these bases was designed to dock ships of various sizes, some being able to take ships of the heaviest tonnage. All of the bases could repair major battle damage to hull and equipment. Facilities were established ashore with piers, roads and machine shops, in large measure duplicating the type of facilities found at any of our navy yards. There was also provided the replenishment storage necessary to restock every type of vessel with fuel, ammunition and consumable supplies as well as food. The stocks currently on hand at Guam would have filled a train 120 miles long. The magnitude of the fuel supply alone is indicated by the total of 25,026,000 barrels of bulk fuel which was shipped to the Pacific in June 1945 for military purposes. At Guam alone one million gallons of aviation gas were used daily. As these bases were gradually pushed forward, assault forces were brought two to five days' steaming nearer the enemy. By proper selection of the strategic points necessary to accomplish the advance, we were able to by-pass and ignore many bases established by the Japanese which they could no longer use because of their loss of command of the sea.

But for this chain of advance bases the fleet could not have operated in the western reaches of the Pacific without the necessity for many more ships and planes than it actually had. A base to supply or repair a fleet 5000 miles closer to the enemy multiplies the power which can be maintained constantly against him and greatly lessens the problems of supply and repair. The scope of the advance base program is indicated by the fact that the personnel assigned directly to it aggregated almost one fifth of the entire personnel of the Navy--over half a million men, including almost 200,000 Seabees. In the concluding months of the war 82 per cent of the Seabees were in the Pacific, the vast majority of them at work on bases. In the Naval

Supply Depot at Guam there were 93 miles of road. At Okinawa alone there were more than fifty naval construction battalions building roads, supply areas, airfields and fleet facilities for what would have been one of the gigantic staging areas for the final invasion of Japan.

In the period covered by this report almost two million measurement tons of materiel were shipped in connection with the advance base program.

An essential element in the facilities of our advance bases were floating drydocks, which were capable of receiving vessels ranging from small craft to the battleship MISSOURI. One hundred fifty two of these docks were produced. They proved their special value in the speed with which damaged ships could be returned to combat.

As our advance came nearer to the Japanese islands, the rear areas which had been the scene of combat operations in earlier months were utilized for logistic support. In the South Pacific, for example, more than 400 ships were staged for the Okinawa operation. They received varied replenishment services, including routine and emergency overhaul as required. Approximately 100,000 officers and men were staged from this area alone for the Okinawa campaign, including four Army and Marine combat divisions plus certain headquarters and corps troops and various Army and Navy service units. Concurrently with the movement of troops large quantities of combat equipment and necessary materiel were transferred forward, thus contributing automatically to the roll-up of the South Pacific area. Similarly in the Southwest Pacific area Army service troops were moved with their equipment from the New Guinea area to the Philippines in order to prepare staging facilities for troops deployed from the European Theater. The roll-up was similarly continued and progress made in reducing our installations in Australia and New Guinea.

This vast deployment of our forces throughout the Pacific required careful planning not only at the front but also in the United States. During the last six months of the war the problem of materiel distribution became of primary importance, and throughout this period our system of logistic support had to be constantly modified to meet the rapidly changing tactical conditions. War production had shifted the emphasis from procurement to distribution; that is, while production was still of high importance, a still greater problem was that of getting well balanced materiel support to designated positions at certain fixed times. Put another way, motion, not size, had become the important factor. It was, nevertheless, essential in insuring the uninterrupted flow of materiel through the pipe-line of supply to our forces overseas that the reservoir within the United States which kept these pipe-lines full did not become too large. On 1 June 1945 a set of standards for Navy inventory control was promulgated which stressed a balance between procurement and inventory. The attainment of these standards was of primary importance to efficient distribution of materiel within the United States, and particularly on the west coast, which was our major base for the logistic support of the Pacific Fleet.

It has always been a cardinal principle of our Pacific logistic support policy that the west coast be utilized to its maximum capacity. There are two reasons for this: the source of supply must be as close to the point of requirement as possible so that inventories at advance bases may be kept to a minimum; secondly, greater utilization of shipping can be achieved by the shortest haul possible. The integration of these two elements, supply and shipping, was a major task in 1945.

When the collapse of Germany was imminent, a review in conjunction with the Army of our policy of maximum west coast utilization was necessary. It was concluded that approximately 68 per cent of the Navy's predicted logistic requirements would have to be moved from the west coast to bases in the Marianas, Philippines and Okinawa, as well as to the mobile logistic support forces--Service Squadrons Six and Ten. Bases in the Admiralties, New Guinea, and the Hawaiian Sea Frontier, since they were in nonoperational areas, could be supported from the east and Gulf coasts. In May, after a joint Army-Navy study, a ceiling was set on the amount of materiel which could be shipped to the Pacific from the west coast by the Army and Navy; this ceiling was based on the estimated capacity of the six major west coast ports. By detailed study of the capacities of port facilities and supply activities, as well as a complete analysis of the types of commodities shipped by the Navy since the first of the year, Commander, Western Sea Frontier (who coordinated naval logistic matters on the west coast) reallocated the Navy's share of west coast capacity among the various ports. Estimated tonnages were set for each port, both by types of commodity and by overseas destination to be served.

In the establishment and execution of this planned employment of west coast facillties, Commander, Western Sea Frontier provided one of the major links between the distribution systems of the continental United States and Pacific Theater. Since the flow of materiel and the ships to carry it are immobilized when more ships have sailed to a desination than that destination can receive, the planned employment of west coast ports was a matter of vital concern.

This was facilitated by the expansion of the functions of the Western Sea Frontier which had taken place in November 1944 when the necessity for coastal defense had assumed relatively minor proportions. The expansion of function included placing every major activity of the three west coast naval districts under a single command, with a veiw to coordinating all essential matters of materiel and personnel and to eliminating activities within the Western Sea Frontier which did not contribute to the major effort.

While defensive operations became secondary, the responsibility of the Western Sea Frontier to regulate the movement of ships and aircraft through frontier waters was greatly increased. The eastern Pacific had become a network of channels for the passage of traffic to the forward areas. These channels were the most heavily traveled military highways on and above the sea. In the period covered by this report there were over 17,000 sailings of vessels large and small through the six million square miles of Western Sea Frontier waters. In the same period an average of one aircraft arrived on or departed from the west coast each fifteen minutes on the longest over-water flight lane in the world.

The substantial increase in the level of Navy materiel movement which occurred between March and July 1945 fully justified the planning for an increased west coast load which had been undertaken. Total exports, excluding aircraft, from May through July showed a 25 per cent increase over March and April shipments. Items used in the construction of new bases doubled during May and July as compared with March and April. Ammunition shipments doubled, because of the considerable expenditures during the Okinawa campaign (where 50,000 tons of 5-inch to 16-inch projectiles were fired by surface ships) and the necessity for building up a reserve for the assault upon Japan.

By the vast system thus developed the great concluding operations in the Pacific were supported. Each month in the immediate past we shipped out 600,000 long tons a month into the Pacific Ocean areas. The momentum generated by this materiel operation can be imagined. The problem presented by the deceleration of this great tide of supply after V-J day can also be imagined.

The following steps taken in the days immediately after the surrender of Japan indicate the effort the Navy has made to reduce its logistic energy as rapidly as possible without damage either to the domestic economy or to the support of fleet elements still at sea. All shipments of ammunition and of advance base components were stopped except those required for occupational purposes and those specifically requested by the fleet commanders as necessary for further operations. Maintenance materiel movements overseas were subjected to careful review and reduction. Stock levels at overseas bases of provisions, clothing, equipment, medical needs, aviation requirements and spare parts items were reduced to a thirty-day minimum and a sixty-day maximum. Orders prepared in advance cancelling procurement of materials were mailed in tremendous volume from the Navy Department on the night of 14 August. All continental public works construction projects, including those actually under construction and those on which it was possible to begin construction, were carefully reviewed--projects which were not required for demobilization purposes or postwar purposes were cancelled.

IV SUBMARINE OPERATIONS

Submarine warfare was an important factor in the defeat of the Japanese. With the end of hostilities, it is now possible to reveal in greater detail the splendid accomplishments of the submarines of the Pacific Fleet and the Seventh Fleet. Our submarines are credited with almost two thirds of the total tonnage of Japanese merchant marine losses, or a greater part than all other forces, surface and air, Army and Navy combined. Of the total number of Japanese naval vessels sunk, our submarines are credited with almost one third.

ATTACKS ON MERCHANT SHIPPING

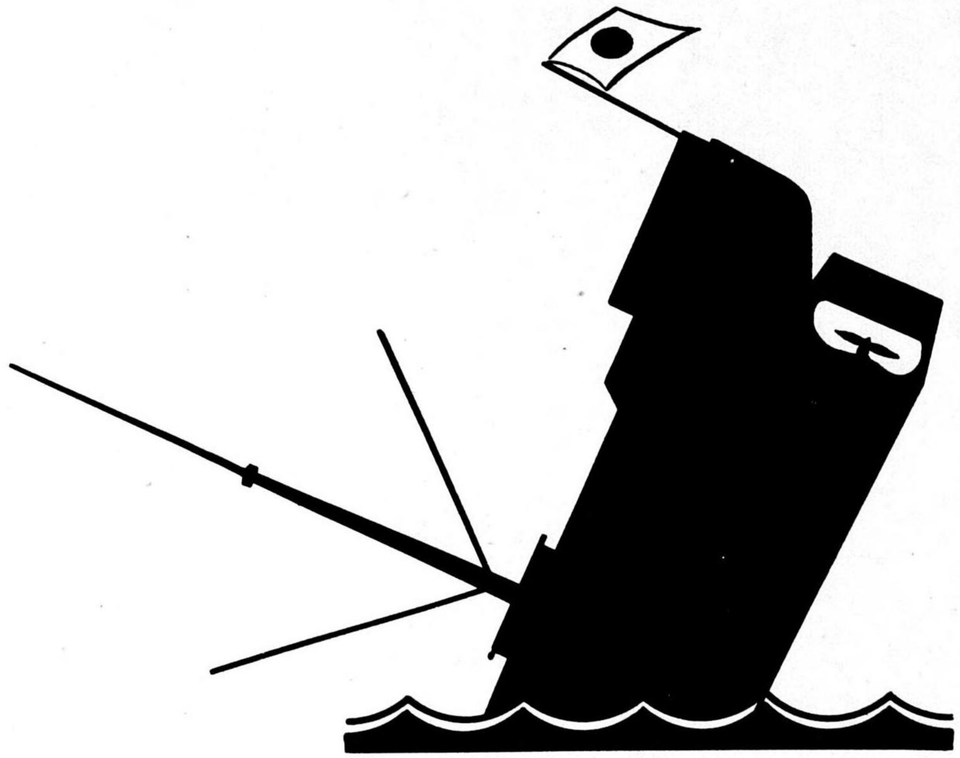
Our submarines, operating thousands of miles from their bases and deep within enemy-controlled waters, began their campaign of attrition on Japanese shipping immediately following the attack on Pearl Harbor, and continued to fight with telling effectiveness until the Japanese capitulated. During the early part of 1942, while our surface forces were still weakened by the Japanese initial attack of 7 December 1941, submarines were virtually the only United States naval forces which could be risked in offensive operations. Although the number of submarines available at the start was so small that the 1500 ton fleet-type class was augmented by older types, submarine attacks produced immediate and damaging results, which were greatly needed at the time. They made it more difficult for the enemy to consolidate his forward positions, to reinforce his threatened areas, and to pile up in Japan an adequate reserve of fuel oil, rubber, and other loot from his newly conquered territory. Their operations thus hastened our ultimate victory and resulted in the saving of American lives.

Sinkings of enemy merchant ships rose from 134 ships totalling 580,390 tons in 1942 to 284 ships totalling 1,341,968 tons in 1943. Then in 1944, when submarine coordinated attack groups reached the peak of their effectiveness, the merchant fleet of Japan suffered its worst and most crippling blow--492 ships of 2,387,780 tons were sunk or destroyed in submarine torpedo and gun attacks. The figures given above, which are based on evaluated estimates, include only ships of 1000 tons and larger. It should be borne in mind that our submarines sank or destroyed, chiefly by gunfire, large numbers of smaller vessels, particularly during the latter part of the war, when few large enemy ships still remained afloat.

In 1945, because of the tremendous attrition on Japanese shipping by our earlier submarine operations and the destructive sweeps by our fleets and carrier air forces, enemy merchantmen sunk by submarines dropped to 132 ships totalling 469,872 tons. The advance of our forces had further driven Japanese ships back to the coast lines and shallow waters of Japan and the Asiatic mainland. Our submarines followed the enemy shipping into these dangerous waters and made many skillful and daring attacks, such as the one in April when TIRANTE entered a patrolled anchorage in Quelpart Island to blow up a 10,000 ton tanker and two 1,500 ton escort vessels, which were peacefully lying at anchor. Further south, persistent submarine patrolling plus air sweeps had, by the end of March, stopped almost all enemy traffic along the sea lanes of the East Indies and the coast of Indo-China.

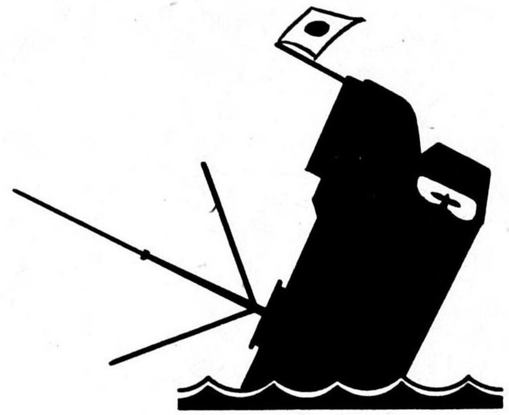
Japanese Merchant Shipping of 1000 or more gross tons

Sunk 1941-1945 Inclusive



63%

Sunk by U.S. Submarines alone



37%

Sunk by all other means, Army and Navy combined

For a time, Japanese shipping continued to ply in the East China and Yellow Seas, but the invasion of Okinawa in April soon made the East China Sea untenable to the Japanese. Causing heavy damage, our submarines were very active during April and May in the Yellow Sea and along the east and south coasts of the main Japanese islands. In June the landlocked Sea of Japan was penetrated in force. The submarines had excellent hunting, and in a series of coordinated attacks did tremendous damage to the remnants of the Japanese merchant fleet. One of the intruders, BARB, even landed a party on the coast of Honshu, and successfully blew up a bridge and the speeding train that was crossing it. By the end of the war, the Japanese merchant fleet was virtually nonexistent.

ATTACKS ON NAVAL VESSELS

While United States submarines were effectively eliminating the Japanese merchant fleet, they were also carrying out damaging attacks on Japanese naval units. During the course of the war, the following principal Japanese combatant types were sent to the bottom as a result of these attacks:

Battleship	1
Carriers	4
Escort carriers	4
Heavy cruisers	3
Light cruisers	9
Destroyers	43
Submarines	23
Minor combatant vessels and naval auxiliaries (including 60 escort vessels)	189

Details of these sinkings will be found in Appendix A. While the loss of the heavier naval units was critical to the Japanese, especially as the strength of our surface fleet increased, the surprisingly high losses of enemy destroyers and escort vessels to submarine attack are particularly noteworthy. Our submarines, refusing to accept the role of the hunted, even after their presence was known, frequently attacked their arch-enemies under circumstances of such great risk that the failure of their attack on the enemy antisubmarine vessel placed the submarine in extreme danger of loss. So successful, however, were these attacks that the Japanese developed a dangerous deficiency of destroyer screening units in their naval task forces, and their merchant shipping was often inadequately escorted.

SPECIAL MISSIONS

Among the special missions performed by submarines were reconnaissance, rescue, supply and lifeguard duties. An outstanding result of effective submarine reconnaissance was the vital advance information furnished our surface and air forces prior to the Battle for Leyte Gulf, information which contributed materially to that victory. Our submarines in a number of instances rescued stranded personnel and performed personnel evacuation duties, notably from Corregidor. The supplies and equipment

delivered by submarines to friendly guerrilla forces in the Philippines did much to keep alive the spirit of resistance in those islands.

When our air forces came into positions from which they could intensify their attacks on Japanese-held territory, United States submarines were called upon to carry out lifeguard operations to rescue aviators forced down at sea in enemy waters. Sometimes assisted by friendly aircraft, which provided fighter cover and assisted in locating survivors, and sometimes operating alone, our submarines rescued more than 500 aviators during the course of the war.

Fifty-two United States submarines were lost from all causes during the war, forty-six due to enemy action, six due to accidents and stranding. These losses were due to continued penetration deep within the enemy zone of defense, far from our bases, and, until the last phase of the war, far beyond the areas where our surface ships and aircraft could operate. Because of the nature of submarine operations and the general necessity of submarines operating alone, the personnel loss in most instances was the entire ship's company. As heavy as were the losses in submarine personnel and equipment, submarine training and building programs supplied replacements so effectively that our submarine force at the end of the war far exceeded its pre-Pearl Harbor strength--and was the most powerful and effective in the world. The Japanese capitulation found our submarines on station searching for the remnants of the Japanese Navy and merchant marine, and on the alert to rescue downed aviators off the coast of Japan.

Submarines of the Pacific Fleet have been commanded by Vice Admiral C. A. Lockwood, Jr., since February 1943. Rear Admiral James Fife, Jr., has commanded the Seventh Fleet submarines, including a number of British and Dutch submarines, since December 1944.

No account of submarine warfare in the Pacific would be complete without mention of the splendid contribution of the submarines of our Allies. These craft, operating in the southwest Pacific, contributed materially to the destruction of Japanese naval and merchant shipping, and inflicted losses over and above those previously listed.

V ATLANTIC OPERATIONS

The operations of the United States Navy in the Atlantic and Mediterranean Theaters culminated in the victory of the Allied nations in Europe. The success of the joint antisubmarine campaign and the tremendous achievements in shipbuilding were essential preludes to the landings in Normandy and southern France and the great land offensive, which in three months carried the Allied Expeditionary Forces to the German frontier and brought total victory on German soil six months later. This victory was possible because ships were available and their protection by the Navy effective.

ANTISUBMARINE OPERATIONS

In the antisubmarine campaign our Atlantic Fleet had responsibility for Atlantic areas under United States operational command, and the British Admiralty was responsible for North Atlantic and European operations in which United States naval task forces participated. In the British control areas Commander U.S. Naval Forces in Europe assured proper liaison between the Admiralty and the Tenth Fleet organization in my Headquarters, which was responsible for convoy and routing of United States shipping and the development of plans, weapons, and tactics to be employed in antisubmarine operations.

In the final month of the European war, German submarines made a last determined effort, in great strength, to reach the eastern coast of the United States. That attempt was thwarted by a powerful task force of the U.S. Atlantic Fleet, which, during an engagement lasting several days, destroyed five U-boats. The United States Navy's final successful action against German submarines occurred on 6 May, only two days before V-E day, when a U-boat was sunk off Block Island by the destroyer escort ATHERTON with the frigate MOBERLY assisting. The development of new techniques, the intensive training of antisubmarine crews, and the persistence with which the U-boats were hunted offensively all played vital parts in the surrender campaign. German submarines began to surface and surrender shortly after V-E day, and U.S. Atlantic Fleet escort vessels brought several of them to the United States east coast ports.

A review of antisubmarine and convoy operations since 1939 illustrates clearly these major naval contributions to victory in Europe. The summarized statistics on the Battle of the Atlantic are as follows:

Year	(a) German Submarines Sunk	(b) Allied Shipping Sunk	(c) New Construction			(d) Net Gains or Losses
			U.S.	British	Total	
	(Number)		(In thousands of tons)			
1939 (4 mos)	9	810	101	231	332	-478
1940	22	4,407	439	780	1,219	-3,188
1941	35	4,398	1,169	815	1,984	-2,414
1942	85	8,245	5,339	1,843	7,182	-1,063
1943	237	3,611	12,384	2,201	14,585	+10,974
1944	241	1,422	11,639	1,710	13,349	+11,927
1945 (4 mos)	153	458	3,551	283	3,834	+3,376
Totals	782	23,351	34,622	7,863	42,485	+19,134

From the foregoing statistical summary the chief features of the Battle of the Atlantic are clear:

(a) Until the closing months of 1942 the German submarines were continuing to reduce the available total of Allied tonnage;

(b) Antisubmarine operations resulted in the sinking of an average of 12 German submarines per month after 1 January 1943, or a total of 480 in the two years 1943-44;

(c) American shipyards alone produced an average of a million tons per month of new merchant ships after 1 January 1943, or a total of 24,000,000 tons in two years.

