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SUMMARY

During July, the confrontation in I Corps continued in the pattern of the previous month. There was heavy fighting in the DMZ area, where the enemy was again frustrated in his attempts to reduce the Marine outposts, but where his substantial troop and logistic buildup continued, despite heavy US fire support efforts. There was also heavy fighting in the coastal plain, where the enemy campaign against the Revolutionary Development program met growing resistance.

The intensity of the conflict was reflected in the casualty figures for both sides. III MAF forces (including Task Force Oregon) killed 2,983 of the enemy and captured 246, while suffering 413 killed and 3,208 wounded. The enemy losses were the second highest to date, exceeded only by May's total of 3,914.

During the month, III MAF units and the two Marine Special Landing Forces of the 7th Fleet were engaged in twenty large scale operations - a record level of III MAF large unit offensive activity for the entire war. The previous high of fifteen occurred in June. The July large unit effort accounted for 1,864 enemy killed, the bulk in the DMZ area, where the enemy committed as many as five battalions in coordinated attacks on Marine positions. Two encounters are worthy of note. On 6 July, a Marine company observed two hundred NVA in a draw just northeast of Con Thien, called in artillery fire to block their escape, and then attacked the pinioned enemy, killing 154. There were no Marine losses. And shortly before midnight on the same day, another Marine company surprised four hundred of the enemy moving along a trail towards Con Thien and, in heavy night fighting, killed 155. Three Marines were killed.

REPRODUCED AT GOVERNMENT EXPENSE

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Not all engagements were favorable. On 2 July, eighty-four Marines were killed and 190 wounded when a company patrol northeast of Con Thien was attacked by five enemy battalions, who employed mortars, flamethrowers, and massed artillery with great effect. And, on 29 July, a Marine battalion suffered twenty-four killed and 202 wounded when it was attacked by a two battalion force near the DMZ boundary.

Powerful air attacks - some 2,300 USMC sorties - and artillery interdiction in the DMZ area damaged the enemy and caused him significant material and personnel losses, but did not halt his buildup of power within the sanctuary area.

Despite the drain on its resources imposed by sustained combat near the DMZ, work on the strong-point obstacle system, and heavy commitments elsewhere in I Corps, III MAF maintained the increasing pace in its counterguerrilla campaign. Marines conducted 34,662 patrols, ambushes, and company size operations, while an additional 5,104 were undertaken by US Army units of Task Force Oregon. These resulted in 1,076 enemy killed, a monthly total exceeded only by the 1,518 killed in May of this year. In addition, sixty-one enemy were captured and 306 weapons were seized.

It was evident, at the end of the month, that the enemy's campaign to disrupt the Revolutionary Development program had failed to bear significant fruit. The resumption of RD progress in I Corps, which first was noted in June, continued during July. Forty GVN RD teams completed the political, social, and economic programs in their hamlets and either had moved elsewhere, to begin the process anew, or were preparing to move. Route 1 was opened from Duc Pho south to the II CTZ border, which means that the highway is now open the entire length of I Corps. Measurable

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gains in local security and self-government were made by thirty villages in the principal III MAF pacification areas, and 224 of the enemy defected during the month, raising to 1,504 the number of Chieu Hoi returnees in I Corps thus far in 1967 - a 62% increase over the comparable period a year ago.

On the night of 14-15 July, the enemy attacked Danang Air Base with 122mm rockets, despite an intensive program of patrols, observation and listening posts, searchlight posts and ambushes. Heavy damage was caused to facilities and aircraft at the base. Although friendly reaction was prompt, with fire on the enemy rocket positions within 3 minutes, the success of the attack underscores the need for obtaining from the Vietnamese people more and better information about the enemy's intentions in order to prevent the attacks in the first place.

The Combined Action program, an endeavor aimed at both getting more out of the thinly spread Marine assets and increasing the effectiveness of the Popular Forces, fell behind in its progress toward 114 combined platoons by the end of the year. Seventy-five platoons were in being at end-July, the same number as for the two previous months. This condition is attributable chiefly to a shortage of Marines for new units. Approval for additional Marine spaces for the program has been pending since April.

REPRODUCED AT GOVERNMENT EXPENSE

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AIR OPERATIONSFixed Wing

During July, Marine fixed wing aircraft flew 7,735 tactical sorties in I Corps Tactical Zone, North Vietnam, and in the Laotian panhandle. The effort in the latter two areas was aimed at stemming the enemy's intensified program of infiltrating men and material.

-South Vietnam

There were 6,625 in-country strike sorties, of which 5,670 were flown in direct response to requirements of maneuvering ground units. In-country operations were highlighted by the support given Operations Buffalo and Kingfisher, both of which were covered in detail in the Large Unit section. The former was supported by 941 support missions, in which every First Marine Aircraft Wing fighter-attack squadron participated. The Marine pilots dropped over one hundred eighty thousand pounds of ordnance within the initial fourteen hours of the engagement, resulting in sixty-five enemy killed and an additional fifty-five probably killed. Kingfisher was supported by 931 missions.

Other in-country sorties consisted of helicopter escort and reconnaissance missions. 236 escort sorties were flown, wherein fixed wing aircraft provided protective cover for helicopters. 172 photo, infrared and Side Looking Airborne Radar sorties were flown by RF-4B's, the reconnaissance version of the Phantom II, while 257\* visual reconnaissance sorties were flown by O-1C aircraft.

Ordnance expenditures in-country included 11,602 tons of bombs, 2,624 napalm bombs, over six thousand 2.75 and 5 inch air to ground rockets, and over 219 thousand 20mm rounds. This represents an increase of over 2,700 tons of hard ordnance when compared with June.

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Results achieved by the Marine air effort in South Vietnam were substantial: 283 confirmed enemy killed, over sixteen hundred enemy structures destroyed, 241 secondary explosions and 173 secondary fires, giving evidence of enemy ammunition or POL caches being ignited, 605 bunkers destroyed, 211 road cuts made, and 103 gun positions destroyed. Other damage could not be confirmed, as much of the ordnance was delivered on enemy supply points, troop concentrations and gun positions at night or during periods of inclement weather when only a limited bomb damage assessment could be made. This is particularly true for Marine Air Support Radar Team controlled missions. In July, the five teams in I Corps controlled over 1500 fixed wing direct air support missions.

-North Vietnam and Laos

There were 1,110 sorties out of country, predominantly in North Vietnam. Included were 647 strike sorties by A-6A Intruders, F-4 Phantom II's, A-4E Skyhawks and F-8E Crusaders; 94 reconnaissance sorties by RF-4B's; and 369 electronic countermeasure flights by the EA-6A and EF-10B airplanes. This powerful effort, coupled with an even larger one by the USAF, was still not able completely to halt the heavy enemy southward movement of men and material, although it caused him heavy losses.