In the 12 months from 1 June 1944, 135 convoys arrrived in United Kingdom ports from overseas with a total of 7157 merchant ships totalling more than 50,000,000 gross tonnage. The escort of this shipping and the provision of trained naval armed guard crews aboard the merchant vessels were among the primary tasks performed by the United States Navy in the prosecution of the war in Europe. The Navy's antisubmarine campaign with the British-United States integrated convoy system was in great part responsible for the vital shipping necessary for the Allied land offensive which broke into the Fortress of Europe in 1944 and overwhelmed the Germans ashore in 1945.

TENTH FLEET

On 15 June 1945 the Tenth Fleet was dissolved. This effective organization was established 20 May 1943 under my direct command, with Headquarters in the Navy Department, to exercise unity of control over United States antisubmarine operations in that part of the Atlantic Ocean under United States strategic control. The first Chief of Staff of the Tenth Fleet was Rear Admiral Francis S. Low, who was relieved in January 1945 by Rear Admiral A. R. McCann.

To the Tenth Fleet were assigned the following tasks:

(a) Destruction of enemy submarines.

(b) Protection of Allied shipping in the Eastern, Gulf, and Caribbean Sea Frontiers.

(c) Support of other antisubmarine forces of our own and of the other Allied nations operating in the Atlantic areas.

(d) Exercise of control of convoys and shipping that were United States responsibilities.

(e) Correlation of United States antisubmarine training and materiel development.

To accomplish these tasks the Tenth Fleet was organized into four principal divisions: Operations; Antisubmarine Measures (materiel, training, analysis and statistics, and operational research); Convoy and Routing; and a Scientific Council composed of distinguished civilian scientists.

The Tenth was a fleet without a ship. However, this highly specialized command coordinated and directed our naval forces in the Battle of the Atlantic, making available the latest intelligence to the Commander in Chief, U.S. Atlantic Fleet and to other fleet and sea frontier commanders who directed the actual operations at sea, and supplying antisubmarine training and operating procedures to our forces afloat. The Tenth Fleet correlated the antisubmarine developments of the various technical bureaus of the Navy Department and the fleet training schools concerned with antisubmarine activities. In addition, it worked closely with the General Staff of the United States Army and with the British Admiralty and Canadian Naval Headquarters to avoid duplication and confusion, and to insure that maximum effort would be directed against the German underseas fleet. The effective work of the Tenth Fleet contributed outstandingly to the success of the United States naval operations in the Battle of the Atlantic.

U.S. NAVAL FORCES IN EUROPE

During the Spring and Summer of 1945 the United States Naval Forces in Europe were faced with a series of varied responsibilities. Until the surrender of Germany the Navy was actively engaged in coastal offensive operations and in supporting afloat the United States Army's build-up of men and supplies, which included assistance in areas as far inland as the Rhine; with the capitulation of the enemy came the establishment of United States naval commands in Germany to aid in the military occupation and government of that country and in the enforcement of the surrender terms. United States naval components also assumed duties with the Allied Military Missions to Denmark and Norway similar to those already established in France, Belgium and Holland. With the end of the war in Europe, the Navy speeded up the process of closing out the multitude of bases and other facilities which had been established earlier in the war in the United Kingdom, on the Continent, and in the Mediterranean Theater of Operations.

Rhine River Crossing

The crossing of the Rhine River in March 1945 will be remembered as one of the spectacular achievements of the American forces during the closing months of the European war. In this operation the United States Navy had the honor of taking part as a floating segment of General of the Army Eisenhower's forces. LCVP's and LCM's, which had been used with great success in the coastal Normandy invasion, were again employed to carry our troops on rivers. The naval crews assigned to the operation began training in England in October 1944 and held their final practice maneuvers on the Continent later in the winter. Considerable ingenuity and improvisation were necessary to overcome technical difficulties, the craft employed having been constructed for salt water use and not as river craft in the fresh water of the swift-flowing Rhine. Five LCVP units of 24 craft each were formed in England and later moved to the Continent and placed under the operational control of United States Army commanders and administrative control of Vice Admiral Alan G. Kirk, Commander, U.S. Naval Forces France; of these, three actually participated in the crossings.

The first LCVP unit went into action with the United States First Army at the Remagen bridgehead on 11 March 1945, assisting, under heavy gunfire, in the erection of treadway and heavy pontoon bridges, in ferrying troops, and in patrolling the river. At Oppenheim on 23 March another LCVP unit carried portions of General Patton's Third Army across the Rhine, and the following day made a second crossing under heavy enemy fire at Boppard. Another crossing had been planned at St. Goar, but because of enemy resistance the operation was staged instead at Oberwesel, where, on 26 March, other units of the Third Army were ferried across. Still another crossing was made at Mainz. The LCVP units also served with the United States Ninth Army in its crossing of the Rhine south of Wesel, which occurred almost simultaneously with the Third Army's advance.

U.S. Naval Forces France

A second major operation in which the United States Navy played an important part during the last days of Nazi resistance was that directed against the German-held pockets in western France. Vice Admiral Kirk was placed in operational command of the French naval task force which was assembled for the attack. The United States Navy supplied fuel, training facilities, a repair unit, aircraft, and 24 LCVP's. The operation, which was directed against the enemy forces in the Ile d'Oleron and at the mouth of the Gironde River, began with a general naval bombardment at 0750 on 15 April. For five days the naval task force assisted the French ground forces with naval bombardment and aerial reconnaissance in the assault on Royan and the Point de Grave area at the mouth of the Gironde. By 20 April this section was cleared of the enemy and the assault on the Ile d'Oleron began the following day. Twenty-four United States LCVP's manned by French crews were used and supported by extensive naval bombardment. The actual landings on Ile d'Oleron took place on 30 April and all enemy resistance ceased there on 2 May. With the general capitulation of the enemy on 8 May, the remaining German pockets at La Rochelle, Lorient, St. Nazaire, etc., were occupied by French forces accompanied by American naval observers.

While the Rhine crossings and the attacks on the German pockets were going on, the Navy was continuing its less publicized but equally important task of assisting the Army's build-up of troops and materiel through its port operations, both along the English Channel and in the southern French ports. Men and munitions poured onto the Continent through Marseilles, Toulon, Cherbourg, Le Havre and Rouen. At the great port of Antwerp alone almost 20,000 tons of supplies were unloaded daily.

From the United States Navy's airfield at Dunkeswell in Devon, patrol planes of Fleet Air Wing Seven maintained a constant search of shipping lanes for enemy submarines. When the surrender of Germany came on 8 May, the German High Command was ordered to instruct its U-boats at sea to surface, radio their position, jettison their ammunition, fly a black flag and proceed by fixed routes to prescribed ports. The first U-boat to comply with this order surrendered on 9 May to a PB4Y-1 plane of Fleet Air Wing Seven on patrol off Lands End, England.

U.S. Naval Forces Germany

With the disintegration of the enemy armies and the movement of Allied forces deeper into Germany, the organization of the United States naval command for Germany was put into effect. Vice Admiral Robert L. Ghormley, as Commander, U.S. Naval Forces Germany, became responsible for all United States naval forces operating in Germany. As head of the Naval Division of the United States Group of the Allied Control Council, Vice Admiral Ghormley acted as General of the Army Eisenhower's adviser in all naval matters and conferred with the other Allied naval commanders in Germany on such questions as repairs of shipping and disposition of enemy naval vessels. In June Vice Admiral Ghormley established his headquarters in Frankfurt. On 1 July he assumed operational control of all naval forces on the Continent assigned to occupation duties or to the support of the Army in the European Theater of Operations. These included, in addition to the forces in Germany, the United States Naval Components of the Military Missions to Norway, Denmark, Holland and Belgium, the United States Naval Group France, and the Naval Division of the Allied Control Commission for Austria.

Under Vice Admiral Ghormley's command in Germany was Rear Admiral A. G. Robinson, who, as Commander of U.S. Ports and Bases Germany, was charged with the operation of the ports of Bremen and Bremerhaven in the American-controlled Weser River Enclave. Rear Admiral Robinson's headquarters were established in Bremen on 15 May. This task force began operating at once, supervising the disposition of captured and surrendered naval personnel, clearing the port areas for incoming shipping, and seizing prize merchant ships which had been captured there. Of these the liner EUROPA was by far the most important. A modern ship in relatively good condition, she was converted into a troop transport almost immediately; although somewhat hampered by lack of facilities and skilled labor, the EUROPA was commissioned as United States Navy APA-177 and manned by naval personnel. She sailed from Bremerhaven on 11 September to Southampton to embark her first load of almost 5000 returning American troops.

Bremen and Bremerhaven, as the two United States naval controlled ports in Germany, had an important role to play in the occupation of the country. They served as important supply and evacuation ports for the United States occupation forces; their shipyards and repair facilities, under United States naval control, were used for the repair of German and Allied ships in the area.

Another United States naval command whose work was accelerated by the surrender of Germany was the U.S. Naval Technical Mission Europe, under Commodore H.A. Schade. This organization, which is under the operational control of the Chief of Naval Operations, is the agency for the collection of intelligence information from the surrendered nations for the use of the United States Navy. Working closely with the Army G-2 Staff Division and with Allied Intelligence Services, the U.S. Naval Technical Mission Europe has uncovered a vast amount of data concerning German wartime industrial and scientific developments, the status of experiments on secret weapons, etc.

U.S. Naval Forces Northwest African Waters

In March 1945 the U.S. Eighth Fleet, which had been under the command of Admiral H. Kent Hewitt since March 1943, was dissolved; in April the naval forces and bases in the Mediterranean Theater were placed under the administrative control of Commander, U.S. Naval Forces in Europe. These forces, commanded by Vice Admiral W. A. Glassford as Commander, U.S. Naval Forces Northwest African Waters, thereby became a task force of the Twelfth Fleet.

Although the over-all strength was reduced, small naval detachments were maintained in Italy to support the United States Army there, to assist United States merchant shipping, and to continue United States naval representation on the Allied Commission for Italy,

Changes in Command

In the Azores United States naval forces were engaged chiefly in patrolling routes used for Army aircraft being returned to the United States. Commander, U.S. Naval Forces in Europe assumed administrative control of the Azores forces in July 1945.

A little over two months after the signing of the German surrender at Rheims, the Supreme Allied Military command under General of the Army Eisenhower was dissolved. On 14 July control of the American, British and French military and naval forces reverted to their respective national commands. For the American forces General of the Army Eisenhower remained the Supreme Commander with a composite United States Army-Navy-Air European Theater Staff. Commander, U.S. Naval Forces in Europe in London retained administrative control of all remaining United States naval forces in the theater. On 16 August Admiral Hewitt relieved Admiral Harold R. Stark as Commander, Twelfth Fleet and Commander, U.S. Naval Forces in Europe.

Redeployment

When the fighting in Europe ceased, the United States Army was faced with the gigantic task of redeploying millions of its forces. Some of its men were to be sent home for discharge; others were to be ordered to the Far East. During the summer of 1945, through its various port parties and naval detachments, the Navy cooperated closely with the Army in speeding troop movement. Over 53,000 men were embarked from northern French ports in May, and in June more than 210,000. The July figures approached 350,000. The southern French ports of Marseilles and Toulon were also used for this work. From Le Havre and Antwerp many shipments of war materiel no longer needed in this theater were sent back to the United States.

Similarly the United States Navy developed its own redeployment program, transferring to the United States or to the Pacific forces and materiel no longer required for naval activities in Europe. Hundreds of amphibious ships and craft which had been used for assault operations and for the support of the Army build-up were no longer needed and were returned to the United States. Nearly all United States naval advanced bases, supply and repair facilities, etc., in Britain and the Mediterranean were now unnecessary and their closing proceeded at a rapid rate.

In Great Britain the summer months of 1945 saw the closing of the amphibious bases at Falmouth, Plymouth, Dartmouth, Portland-Weymouth and Southampton. With the end of the submarine menace the planes of Fleet Air Wing Seven, based at Dunkeswell, Devon, were returned to the United States. In France, Italy and in North Africa the operation of most of the liberated ports was rapidly returned to the national authorities. Port detachments were maintained at Le Havre, Marseilles and Naples to aid in the Army's redeployment program. When the command of U.S. Naval Forces France was abolished as a separate task force on 1 July, a naval task group, under Commander, U.S. Naval Forces Germany, was substituted therefor. In the Mediterranean, United States naval activities were likewise reduced. Naval Operating Base Oran was closed out and a naval detachment took its place in July. During the same month the office of Commander, Moroccan Sea Frontier was abolished. The naval facilities at Port Lyautey, Casablanca, Dakar and Agadir were organized as a naval task group. The naval advanced base at Bizerte was decommissioned and reductions were effected at Palermo and Naples.

U. S. ATLANTIC FLEET

During the entire war combat vessels, auxiliaries, and landing craft were built and trained in large numbers on the east coast of the United States for duty in the Pacific. With the capitulation of Germany, the U.S. Atlantic Fleet was able to increase and intensify the redeployment of ships, men, and supplies to the Pacific. By 1 June Atlantic convoys were stopped, and all available escort ships and tankers thus released were made ready for operations against the Japanese. Large numbers of landing craft were returned from Europe and overhauled for Pacific duty. The further necessity of providing refresher training for the crews of these ships and craft devolved upon the Atlantic Fleet Operational Training Command. The

Battle of the Atlantic had been chiefly a war against submarines; now all training was concentrated upon meeting the requirements of the Pacific war for accurate antiaircraft firing and shore bombardment. During the period covered by this report the Operational Training Command, Atlantic Fleet, trained some 995 ships for duty in the Pacific, of which 358 were new ships receiving the normal shakedown and 637 were ships which had been engaged in some phase of the European war.

Similarly, the Air Force Atlantic Fleet turned with increased intensity to the training of carrier air units and shore-based patrol squadrons for the Pacific Fleet. Typical of the changing nature of the carrier training program was the decommissioning of all composite squadrons, which had produced such effective results against the U-boats, and the commissioning of air groups for the large new carriers of the MIDWAY class. These new air groups are approximately one and one-half times the size of a normal carrier air group.

The surrender of Japan, occurring when the Atlantic Fleet redeployment program was at its height, necessitated rapid readjustments. Many ships, which were on their way to the Pacific or had just reached the forward areas, were ordered to return to the east coast ports. Instructions were promulgated indicating the status of vessels in the postwar Atlantic Fleet, and an appraisal of berthing areas for the Atlantic Fleet Reserve ships was pressed to completion. Similarly the program for revising, absorbing or decommissioning shore-based Atlantic Fleet activities was accelerated. In the South Atlantic a similar process had long since begun. In March 1945 the Rio-Trinidad convoys were discontinued. Then on 15 April the Fourth Fleet became a task force of the U.S. Atlantic Fleet, with Vice Admiral W. R. Munroe as task force commander and Commander, South Atlantic Force. The roll-up of forces continued, and on 13 August Vice Admiral Munroe hauled down his flag; the remaining naval activities in the South Atlantic were placed under the Commandant, Naval Operating Base Rio de Janeiro.

VI SHIPS, AIRCRAFT AND PERSONNEL

Fighting men are not effective, individually or collectively, unless they are imbued with high morale. Morale may be defined as a state of mind wherein there is confidence, courage and zeal among men united together in a common effort--a "conviction of excellence". One factor largely responsible for the extremely high morale of the men of the naval services has been their confidence in the excellence of the ships and planes provided them.

SHIPBUILDING PROGRAM

During the period 1 March to 1 October 1945 the following combatant ships were completed: 4 aircraft carriers (one of which was MIDWAY, the first of the three 45,000 ton carriers under construction), 8 escort carriers, 3 light cruisers, 6 heavy cruisers, 53 destroyers, 2 destroyer escorts and 24 submarines. During this same period over 300 auxiliary ships were completed by the Navy and the Maritime Commission, among them six of the most modern air-conditioned hospital ships in existence. The landing craft and district craft construction programs were continued, with the delivery of large numbers of each type. Twenty-nine mine-sweeping vessels were delivered. It was necessary to place particular emphasis upon the production of repair ships of all types. The large numbers of these delivered during this period, together with existing ships of the type, performed indispensable services in the forward areas in returning quickly to service many of the ships damaged in the Okinawa operation.

To meet changing conditions of war during this period, it was necessary to undertake a number of conversions of ships from one type to another. Notable among these was the conversion of certain patrol craft to control vessels for amphibious operations; frigates and certain patrol craft to weather station ships; a large number of personnel landing ships to gunboats for close inshore support of amphibious operations; a number of destroyer escorts to fast transports; certain destroyers and destroyer escorts to radar picket ships; and a number of destroyers to high-speed mine sweepers.

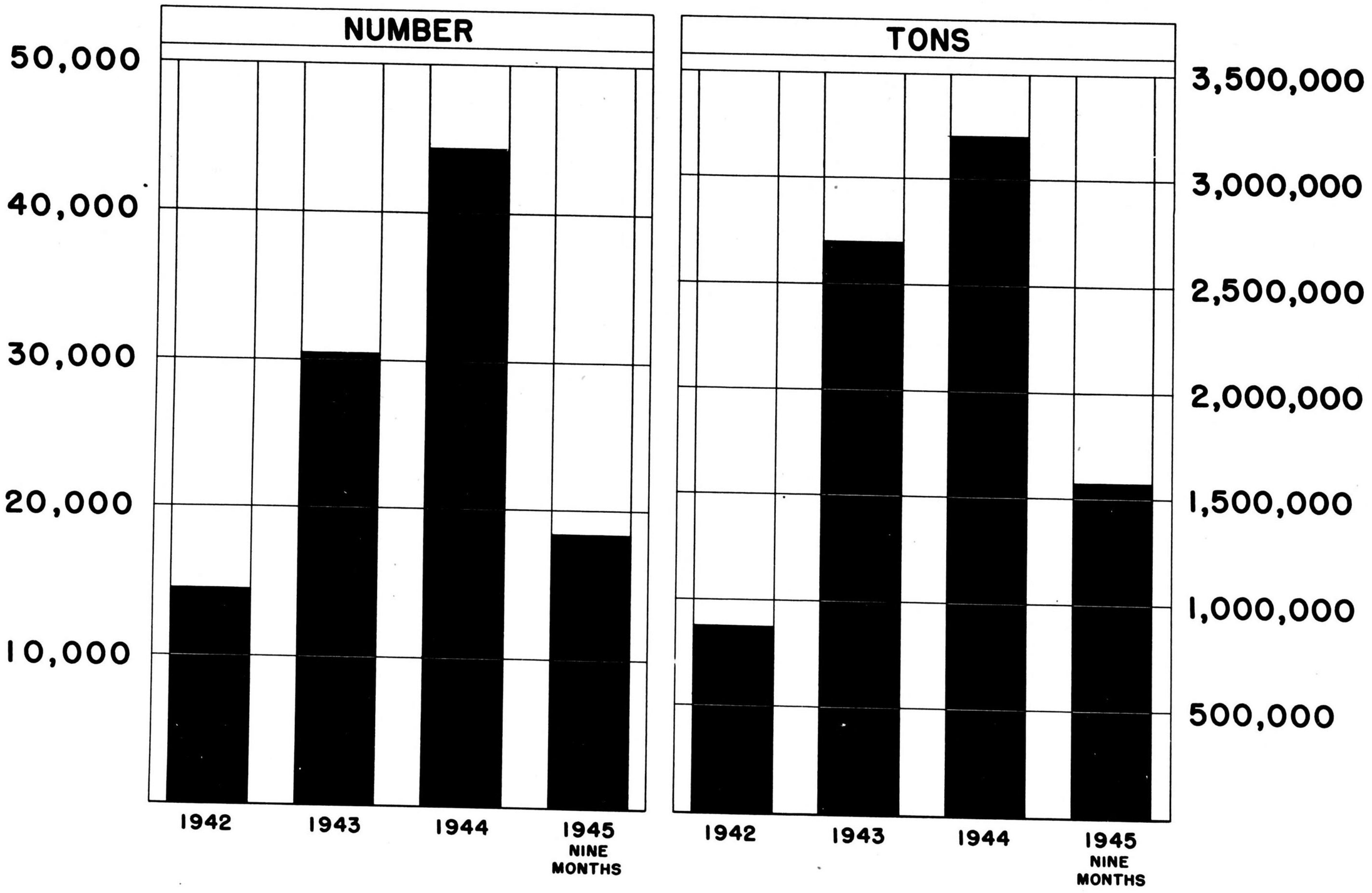
During the later phases of the war, as Japanese sea power waned, a review was made of the Navy's shipbuilding program to bring it in line with estimated operational requirements. On 10 August 1945 the Secretary of the Navy approved the termination of contracts for the construction of 56 combatant ships and 39 vessels of other types. Following the surrender of Japan, a complete review was made of the status of the construction and conversion program of auxiliaries, landing craft, district craft and small boats, in consequence of which the total number of cancellations was raised to the following:

Combatant Ships	56	Patrol Craft	44
Auxiliaries	94	District Craft	121
Landing Ships	2	Small Landing Craft - over	8,000

The effect of these cancellations is shown graphically in Plate VI.

NAVY SHIPBUILDING PROGRAM

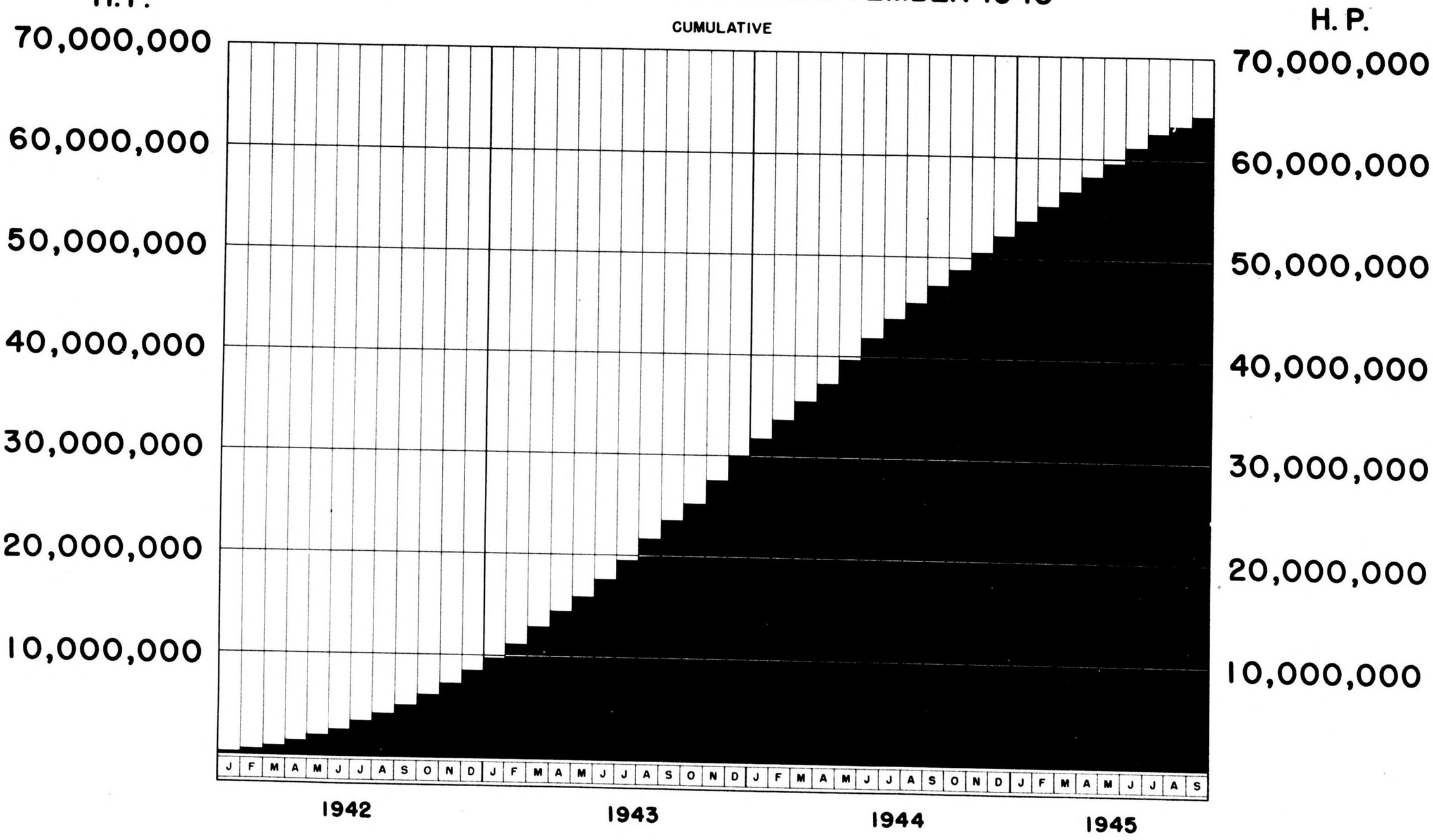
NEW CONSTRUCTION COMPLETED
DURING 1942, 1943, 1944 & NINE MONTHS 1945



NAVY SHIPBUILDING PROGRAM

MAIN PROPULSION HORSEPOWER INSTALLED IN COMPLETED VESSELS

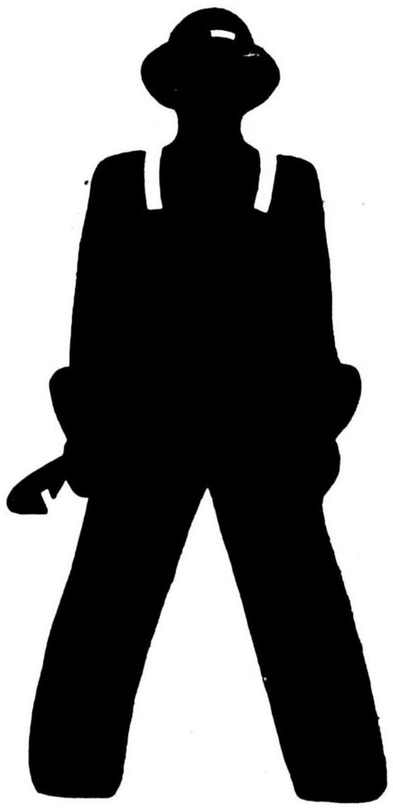
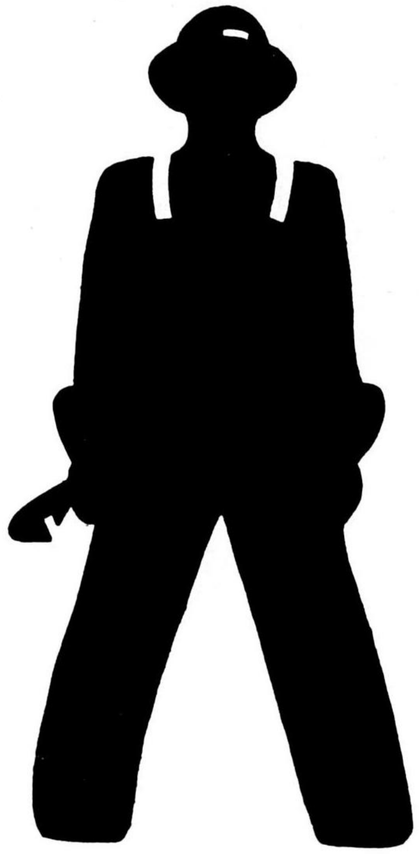
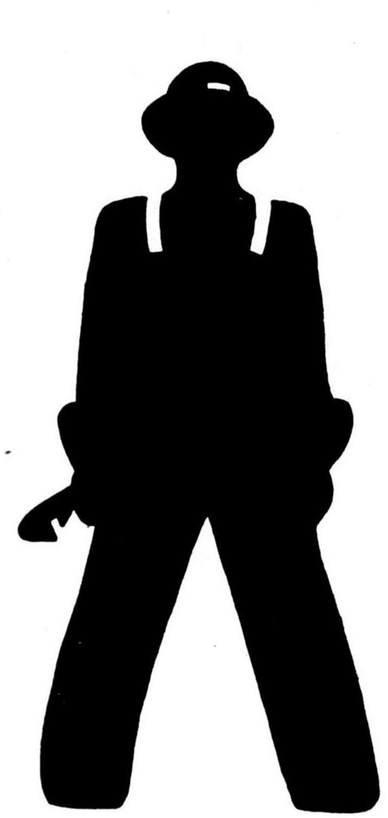
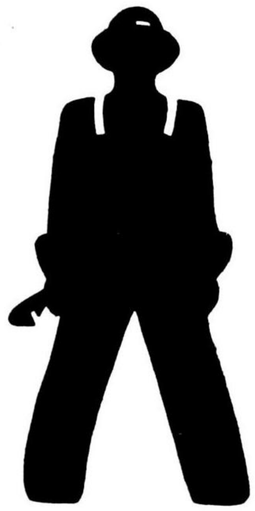
JANUARY 1942 THROUGH SEPTEMBER 1945



SHIPYARD EMPLOYEES

BUILDING & REPAIRING

U. S. NAVY VESSELS

JANUARY 1942	JANUARY 1943	JANUARY 1944	JANUARY 1945	OCTOBER 1945
				
443,500	911,900	970,900	861,300	572,800

Every effort has been made to keep the ships of the fleet fitted with the latest available equipment to meet rapidly changing combat conditions. Improved radar sets, aircraft and antiaircraft weapons, fire-control systems for guns, and fire-fighting equipment have been installed. The improvement of the offensive and defensive qualities of our ships by such alterations had been going on since the beginning of the war; as the war drew to a close, most ships of the fleet had reached a point at which no additional weights could be added without compensatory weight removals. The problem of applying the latest technological developments to our ships has thus become more difficult; nevertheless such application has been accomplished on an extensive scale by the cooperation of all concerned, both afloat and ashore.

AIRCRAFT

Comparisons between standard Navy aircraft types at the beginning of the war and the end vividly illustrate the outstanding technical advances accomplished in less than four years of fighting. At the war's end we had the best airplanes of every kind, both ashore and afloat, but newer and better planes were on the production lines and would soon have taken their place against the enemy. Among these were the Grumman TIGERCAT, a twin-engine, single-seat fighter plane with heavy firepower and bomb-carrying characteristics. Although this plane had arrived in the Pacific, it never got into actual combat. Three other fighter planes, faster and possessing higher tactical performance than standard existing types, had satisfactorily passed the long period of experiements and flight tests and were in production. These included the Ryan FIREBALL, the Navy's first fighter plane to use jet propulsion. The others were Grumman's BEARCAT and Goodyear's F2G (to which no popular name has yet been given), both high-speed, highly maneuverable and fast climbing planes. The latter was the first naval fighter to use the new Pratt and Whitney 3000 horsepower engine.

The Grumman WILDCAT, which was a new fighter at the time of Pearl Harbor, had an approximate speed of 300 miles an hour and mounted four .50-caliber machine guns. The HELLCATS and CORSAIRS, which were both carrier and shore-based on V-J day, have speeds of more than 400 and 425 miles an hour, respectively, and mount six .50-caliber machine guns, or proportionate numbers of 20-millimeter cannon, in addition to rockets. Bombs weighing up to 2000 pounds could also be carried by these planes when they were assigned fighter-bomber missions. These planes played the leading role in our tactical development of fighter-bombing, a World War II innovation. Other technical developments, primarily air-borne radar, helped to bring into existence the Navy's night-fighting force. The WILDCAT, greatly improved by various modifications by General Motors to give it greater speed and climb, continued to be used on the escort carriers.

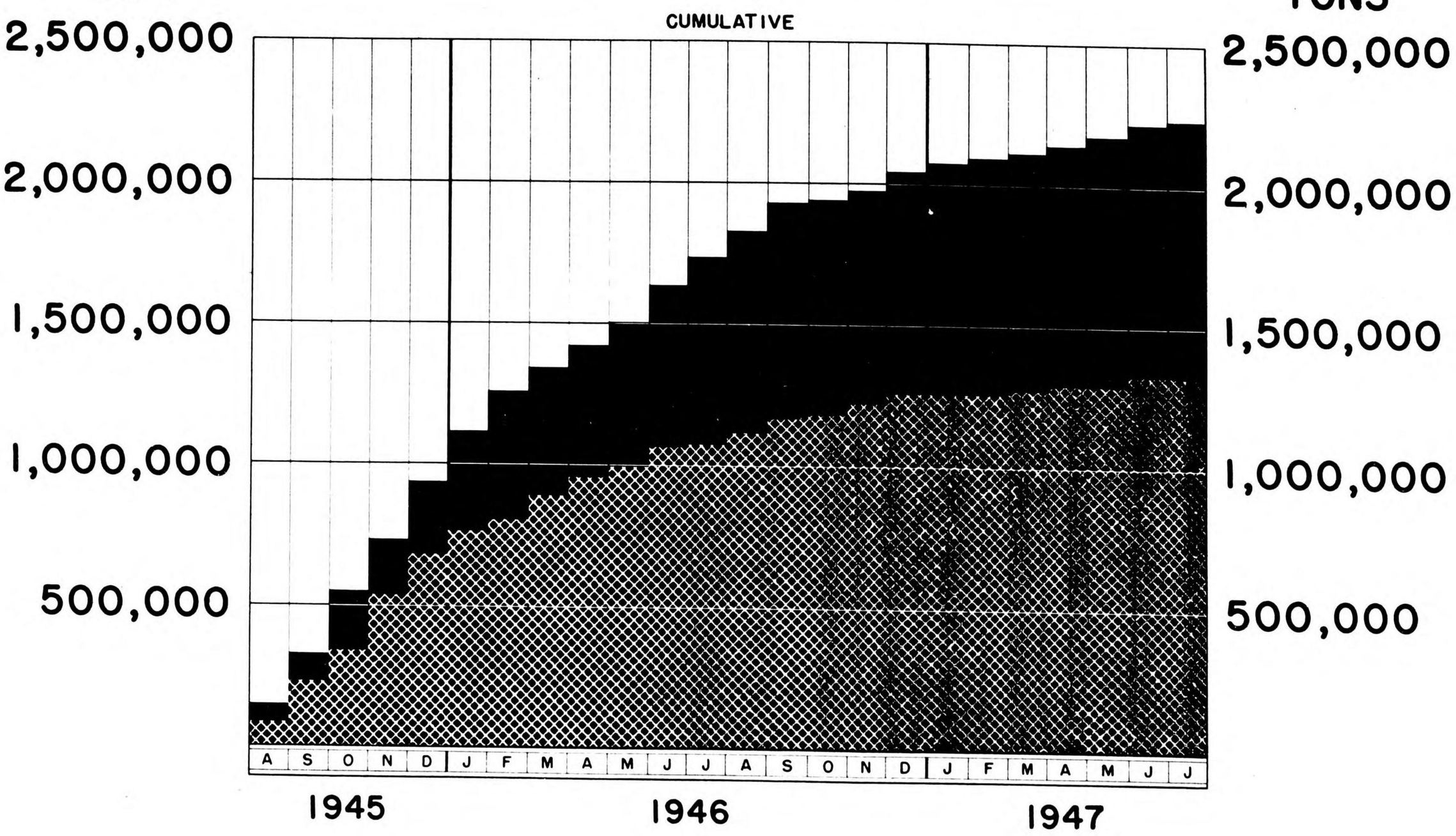
Our dive-bomber, the HELLDIVER, has a speed of more than 250 miles an hour, can carry 2000 pounds of bombs, and is equipped with eight rocket launchers, two 20-millimeter cannon and two .30-caliber machine guns. These characteristics were developed through five modifications. The Douglas DAUNTLESS was the standard dive-bomber when the war began, and delivered heavy blows against the enemy before it was retired as a first line plane. Its top speed was 230 miles an hour; it carried 1000 pounds of bombs, and mounte two .30-caliber and two .50-caliber machine guns.

U. S. NAVY

PLANNED TONNAGE
AUGUST 1945 - JULY 1947

BEFORE V-J DAY

AFTER V-J DAY



Our torpedo bomber at the start of the war was the Douglas DEVASTATOR, a plane which had a speed of about 150 miles an hour and was very lightly armed. The Grumman AVENGER, and later modifications of this plane by General Motors, gave us a plane with a speed of more than 250 miles an hour, capable of carrying 2000 pounds of bombs or a torpedo, four machine guns and rockets. One modification of the AVENGER was a carrier-based night bomber to operate with night fighters.

Development and research in the dive-bomber and torpedo bomber field during the war yielded designs by Consolidated, Douglas and Martin. A few production models had been turned out by Consolidated and Douglas and several experimental models by Martin when V-J day came.

The standard scout-observation plane based aboard battleships and cruisers became the Curtiss SEAHAWK, replacing the Chance Vought KINGFISHER and Curtiss SEAGULL. The SEAHAWK and KINGFISHER played no small part in air-sea rescues.

The Consolidated CATALINA, the veteran twin-engine patrol plane, was in operation at the start of the war and has proved to be one of the most valuable all-purpose planes. Planes of the sixth modification--or sixth major change--giving it greater range and speed are now with the fleet. The Martin MARINER, a larger, heavier plane, has taken over many of the patrol duties formerly handled by the CATALINAS. Both of these planes also have performed outstanding service in air-sea rescue work.

For our four-engine, land-based search plane, we have replaced the Consolidated LIBERATOR with the Consolidated PRIVATEER, a plane with a range of well over 3000 miles, heavy armament and a wealth of new navigational, radio and radar equipment, enabling it to fly long hours of reconnaissance over trackless oceans. These planes, which carry bombs and depth charges, have made impressive records against isolated Japanese ships, small convoys, submarines and enemy-held islands in their search areas. Our newest twin-engine search plane is the Lockheed HARPOON, which took over the duties of the Lockheed VENTURA. It carries bombs and rockets and has ten .50-caliber machine guns with which to protect itself. The range of the HARPOON is in excess of 2000 miles and its speed is more than 300 miles an hour.

The Naval Air Transport Service utilizes as its standard transport planes the Martin MARS, Douglas SKYMASTERS (R5D) and SKYTRAINS (R4D), and Consolidated CORONADO flying boats, while Marine Corps air transport groups use the Curtiss COMMANDOS in large numbers. Established on 1 December 1943, the Naval Air Transport Service routes extend over approximately 80,000 miles, covering three quarters of the globe. In addition to carrying freight and passengers, the Service flew whole blood daily from the west coast to combat areas in the Pacific and evacuated wounded during the Okinawa campaign.

Improved cooling and other changes have increased the horsepower of standard combat engines 10 per cent with little or no increase in weight. Thus it has been possible to translate added power into increased climb and speed. New superchargers made it possible to hold high take-off horsepower to higher altitudes than was possible before. The adoption of water injection for engines to give pilots greater speed in emergencies also became general for all combat types.

Our requirement for the utmost in reliability and our long-held conviction that an air cooled power plant installation was less vulnerable to damage than a liquid cooled, has caused us to devote primary attention to the development of air cooled engines, and hence, has contributed substantially to the aircraft program of the country. It can be claimed without exaggeration that the air cooled aircraft engine of today would not have been developed effectively had it not been for the Navy's continued interest.

Other technological advances in naval aircraft have included the development of jet assisted take off (which made it possible for seaplanes to carry much heavier loads), the largest helicopter yet flying, and radio-controlled antiaircraft target drones and missiles.