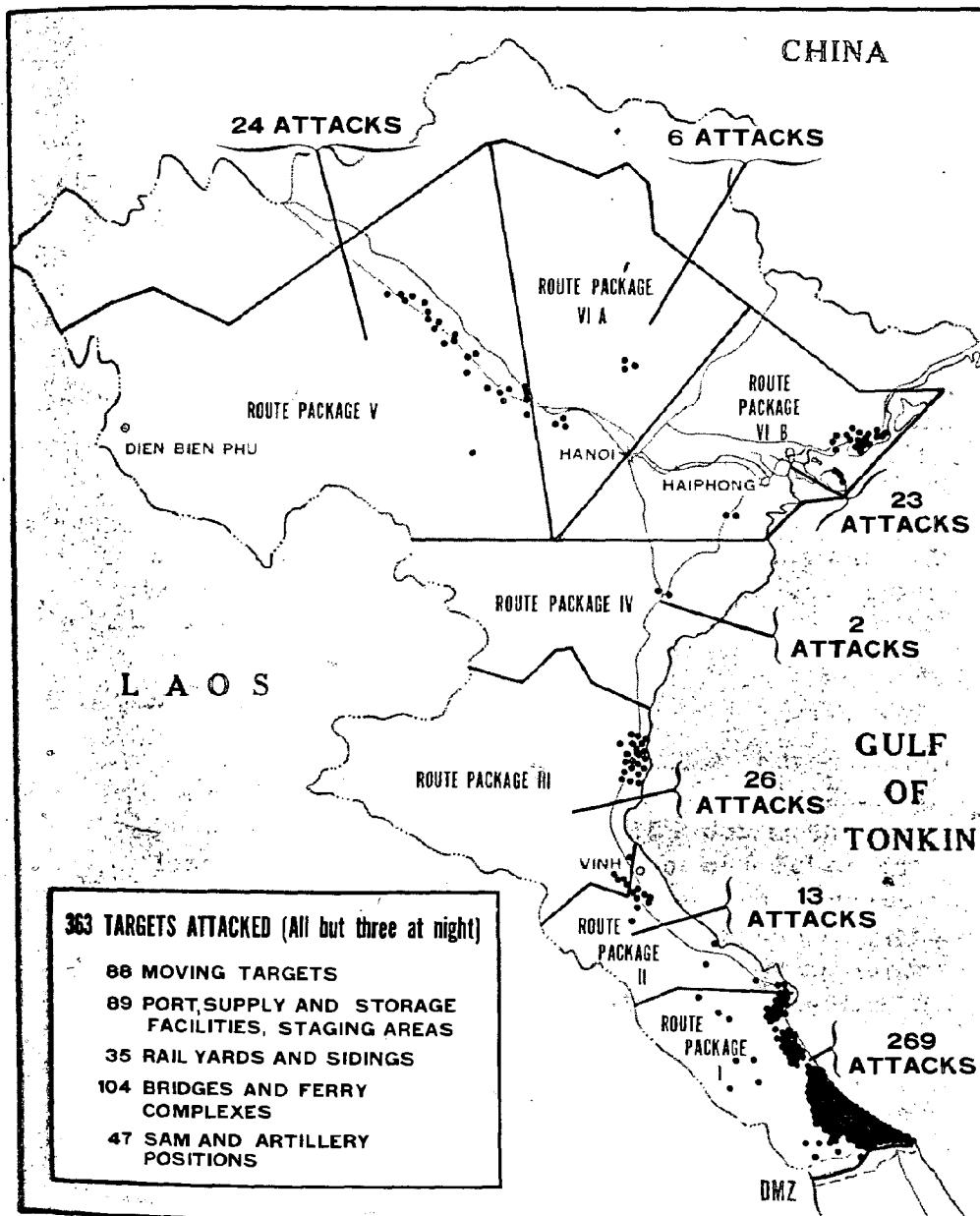
Over North Vietnam, A-6A Intruders, capable of carrying thirty 500 pound bombs, flew 239 sorties and delivered 1,191 tons of high explosives on approximately 360 enemy targets. All but three were flown at night and all but thirty, which were TPQ-10 controlled, were flown using the Digital Integrated Attack and Navigation Equipment. This system allows the aircraft to attack targets, stationary or moving, in level or mountainous terrain, under all weather conditions. A detailed description of the A-6A system is

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contained in the January edition of this series. Depicted below are the A-6A attacks throughout North Vietnam in July.

## MARINE A-6A ATTACKS IN NORTH VIETNAM JULY 1967



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Electronic countermeasure support for the A-6A was provided by the EF-10B in the area just north of the DMZ, and by the newer EA-6A in the more northern regions. The A-6A and EA-6A have proven to be an effective team for attacking targets in North Vietnam under any conditions of weather and visibility. The EA-6A can detect and counter enemy surface-to-air missile and antiaircraft radars, thus denying the enemy a capability to oppose the A-6A's attack. Although both have the same basic airframe, the EA-6A does not carry a bomb load and therefore has greater endurance than the A-6A. This allows ECM coverage of the objective area prior to the arrival of the A-6A, and until it departs. The success of this team effort is evidenced by nightly attacks, with relatively little opposition, in areas of heavy surface-to-air missile and radar-directed antiaircraft artillery concentrations.

Twenty flights were flown into Laos in support of the Steel Tiger program, a decrease from previous months. The lowered rate of activity in Laos is due to the heavy commitment of aircraft to operations in the Demilitarized Zone and to the low ceilings and thunderstorm activity which prevailed over the infiltration routes in the Laotian highlands.

#### Enemy Missile Activity

During July the North Vietnamese continued to maintain a surface-to-air missile threat in the DMZ area, as evidenced by the firing of eleven SAM's during the month and the loss of a Marine A-4E on the night of 6 July, the second Marine aircraft lost thus far to an enemy surface-to-air missile. The pilot, after ejection, landed in the northern portion of the DMZ. Air cover was provided for the downed pilot throughout the night by Marine A-6A's and A-4E's and he was extracted the following morning.

Other signs of enemy missile activity included the sighting, through photographic interpretation, of missile transporters, and the intercepting of SAM associated

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electronic signals. To date, seven missile sites have been detected just north of the DMZ; four currently are carried in the enemy order of battle.

#### Marine Tactical Data System

During July, a milestone was passed when the Marine Tactical Data System (MTDS), located at Monkey Mountain, Danang, became operational and successfully interfaced with the Navy Tactical Data System aboard naval ships on Yankee Station. This continuous, twenty-four hour exchange of information is the first use of a real time tactical data link in an active combat environment.

#### Catapult Operations at Chu Lai

Since 15 July, the CE-1-3 catapult, newly positioned on the crosswind runway at Chu Lai, has launched 66 A-4E Skyhawks, 56 of these at gross weights of twenty-two thousand pounds. Use of the CE-1-3, coupled with the M-21 arresting gear, will insure that there is no degradation of launch or recovery operations during the monsoon season. The CE-1-3, powered by two modified J-79 jet engines, enables a fully combat loaded A-4 to become airborne within 1,000 feet, without ordnance load restrictions. With a well trained crew, aircraft can be launched every ninety seconds, and only two minutes are required to clear the runway for the recovery of aircraft.

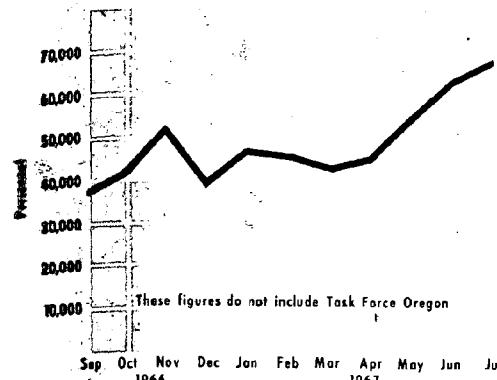
#### Helicopter Operations

During the month, Marine helicopters flew 51,649 sorties, lifted 68,182 personnel and transported 6,894 tons of cargo in support of operations within I Corps. Of the totals, CH-53's of HMH-462 lifted over 56% of the cargo carried. CH-46's of HMM-164 and 262 lifted over 32% of the personnel transported. These totals reflect the continuous increase in helicopter operations since the fall of 1966, as shown on the following page.

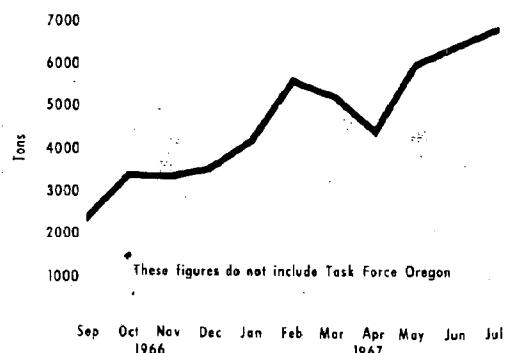
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## PERSONNEL TRANSPORTED BY HELICOPTER

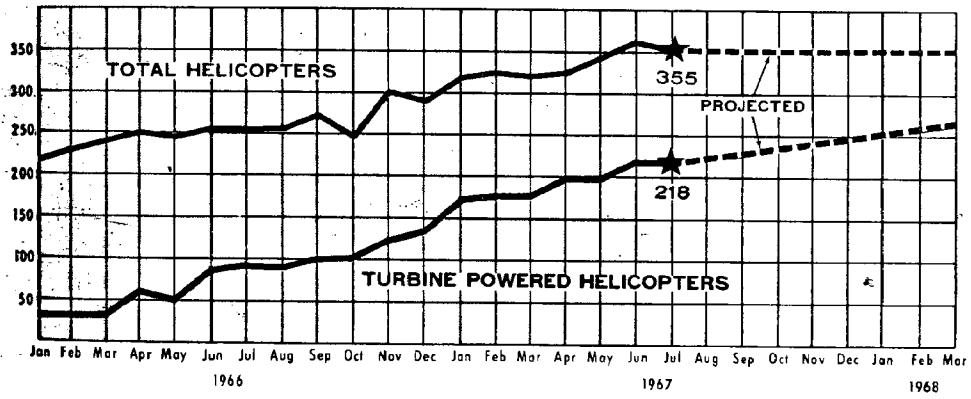


## CARGO LIFTED BY HELICOPTER



There were 355 Marine helicopters in Vietnam and with the two Marine Special Landing Forces at the end of July; of these, 218 were turbine powered. The increase in turbine powered helicopters, from thirty-five (or 16% of total assets) in January 1966, to a projected total of 265 (or 75% of assets) in March 1968 is displayed on the graph below.

## INCREASE IN HELICOPTER STRENGTH

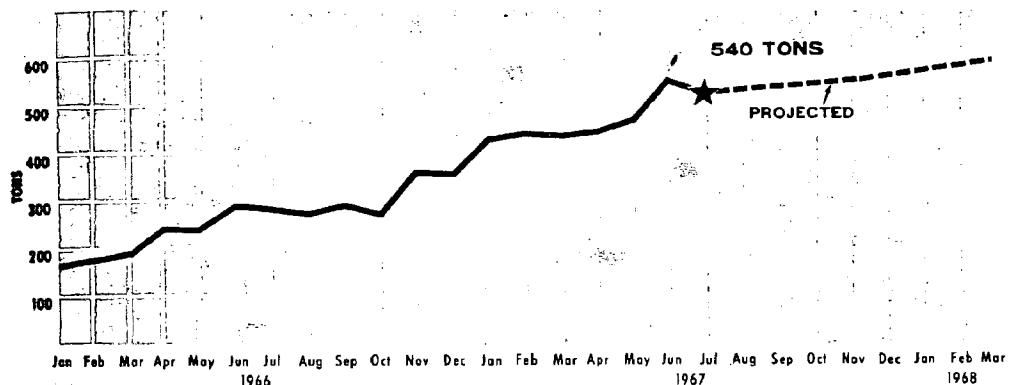


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Lift capabilities have correspondingly increased as more CH-46 and CH-53 turbine powered helicopters have arrived in-country. This is illustrated, in particular, by the CH-53, which can carry over 35 combat-loaded Marines or approximately 9,000 pounds of cargo, a capability nearly twice that of the CH-37, which it replaced. Below is a portrayal of the past and projected increase in the lift capabilities of Marine helicopters in Vietnam.

#### GROWTH OF HELICOPTER LIFT CAPABILITY



#### Aircraft Losses and Damage

##### - Fixed Wing

In addition to the loss of the A-4 to a surface to air missile, one F-4B and one F-8E were downed while on attack missions in northern Quang Tri province, bringing to fifty the number of jet fighter-attack aircraft lost due to enemy action since March 1965. In addition, 34 aircraft received combat damage during July as compared with 26 during June.

##### - Helicopters

Three helicopters were lost during the month, two CH-46's and one UH-34, as compared to seven in June,

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which brings the total lost to enemy ground fire since March 1965 to 103. There were also 102 helicopters damaged, 22 more than the preceding month. Over half of those hit by ground fire were damaged between ground level and 500 feet, in the critical phase of operating within a landing zone during troop, cargo and medical-evacuation lifts.

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SUMMARY

In August, a large proportion of the enemy's effort was directed against the I CTZ. Although I Corps encompasses 16% of the land area of RVN, contains 18% of the total population of the nation, and is defended by only 18% of the free world forces, it was the area in which, during the period 1 June - 31 August, 44% of all enemy - initiated actions took place; where 53% of all enemy losses in RVN occurred; and where 42% of all friendly losses in RVN were sustained. It is plainly the focus of battle today.

The dominant military problem in I CTZ continued to be the enemy sanctuary north of the Ben Hai River. From this haven North Vietnamese Army troops were able to operate with substantial assurance that their rear logistics and heavy weapons positions were secure from ground attack.

The sanctuary also had a serious effect on the Marines' logistic situation near the DMZ. The enemy, armed with long range artillery, is able to shell the important Dong Ha - Cua Viet logistic areas from north of the Ben Hai, and had done so repeatedly. The air campaign, as currently conducted, has not yet been able to still the enemy's artillery emplaced in that area, with the result that III MAF's major logistic lifeline in the DMZ area - \*from the port at Cua Viet to the forward base at Dong Ha - is constantly at high risk. III MAF's solution to the problem is to expand the capacity of the port at Hue, moving material over the road from there to Dong Ha, and to create a C-130 capable airfield in the Quang Tri area, to serve as the major airhead for the northern region.

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As the month passed, the September national elections assumed progressively greater importance, and both friendly and enemy activities were temporarily shifted from pursuit of long range goals to the attainment of objectives related more directly to the elections.

The enemy had avowed publicly his intent to stop the elections, and his campaign to disrupt them was virtually unlimited. But, in spite of the enemy's political maneuvering, terrorist violence, and propaganda - oriented military attacks, 86% of the eligible voters in I Corps went to the polls on election day. This turnout, in the face of the enemy's all-out opposition, can be regarded as a clear military victory for our side - a testimonial to the quality of the protective program executed, in coordination, by Vietnamese military and paramilitary forces and by US elements.

The elections notwithstanding, the intensity of the conflict in I Corps was only slightly diminished from the increased tempo of previous months. III MAF and the Marine Special Landing Forces conducted fourteen operations of battalion size or larger, extending from the DMZ in the north to Quang Ngai province two hundred miles to the south. At the same time units of company size or smaller conducted some 39,000 patrols and ambushes, chiefly in and around the hamlets and rice fields of the populated coastal plain. Overall, this offensive military activity served to defeat the enemy's anti-election campaign, to block the movement of major North Vietnamese forces into northern Quang Tri, and to harry enemy units attempting to reestablish themselves in the critical Nui Loc Son and Duc Pho areas below Danang.

These operations accounted for 2,061 enemy killed and 112 captured, which compares with 2,983 killed and 81 captured in July. Friendly losses in August were 238 killed.

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Thus far in 1967, III MAF and the Marine Special Landing Forces together have killed 17,831 of the enemy and captured 1,361 others.