PERSONNEL

The personnel strength of the United States Navy on 2 September 1945 was as follows:

Navy Only	Male	Female	Total	
Officers (including warrants)	316,675	8,399	325,074	1/
Nurses	---	10,968	10,968	
Officer Candidates	62,913	12	62,925	2/
Enlisted	2,935,695	73,685	3,009,380	
Total.....	3,315,283	93,064	3,408,347	

1/ Includes 4,038 male officers and 196 female officers whose separations are pending.

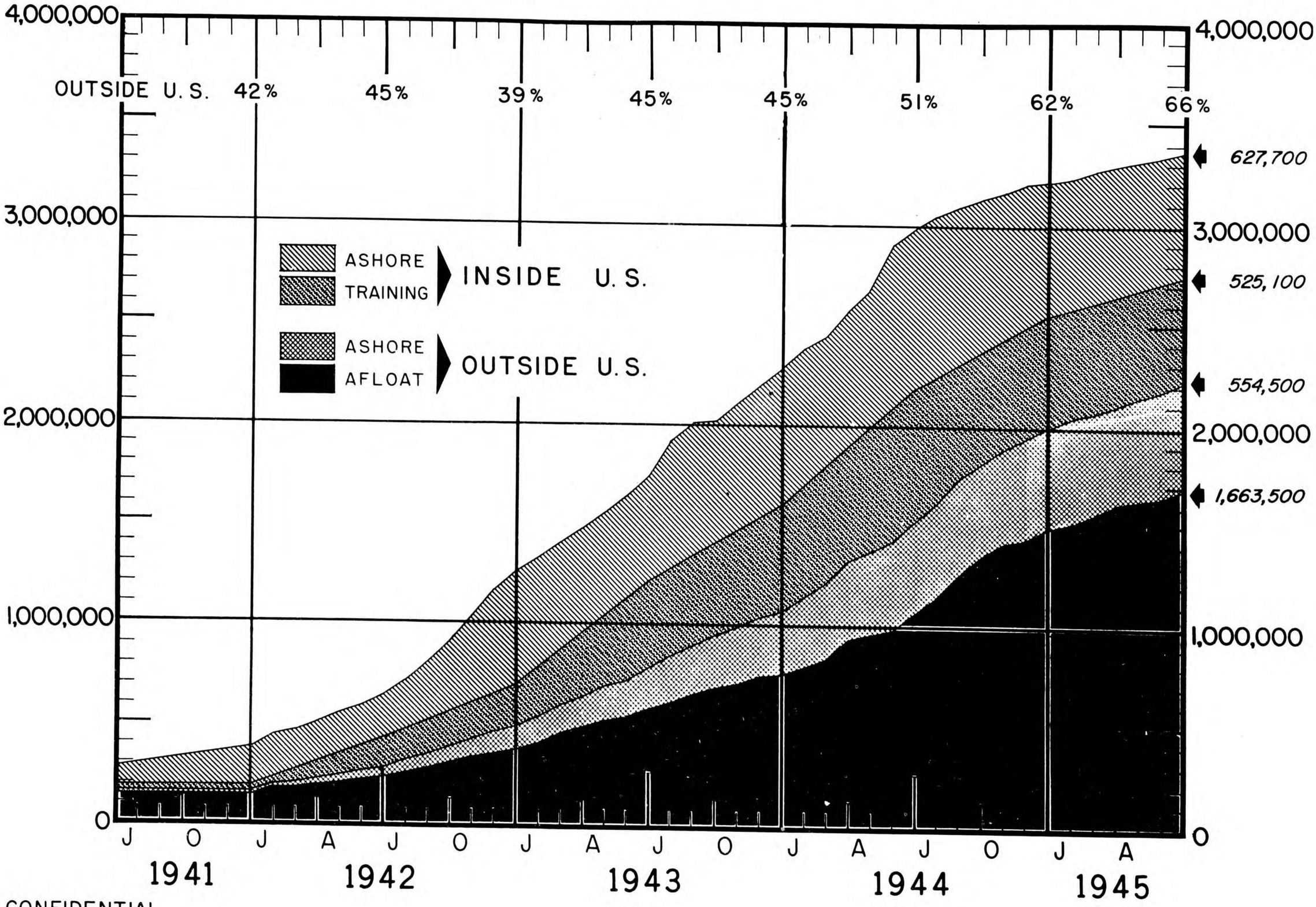
2/ Includes 5,129 personnel in enlisted ratings who are taking officer candidate training.

Data concerning the number of personnel on board and the deployment of personnel overseas throughout the war is presented in graphic form in Plates VII and VIII.

After nearly four years of procuring personnel, the Navy is now faced with the task of ensuring the orderly return to civilian life of three million men and women. By January of 1946 one of every three persons in the wartime Navy will have been separated. By the end of January half the total personnel, and by the end of March two thirds, will have been demobilized. It is exptected that the rest of the temporary personnel will be discharged by 1 September 1946.

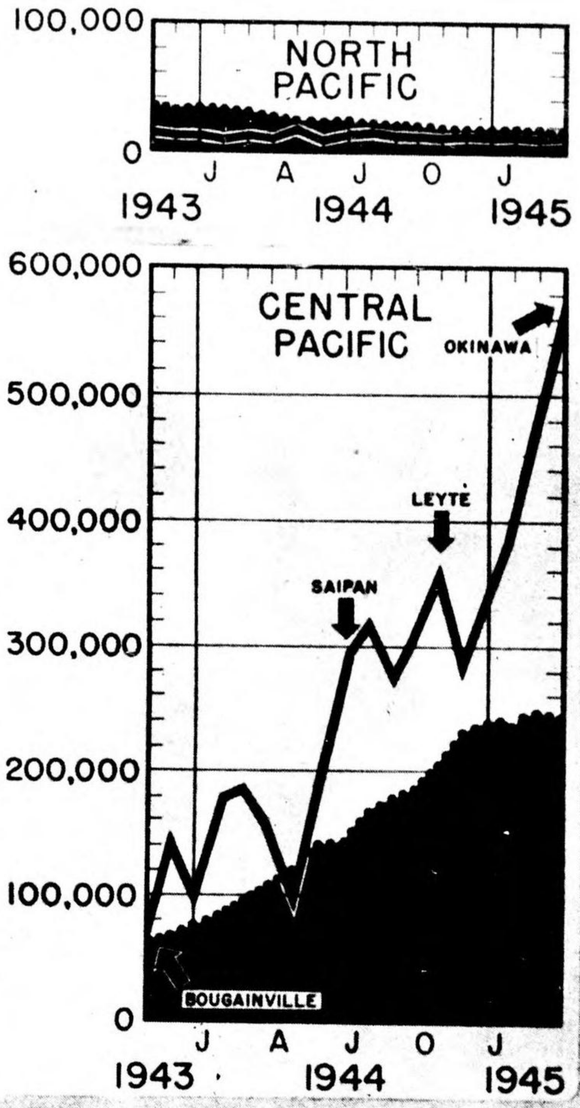
Guided by national policy, as determined by the Congress, careful consideration is being given to the size of the Navy that will be required when demobilization is completed. Roughly the current estimate provides for an active Navy which will be 30 per cent of our present war strength.

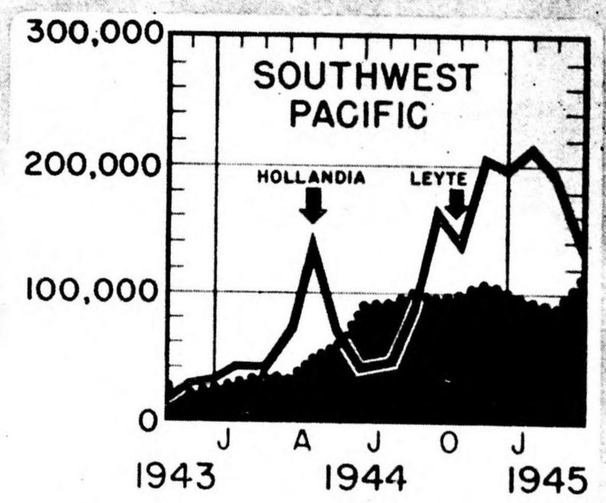
PERSONNEL ON BOARD

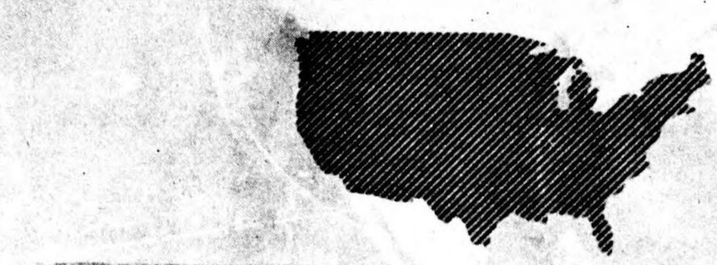


CONFIDENTIAL

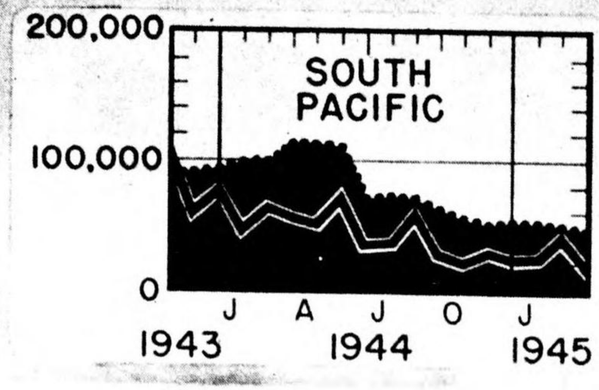
PERSONNEL OUTSIDE U.S.

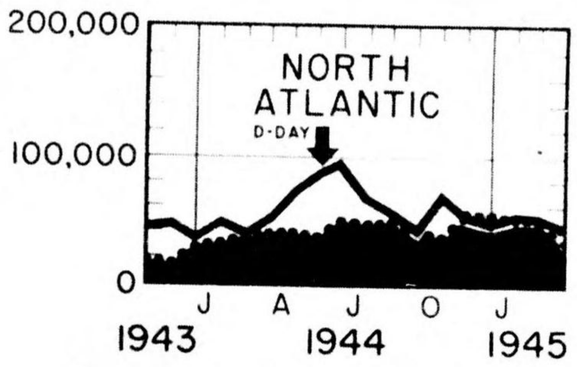


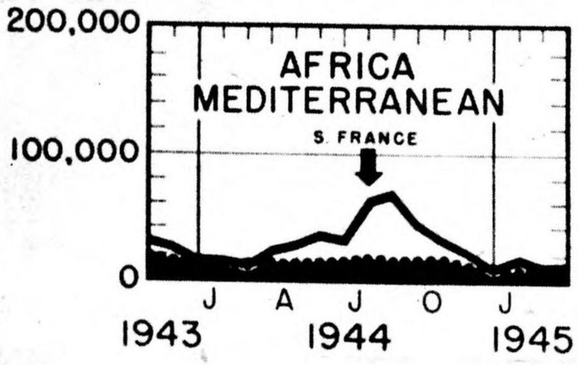


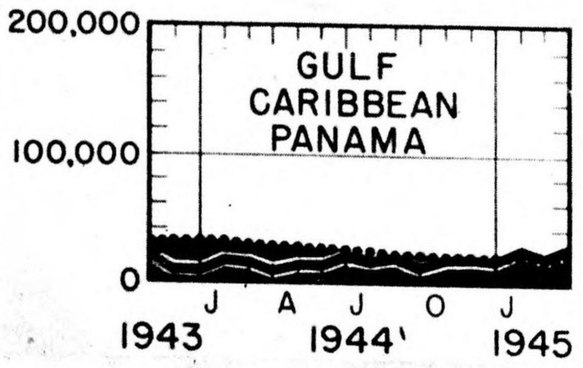


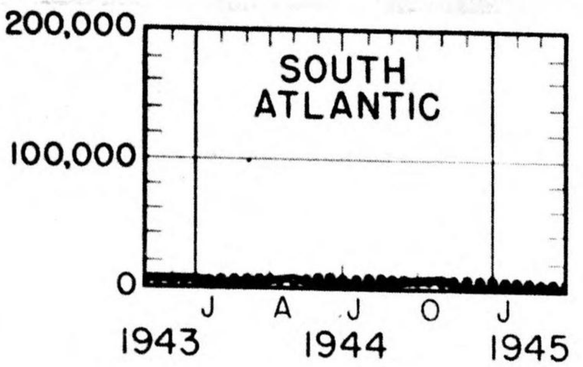
KEY
AFLOAT
ASHORE











SECRET

The Navy's need for officers after the war is governed by the size of the fleet which the Congress determines is necessary to defend the United States and Western Hemisphere, and to discharge our international agreements and obligations. We know that the Navy will need more officers and men than it now has in the Regular Navy--approximately 30,000 more officers and a total of about 500,000 men. One of the best sources of the additional officers required is the Reserve and Temporary officers now on duty. The program for their selection and transfer is well under way. On 16 August 1945 the Secretary of the Navy addressed a message to the service requesting that Reserve and Temporary USN officers desiring to transfer to the Regular Navy submit their applications. The legislation upon which the program is dependent has been introduced in Congress.

The Navy is extremely proud of the work done by the Women's Reserve. It is our plan to keep a WAVES component in the Naval Reserve. Further, if Congress approves, we will seek to retain on active duty a reasonable number of WAVES who wish to remain and who may be needed in certain specialties. We know from experience that they can be useful after the war in such specialties as communications, the Medical Corps, and certain types of naval aviation duty.

HEALTH

During the spring and summer of 1945 the Medical Department applied the medical experience of earlier operations in its support of the Navy's assault upon the inner defenses of Japan. Improvements in medical care of naval personnel included a more effective chain of evacuation, of which large-scale use of aircraft formed an important part, the provision for a smoother and more rapid flow of medical supplies to the fighting fronts, and the development of an intensive program of preventive medicine, which kept illnesses throughout the Navy and Marine Corps at a low level.

In past wars, disease and infection have caused more deaths and disability in armed forces than actual combat itself. World War I significantly checked this tendency, but the real advantages of modern medical procedures, techniques, and knowledges were experienced during World War II. Navy medical statistics show that of the wounded who survived until they could receive medical care, about 98 out of 100 lived. The most recent tabulations indicate an estimated rate for casualty deaths of 8.7 for the first six months of 1945 in terms of total naval strength as against 4.3 per thousand in 1944. This is primarily a reflection of Iwo Jima, Okinawa, and the attacks of the Japanese "kamikaze" pilots. The total death rate from all causes was 6.7 per thousand for 1944 in terms of total naval strength as against 6.0 per thousand in 1943. According to preliminary data the total death rate from all causes for the first six months of 1945 was estimated at 11.9 per thousand. Over-all cases of sickness and injuries, exclusive of battle injuries, were at the rate of 495.4 per thousand average strength in 1944 as against a corresponding figure of 602.8 in 1943. Two statistical trends in naval morbidity are worthy of note as indicative of the effect of combat. The first is the average per cent of total strength in hospitals, which increased from 1.7 per thousand in 1941 to 2.1 per thousand in 1944 and 2.5 per thousand for the first six months of 1945. Among other things this shows the effect of the longer convalescent periods required for recovery and rehabilitation

of war casualties from such injuries as penetrating wounds and fractured bones. Thus, even though the over-all casualty rate has been maintained at a relatively low figure, the total hospital population has been gradually increasing because of the trend toward a longer average number of sick days per patient. The second significant trend was that of mental disease case incidence, which increased from 9.5 per thousand of total naval strength in 1941 to 11.8 per thousand in 1943 and 14.2 per thousand in 1944. These statistics demonstrate clearly the increase in tempo of modern war with its grueling, unfamiliar horrors. This was the motivating factor which has caused the Medical Department of the Navy consistently to emphasize its neuropsychiatric services.

Statistically the wartime rates indicated above compare favorably with past experience in the Navy, even though the war years have necessitated the maintenance of a large number of naval personnel in foreign waters or on foreign shores where they are subjected to many endemic diseases and infections which are rarely encountered in times of peace. When final statistics are computed on medical care during the war years, there is every indication, upon the basis of preliminary figures, that medical science will be shown to have assumed an importance in the preservation of the health and lives of our fighting men never before equalled in the history of the United States Navy.

While the Navy Medical Department was actively engaged throughout the year in giving medical support to amphibious operations in the Pacific, it was also providing medical care for thousands of Navy men aboard the ships, submarines, and planes which were daily carrying the war into enemy skies and enemy waters. Good organization, careful training, and judicious dispersal of medical personnel and supplies made it possible for the Medical Department to meet all demands made upon it in spite of heavy casualties aboard some vessels. These activities included careful classification of the wounded in terms of the urgency of their cases; the use of voluntary crewmen as stretcher bearers, thus releasing hospital corpsmen to assist in caring for the wounded; and the existence of the blood banks aboard many of the vessels making available whole blood for the more serious cases.

The Medical Department's second line of defense after the support given in actual battle areas has been its system of fleet, advance base, base and naval hospitals, its dispensaries, and its hospital ships. Scattered throughout the world, they have provided many thousands of beds and the other medical facilities to give patients complete and definitive care.

In order to give adequate support to the operational portion of the Medical Department, numerous technical and administrative services have been required. Medical research has been one of these. New drugs, new applications of earlier discoveries, and new techniques have been developed through untiring research and observation. Perhaps the most advertised of these is penicillin, which has been found capable of stopping infection, even where the sulfa drugs are powerless. Prevention and care of burns, use of blood plasma, transportation of whole blood by air to battle areas, and proper methods for healing fractures are some of the problems receiving attention to the end that the Navy Medical Department will not only stay abreast of the developments in medical science but may maintain its position as a leader.

Rehabilitation programs for casualties are being conducted at a number of hospital centers scattered throughout the United States. The essential purpose of the program is to develop a clear-cut integrated procedure for the rehabilitation of men for return to duty or to civilian life. This part of the program, involving as it does the best possible medical, surgical, and neuropsychiatric care, may be regarded as a policy of the Navy. Special facilities in various naval hospitals are made available to those casualties requiring them. A second part of the program provides for the close cooperation of the Medical Department with specialized rehabilitation agencies which are designed to assist men to make the necessary adjustments and receive the proper training to fit them for useful employment in civilian life. Considerable emphasis has been placed upon the development of a neuropsychiatric program, and efforts are made by the psychiatrists to reach casualties needing their services as quickly as possible after they are affected, so that permanent injuries are avoided. Moreover, psychiatrists assist naval offenders, who have been imprisoned, in making readjustments. As a result, many men who were formerly serious disciplinary problems are now returned to full active duty.

With the coming of peace, the previously prepared plans of the Medical Department for handling the medical aspects of demobilization have been put into effect. Every precaution is being taken to see that the men returned to civilian life are in sound physical condition, particularly in regard to infectious diseases and defects of a serious nature. Those requiring hospitalization, medical or dental attention, are cared for until fit for release, if desired by the individual, or until arrangements have been made for continued treatment outside of the Navy.

THE MARINE CORPS

Prior to 1 March 1945 the Marine Corps had organized and deployed as planned all combat units within the authorized strength of 478,000. In addition to the six divisions, four air wings and supporting units of the Fleet Marine Force, there were 11,000 Marines serving in detachments included within the complements of combatant naval vessels, and another 28,000 providing security for naval shore establishments both within and outside of the United States and at advance bases. The remainder of the Corps was employed in logistic establishments and in training activities necessary for the continuous support of field units.

Since practically all of the Marine Corps' efforts during the war were directed toward the Pacific Theater, the victory in Europe resulted in a negligible change in commitments. Consequently it was not possible to effect a reduction of the size of the Corps at that time.

When it became apparent that the authorized strength was inadequate to provide for the increasing numbers who were hospitalized or convalescent, and to maintain the desired rehabilitation program, the President, on 29 May 1945, raised the troop ceiling of the Corps to 503,000. Although the rate of procurement was increased to provide this new strength, the surrender of Japan occurred as the Corps attained a strength of 484,631, and plans for partial demobilization were put into effect at once.