Revolutionary Development continued the slow progress which marked the two previous months. By the end of the month, forty-eight GVN Revolutionary Development Teams had completed their work in the first villages to which they had been assigned, and thirty-six of these teams had relocated to new villages. The number of enemy defectors (Chieu Hoi) increased slightly, from 224 in July to 236 in August. For the first eight months of this year 1,726 of the enemy have defected in I Corps, a figure which exceeds the entire 1966 total. But the most heartening indication of progress in this area is an action which aims to bring the fragile counterinsurgency intelligence quickly to the hands of the low level people who can do something with it. In Quang Nam and Quang Tin provinces, five district intelligence coordination centers have been created as focal points for gathering and distributing promptly the intelligence which exposes the enemy infrastructure. Four additional centers are planned by end-year.

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AIR OPERATIONSFixed Wing

During August, fixed wing aircraft of the 1st Marine Aircraft Wing flew 6,356 tactical sorties in support of military operations in I Corps, North Vietnam and Laos.

-South Vietnam

Marine aircraft flew 4,239 attack sorties in RVN during August, many in response to an engaged ground unit's urgent request for assistance. These sorties delivered approximately 8,200 tons of bombs, 575 tons of napalm, 6,300 rockets, and 150,000 rounds of 20mm ammunition. The result was 325 enemy confirmed killed and an additional 454 estimated to have been killed. Seventy-seven artillery, mortar, rocket or other weapons positions were destroyed or damaged, along with 408 bunkers and 34 boats. In addition, there were 213 secondary explosions and 190 secondary fires, attesting to accurate ordnance deliveries on enemy fuel and ammunition storage caches.

Over South Vietnam, a total of 5,088 combat and combat support sorties were flown, which compares with 6,625 sorties flown during the previous month. The decrease was due in part to low ceilings and thunderstorm

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activity which formed over the operating area in prelude to the monsoon season. As a consequence of the bad weather, Air Support Radar Team controlled missions increased from 1,595 missions in July to 1,678 missions during August.

Other sorties flown in South Vietnam included 170 helicopter escort flights, which provided accurate suppressive fires beyond the capability of armed helicopters, whenever enemy ground fire was encountered. Also, there were 548 reconnaissance sorties, of which 185 were photo, infrared, or Side Looking Radar (SLR) flights. SLR provides photographic type imagery of both stationary and moving targets under all weather conditions and at a standoff distance of 5 to 30 miles, permitting reconnaissance of enemy targets with minimum danger to the friendly aircraft.

-North Vietnam and Laos

There were 1,268 sorties out-of-country in August, predominately in the area just north of the DMZ, where there were 849 attack flights. A-6A Intruders attacked targets as far north as Route Packages VI A and VI B. The out-of country effort included 924 attack sorties flown by the A-6A, F-4B, A-4E, and F-8E airplanes, supported by 273 electronic countermeasure missions flown by EA-6A and EF-10B aircraft. In addition, seventy-one reconnaissance missions were flown by the RF-4B.

With the greater number of sorties being flown against targets in North Vietnam, the A-6A, with its inherent capability of detecting and attacking moving targets at night, continued to be a valuable weapon against the enemy's attempts to move supplies into his DMZ sanctuary. Although the aircraft's avionics equipment is difficult to maintain, great benefits are nevertheless being realized from its capabilities. During a twenty-four day period, for example,

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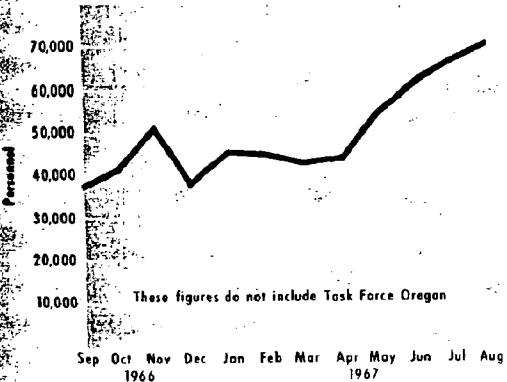
Marine A-6A's flew 178 night sorties in North Vietnam, attacking 193 moving targets and 87 fixed targets. Ninety-four were full system attacks, 60 were partial system attacks, and the remainder, 24, were conducted by visual means or by air support radar.

Bomb damage resulting from the out-of-country attacks included the destruction or damage of 29 trucks, 14 boats, and 30 gun positions. In all, 262 secondary explosions and fires were sighted.

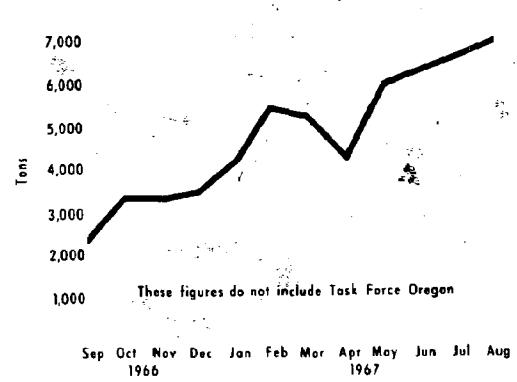
#### Helicopter Operations

During August, Marine helicopters flew 48,766 sorties, transported 70,027 personnel and lifted 7,108 tons of cargo in support of ground forces within I Corps. Although the sorties flown were down slightly from the previous month, both the number of personnel transported and cargo lifted increased, from 68,182 to 70,027 personnel, and from 6,894 to 7,108 tons of cargo. Turbine powered CH-53's lifted over 59% of the cargo. The graphs following show the numbers of personnel and amount of cargo lifted monthly since September 1966.

PERSONNEL TRANSPORTED BY HELICOPTER



CARGO LIFTED BY HELICOPTER



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Of interest during the month was the rescue by a Marine helicopter of a four man US Army patrol which was surrounded by a large enemy force seven miles north of Quang Ngai city. The helicopter's machine gunner, firing repeatedly during the successful extraction, killed twenty of the Viet Cong.

#### The CH-46 and Its Problems

The CH-46 aircraft was introduced into the Marine Corps inventory in 1964 and the first CH-46 squadron deployed to RVN and commenced combat operations in April 1966. Shortly after arrival in RVN, a number of problems began to develop in the CH-46.

Most important of these problems - which were attributed to the environmental conditions - were the sand erosion of the rotor blades, and dust/sand induction into the engine and fuel system. Corrective airframe and engine modifications were made on all III MAF CH-46 helicopters. (The December 1966 and May, June and July 1967 reports of this series outline the basic aspects of these deficiencies).

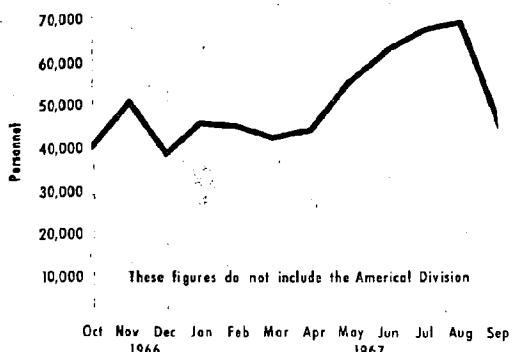
The most recent fatal CH-46 accident, apparently involving failure in the after pylon (which houses the engines, transmission and rotor head) occurred on 31 August. All III MAF CH-46 aircraft have consequently been grounded, except for combat emergency flying. This action has diminished by 50% the helicopter lift capability of the 1st Marine Aircraft Wing. Maximum effort is being expended by representatives of Headquarters, Naval Air Systems Command; the Aviation Safety Center; Headquarters, FMF-Pac; and the Boeing Vertol Company to determine the cause of these failures and to recommend the action necessary to correct them.