In order to provide immediate replacements for Marines serving overseas who were entitled to early release from the service, training activities, other than recruit depots, sea-schools, and certain specialist schools, were suspended as soon as demobilization was directed. Upon completion of their recruit training, enlisted men now receive their advanced training in the organizations to which they are assigned. This is in accordance with former peacetime practices within the Corps. Training overhead was further reduced by initiating a program of restricting future officer training to candidates who appear to be postwar Regular officer material.

Demobilization of personnel is being effected at the maximum rate consistent with the availability of facilities and with the immediate commitments of the Corps, particularly the Fleet Marine Force. Concurrent with this demobilization is the reorganization of the regular component of the Corps to meet planned postwar requirements. Preparation is being made for the transfer of qualified Reserve and Temporary officers to the Regular service in such numbers as may be authorized. When Japan surrendered there were 71,460 Marines serving under current four-year regular enlistments. Recruiting of Regulars for four-year enlistments has been resumed, with the priority in opportunity to enlist in the Regular service being afforded to those who served in the war.

On V-J day there were 1000 Women's Reserves serving in or en route to Hawaii, and at that time their further assignments to overseas duty were cancelled. Women's Reserves are being demobilized as expeditiously as possible, and essentially in accordance with the same policies that apply to the men, but with lower critical scores.

THE COAST GUARD

On 1 September 1945 Coast Guard personnel totalled 170,480, including 9,624 in the SPARS. Since its total postwar military strength is planned at 34,500, the Coast Guard has taken prompt action looking toward the ultimate demobilization of its wartime forces. All enlistments in the Reserve and Women's Reserve (SPARS) have been discontinued and future enlistments will be in the Regular Coast Guard only and limited to 17-year olds. Legislation is being requested to permit the acceptance of a limited number of Reserve officers and enlisted men in the Regular Coast Guard.

In addition to the 1677 Coast Guard craft in active service at the end of the 1945 fiscal year, Coast Guard personnel on 1 August 1945 were manning 326 Navy craft and 254 Army vessels, about 50,000 Coastguardmen serving on Navy and 6,000 on Army craft. Only 84 Reserve vessels remained in service out of a total of 2,089 which had been taken over early in the war, principally to combat the submarine menace along the coasts. There had also been 908 other vessels acquired during the war through purchase, charter or gift, and all but 252 of these had been disposed of.

Following the defeat of Germany, port security measures on the Atlantic and Gulf coasts were relaxed. The examination of vessels leaving and entering ports was discontinued, as were identification card requirements and licenses for individual vessel movements. Certain restricted areas on

these coasts were abolished along with anti-sabotage water patrols and guards on cargo vessels and waterfront facilities. By the end of the 1945 fiscal year, only 34 ports had Coast Guard port protection as against 117 ports a year earlier; the total personnel engaged in such activities had declined from 23,817 to 16,304.

After V-E day, three port protective programs were intensified--fire fighting, supervision over explosive handling, and anti-oil pollution. The training of personnel in fire prevention and fire fighting techniques was followed by a program coordinated with the Army to improve and strengthen fire protection measures at ports of embarkation. Thirty Navy fireboats, Coast Guard manned, were assigned to forward areas in the Pacific. Supervisory activities over the proper handling and stowage of explosives were extended to naval ammunition depots having port facilities, as well as to naval bases in the Pacific and to European ports handling explosives and ammunition then being deployed to the Pacific. Finally, an intensive educational campaign against oil pollution in American ports was begun. With the surrender of Japan the size of the Coast Guard's munition handling details in the Pacific was considerably increased and their task of supervising the handling and loading of explosives for return to the United States was expected to extend over a period of several months.

While the activities of Temporary Reservists, who serve without pay and are principally engaged in port security work, were being discontinued along the Atlantic and Gulf coasts and the inland waterways systems after V-E day, enrollments on the west coast did not relax with the heavy movements to the Pacific of personnel and supplies which continued up to the surrender of Japan. By 1 September 1945, however, there were less than 12,000 Temporary Reservists assigned to active duty out of a onetime total of 52,333. Some of these were pilots, who, under limited control exercised by the Coast Guard, had handled 120,000 pilotage assignments in 39 ports during the 1945 fiscal year.

In July 1945, 64 fixed and 17 mobile LORAN (Long Range Navigation) stations were being operated by the Coast Guard. This advanced method of establishing navigational positions by electronics had been installed promptly on Iwo Jima and Okinawa and provided LORAN lines of position over the Japanese mainland, making for successful bombing missions. Forty-five RACON (Radar Beacon) stations which give, within 120 miles of the station, the distance and bearing of an airplane or ship, had been installed and were being operated by the Coast Guard on the Atlantic and Pacific coasts and in Alaska. While certain aids to navigation in the Atlantic area used primarily for war purposes, such as swept channel markings, were being removed, there was an accelerated demand for aids to navigation throughout the Pacific area to facilitate the forward movement of our armed forces. Meanwhile studies are being made of the possibility of designing lightships which could be operated without regular crews on board.

Some 1627 new vessels, aggregating 9,009,216 gross tons, which had been constructed during the fiscal year 1945, had been certificated by the Coast Guard under the marine inspection laws. Annual inspections on 9720 vessels were completed during the year. The passing of the peak of the emergency ship construction relieved a number of field inspectors who were transferred from the east coast and Great Lakes to Pacific ports for temporary duty.

Merchant Marine Hearing Units continued to operate in all important United States ports while others functioned in Europe, Suez, Ceylon, the south and southwest Pacific and the Canal Zone. They promptly investigated marine casualties and acted as government liaison officers in merchant marine affairs.

The Coast Guard maintained nine air stations along the coasts of the United States, under the operational control of the various sea frontiers, with a total of 165 planes. These have served as task units in the conduct of air-sea rescue. Assistance was rendered in 686 plane crashes and 786 lives were saved during the fiscal year; 5357 emergency medical cases were transported and 149 obstructions to navigation and derelicts were sighted for removal.

VII NAVAL RESEARCH AND DEVELOPMENT DURING WORLD WAR II

In December 1941 the United States faced seasoned enemies, who not only had long been preparing for war but who had actually been waging it for several years. Within the limited facilities and means available throughout the years of peace, the United States Navy had, however, equipped itself with weapons the equal of, or superior to, those of other navies and had laid the groundwork for still further development. During the war the science and industry of this country and our allies were mobilized to apply existing scientific knowledge to the perfection of these weapons and the development of new and more deadly means of waging war. As a result the United States Navy was able to maintain the technical advantage over the navies of our enemies, which contributed so materially to the outcome of World War II.

The means of accomplishing this were not so much directed towards making new discoveries, as towards the exploitation of the skills and techniques which civilian scientists had already cultivated in years of peace. When war appeared imminent, the War and Navy Departments and the National Academy of Sciences gave close attention to the most profitable manner of utilizing the strength of American science in military and naval research. It was decided to attempt a solution involving the maximum flexibility and initiative, in which the fundamental principle would be cooperation between science and the armed forces, rather than to bring the scientists into military and naval laboratories, as was done in England. The principle proved thoroughly sound. The arrangement adopted was the establishment by executive order of the Office of Scientific Research and Development, which had as its scientific and technical working bodies the National Defense Research Council, the Medical Research Council, and later the Office of Field Service. To assure full integration of the potentialities of these organizations with the Navy's own research and development program and the needs of the service, the late Secretary Knox, in July 1941, established the office of Coordinator of Research and Development. Throughout the war, the development of new weapons and devices has been accelerated by the teamwork between the users, the scientists, the engineer-designers and the producers.

The devices and weapons resulting from the research and development program have been put to use in every phase of naval warfare. Particular examples, cited because of their complexity and diversification, are amphibious warfare, carrier warfare, submarine and antisubmarine warfare. In each of these cases, our combat effectiveness has been materially increased by improvements in communications, navigational devices, fire control, detection equipment, firepower, aircraft performance (range, speed, armament, handling characteristics) and by advanced training methods and equipment.

Perhaps the greatest technological advances of the entire war have been made in the field of electronics, both within the naval laboratories and in collaboration with the Office of Scientific Research and Development. Pre-existing radar sets were developed and new models created for ship and air-borne search, fire control, and for accurate long-range navigation. Identification and recognition equipment were developed for use in conjunction with radar systems. New and highly efficient short-range radio telephones were used for tactical communication. In the successful anti-submarine campaign in the Atlantic, small radio-sono-buoys were used; these, when dropped from aircraft, listened for the noise made by a submarine and automatically relayed the information to the searching plane. Great strides have been made in electronic antisubmarine detection equipment. Underwater echo-ranging gear and listening equipment have been improved in quality and extended in function since the outbreak of the war. Counter-measures have been developed for jamming enemy radar and communication systems, disrupting the control signals for his guided missiles, and counter-acting his measures to jam our own equipment.

The foundation for our shipboard radar systems had been laid before the war. The earliest observations of radio phenomena of the kind that are exploited by radar were made at the Naval Research Laboratory by groups working with Dr. A. H. Taylor and Dr. R. N. Page, and the military possibilities were immediately grasped by these scientists and by Rear Admiral H. G. Bowen, then Director of the Laboratory. Because of this, at the outset of the war, our Navy alone had on its ships a search radar specifically designed for shipboard use. We had already incorporated in these radars the technical development of using a single antenna for transmission and reception. Radar of this type contributed to the victories of the Coral Sea, Midway, and Guadalcanal. Over 26,000 sets of air-borne radar equipment were produced from the Naval Research Laboratory's redesign of British air-borne equipment. Ours was the first navy to install radar in submarines. Similarly, a highly efficient super-sonic echo-ranging gear for submarine and anti-submarine warfare had been completely developed, and was installed before the war began. The success of all these electronic devices can be traced back to intensive early development of new types of vacuum tubes.

Initially, from want of experience against an enemy attacking with the persistence demonstrated by the Japanese, our antiaircraft batteries were inadequate. Particularly was this true in the case of automatic weapon batteries, consisting at that time of the .50-caliber and 1.1-inch machine guns. The main antiaircraft batteries in the fleet, consisting of 5-inch and 3-inch main batteries were controlled by directors employing optical range information. Although antiaircraft fire-control radar was under development, no installations were operative in the fleet.

By the time Japan surrendered, our defenses had been revolutionized. The fleet was equipped with accurate antiaircraft fire-control radar. Our antiaircraft gun defenses consisted of multiple power-driven 40-millimeter mounts, 20-millimeter mounts, and 5-inch twin and single mounts, many of which were controlled by small intermediate range radar-fed gun directors. The VT, or proximity influence fuse, initially sponsored by the Navy and by the Office of Scientific Research and Development, marked a radical change from previous methods of detonating a projectile and vastly increased the effectiveness of antiaircraft defenses.

At the end of the war, the 8-inch rapid-fire turret had been developed and was ready for introduction to the fleet. Completely automatic in action, it can be used against ship, aircraft, or land targets. The guns are loaded from the handling rooms automatically and are automatically laid.

When the threat of the German magnetic mines became known in 1939, the Navy immediately mobilized scientific talent and industrial capacity to produce a countermeasure. Several methods of demagnetizing our ships were developed. These were applied before Pearl Harbor to all combatant vessels, and later to all other vessels, and were of material assistance in maintaining the safety of our vital shipping lanes. At the same time, acoustic and magnetic firing devices were developed and produced in quantity for our mines and depth charges. Electric torpedoes were developed to supplement the air-steam torpedo, which at the outbreak of war was our weapon of underwater attack.

Rockets and rocket launchers were developed, with the assistance of California Institute of Technology and other agencies, for use on board ships and aircraft. Appropriate types of rockets were developed for use against submarines, for the support of amphibious landings, and for aircraft. These allowed heavy firepower to be concentrated in light craft.

Fighter-plane speed was greatly increased during the war. At the end an experimental model ready for combat use had a speed of over 550 mil per hour. This plane was powered with turbo-jet engines, little known befor 1941. Development of the conventional aircraft engine had also progressed; whereas initially the maximum size was 1000 horsepower, improved types of 3000 horsepower are now in use. Torpedo bombers, scout bombers, patrol bombers, and scout observation planes have all been rapidly developed during the period. Carrier-borne aircraft with increased speed, range, and armament carried the battle to the Japanese homeland, and patrol aircraft with high speed, long range, and greater offensive power aided in supplying the information necessary to the success of those operations. Development of the arresting gear, launching catapults, and handling equipment of our surface ships kept pace with the increasing weights of planes, and allowed more planes per ship to be carried than had been possib in peacetime.

Our aircraft were a focus for developments in many fields. Radar opened new possibilities for search, night combat, and operations under poor visibility conditions. Aircraft guns were increased in size from the .30-caliber World War I weapon to 20-millimeter, 37-millimeter, and 75-millimeter guns. Air-borne rockets up to 11.75 inches in diameter radically increased the striking power of conventional aircraft, with little penalty on performance. Rocket power was also used on seaplanes for assistance in take-off with heavy loads and in high seas, making possible the rescue of many downed aviators and thereby reducing our combat losses. Development of the "fire bomb" further extended the tactical versatility of aircraft.

Training was enormously expedited by the introduction of a great variety of synthetic training devices. These endeavored to offer trainees an approximation of battle experience and to develop the reactions of a veteran before actual combat. As an example, it is now possible for the entire crew of a submarine to rehearse approaches and torpedo attacks against enemy task forces in trainers on dry land, which provide simulated visual observation of the enemy, simulated radar and sonar information, and in which all of the complex battle gear and fire-control mechanisms operate as they do in a real submarine.

Certain developments, whose progress was most promising, were not completed in time for extensive combat use. These are primarily guided missiles and pilotless aircraft, utilizing remote control by electronic apparatus. These new developments will play a major role in warfare of the future, carrying new explosives over greatly increased ranges.

In the early days of research leading towards the application of atomic energy for military purposes, the Naval Research Laboratory was the only government facility engaged in this type of work. At the Laboratory there was developed a liquid thermal diffusion process for separation of uranium isotopes. Enriched chemicals, as well as basic designs and operating practices, were later supplied to the Army and used in one of the Oak Ridge plants manufacturing the atomic bomb.

The complexity of modern warfare in both methods and means demands exacting analysis of the measures and countermeasures introduced at every stage by ourselves and the enemy. Scientific research can not only speed the invention and production of weapons, but also assist in insuring their correct use. The application, by qualified scientists, of the scientific method to the improvement of naval operating techniques and material, has come to be called operations research. Scientists engaged in operations research are experts who advise that part of the Navy which is using the weapons and craft--the fleets themselves. To function effectively they must work under the direction of, and have close personal contact with the officers who plan and carry on the operations of war.

During the war we succeeded in enlisting the services of a group of competent scientists to carry out operations research. This group was set up as a flexible organization able to reassign personnel quickly when new critical problems arose. Fiscal and administrative control of the group was originally vested in the Office of Scientific Research and Development. The group as a whole was assigned to the Navy for functional control, and in the course of time was attached to my Headquarters.

The initial impulse toward the formation of such a group arose in April 1942, during the early days of the antisubmarine war. With the cooperation of the Antisubmarine Division of the National Defense Research Committee, seven scientists were recruited by Columbia University and assigned to the Antisubmarine Warfare Unit, Atlantic Fleet.

During the year 1942 the group was considerably increased in size, and in July 1943, at a strength of approximately forty members, it was incorporated into the staff of the Tenth Fleet as the Antisubmarine Warfare Operations Research Group. Subsequently the administrative responsibility for the group was transferred from Columbia University to the Office of Field Service, without alteration in relationships with the Navy. In October 1944, with the decline of the submarine menace, the group was transferred to the Readiness Division of my Headquarters and renamed the Operations Research Group. At the close of the war it consisted of seventy-three scientists, drawn from a wide variety of backgrounds. Many of the members were attached, as the need arose, to the staffs of fleet and type commanders overseas, and at operating bases in war theaters. So far as possible they were afforded the opportunity of observing combat operations at first hand.

Operations research, as it developed, fell into two main categories: theoretical analysis of tactics, strategy and the equipment of war on the one hand; and statistical analysis of operations on the other. Each type of naval operation had to be analyzed theoretically to determine the maximum potentialities of the equipment involved, the probable reactions of the personnel, and the nature of the tactics which would combine equipment and personnel in an optimum manner. Action reports, giving the actual results obtained in this type of operation, were studied in a quantitative manner in order to amplify, correct, and correlate closely the theoretical analysis with what was actually happening on the field of battle. The knowledge resulting from this continued cross-check of theory with practice made it possible to work out improvements in tactics which sometimes increased the effectiveness of weapons by factors of three or five, to detect changes in the enemy's tactics in time to counter them before they became dangerous, and to calculate force requirements for future operations.

The late war, more than any other, involved the interplay of new technical measures and opposing countermeasures. For example, the German U-boats had to revise their tactics and equipment when we began to use radar on our antisubmarine aircraft; and we, in turn had to modify our tactics and radar equipment to counter their changes. In this see-saw of techniques the side which countered quickly, before the opponent had time to perfect the new tactics and weapons, had a decided advantage. Operations research, bringing scientists in to analyze the technical import of the fluctuations between measure and countermeasure, made it possible to speed up our reaction rate in several critical cases.

Likewise, in their struggle to counteract our improved convoy escort tactics, the U-boats introduced the acoustic torpedo, which steers for a ship by listening to the sound it makes under water. Our development of countermeasures was based on studies by the Operations Research Group into the pattern of sound produced in the sea by ships' propellers and on the probable reaction of the torpedo to various decoy devices. In this and other cases, information derived from intelligence sources was interpreted by the members of the group in the light of their own scientific knowledge and utilized to devise improved countermeasures.

Submarine and antisubmarine operations are closely complementary. Methods developed for attack have as a counterpart methods for defense based on the principles underlying both. In the subgroup devoted to submarine warfare, theoretical and operational studies were carried out on coordination of attack by groups of submarines; torpedo fire control; effectiveness of rescue of downed aviators; causes of loss of United States submarines; the relative merits of various types of torpedoes under differing circumstances; and enemy countermeasures to our radar search equipment.

Research on air problems has been devoted in the main to perfection of tactics designed to minimize flak hazard to naval aircraft attacking gun-defended targets, and to analysis of accuracy and effectiveness of aerial weapons, primarily against sea-borne targets. Bombs, rockets, and torpedoes are designed for distinct uses, conditioned by the accuracy of launching and by their lethal effectiveness. Studies of the peculiarities of these weapons have led to recommendations for tactics and training procedures.

Studies were carried out by other subgroups on defense of task forces against suicide attacks, on the effectiveness of antiaircraft fire, and on problems of naval gunfire as a support for amphibious landings.

The Operations Research Group, to be renamed the Operations Evaluation Group as more closely descriptive of its function, will be continued as part of the naval organization at an appropriate peacetime strength.

The assistance and cooperation of industry and science have been indispensable. Without this assistance, many of the weapons which have come into being as the result of intensive wartime research and development otherwise never would have been completed and introduced into the fleet.

It had often been predicted that in a national emergency the totalitarian countries would have a great technical advantage over the democracies because of their ability to regiment scientific facilities and manpower at will. The results achieved by Germany, Italy and Japan do not bear out this contention. Studies made since the close of the war indicate that in none of these countries was the scientific effort as effectively handled as in the United States. The rapid, effective and original results obtained in bringing science into our war effort are proof of the responsiveness of our form of government to meeting emergencies, the technical competence of American scientists, and the productive genius of American industry.

It would be unfair to others to single out by name individual scientists who made important scientific and technical contributions to the improvement of old or the development of new weapons. There were thousands of such contributions. It is generally conceded that with respect to originality of ideas and individual resourcefulness the scientists in the axis countries were as competent as our own. Where American science outdistanced the axis powers was in the superior administration of the over-all effort so that the available scientific manpower of the country could function with the maximum effectiveness. The leadership for what may be broadly termed the civilian emergency scientific effort was provided by the same individuals during the entire war period. These individuals deserve special mention among those responsible for the superb administrative efficiency which characterized the American conduct of the war

throughout. Dr. Vannevar Bush as the Director of the Office of Scientific Research and Development carried the over-all administrative and technical responsibility for that organization. Under him Dr. James B. Conant as Chairman of the National Defense Research Committee; Dr. Alfred N. Richards as Chairman of the Committee on Medical Research, and Dr. Karl T. Compton as the head of the Office of Field Services administered the scientific and technical activities of the Office of Scientific Research and Development. Dr. Frank B. Jewett as the President of the National Academy of Sciences and of its working body the National Research Council, and Dr. Jerome C. Hunsaker as the Chairman of the National Advisory Committee for Aeronautics directed the activities of these organizations during this period. The coordination of the work of these groups with the Navy was handled by the Office of the Coordinator of Research and Development headed by Rear Admiral J. A. Furer.