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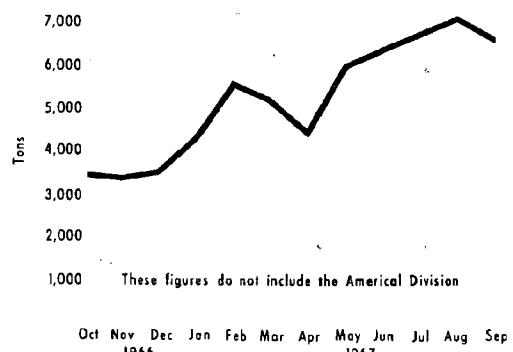
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of the cargo lift and 47% of the personnel lift capability. The graphs below reflect the loss of this lift capability.

PERSONNEL TRANSPORTED BY HELICOPTER



CARGO LIFTED BY HELICOPTER



To augment the present 1st Marine Aircraft Wing assets and to sustain the general mobility of III MAF and ARVN forces, while the modification is in progress, ten Marine CH-53 and twenty-three Marine UH-34 helicopters will be shipped to WestPac during October. In addition, thirty-one US Army UH-1's were placed under the operational control of CG, 1st Marine Aircraft Wing on 28 September.

#### Aircraft Combat Losses and Damage

##### -Fixed Wing

September saw the loss of five fixed wing aircraft; three F-4B's, one RF-4B and one A-4E, all due to enemy antiaircraft fire. This compares with four in August and three in July, bringing the total number of Marine aircraft lost in action, since March 1965, to fifty-nine. In addition, thirty-eight aircraft received combat damage during the month. Two of these required extensive repair, while the

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remaining thirty-six received light damage which Marine maintenance personnel could repair.

-Helicopters

The loss of four helicopters, three UH-34's and one UH-1E, brought the total number of Marine rotary wing aircraft lost to enemy ground fire to 114, since March of 1965. This monthly loss of four compares with eight during August, four of which were damaged beyond repair during the enemy artillery, mortar and rocket attacks on Dong Ha and Marble Mountain. There were an additional 148 helicopters damaged, twelve severely. This was forty-six more than August, which attests to the increased intensity of enemy ground fire.

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During October, the pulse of combat reversed, as the enemy, ground down by consistent failures in his dry season offensive, displayed a reduced combat capability and a reduced disposition for battle. His combat paralysis was most evident in the DMZ area, where the magnitude of the enemy's September defeat at Con Thien became more apparent, as he withdrew three regiments north of the Ben Hai river and avoided major combat with the forces remaining. In southern I Corps, further erosion of his combat effectiveness was also visible in the Nui Loc Son basin, where the bulk of the enemy forces in Quang Nam - Quang Tin provinces are located. Sixteen of twenty-four enemy battalions in this area, including all ten battalions of the 2d NVA Division, are rated as being not more than marginally fit for combat at this time.

Despite the enemy's unwillingness to commit large units to combat in October, III MAF forces, in 11 large unit and 35,933 small unit actions, killed 1,790 enemy and took 47 prisoners, bringing the year's 10-month total of enemy confirmed killed and captured by Free World forces in I CTZ to 35,872 and 3,140, respectively.

Marine fixed-wing aircraft flew a total of 5,902 sorties in support of operations in I Corps, North Vietnam and Laos, of which 4,332 were in support of Free World forces in I Corps. Marine A-6A's contributed 319 attack missions to the effort against targets in North Vietnam, approximately half of the total US A-6A effort north of the DMZ.

High seas, nearly 30 inches of rain, and the migration to northern Quang Tri of two Marine infantry battalions

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and major elements of a Marine Air Group taxed the Marine's logistic support system in northern I Corps during the month. Adding to the substantial logistic effort required in support of the 40,000 men now in this region was the requirement for movement of 14,500 tons of material required by the Quang Tri airfield (which was in operation on 23 October), and 18,000 tons of material for the DMZ Dye Marker project.

There were encouraging signs throughout the Revolutionary Development Program during October as the resurgence of progress, which began in mid-summer, continued. These signs included the growing confidence in the GVN demonstrated by the flood of 212,000 refugees into GVN settlements in I CTZ in the past six months, increasing to over half a million the number of refugees who have fled enemy controlled areas since March 1965. Revolutionary Development Teams completed their assignments in nine more hamlets, again showing I Corp's villagers badly needed leadership in helping to establish local government and promote hamlet safety.

One of the most encouraging signals of progress in I CTZ is the ARVN's increasing combat efficiency, which has thus far accounted for 7,362 enemy killed in 1967, an increase of nearly forty percent over 5,271 killed in all of 1966.

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AIR OPERATIONSFixed Wing

During October, Marine fixed wing aircraft flew 5,902 sorties in support of operations in I Corps Tactical Zone, North Vietnam and South Laos. This was an increase of 915 sorties above those flown during October 1966, and brought the total number flown thus far during 1967 to over 5,400 above that flown in all of 1966. Nevertheless, it was a decrease of 692 sorties from the 1967 monthly average. This was a result of the seasonal unfavorable weather that prevailed throughout the area and was in spite of the all-weather capability of the A-6A airplane and use of the all-weather TPQ-10 radar bombing system. An increase in radar controlled bombing, 35% greater than September, by the five TPQ-10 Air Support Radar Teams (ASRT), partially offset the limitation imposed by poor weather conditions. Nearly half of the ASRT controlled attacks, 1,361, were flown in support of III MAF units located in the DMZ region.

-South Vietnam

Marine aircraft flew 4,332 sorties in support of III MAF, ARVN and other Free World forces within I Corps, of which 3,490 were attack sorties. Over 30% of these attack flights were flown in support of Marines during Operation Kingfisher and resulted in 30 gun positions destroyed, 475 enemy structures and bunkers destroyed and 18 enemy killed.

During September, an air campaign against known enemy activity in A Shau Valley was developed. The plan called for the establishment of two barrier points, by overlapping bomb craters within the valley, to impede enemy personnel movement and halt vehicular traffic. From 7

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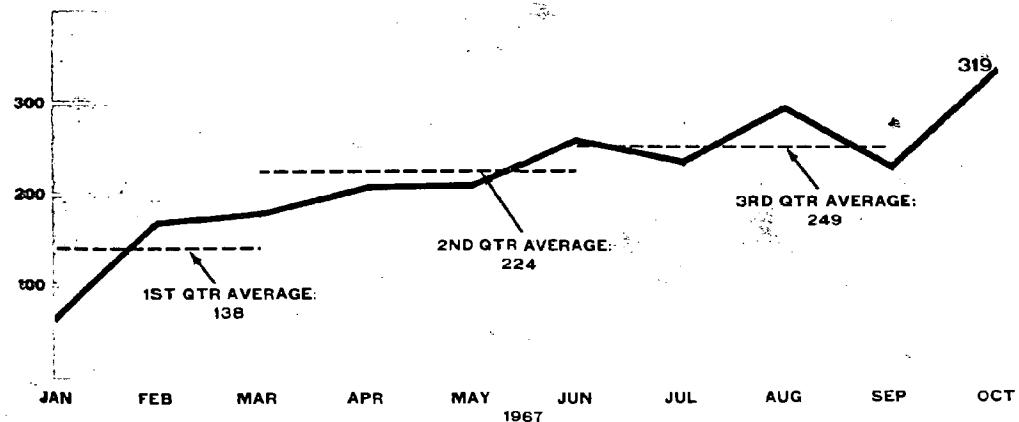
through 12 September, the barriers were created and since then, have been maintained by continuing aircraft attacks. During October, 89 attack sorties delivered 178 tons of bombs on the two barrier points. This effort, as evidenced by aerial photographic reconnaissance, continued both to render the barriers impassable to enemy vehicles and to hinder severely personnel movement.

-North Vietnam and Laos

A total of 1,570 sorties were flown out-of-country, the highest number flown thus far in 1967. In sum, 1,319 attack sorties and 224 combat support sorties were flown over North Vietnam while 27 attack sorties were flown against enemy positions and infiltration routes in South Laos. The F-4B flew 567 of the NVN attack sorties and struck numerous enemy targets in the southernmost portion of North Vietnam.

During October, Marine A-6A Intruders flew 319 attack missions against targets in North Vietnam, a record number since the A-6A's arrival in Vietnam in November 1966. These attacks represented approximately half of all US A-6A attack sorties north of the DMZ. Depicted below is the increase of Marine A-6A activity in North Vietnam since January 1967.

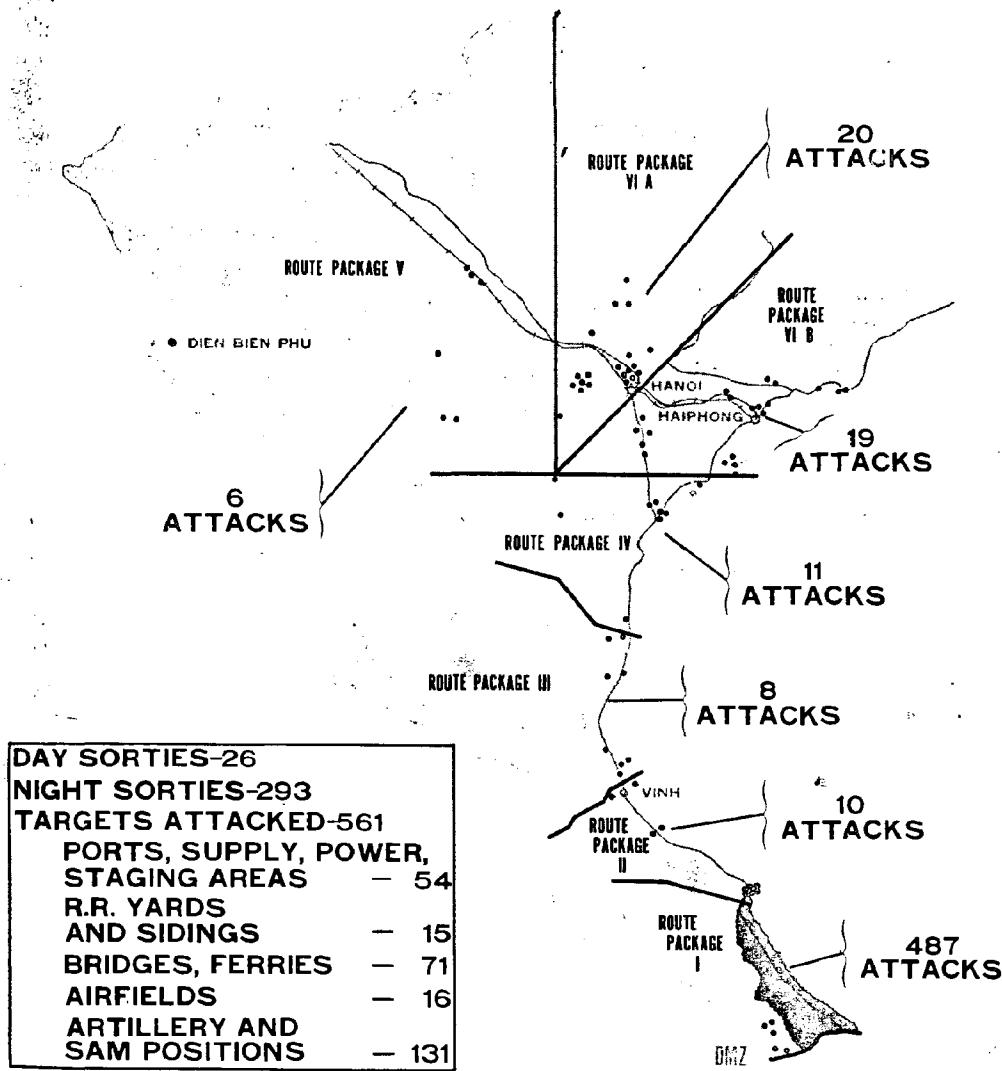
**MONTHLY MARINE A-6A ATTACK SORTIES IN NORTH VIETNAM**

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In addition, the A-6A delivered 5,980 bombs and attacked 561 enemy targets, of which 274 were moving targets. All but 26 missions were flown at night. The location of the A-6A attacks in North Vietnam during October are depicted below.

### MARINE A-6A ATTACKS IN NORTH VIETNAM OCTOBER 1967



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The necessity for selective electronic warfare support for single A-6A aircraft attacking targets in the northern Route Packages, is underscored by the extensive enemy employment of radar controlled surface-to-air missiles. Fighter cover for the supporting electronic countermeasures aircraft is also required due to increased enemy MIG reaction to the EA-6A escort aircraft. On three consecutive nights, 7, 8, 9 October, EA-6A aircraft were involved in encounters with enemy aircraft while supporting missions in North Vietnam. On two of the three encounters, the electronic warfare aircraft were forced to leave the area. Since then, F-4B fighter aircraft have accompanied the EA-6A and have thus far, by their presence alone, prevented MIG interference with these missions.

#### Reconnaissance

The 1st Marine Aircraft Wing flew 677 in-country reconnaissance flights in support of III MAF. Included were 342 visual, 76 TAC(A), 106 photographic, 84 infrared, 62 ECM and 7 radar reconnaissance flights.

To increase the aerial reconnaissance coverage and to complement the airborne reconnaissance capability of III MAF, the US Army's 245th Surveillance Airplane Company, with eighteen OV-1 Mohawk aircraft, arrived at Marble Mountain from CONUS during the month and will be placed under III MAF control on 1 November. Six aircraft are equipped with side looking airborne radar (SLAR), six with infrared sensors, while the remaining have a conventional visual and photographic capability. In addition, the company has SLAR air-ground data link read out stations which will relay airborne intelligence information to ground units. Initial locations of two data link installations will be the 1st and 3d Marine Division command posts.

#### Helicopter Operations

Marine helicopters of III MAF and the Special Landing Forces flew 35,211 sorties, transported 38,450 personnel.

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and lifted 5,968 tons of cargo in support of ground operations throughout the I Corps Tactical Zone. This was an appreciable decrease, when compared to the high rate of activity established in August. The decline derived from the continued restricted use of the CH-46 helicopter.

-CH-46 Status

As a result of several CH-46 accidents, the helicopter was restricted to emergency combat flight operations by the 1st Marine Aircraft Wing on 1 September 1967. An on-site investigation was conducted during September resulting in the determination that structural and system modifications, centered primarily around the area of the after pylon, were required before the helicopter could resume unrestricted use. This restriction reduced by nearly 50% the Marine helicopter lift capability and has required use of a stringent priority system for allocation of the now limited Marine helicopter resources.

In order partially to offset this loss, twenty-three UH-34 helicopters were sent from CONUS and arrived in-country on 15 October. In addition, ten CH-53's, also sent from CONUS, will arrive early in November, bringing the total in-country strength of this heavy lift helicopter to 36.

Modification of WestPac CH-46's commenced on 11 October at Futema, Okinawa when forty helicopters were unloaded from the LPH TRIPOLI. The structural and system modification phase is being accomplished by contractor personnel of the Boeing/Vertol Company while Marines are performing both the disassembly and reassembly phase. This three phase program requires about 1,000 man hours per helicopter. In addition, twenty-five other helicopters, undergoing Progressive Aircraft Rework and battle damage repair at Kawasaki, Japan, will have the required modifications installed at that location.