I wish to pay particular tribute to the group of scientists, industrialists and officers of the Army and Navy who, under the direction of Major General L. R. Groves, USA, achieved the final outstanding technical success of the war--the development of a practical atomic bomb and the method of using it from aircraft.

Sufficient progress in the technical development and use of improved weapons and associated equipment has been made during the war to emphasize the necessity for continued progress. Working under the stress of an emergency, the factor of primary importance was immediate effectiveness against the enemy. This resulted in "crash designs" and production that required considerably more personnel, weight and space, than the more seasoned designs that might have been produced had time been available. Thus, the rapid expansion and development of new weapons and devices during the war was often at the cost of factors of major importance, such as the reserve buoyancy and stability of the ships in which they were installed. Those wartime designs, while they have well served their purpose against the enemy, have nevertheless created problems of refinement and improvement in the ultimate design of equipment, which must be so resolved that a minimum of personnel, weight and space will be required to attain the desired effect. These problems must be energetically attacked in the coming years of peace. Only by continuing vigorous research and development can this country hope to be protected from any potential enemies and maintain the position which it now enjoys in possessing the greatest effective naval fighting force in history.

VIII CONCLUSION

In my previous reports, I have touched upon the effective cooperation between our Allies which has been of such fundamental and signal importance in accounting for the success of our combined undertakings. This cooperation has continued and been extended in the period since my last report.

I have spoken before of the full measure of cooperation and support rendered by the ground, air and service forces of the Army in a partnership of accomplishment, which neither Navy nor Army could have carried out singly. For that cooperation, undiminished throughout the war, and to the wholehearted support from the great body of citizens who performed the countless and varied tasks which made up our war effort, I reaffirm my appreciation.

Just as the Navy depended upon its sister services and upon the multitude of activities which produced the implements of war, so also did the Navy rely for success upon the Reserves and the Regulars, the men and women who constituted in its mutually supporting elements--the Fleet, the Shore Establishment, the Marine Corps, the Coast Guard and the Seabees--each of which contributed its full share to victory.

The end of the war came before we had dared to expect it. As late as August 1943 strategic studies drawn up by the British and United States planners contemplated the war against Japan continuing far into 1947. Even the latest plans were based upon the Japanese war lasting a year after the fall of Germany. Actually Japan's defeat came within three months of Germany's collapse. The nation can be thankful that the unrelenting acceleration of our power in the Pacific ended the war in 1945.

The price of victory has been high. Beginning with the dark days of December 1941 and continuing until September 1945, when ships of the Pacific Fleet steamed triumphant into Tokyo Bay, the Navy's losses were severe. The casualties of the United States Navy, Marine Corps and Coast Guard reached the totals of 56,206 dead, 80,259 wounded, and 8,967 missing. Many of these gallant men fell in battle; many were lost in strenuous and hazardous operations convoying our shipping or patrolling the seas and skies; others were killed in training for the duties that Fate would not permit them to carry out. All honor to these heroic men. To their families and to those who have suffered the physical and mental anguish of wounds, the Navy includes its sympathy in that of the country they served so well.

It is my sincere hope--and expectation--that the United States will hereafter remain ever ready to support and maintain the peace of the world by being ever ready to back up its words with deeds.

APPENDIX A

STATUS OF MAJOR COMBATANT SHIPS OF JAPANESE NAVY AT THE CONCLUSION OF HOSTILITIES

Major Combatant Vessels by Types

Battleships	Date Commissioned (Prior to 7 December 1941 unless otherwise indicated)	Final Disposition
FUSO		SUNK 25 October 1944 in Surigao Straits, P.I. by U.S. destroyers
HARUNA		SUNK 28 July 1945 at Kure by U.S. carrier planes
HIYEI		SUNK 13 November 1942 off Savo Is., Solomons by U.S. fleet units and aircraft
HYUGA		SUNK 28 July 1945 at Kure by U.S. carrier planes
ISE		SUNK 28 July 1945 at Kure by U.S. carrier planes
KIRISHIMA		SUNK 15 November 1942 off Savo Is., Solomons by U.S. fleet units
KONGO		SUNK 21 November 1944 off Foochow, China, by U.S. submarine
MUSASHI	August 1942	SUNK 25 October 1944 in Sibuyan Sea, P.I., by U.S. carrier planes
MUTSU		SUNK 8 June 1943 in Hiroshima Bay b accidental explosion
NAGATO		HEAVILY DAMAGED 18 July 1945 at Yokosuka by U.S. carrier planes
YAMASHIRO		SUNK 15 October 1944 in Surigao Straits, P.I., by U.S. fleet units
YAMATO	December 1941	SUNK 7 April 1945 off Kyushu by U.S. carrier planes
Carriers		
AKAGI		SUNK 4 June 1942 off Midway by U.S. carrier planes
AMAGI	August 1944	HEAVILY DAMAGED 24-28 July 1945 at Kure by U.S. carrier planes
CHITOSE	January 1944	SUNK 25 October 1944 N.E. of Luzon b U.S. carrier planes
CHIYODA	October 1943	SUNK 25 October 1944 N.E. of Luzon by U.S. carrier planes and fleet unit

Carriers (Cont.)	Date Commissioned	Final Disposition
HAYATAKA (JUNYO)	May 1942	HEAVILY DAMAGED 9 December 1944 off Nagasaki; out of action at Sasebo
HIRYU		SUNK 5 June 1942 off Midway by U.S. carrier planes
HITAKA (HIYO)	July 1942	SUNK 20 June 1944 in Philippine Sea by U.S. carrier planes
HOSHO		OUT OF ACTION, lightly damaged, in Japan area
KAGA		SUNK 4 June 1942 off Midway by U.S. carrier planes
KASAGI	Not commissioned	Under camouflage at Sasebo; fitting out discontinued
KATSURAGI	October 1944	HEAVILY DAMAGED 24-28 July 1945 at Kure by U.S. carrier planes
RYUHO	November 1942	HEAVILY DAMAGED 19 March 1945 at Kure by U.S. carrier planes
RYUJO		SUNK 24 August 1942 off Malaita Is., Solomons by U.S. carrier planes
SHINANO	November 1944	SUNK 29 November 1944 S. of Honshu by U.S. submarine
SHOHO	December 1941	SUNK 7 May 1942 in Coral Sea by U.S. carrier planes
SHOKAKU		SUNK 19 June 1944 off Yap by U.S. submarine
SORYU		SUNK 4 June 1942 off Midway by U.S. carrier planes and submarine
TAIHO	March 1944	SUNK 19 June 1944 off Yap by U.S. submarine
UNRYU	1944	SUNK 19 December 1944 in E. China Sea by U.S. submarine
ZUIHO		SUNK 25 October 1944 N.E. of Luzon by U.S. carrier planes
ZUIKAKU		SUNK 25 October 1944 N.E. of Luzon by U.S. carrier planes

Escort Carriers

CHUYO	November 1942	SUNK 4 December 1943 S.E. of Honshu by U.S. submarine
KAIYO	November 1943	SUNK 24 July 1945 in Beppu Bay, Japan, by U.S. carrier planes
JINYO	December 1943	SUNK 17 November 1944 in S. Yellow Sea by U.S. submarine
OTAKA	1942	SUNK 18 August 1944 N.W. of Luzon by U.S. submarine
UNYO	1942	SUNK 16 September 1944 in S. China Sea by U.S. submarine

Heavy Cruisers	Date Commissioned	Final Disposition
AOBA		SUNK 28 July 1945 at Kure by U.S. carrier planes
ASHIGARA		SUNK 8 June 1945 S.E. of Singapore by British submarine
ATAGO		SUNK 23 October 1944 off Palawan, P.I., by U.S. submarine
CHIKUMA		SUNK 25 October 1944 E. of Samar, P.I., by U.S. carrier planes and fleet units
CHOKAI		SUNK 24 October 1944 in Sibuyan Sea, P.I., by U.S. carrier planes
KURUTAKA		SUNK 11 October 1942 off Savo Is., Solomons, by U.S. fleet units
HAGURO		SUNK 16 May 1945 off Penang by British carrier planes and destroyers
KAKO		SUNK 10 August 1942 off New Ireland by U.S. submarine
KINUGASA		SUNK 14 November 1942 off Savo Is., Solomons, by U.S. carrier planes
KUMANO		SUNK 25 November 1944 off W. Luzon by U.S. carrier planes
MAYA		SUNK 23 October 1944 off Palawan, P.I., by U.S. submarine
MIKUMA		SUNK 6 June 1942 off Midway Is. by U.S. carrier planes
MOGAMI		SUNK 25 October 1944 in Mindanao Sea, P.I., by U.S. fleet units and aircraft
MYOKO		OUT OF ACTION at Singapore; heavily damaged 13 December 1944 S.W. of Saigon by U.S. submarine
NACHI		SUNK 5 November 1944 in Manila Bay by U.S. carrier planes
SUZUYA		SUNK 25 October 1944 E. of Samar, P.I., by U.S. carrier planes
TAKAO		OUT OF ACTION at Singapore; heavily damaged 23 October 1944 off Palawan, P.I., by U.S. submarine
TONE		SUNK 28 July 1945 at Kure by U.S. carrier aircraft
Light Cruisers		
ABUKUMA		SUNK 26 October 1944 off Negros, P.I., by B-24's and fleet units
AGANO	October 1942	SUNK 16 February 1944 N. of Truk by U.S. submarine
ISUZU		SUNK 7 April 1945 N. of Soembawa, N.E.I., by U.S. submarines

Light Cruisers (Cont.)	Date Commissioned	Final Disposition
JINTSU		SUNK 13 July 1943 N. of Kolombangara, Solomons, by U.S. fleet units
KINU		SUNK 26 October 1944 S.W. of Masbate, P.I., by U.S. carrier planes
KISO		SUNK 13 November 1944 in Manila Bay by U.S. carrier planes
KITAGAMI		HEAVILY DAMAGED 24-28 July 1945 off Kure by U.S. carrier planes
KUMA		SUNK 11 January 1944 off Penang by British submarine
NAGARA		SUNK 7 August 1944 W. of Kyushu by U.S. submarine
NAKA		SUNK 17 February 1944 S.W. of Truk by U.S. carrier planes
NATORI		SUNK 18 August 1944 E. of Samar, P.I., by U.S. submarine
NOSHIRO		SUNK 26 October 1944 N.W. of Panay, P.I., by U.S. carrier planes
OI		SUNK 19 July 1944 in S. China Sea by U.S. submarine
OYODO	February 1943	SUNK 28 July 1945 at Kure by U.S. carrier planes
SAKAWA	November 1944	In Japan
SENDAI		SUNK 2 November 1943 W. of Bougainville, Solomons by U.S. fleet units
TAMA		SUNK 25 October 1944 N.E. of Luzon by U.S. submarine
TATSUTA		SUNK 14 March 1944 S. of Yokohama by U.S. submarine
TENRYU		SUNK 18 December 1942 in Bismarck Sea by U.S. submarine
YAHAGI	December 1943	SUNK 7 April 1945 off Kyushu by U.S. carrier planes
YUBARI		SUNK 27 April 1944 S. of Palau by U.S. submarine
YURA		SUNK 25 October 1942 off Santa Isabel, Solomons by U.S. planes

Training Cruisers	
KASHII	SUNK 12 January 1945 in S. China Sea by U.S. carrier planes
KASHIMA	In Japan
KATORI	SUNK 17 February 1944 at Truk by U.S. fleet units and carrier planes

Destroyers	Date Commissioned	Final Disposition
AKATSUKI		SUNK 13 November 1942 off Savo Is., Solomons, by U.S. cruiser
AKEBONO		SUNK 13 November 1944 in Manila Bay by U.S. carrier planes
AKIGUMO	1942	SUNK 11 April 1944 off Zamboanga, Mindanao, by U.S. submarine
AKIKAZE		SUNK 3 November 1944 in S. China Sea by U.S. submarine
AKISHIMO	1944	SUNK 13 November 1944 in Manila Bay by U.S. carrier planes
AKITSUKI	1942	SUNK 22 December 1944 off Omai Saki, Honshu, by U.S. submarine
AMAGIRI		SUNK 23 April 1944 in Makassar Strait by mine
AMATSUKAZE		DESTROYED 6 April 1945 off Amoy by B-25's
ARARE		SUNK 5 July 1942 off Kiska by U.S. submarine
ARASHI		SUNK 6 August 1943 in Vella Gulf, New Georgia, by U.S. destroyers
ARASHIO		SUNK 3 March 1943 in Huon Gulf, New Guinea, by U.S. Army bombers
ARIAKE		SUNK 28 July 1943 off Cape Gloucester, New Britain, by B-25's
ASAGAO		HEAVILY DAMAGED 22 August 1945 near Moji; in Japan
ASAGIRI		SUNK 28 August 1942 off Santa Isabel, Solomons, by Marine bombers
ASAGUMO		SUNK 25 October 1944 in Surigao Strait by U.S. fleet units
ASAKAZE		SUNK 23 August 1944 off Cape Bolinao, Luzon, by U.S. submarine
ASANAGI		SUNK 22 May 1944 N.W. of Bonin Is. by U.S. submarine
ASASHIMO	1943	SUNK 7 April 1945 off Kyushu by U.S. carrier planes
ASASHIO		SUNK 3 March 1943 in Huon Gulf, New Guinea by U.S. Army bombers
AYANAMI		SUNK 15 November 1942 off Savo Is., Solomons, by U.S. fleet units
ENOKI	1945	HEAVILY DAMAGED 24 July 1945 near Maizuru; in Japan
FUBUKI		SUNK 11 October 1942 off Savo Is., Solomons, by U.S. fleet units
FUJINAMI	1943	SUNK 27 October 1944 S. of Mindoro, P.I., by U.S. carrier planes
FUMITSUKI		SUNK 17 February 1944 at Truk by U.S. carrier planes
FUYO		SUNK 20 December 1943 off Manila by U.S. submarine
FUYUTSUKI	1944	HEAVILY DAMAGED at Moji by mine; decommissioned
HAGI		DAMAGED; in Japan

Destroyers (Cont.)	Date Commissioned	Final Disposition
HAGIKAZE		SUNK 6 August 1943 in Vella Gulf, New Georgia, by U.S. destroyers
HAKAZE		SUNK 23 January 1943 off Steffen Strait, Bismarcks by U.S. submarine
HAMAKAZE		SUNK 7 April 1945 off Kyushu by U.S. carrier planes
HAMANAMI	1944	SUNK 11 November 1944 in Ormoc Bay by U.S. carrier planes
HANATSUKI	1945	LIGHTLY DAMAGED; in Japan
HARUKAZE		HEAVILY DAMAGED 21 January 1945 at Bako; in Japan
HARUSAME		SUNK 8 June 1944 N.W. of Manokawari, New Guinea, by B-25's
HARUTSUKI	1945	In Japan
HASU		HEAVILY DAMAGED 16 January 1945 off Hongkong; at Tsingtao
HATAKAZE		SUNK 15 January 1945 in Takao Harbor
HATSUHARU		SUNK 13 November 1944 in Manila Bay by U.S. carrier planes
HATSUKAZE		SUNK 2 November 1943 W. of Bougainville Is. by U.S. fleet units
HATSUME	1945	Not manned; in Japan
HATSUSHIMO		SUNK 30 July 1945 in Miyazu Bay
HATSUYUKI		SUNK 17 July 1943 off Kahili, Bougainville by U.S. Naval and Marine planes
HATSUZAKURA	1945	Not manned; in Japan
HATSUZUKI	1942	SUNK 25 November 1944 S.W. of Manila by U.S. submarine
HAYANAMI	1943	SUNK 7 June 1944 S.E. of Sibutu passage, P.I., by U.S. submarine
HAYASHIMO	1944	SUNK 26 October 1944 S.E. of Mindoro, P.I., by U.S. carrier planes
HAYASHIO		SUNK 24 November 1942 in Huon Gulf, New Guinea by B-17's
HAYATE		SUNK 11 December 1941 off Wake Is. by shore batteries
HIBIKI		HEAVILY DAMAGED 29 March 1945 at Himejima; in Japan
HINOKI	1944	HEAVILY DAMAGED 5 January 1945 off Manila; in Japan
HOKAZE		SUNK 6 July 1944 in S. Celebes Sea by U.S. submarine
IKAZUCHI		SUNK 13 April 1944 S.W. of Guam by U.S. submarine
INAZUMA		SUNK 14 May 1944 off Tawi Tawi, P.I., by U.S. submarine
ISOKAZE		SUNK 7 April 1945 off Kyushu by U.S. carrier planes
ISONAMI		SUNK 9 April 1943 in Buton passage, Celebes, by U.S. submarine

Destroyers (Cont.)	Date Commissioned	Final Disposition
IWANAMI	1944	SUNK 4 December 1944 in S. China Sea by U.S. submarine
KABA	1944	HEAVILY DAMAGED 24 July 1945 in Inland Sea; in Japan
KAEDE	1944	HEAVILY DAMAGED 31 January 1945 S. of Formosa; in Japan
KAGERO		SUNK 8 May 1943 in Blackett Strait, New Georgia, by mines and aircraft
KAKI	1944	Not manned; in Japan
KAMIKAZE		Operational; at Singapore
KARUKAYA		SUNK 10 May 1944 off Manila Bay by U.S. submarine
KASHI	1944	HEAVILY DAMAGED 21 January 1945 at Takao; in Japan
KASHIWA	Not commissioned	In Japan
KASUMI		SUNK 7 April 1945 off Kyushu by U.S. carrier planes
KAWAKAZE		SUNK 6 August 1943 in Vella Gulf, New Georgia, by U.S. destroyers
KAYA	1944	HEAVILY DAMAGED 27 December 1944 off Mindoro; in Japan
KAZEGUMO	1942	SUNK 8 June 1944 off Davao, Mindanao, P.I., by U.S. submarine
KEYAKI	1945	Not manned; in Japan
KIKUTSUKI		SUNK 4 May 1942 off Tulagi, Solomons by U.S. carrier planes
KIRI	1944	HEAVILY DAMAGED 12 December 1944 near Leyte; in Japan
KISARAGI		SUNK 11 December 1941 off Wake Is. by shore batteries
KISHINAMI	1943	SUNK 20 November 1944 in Luzon Strait by U.S. submarine (?)
KIYONAMI	1943	SUNK 20 July 1943 in Vella Gulf, New Georgia, by U.S. Army and Navy planes
KIYOSHIMO	1944	SUNK 26 December 1944 off Mindoro, P.I., by U.S. PT's and Army planes
KURETAKE		SUNK 30 December 1944 in Luzon Strait by U.S. submarine
KURI		At Tsingtao
KUROSHIO		SUNK 8 May 1943 in Blackett Strait, New Georgia, by mines
KUSUNOKI	1945	At Maizuru; not manned
KUWA	1944	SUNK 3 December 1944 in Ormoc Bay by U.S. destroyers
MAIKAZE		SUNK 17 February 1944 N.W. of Truk by U.S. fleet units and carrier planes
MAKI	1944	HEAVILY DAMAGED 9 December 1944 off Mejima Is.; in Japan