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At the end of October, the modification program, which is expected to be completed by the end of the calendar year, was on schedule. Marines, located at Futema, had completed the disassembly phase of forty helicopters while contractor personnel had completed work on eight others. There were also eight helicopters in the post-modification assembly phase. An increase of sixteen work spaces above the eight already established at Futema will take place in early November, upon completion of modification of thirty UMM-364 helicopters, located at Santa Ana, California, which will allow eighty more contractor personnel to move to Okinawa.

Beyond the modification program, CH-46 aft transmission sun gears became suspect during the month. Inspection of the gear for cracks, to identify which gears are satisfactory for service and which require rework at a depot level maintenance facility, was continuing at end month and placed further demands on the CH-46 maintenance program.

#### -CH-53 Helicopters

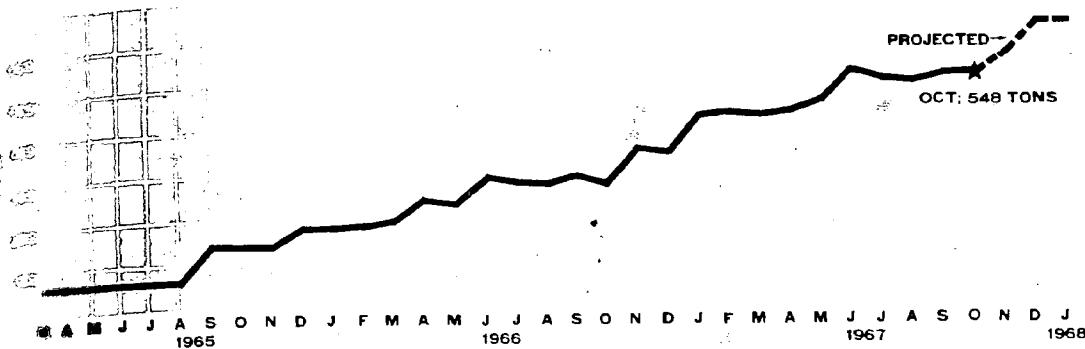
The temporary loss of the CH-46 has underscored the usefulness of the CH-53 helicopter, which can lift 8,960 pounds (35 fully loaded troops or 24 litter patients). This lift capability permits the CH-53 to perform tasks that other rotary wing aircraft can not accomplish. During the first ten months of 1967, for example, Marine CH-53's retrieved over 130 downed helicopters and light aircraft in South Vietnam. These aircraft could have been lost to the enemy or would have required destruction in place, had the CH-53 not been available. These recovered aircraft, later placed in an operational status, represent a savings of over \$47 million dollars.

All told, the lift capability of the 1st MAW helicopter force has grown substantially as the conflict has progressed. An increase from a modest capability of 66.8 tons in March 1968 to a projected 660.6 tons in January 1968, is exhibited on the following page.

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# GROWTH OF MARINE HELICOPTER LIFT CAPABILITY MARCH 1965 - JANUARY 1968



## Aircraft Combat Losses and Damage

Four fixed wing aircraft, two F-4B's, one A-6A and one F-8E, were downed by enemy fires during the month. The intruder was lost during a night attack on the Hanoi highway and railroad bridge. In addition, twenty other fixed wing aircraft were damaged by enemy ground fire, substantially fewer than the 1967 monthly average of thirty-one. This decrease was due both to reduced air operations and increased TPQ-10 controlled bombing attacks, which are flown at higher altitudes than visual delivery attacks.

There were two UH-34 helicopters lost to enemy fire during October compared with a monthly average thus far in 1967 of 4.5 aircraft, and seventy-four helicopters damaged due to combat, less than the 1967 monthly average of 126. The reduction was due partly to a decreased exposure to enemy ground fire because of fewer sorties flown.

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First noted in late September, the enemy's reluctance and diminished capability to engage Free World forces in I CTZ remained evident through November. His major offensive effort throughout I CTZ dropped by exactly 50% (he mounted only 31 attacks in November, compared to October's 62). In the south, his offensive activity was characterized by a series of attacks against defenseless refugees, while in the DMZ his activity consisted of infrequent small unit probes in the Strong Point/Obstacle Subsystem area of the DYE MARK-ER project. Concurrently, employing mobile heliborne troop units in conjunction with a powerful supporting arms effort, III MAF continued its systematic reduction of the enemy's forces.

III MAF's 14 large unit operations and 33,781 small unit actions (the latter an increase of over 1,000 above 1967's monthly average), in November cost the enemy 1,723 troops killed. Marine long range Sting Ray patrols accounted for another 26 enemy, and the Combined Action units added 63 to their toll against the guerrilla enemy. Thirty NVA soldiers and 57 Viet Cong were captured by III MAF forces, as were 372 weapons.

Despite intermittent periods of poor weather, Marine fixed wing aircraft flew 5,991 sorties in support of operations in I CTZ, North Vietnam and Laos. The A-6A's of the 1st Marine Aircraft Wing flew 337 sorties north of the DMZ, a new monthly high. The reduced helicopter lift capability caused by the continuing CH-46 modification program was still felt, although III MAF and Special Landing Force helicopter pilots completed 33,349 sorties throughout the I CTZ, lifting 51,346 passengers and 4,462 tons of cargo.

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Aided by periods of good weather during the month, the logistic situation of III MAF continued to be good throughout I CTZ. Construction of the DMZ Strong Point/Obstacle Subsystem proceeded, unhampered seriously by either enemy action or the monsoon rains. Resupply actions throughout I CTZ by motor transport convoy and by the air landing of supplies resulted in delivery of 75,847 short tons and 7,755 short tons, respectively.

The GVN - III MAF concerted programs of revolutionary development and nation-building continued their discernible progress. Eleven more villages and 47,000 more citizens achieved a "secure" status on the III MAF scale of revolutionary development evaluation. And, although the flow of over 25,000 more refugees out of VC - dominated sectors during the month placed still greater burden on the GVN's programs of refugee administration and assistance, the basic needs of the majority of these men, women, and children were being met.

The steadily increasing competence of the ARVN was evident in its support of the nation-building effort. The 16 battalions assigned to support of this effort conducted 22 operations, killing 230 enemy and capturing 79 weapons and 137 prisoners (a new monthly record).

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~~SECRET~~AIR OPERATIONS

During November, Marine fixed wing aircraft supported III MAF, ARVN and other Free World forces throughout the I Corps Tactical Zone and contributed substantially to the interdiction program against the enemy in North Vietnam and Laos. Marine helicopters continued to provide mobility to ground units to support their efforts.

Fixed Wing

Marine fixed wing aircraft flew 5,991 combat and combat support sorties during the month, which included 4,242 close air support, direct air support and reconnaissance flights in support of forces within I CTZ; 1,647 strike, combat air patrol, reconnaissance, electronic countermeasure and sea air rescue sorties over North Vietnam; and 102 strike sorties against enemy targets in Laos. The four F-4B Phantom II squadrons and the three A-4E Skyhawk squadrons flew seventy-six percent of all Marine in-country and out-of-country attack sorties. The single squadron of F-8E Crusaders in-country (VMF(AW) - 235) flew 516 attack sorties, while the two Marine A-6A Intruder squadrons flew 647 attack sorties.