Destroyers (Cont.)	Date Commissioned	Final Disposition
MAKIGUMO	1942	SUNK 1 February 1943 off Guadalcana Is. by mine, PT boat, or aircraft
MAKINAMI	1942	SUNK 25 November 1943 N.W. of Buka Is., Solomons, by U.S. destroyers
MATSU	1944	SUNK 4 August 1944 N.W. of Bonin Is. by U.S. fleet units
MATSUKAZE		SUNK 9 June 1944 E. of Bonin Is. by U.S. submarine
MICHISHIO		SUNK 25 October 1944 in Surigao Strait by U.S. destroyers
MIKATSUKI		SUNK 28 July 1943 off Cape Gloucester New Britain, by B-25's
MINAZUKI		SUNK 6 June 1944 S. of Sibutu passage, P.I., by U.S. submarine
MINEGUMO		SUNK 6 March 1943 in Kula Gulf, New Georgia by U.S. fleet units
MINEKAZE		SUNK 10 February 1044 E. of Formosa by U.S. submarine
MOCHIZUKI		SUNK 24 October 1943 E. of New Britain by U.S. Navy patrol bomber
MOMI	1944	SUNK 5 January 1945 S.W. of Manila Bay by U.S. carrier planes
MOMO	1944	Uncertain
MURAKUMO		SUNK 12 October 1942 off New Georgia Is. by U.S. carrier planes
MURASAME		SUNK 6 March 1943 in Kula Gulf, New Georgia by U.S. fleet units
MUTSUKI		SUNK 25 August 1942 off Santa Isabel, Solomons, by B-17's
NAGANAMI	1942	SUNK 11 November 1944 in Ormoc Bay by U.S. carrier planes
NAGATSUKI		SUNK 6 July 1943 in Kula Gulf, New Georgia by U.S. fleet units
NAMIKAZE		HEAVILY DAMAGED 8 September 1944 in Kuriles; in Japan
NARA	1945	HEAVILY DAMAGED 30 June 1945 in Shimonoseki Strait; in Japan
NASHI	1945	SUNK 28 July 1945 at Kure
NATSUGUMO		SUNK 11 October 1942 off Savo Is., Solomons by U.S. fleet units
NATSUSHIO		SUNK 8 February 1942 off Makassar, Celebes by U.S. submarine
NATSUZUKI	1945	HEAVILY DAMAGED 16 June 1945 near Matsure; in Japan
NENOHI		SUNK 4 July 1942 off Agattu, Aleutians by U.S. submarine
NIRE	1945	HEAVILY DAMAGED 22 June 1945 at Kure; in Japan
NIIZUKI	1943	SUNK 6 July 1943 in Kula Gulf, New Georgia by U.S. fleet units

Destroyers (Cont.)	Date Commissioned	Final Disposition
NOKAZE		SUNK 20 February 1945 N.E. of Saigon by U.S. submarines
NOWAKE		SUNK 25 October 1944 in Surigao Strait by U.S. fleet units
NUMAKAZE		SUNK 18 December 1943 in E. China Sea by U.S. submarine
OBORO		SUNK 12 August 1942 S. of Honshu by U.S. submarine
OINAMI	Not commissioned	
OITE		SUNK 18 February 1944 at Truk by U.S. carrier planes
OKIKAZE		SUNK 10 January 1943 off Honshu by U.S. submarine
OKINAMI	1944	SUNK 13 November 1944 in Manila Bay by U.S. carrier planes
ONAMI	1943	SUNK 25 November 1943 N.W. of Buka Is., Solomons, by U.S. destroyers
OSHIO		SUNK 20 February 1943 N. of Admiralty Is. by U.S. submarine
OTAKE	1945	At Maizuru; not manned
OYASHIO		SUNK 8 May 1943 in Blackett Strait, New Georgia, by mines and aircraft
SAGIRI		SUNK 24 December 1941 off Kuching, Borneo, by Dutch submarine
SAKURA	1945	SUNK 11 July 1945 near Osaka
SAMIDARE		SUNK 26 August 1944 off Palau by U.S. carrier planes and submarine
SANAE		SUNK 18 November 1943 in Celebes Sea by U.S. submarine
SATSUKI		SUNK 21 September 1944 in Manila Bay by U.S. carrier planes
SAWAKAZE		DECOMMISSIONED; in Japan
SAZANAMI		SUNK 14 January 1944 S.E. of Yap Is. by U.S. submarine
SHII	1945	Operational; in Japan area
SHIGEZAKURA	1945	SUNK 18 July 1945 at Yokosuka by U.S. carrier planes
SHIGURE		SUNK 24 January 1945 N.W. of Borneo by U.S. submarine
SHIKINAMI		SUNK 12 September 1944 S. China Sea by U.S. submarine
SHIMAKAZE	1943	SUNK 11 November 1944 in Ormoc Bay by U.S. carrier planes
SHIMOTSUKI	1944	SUNK 25 November 1944 W. of Borneo by U.S. submarine
SHINONOME		SUNK 18 December 1941 off Miri, Borneo by mine
SHIOKAZE		HEAVILY DAMAGED 31 January 1945 S. of Formosa; in Japan
SHIRAKUMO		SUNK 16 March 1944 S.E. of Hokkaido by U.S. submarine

Destroyers (Cont.)	Date Commissioned	Final Disposition
SHIRANUHI		SUNK 27 October 1944 in P.I. by U.S. carrier planes
SHIRATSUYU		SUNK 20 June 1944 in Philippine Sea by U.S. carrier planes
SHIRAYUKI		SUNK 3 March 1943 Huon Gulf, New Guinea by U.S. Army bombers
SUGI		HEAVILY DAMAGED 21 January 1945 at Takao; in Japan
SUMIRE	1945	At Maizuru; not manned
SUZUKAZE		SUNK 26 January 1944 N.W. of Ponape by U.S. submarine
SUZUNAMI	1943	SUNK 11 November 1943 at Rabaul by U.S. carrier planes
SUZUTSUKI	1942	HEAVILY DAMAGED 7 April 1945 S. of Kyushu; decommissioned; in Japan
TACHIBANA	1945	SUNK 15 July 1945 at Ominato by U.S. fleet units
TACHIKAZE		SUNK 17 February 1944 at Truk by U.S. carrier planes
TAKANAMI	1942	SUNK 30 November 1942 off Savo Is., Solomons, by U.S. fleet units
TAKE	1944	In Inland Sea
TAMANAMI	1943	SUNK 7 July 1944 S.W. of Manila by U.S. submarine
TANIKAZE		SUNK 9 June 1944 in Sibutu passage, P.I., by U.S. submarine
TERUTSUKI	1942	SUNK 12 December 1942 off New Georgia Is. by U.S. PT boats
TOKITSUKAZE		SUNK 3 March 1943 in Huon Gulf, New Guinea, by U.S. Army bomber
TSUBAKI	1945	HEAVILY DAMAGED 24 July 1945 near Okayama; in Japan
TSUGA		SUNK 15 January 1945 off Pescadores Is. by U.S. carrier planes
TSUTA	1945	In Inland Sea
UME	1944	SUNK 31 January 1945 S.W. of Takao by B-25's
UMIKAZE		SUNK 1 February 1944 S.E. of Truk by U.S. submarine
URAKAZE		SUNK 9 June 1944 in Sibutu passage, P.I., by U.S. submarine
URANAMI		SUNK 26 October 1944 S.W. of Masbate, P.I., by U.S. carrier planes
USHIO		HEAVILY DAMAGED 14 November 1944 at Manila; in Japan
USUGUMO		SUNK 7 July 1944 in Sea of Okhotsk by U.S. submarine
UZUKI		SUNK 11 December 1944 off Leyte by U.S. PT boats

Destroyers (Cont.)	Date Commissioned	Final Disposition
WAKABA		SUNK 24 October 1944 S. of Mindoro by U.S. carrier planes
WAKATAKE		SUNK 30 March 1944 at Palau by U.S. carrier planes
WAKATSUKI	1943	SUNK 11 November 1944 in Ormoc Bay by U.S. carrier planes
YAKAZE		Converted to target ship; in Japan ar
YAMAGUMO		SUNK 25 October 1944 in Surigao Strait by U.S. destroyers
YAMAKAZE		SUNK 25 June 1942 off Yokohama by U.S. submarine
YANAGI	1945	HEAVILY DAMAGED 15 July 1945 at Ominato by U.S. fleet units
YAYOI		SUNK 11 September 1942 off Normanl Is. by B-17's
YOITSUKI	1945	HEAVILY DAMAGED 2 June 1945 N. (Himejima; in Japan
YUDACHI		SUNK 13 November 1942 off Savo Is., Solomons, by U.S. fleet units
YUGIRI		SUNK 25 November 1943 N.W. of Buk Is., Solomons, by U.S. destroyers
YUGUMO		SUNK 6 October 1943 N.W.of Vella Lavella, Solomons by U.S. destroyers
YUGURE		SUNK 20 July 1943 in Vella Gulf, New Georgia by U.S. Navy bombers
YUKAZE		Converted to target ship; in Japan
YUKIKAZE		HEAVILY DAMAGED 30 July 1945 at Miyazu; in Japan
YUNAGI		SUNK 25 August 1944 off N.W. Luzon by U.S. submarine
YUZUKI		SUNK 13 December 1944 in Leyte are by U.S. carrier planes
Submarines		
I-1		SUNK 29 January 1943 off Guadalcanal by New Zealand corvettes
I-2		SUNK 7 April 1944 E. of Admiralty Is. by U.S. destroyer
I-3		SUNK 9 December 1942 off Guadal-canal by U.S. PT boat
I-4		SUNK 21 December 1942 S. of Rabaul by U.S. submarine
I-5		SUNK 10 June 1944 N.W. of Bismarck Is. by U.S. destroyer
I-6		SUNK 4 July 1944 E. of Saipan by U.S. fleet units
I-7		SUNK 22 June 1943 off Kiska by U.S. destroyer
I-8		SUNK 31 March 1945 S.W. of Okinawa by U.S. destroyers

Submarines (Cont:)	Date Commissioned	Final Disposition
I-9		SUNK 10 June 1943 N.E. of Attu by U.S. patrol craft
I-10		SUNK 18 July 1944 N. of Truk by U.S. destroyer escort
I-11	May 1942	SUNK 17 February 1944 E. of Marshall Is. by U.S. destroyer
I-12	May 1944	SUNK May 1945 in South Pacific
I-13	December 1944	SUNK 16 July 1945 E. of Honshu by U.S. carrier aircraft
I-14	March 1945	Captured at sea 27 August 1945; in Japan; decommissioned
I-15		SUNK October/November 1942 in South Pacific
I-16		SUNK 19 May 1944 N.E. of Solomons by U.S. destroyer escort
I-17		SUNK 19 August 1943 off New Caledonia by Allied surface craft and planes
I-18		SUNK 25 December 1942 off Kumusi R. New Guinea by U.S. PT boat
I-19		SUNK 26 November 1943 W. of Makin Is. by U.S. destroyers
I-20		SUNK 1 October 1943 N. of Kolombangara Is. by U.S. destroyer
I-21		SUNK 5 February 1944 in S. Marshalls by U.S. destroyer escorts
I-22		SUNK 19 November 1942 off San Cristobal Is. by U.S. destroyer
I-23		SUNK 26 April 1942 off Johnston Is. by U.S. submarine
I-24		SUNK 27 July 1943 S.W. of New Hanover by U.S. submarine
I-25		SUNK October/November 1943 in Central Pacific
I-26		SUNK 25 October 1944 in Leyte Gulf by U.S. destroyer escort
I-27	February 1942	SUNK 12 February 1944 S.W. of Maldive Is. by British destroyers
I-28	February 1942	SUNK 17 May 1942 S. of Truk by U.S. submarine
I-29	February 1942	SUNK 26 July 1944 in Luzon Strait by U.S. submarine
I-30	March 1942	SUNK May/June 1942 in Western Pacific
I-31	May 1942	SUNK 13 June 1943 N. of Kiska by U.S. destroyer
I-32	April 1942	SUNK 24 March 1944 E. of Marshall Is. by U.S. fleet units
I-33	June 1942	SUNK June 1942 in Western Pacific by accident
I-34	August 1942	SUNK 13 November 1943 in Malacca Straits by British submarine

Submarines (Cont.)	Date Commissioned	Final Disposition
I-35	August 1942	SUNK 23 November 1943 off Tarawa by U.S. destroyers
I-36	September 1942	In Japan
I-37	March 1943	SUNK 18 November 1944 E. of Samar by U.S. destroyer and carrier planes
I-38	January 1943	SUNK 13 November 1944 N.E. of Oahu by U.S. fleet units
I-39	April 1943	SUNK 24 December 1943 off Guadalcanal by U.S. destroyer
I-40	July 1943	SUNK March/April 1944 in Central Pacific
I-41	September 1943	SUNK 16 September 1944 E. of Honshu by U.S. submarine
I-42	November 1943	SUNK 23 March 1944 S.W. of Palau by U.S. submarine
I-43	November 1943	SUNK 15 February 1944 N.W. of Truk by U.S. submarine
I-44	1944	SUNK 18 April 1945 E. of Okinawa by U.S. destroyers
I-45	December 1943	SUNK 29 October 1944 E. of Dinegat Is. by U.S. destroyer escort
I-46	February 1944	SUNK December 1944 in Western Pacific
I-47	July 1944	Operational; in Japan area
I-48	September 1944	SUNK 23 January 1945 off Ulithi by U.S. destroyer escorts
I-49	May 1944	In Japan
I-52	December 1943	SUNK 24 June 1944 in Atlantic Ocean by U.S. carrier planes
I-53	February 1944	HEAVILY DAMAGED 30 March 1945; in Japan
I-54	March 1944	SUNK 28 October 1944 E. of Leyte Gulf by U.S. destroyer
I-55	April 1944	SUNK 27 July 1944 E. of Saipan by U.S. destroyer escort
I-56	June 1944	SUNK 5 April 1945 W. of Okinawa by U.S. destroyer
I-58	September 1944	Operational; in Japan
I-121		Operational; in Japan
I-122		SUNK 10 June 1945 in Japan Sea by U.S. submarine
I-123		SUNK 29 August 1942 E. of Guadalcanal Is. by U.S. destroyer
I-124		SUNK 20 January 1942 off Port Darwin by Allied surface craft
I-153		DECOMMISSIONED; in Japan
I-154		DECOMMISSIONED; in Japan
I-155		DECOMMISSIONED; in Japan
I-156		In Japan
I-157		In Japan
I-158		Operational; in Japan
I-159		Operational; in Japan

Submarines (Cont.)	Date Commissioned	Final Disposition
I-160(60)		SUNK 17 January 1942 in Sunda Straits by British destroyer
I-162		In Japan
I-164		SUNK 17 May 1942 S. of Kyushu by U.S. submarine
I-165		DECOMMISSIONED September 1945; in Japan
I-166		SUNK 17 July 1944 off Penang by British submarine
I-168		SUNK 3 September 1943 off New Hebrides by U.S. destroyer
I-169		SUNK 4 April 1944 at Truk
I-170(70)		SUNK 10 December 1941 off Pearl Harbor by U.S. carrier plane
I-171		SUNK 1 February 1944 W. of Buka by U.S. destroyer
I-172		SUNK October/November 1942 in South Pacific
I-173(73)		SUNK 27 January 1942 off Midway by U.S. submarine
I-174		SUNK 12 April 1944 N. of Truk by U.S. Navy bomber
I-175		SUNK 30 April 1944 S. of Truk by U.S. destroyers
I-176	July 1942	SUNK 17 May 1944 N.E. of Buka by U.S. destroyers
I-177	December 1942	SUNK November 1944 in South Pacific
I-178	December 1942	SUNK June 1943 in Central Pacific
I-179	June 1943	SUNK February 1944 in South Pacific
I-180	June 1943	SUNK 26 April 1944 off Kodiak, Alaska by U.S. destroyer
I-181	May 1943	SUNK 16 January 1944 off St. George Channel, Bismarcks, by U.S. Navy planes
I-182	May 1943	SUNK 9 September 1943 in Surigao Strait by U.S. submarine
I-183	October 1943	SUNK 29 April 1944 off Bungo Channel, Japan by U.S. submarine
I-184	October 1943	SUNK 21 June 1944 E. of Saipan by U.S. fleet units
I-185	September 1943	SUNK 17 June 1944 N.W. of Guam by U.S. destroyers
I-201	February 1945	In Japan
I-202	February 1945	In Japan
I-203	June 1945	In Japan
I-351	January 1945	SUNK 15 July 1945 N.W. of Borneo by U.S. submarine
I-361	May 1944	SUNK 30 May 1945 in Japanese waters
I-362	May 1944	SUNK 27 November 1944 in Camotes Sea by U.S. destroyers
I-363	July 1944	Operational; in Japan

Submarines (Cont.)	Date Commissioned	Final Disposition
I-364	June 1944	SUNK October 1944 in South Pacific
I-365	August 1944	SUNK 29 November 1944 S.E. of Tokyo Bay by U.S. submarine
I-366	August 1944	Operational; in Japan
I-367	August 1944	Operational; in Japan
I-368	August 1944	SUNK 26 February 1945 S. of Iwo Jima by U.S. destroyer escort
I-369	October 1944	DECOMMISSIONED September 1945; in Japan
I-370	September 1944	SUNK 26 February 1945 N.W. of Iwo Jima by U.S. carrier planes
I-371	October 1944	SUNK January 1945 in Truk area
I-372	November 1944	SUNK 18 July 1945 at Yokosuka by carrier planes
I-373	April 1945	SUNK 14 August 1945 in E. China Sea by U.S. submarine
I-400	December 1944	Captured at sea 27 August 1945; in Japan; decommissioned
I-401	January 1945	Captured at sea 29 August 1945; in Japan; decommissioned
I-402	July 1945	DECOMMISSIONED September 1945; in Japan
I-501	July 1945	At Singapore
I-502	July 1945	At Singapore
I-503	July 1945	In Japan
I-504	July 1945	In Japan
I-505	July 1945	At Batavia
I-506	July 1945	At Surabaya
RO-30		SUNK April 1942 in Western Pacific
RO-31		DECOMMISSIONED during 1944; in Japan
RO-32		SUNK April 1942 in Western Pacific
RO-33		SUNK 29 August 1942 S.E. of New Guinea by Australian destroyer
RO-34		SUNK 7 April 1943 N.W. of San Cristobal Is. by U.S. destroyer
RO-35	March 1943	SUNK October 1943 in Solomons
RO-36	May 1943	SUNK 13 June 1944 E. of Saipan by U.S. destroyer
RO-37	June 1943	SUNK 22 January 1944 E. of Solomons by U.S. destroyer
RO-38	July 1943	SUNK February/March 1944 in Central Pacific
RO-39	September 1943	SUNK 3 February 1944 off Wotje, Marshalls by U.S. destroyer
RO-40	June 1943	SUNK February/March 1944 in Central Pacific
RO-41	November 1943	SUNK 31 March 1945 E. of Okinawa by U.S. destroyer
RO-42	August 1943	SUNK 10 June 1944 N.E. of Kwajalein by U.S. destroyer escort

Submarines (Cont.)	Date Commissioned	Final Disposition
RO-43	December 1943	SUNK 14 February 1945 N.E. of Luzon by U.S. submarine
RO-44	September 1943	SUNK 16 June 1944 E. of Eniwetok by U.S. destroyer escort
RO-45	January 1944	SUNK 20 April 1944 W. of Saipan by U.S. submarine
RO-46	February 1944	SUNK 9 April 1945 S.E. of Okinawa by U.S. destroyers
RO-47	January 1944	SUNK 23 March 1945 in Philippine Sea by U.S. destroyer
RO-48	March 1944	SUNK 14 July 1944 W. of Saipan by U.S. fleet units
RO-49	1944	SUNK 24 February 1945 off Bungo Channel, Japan by U.S. submarine
RO-50	July 1944	Operational; in Japan
RO-55	September 1944	SUNK 14 February 1945 N.E. of Luzon by U.S. submarine
RO-56	November 1944	SUNK May 1945 in Kuriles
RO-57		DECOMMISSIONED (?)
RO-58		DECOMMISSIONED (?)
RO-59		DECOMMISSIONED (?)
RO-60		SUNK 29 December 1941 at Kwajalein by grounding
RO-61		SUNK 31 August 1942 in Aleutians by U.S. destroyer and plane
RO-62		DECOMMISSIONED September 1945; in Japan area
RO-63		DECOMMISSIONED September 1945; in Japan area
RO-64		SUNK May 1945 in Hiroshima Bay
RO-65		SUNK 28 September 1942 at Kiska by B-24's
RO-66		SUNK 17 December 1941 W. of Wake Is. by collision
RO-67		SUNK 4 April 1945 in Inland Sea by mine
RO-68		DECOMMISSIONED September 1945; in Japan
RO-100	September 1942	SUNK 25 November 1943 off Bougainville Is. by U.S. fleet units
RO-101	October 1942	SUNK 1 July 1943 E. of Rendova Is., Solomons by U.S. destroyer
RO-102	November 1942	SUNK 4 April 1943 S. of Santa Isabel Is. by U.S. destroyer
RO-103	October 1942	SUNK 29 May 1943 off New Hebrides by U.S. patrol craft
RO-104	February 1943	SUNK 23 May 1944 N. of Bismarck Is. by U.S. destroyer escort
RO-105	March 1943	SUNK 31 May 1944 N. of Bismarck Is. by U.S. fleet units
RO-106	December 1942	SUNK 22 May 1944 N. of Bismarck Is. by U.S. destroyer escort

Submarines (Cont.)	Date Commissioned	Final Disposition
RO-107	December 1942	SUNK May/June 1943 in South Pacific
RO-108	April 1943	SUNK 26 May 1944 N. of Bismarck Is. by U.S. destroyer escort
RO-109	April 1943	SUNK 29 April 1945 S.E. of Okinawa by U.S. fleet units
RO-110	July 1943	SUNK 11 February 1944 off Vizagapatam, India by Allied sloops
RO-111	July 1943	SUNK 16 June 1944 off Truk by U.S. Navy PBY
RO-112	September 1943	SUNK 11 February 1945 N. of Luzon by U.S. submarine
RO-113	October 1943	SUNK 13 February 1945 N. of Luzon by U.S. submarine
RO-114	November 1943	SUNK 16 June 1944 W. of Guam by U.S. destroyers
RO-115	November 1943	SUNK 10 February 1945 N. of Luzon by U.S. submarine
RO-116	January 1944	SUNK 24 May 1944 N. of Bismarck Is. by U.S. destroyer escort
RO-117	January 1944	SUNK 17 June 1944 N.W. of Truk by U.S. Navy PBY
RO-500	September 1943	DECOMMISSIONED September 1945; in Japan
RO-501	February 1944	SUNK 13 May 1944 in Atlantic Ocean by U.S. destroyer
HA-101	November 1944	DECOMMISSIONED September 1945
HA-102	December 1944	DECOMMISSIONED September 1945
HA-103	February 1945	In Japan
HA-104	December 1944	DECOMMISSIONED September 1945
HA-105	February 1945	In Japan
HA-106	December 1944	DECOMMISSIONED September 1945
HA-107	February 1945	In Japan
HA-108	May 1945	In Japan
HA-109	March 1945	In Japan
HA-111	July 1945	In Japan
HA-201	May 1945	In Japan
HA-202	May 1945	In Japan
HA-203	June 1945	DECOMMISSIONED September 1945
HA-204	June 1945	DECOMMISSIONED September 1945
HA-205	July 1945	In Japan
HA-207	August 1945	In Japan
HA-208	August 1945	In Japan
HA-209	August 1945	In Japan
HA-210	August 1945	In Japan
HA-215	Not commissioned	In Japan
HA-216	August 1945	In Japan
HA-217	June 1945	In Japan
HA-218	July 1945	In Japan

APPENDIX B

MAJOR COMBATANT SHIPS ADDED TO UNITED STATES FLEET

7 DECEMBER 1941 - 1 OCTOBER 1945

Type & No.	Name	Comm. Date
Battleships		
BB 57	SOUTH DAKOTA	20 Mar. 1942
58	INDIANA	30 Apr, 1942
59	MASSACHUSETTS	12 May 1942
60	ALABAMA	16 Aug. 1942
61	IOWA	22 Feb. 1943
62	NEW JERSEY	23 May 1943
63	MISSOURI	11 June 1944
64	WISCONSIN	16 Apr. 1944
		8
Heavy Cruisers		
CA 68	BALTIMORE	15 Apr. 1943
69	BOSTON	30 June 1943
70	CANBERRA	14 Oct, 1943
71	QUINCY	15 Dec, 1943
72	PITTSBURG	10 Oct, 1944
73	SAINT PAUL	17 Feb, 1945
74	COLUMBUS	8 June 1945
75	HELENA	4 Sept. 1945
130	BREMERTON	29 Apr, 1945
131	FALL RIVER	1 July 1945
132	MACON	26 Aug. 1945
135	LOS ANGELES	22 July 1945
136	CHICAGO	10 Jan. 1945
		13
Large Cruisers		
CB 1	ALASKA	17 June 1944
2	GUAM	17 Sept, 1944
		2

Type & No.	Name	Comm.Date	Total	Remarks
Light Cruisers				
CL 51	ATLANTA	24 Dec. 1941		Sunk
52	JUNEAU	14 Feb. 1942		Sunk
53	SAN DIEGO	10 Jan. 1942		
54	SAN JUAN	28 Feb. 1942		
55	CLEVELAND	15 June 1942		
56	COLUMBUS	29 July 1942		
57	MONTPELIER	9 Sept. 1942		
58	DENVER	15 Oct. 1942		
60	SANTA FE	24 Nov. 1942		
62	BIRMINGHAM	29 Jan. 1943		
63	MOBILE	24 Mar. 1943		
64	VINCENNES	21 Jan. 1944		
65	PASADENA	8 June 1944		
66	SPRINGFIELD	9 Sept. 1944		
67	TOPEKA	28 Dec. 1944		
80	BILOXI	31 Aug. 1943		
81	HOUSTON	20 Dec. 1943		
82	PROVIDENCE	15 May 1945		
86	VICKSBURG	12 June 1944		
87	DULUTH	18 Sept. 1944		
89	MIAMI	28 Dec. 1943		
90	ASTORIA	17 May 1944		
91	OKLAHOMA CITY	22 Dec. 1944		
92	LITTLE ROCK	17 June 1945		
95	OAKLAND	17 July 1943		
96	RENO	28 Dec. 1943		
97	FLINT	31 Aug. 1944		
98	TUCSON	3 Feb. 1945		
101	AMSTERDAM	8 Jan. 1945		
102	PORTSMOUTH	25 June 1945		
103	WILKES-BARRE	1 July 1944		
104	ATLANTA	2 Dec. 1944		
105	DAYTON	7 Jan. 1945		

Aircraft Carriers				
CV 9	ESSEX	31 Dec. 1942		
10	YORKTOWN	15 April 1943		
11	INTREPID	16 Aug. 1943		
12	HORNET	29 Nov. 1943		
13	FRANKLIN	31 Jan. 1944		
14	TICONDEROGA	8 May 1944		
15	RANDOLPH	9 Oct. 1944		
16	LEXINGTON	17 Feb. 1943		
17	BUNKER HILL	25 May 1943		
18	WASP	24 Nov. 1943		
19	HANCOCK	15 Apr. 1944		
20	BENNINGTON	6 Aug. 1944		
21	BOXER	16 Apr. 1945		

Type & No.	Name	Comm.Date	Total	Remarks
CV 31	BON HOMME RICHARD	26 Nov. 1944		
36	ANTIETAM	28 Jan. 1945		
38	SHANGRI-LA	15 Sept. 1944		
39	LAKE CHAMPLAIN	3 June 1945		
			17	
Large Aircraft Carriers				
CVB 41	MIDWAY	10 Sept. 1945		
			1	
Light Aircraft Carriers				
CVL 22	INDEPENDENCE	14 Jan. 1943		
23	PRINCETON	25 Feb. 1943		Sunk
24	BELLEAU WOOD	31 Mar. 1943		
25	COWPENS	28 May 1943		
26	MONTEREY	17 June 1943		
27	LANGLEY	31 Aug. 1943		
28	CABOT	24 July 1943		
29	BATAAN	17 Nov. 1943		
30	SAN JACINTO	15 Dec. 1943		
			9	
Escort Aircraft Carriers				
CVE 6	BATTLER			To U.K. 10-31-42
7	ATTACKER			To U.K. 9-30-42
8	HUNTER			To U.K. 1-9-43
9	BOGUE	26 Sept. 1942		
10	CHASER			To U.K. 4-9-43
11	CARD	8 Nov. 1942		
12	COPAHEE	15 June 1942		
13	CORE	10 Dec. 1942		
14	FENCER			To U.K. 3-1-43
15	STALKER			To U.K. 12-21-42
16	NASSAU	20 Aug. 1942		
17	PURSUER			To U.K. 6-14-43
18	ALTAMAHA	15 Sept. 1942		
19	STRIKER			To U.K. 4-28-43
20	BARNES	20 Feb. 1943		
21	BLOCK ISLAND	8 Mar. 1943		Sunk
22	SEARCHER			To U.K. 4-7-43
23	BRETON	12 Apr. 1943		
24	RAVAGER			To U.K. 4-25-43
25	CROATAN	28 Apr. 1943		
26	SANGAMON	25 Aug. 1942		ex-AO 28
27	SUWANEE	24 Sept. 1942		ex-AO 33
28	CHENANGO	19 Sept. 1942		ex-AO 31
29	SANTEE	24 Aug. 1942		ex-AO 29
30	CHARGER	3 Mar. 1942		ex-BAVG 4
31	PRINCE WILLIAM	9 Apr. 1943		

Type & No.	Name	Comm.Date	Total	Remarks
CVE 32	SLINGER			To U.K. 8-11-43
33	ATHELING			To. U.K. 7-31-43
34	EMPEROR			To U.K. 8-6-43
35	AMEER			To U.K. 7-19-43
36	BEGUM			To U.K. 8-2-43
37	TRUMPETER			To U.K. 8-4-43
38	EMPRESS			To U.K. 8-13-43
39	KHEDIVE			To U.K. 8-25-43
40	SPEAKER			To U.K. 11-20-43
41	NABOB			To U.K. 9-7-43
42	PREMIER			To U.K. 11-3-43
43	SHAH			To U.K. 9-27-43
44	PATROLLER			To U.K. 10-22-43
45	RAJAH			To U.K. 1-17-44
46	RANEE			To U.K. 11-8-43
47	TROUNCER			To U.K. 1-31-44
48	THANE			To U.K. 11-19-43
49	QUEEN			To U.K. 12-7-43
50	RULER			To U.K. 12-22-43
51	ARBITER			To U.K. 12-31-43
52	SMITER			To U.K. 1-20-44
53	PUNCHER			To U.K. 2-5-44
54	REAPER			To U.K. 2-18-44
55	CASABLANCA	8 July 1943		
56	LISCOME BAY	7 Aug. 1943		Sunk
57	ANZIO	27 Aug. 1943		
58	CORREGIDOR	31 Aug. 1943		
59	MISSION BAY	13 Sept. 1943		
60	GUADALCANAL	25 Sept. 1943		
61	MANILA BAY	5 Oct. 1943		
62	NATOMA BAY	14 Oct. 1943		
63	ST. LO	23 Oct. 1943		Sunk
64	TRIPOLI	31 Oct. 1943		
65	WAKE ISLAND	7 Nov. 1943		
66	WHITE PLAINS	15 Nov. 1943		
67	SOLOMONS	21 Nov. 1943		
68	KALININ BAY	27 Nov. 1943		
69	KASAAN BAY	4 Dec. 1943		
70	FANSHAW BAY	9 Dec. 1943		
71	KITKUN BAY	15 Dec. 1943		
72	TULAGI	21 Dec. 1943		
73	GAMBIER BAY	28 Dec. 1943		Sunk
74	NEHENTA BAY	3 Jan. 1944		
75	HOGGATT BAY	11 Jan. 1944		
76	KADASHAN BAY	18 Jan. 1944		
77	MARCUS ISLAND	26 Jan. 1944		
78	SAVO ISLAND	3 Feb. 1944		
79	OMMANEY BAY	11 Feb. 1944		Sunk
80	PETROF BAY	18 Feb. 1944		
81	RUDYERD BAY	25 Feb. 1944		
82	SAGINAW BAY	2 Mar. 1944		
83	SARGENT BAY	9 Mar. 1944		
84	SHAMROCK BAY	15 Mar. 1944		

Type & No.	Name	Comin. Date	Total	Remarks
CVE 85	SHIPLEY BAY	21 Mar. 1944		
86	SITKOH BAY	28 Mar. 1944		
87	STEAMER BAY	4 Apr. 1944		
88	CAPE ESPERANCE	9 Apr. 1944		
89	TAKANIS BAY	15 Apr. 1944		
90	THETIS BAY	21 Apr. 1944		
91	MAKASSAR STRAIT	27 Apr. 1944		
92	WINDHAM BAY	3 May 1944		
93	MAKIN ISLAND	9 May 1944		
94	LUNGA POINT	14 May 1944		
95	BISMARCK SEA	20 May 1944		Sunk
96	SALAMAUA	26 May 1944		
97	HOLLANDIA	1 June 1944		
98	KWAJALEIN	7 June 1944		
99	ADMIRALTY ISLANDS	13 June 1944		
100	BOUGAINVILLE	18 June 1944		
101	MATANIKAN	24 June 1944		
102	ATTU	30 June 1944		
103	ROI	6 July 1944		
104	MUNDA	8 July 1944		
105	COMMENCEMENT BAY	27 Nov. 1944		
106	BLOCK ISLAND	30 Dec. 1944		
107	GILBERT ISLANDS	5 Feb. 1945		
108	KULA GULF	12 May 1945		
109	CAPE GLOUCESTER	5 Mar. 1945		
110	SALERNO BAY	19 May 1945		
111	VELLA GULF	9 Apr. 1945		
112	SIBONEY	14 May 1945		
113	PUGET SOUND	18 June 1945		
115	BAIROKO	16 July 1945		
117	SAIDOR	4 Sept. 1945		
			110	(33 Leased)
BAVG				
2	AVENGER			To U.K. 3-2-42
3	BITER			To U.K. 5-6-42
5	DASHER			To U.K. 7-2-42
6	TRACKER			To U.K. 1-31-43
			4	(4 Leased)
Destroyers				
DD 445	FLETCHER	30 June 1942		
446	RADFORD	22 July 1942		
447	JENKINS	31 July 1942		
448	LA VALLETTE	12 Aug. 1942		
449	NICHOLAS	4 June 1942		
450	O'BANNON	26 June 1942		
451	CHEVALIER	20 July 1942		Sunk
455	HAMBLETON	22 Dec. 1941		Now DMS 20
456	RODMAN	27 Jan. 1942		Now DMS 21
458	MACOMB	26 Jan. 1942		Now DMS 23

Type & No.	Name	Comm. Date	Total	Remarks
DD 459	LAFFEY	31 Mar. 1942		Sunk
460	WOODWORTH	30 Apr. 1942		
461	FORREST	13 Jan. 1942		Now DMS 24
462	FITCH	3 Feb. 1942		Now DMS 25
463	CORRY	18 Dec. 1941		Sunk
464	HOBSON	22 Jan. 1942		Now DMS 26
465	SAUFLEY	29 Aug. 1942		
466	WALLER	1 Oct. 1942		
467	STRONG	7 Aug. 1942		Sunk
468	TAYLOR	28 Aug. 1942		
468	DE HAVEN	21 Sept. 1942		Sunk
470	BACHE	14 Nov. 1942		
471	BEALE	23 Dec. 1942		
472	GUEST	15 Dec. 1942		
473	BENNETT	9 Feb. 1943		
474	FULLAM	2 Mar. 1943		
475	HUDSON	13 Apr. 1943		
476	HUTCHINS	17 Nov. 1942		
477	PRINGLE	15 Sept. 1942		Sunk
478	STANLY	15 Oct. 1942		
479	STEVENS	1 Feb. 1943		
480	HALFORD	10 Apr. 1943		
481	LEUTZE	4 Mar. 1944		
483	AARON WARD	4 Mar. 1942		Sunk
484	BUCHANAN	21 Mar. 1942		
485	DUNCAN	16 Apr. 1942		Sunk
486	LANSDOWNE	29 Apr. 1942		
487	LARDNER	13 May 1942		
488	McCALLA	27 May 1942		
489	MERVINE	17 June 1942		Now DMS 31
490	QUICK	3 July 1942		Now DMS 32
491	FARENHOLT	2 Apr. 1942		
492	BAILEY	11 May 1942		
493	CARMICK	28 Dec. 1942		Now DMS 33
494	DOYLE	27 Jan. 1943		Now DMS 34
495	ENDICOTT	25 Feb. 1943		Now DMS 35
496	McCOOK	15 Mar. 1943		Now DMS 36
497	FRANKFORD	31 Mar. 1943		
498	PHILIP	21 Nov. 1942		
499	RENSHAW	5 Dec. 1942		
500	RINGGOLD	24 Dec. 1942		
501	SCHROEDER	1 Jan. 1943		
502	SIGSBEE	23 Jan. 1943		
507	CONWAY	9 Oct. 1942		
508	CONY	30 Oct. 1942		
509	CONVERSE	20 Nov. 1942		
510	EATON	4 Dec. 1942		
511	FOOTE	22 Dec. 1942		
512	SPENCE	8 Jan. 1943		Sunk
513	TERRY	26 Jan. 1943		
514	THATCHER	10 Feb. 1943		
515	ANTHONY	26 Feb. 1943		

Type & No.	Name	Comm.Date	Total	Remarks
DD 516	WADSWORTH	16 Mar. 1943		
517	WALKER	3 Apr. 1943		
518	BROWNSON	3 Feb. 1943		Sunk
519	DALY	10 Mar. 1943		
520	ISHERWOOD	12 Apr. 1943		
521	KIMBERLY	24 May 1943		
522	LUCE	21 June 1943		Sunk
526	ABNER READ	5 Feb. 1943		Sunk
527	AMMEN	12 Mar. 1943		
528	MULLANY	23 Apr. 1943		
529	BUSH	10 May 1943		Sunk
530	TRATHEN	28 May 1943		
531	HAZELWOOD	18 June 1943		
532	HEERMAN	6 July 1943		
533	HOEL	29 July 1943		Sunk
534	McCORD	19 Aug. 1943		
535	MILLER	31 Aug. 1943		
536	OWEN	20 Sept. 1943		
537	THE SULLIVANS	30 Sept. 1943		
538	STEPHEN POTTER	21 Oct. 1943		
539	TINGEY	25 Nov. 1943		
540	TWINING	1 Dec. 1943		
541	YARNELL	30 Dec. 1943		
544	BOYD	8 May 1943		
545	BRADFORD	12 June 1943		
546	BROWN	10 July 1943		
547	COWELL	23 Aug. 1943		
550	CAPPS	23 June 1943		
551	DAVID W. TAYLOR	18 Sept. 1943		
552	EVANS	11 Dec. 1943		
553	JOHN D. HENLEY	2 Feb. 1944		
554	FRANK	30 July 1943		
555	HAGGARD	31 Aug. 1943		
556	HAILEY	30 Sept. 1943		
557	JOHNSTON	27 Oct. 1943		Sunk
558	LAWS	18 Nov. 1943		
559	LONGSHAW	4 Dec. 1943		Sunk
560	MORRISON	18 Dec. 1943		Sunk
561	PRICKETT	15 Jan. 1944		
562	ROBINSON	31 Jan. 1944		
563	ROSS	21 Feb. 1944		
564	ROWE	13 Mar. 1944		
565	SMALLEY	31 Mar. 1944		
566	STODDARD	15 Apr. 1944		
567	WATTS	29 Apr. 1944		
568	WREN	20 May 1944		
569	AULICK	27 Oct. 1942		
570	CHARLES AUSBURNE	24 Nov. 1942		
571	CLAXTON	8 Dec. 1942		
572	DYSON	30 Dec. 1942		
573	HARRISON	25 Jan. 1943		
574	JOHN RODGERS	9 Feb. 1943		