-Air In Support of Large Unit Operations

The support provided fourteen III MAF and Special Landing Force large unit operations during the month by Marine aircraft included 459 close air support sorties and 862 direct air support sorties. Of these, the 250 sorties in support of Operation FOSTER resulted in 46 enemy killed, or nearly forty percent of all casualties suffered by the enemy during that operation. The month's total in-country enemy

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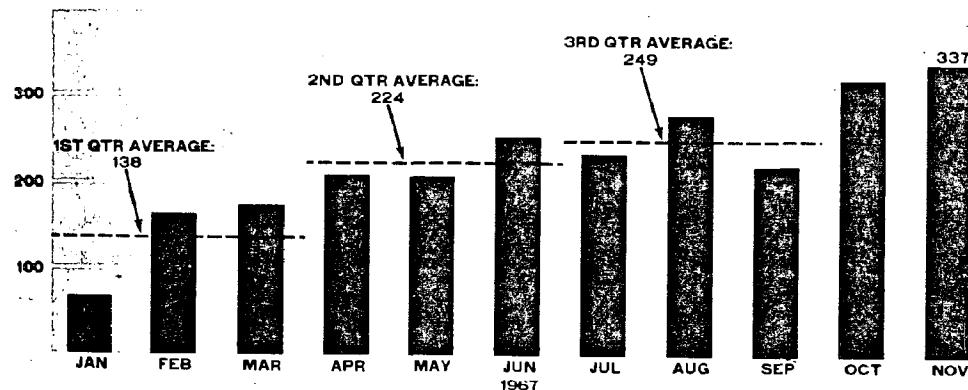
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casualties, attributed to Marine air attacks, were 121 confirmed killed and 266 others probably killed. In addition, over sixteen hundred enemy bunkers and fortified positions were destroyed by the 7,669 tons of bombs, 1,580 napalm bombs, 4,008 rockets and 84,075 rounds of 20mm ammunition delivered by Marine aircraft.

- A-6A Attacks in North Vietnam

During the month, the A-6A continued to range the full length of North Vietnam at night and/or during periods of poor weather, attacking 510 enemy targets, of which 231 were moving vehicles or waterborne logistic craft. In total, 337 A-6A attack sorties - 295 at night - were flown north of the DMZ, the highest number recorded during one month since the aircraft's arrival in-country during November 1966. Depicted below is the increase of Marine A-6A activity in North Vietnam since January 1967.

**MONTHLY MARINE A-6A ATTACK SORTIES IN NORTH VIETNAM**



- All-Weather Air Operations

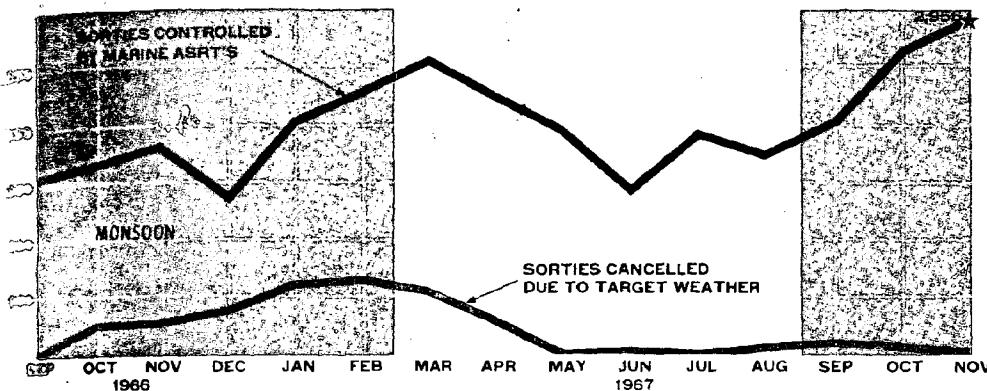
Sorties cancelled due to base, enroute or target weather decreased from 374 during October, to 87 in November, due partly to an increased use of the five Marine air support

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radar teams' ground control bombing systems. During November, 2,956 radar controlled attack sorties were flown, the highest monthly number thus far recorded. The graph below shows the monthly number of bombing attacks controlled by Marine air support radar teams since September 1966, and the low number of sorties cancelled due to target weather.

### BOMBING ATTACKS CONTROLLED BY MARINE AIR SUPPORT RADAR TEAMS



### -Air In Support of A Shau Valley Operations

In maintenance of the two barrier points established by 1st Marine Aircraft Wing and B-52 strikes in September 1967, Marine aircraft flew 139 sorties and delivered 275 tons of ordnance on the A Shau Valley personnel and vehicular traffic barriers. Periodic photographic reconnaissance has revealed that enemy attempts to bypass these barriers have been unsuccessful; the crater and earth-fall obstacles comprising the barriers continue to render this portion of the A Shau Valley line of communications impassable to vehicular traffic.

### Helicopter Operations

The combined factors of weather, continued modification of Marine WestPac CH-46 helicopters and the loss of

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6.6 percent of Marine helicopter hours (flight hours devoted to commitments for ARVN and ROKMC troops during the month), required that a stringent priority system be applied to the allocation of available helicopter resources. Helicopter pilots of III MAF and the Special Landing Force flew 33,349 sorties which resulted in the lifting of 51,346 passengers and 4,462 tons of cargo in support of operations throughout I CTZ. This effort increased the total number of Marine helicopter sorties flown in South Vietnam since March 1965, to substantially above the one million mark - 1,050, 119 - a milestone which was achieved in October 1967.

#### -CH-46 Modification Program

The arrival from CONUS of HMM-364 with 32 modified CH-46's and ten CH-53's in late October offset the temporary loss of the forty-two CH-46's still undergoing structural and systems modification at MCAF Futema, Okinawa. Thus far, seventy-three of the 137 WestPac CH-46 helicopters have completed the program. An additional 22 now in Japan, will have the requisite modifications applied while undergoing progressive aircraft rework and combat damage repair. The modification program remained on schedule during the month and gave evidence that the end-December target date for program completion would be met.

#### Aircraft Losses

During November, one A-6A was lost over North Vietnam and three helicopters - two UH-34's and one UH-1E - were lost while conducting combat operations in I CTZ. This brought the total number of Marine fixed wing aircraft lost to enemy fire to 64 and the number of Marine helicopters lost in combat to 109 (adjusted), since March 1965. In addition, 52 fixed wing aircraft and 99 helicopters were damaged during the month due to enemy action.

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SUMMARY

A major focus of the Vietnam war in 1967 was in I Corps Tactical Zone. As the year progressed, the DMZ region of northern Quang Tri and, to the south, the Nui Loc Son basin, emerged as primary scenes of contention. It was in these areas that the enemy, seeking to stem exploitation of the III MAF balanced campaign, marshalled major formations and resources.

The enemy's motive for combat in the jungle highlands of the DMZ was clear. Protection of his guerrilla infrastructure, the key to his influence among the population of the coastal lowlands, demanded a diversion of the US/GVN forces involved in the lowland pacification effort. The enemy knew that invasion of South Vietnam, or the threat of invasion, would probably draw friendly power into northern Quang Tri. The enemy also knew that combat in the sparsely populated highlands offered him advantages not attainable along the coast: the advantages of shorter lines of supply, of invasion-immune havens in Laos and North Vietnam, and combat in areas within range of his own DMZ-sited supporting arms. And the Nui Loc Son basin, located between Danang and Chu Lai, was a major source of the enemy's rice, manpower, and intelligence. He could not afford to relinquish it to Free World forces without a fight. It is undeniable that these two enemy convictions influenced greatly the conduct of III MAF operations during the year.

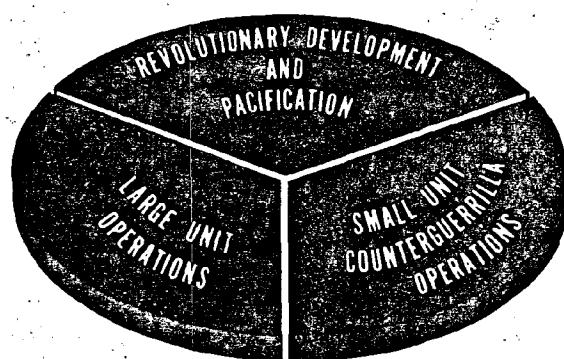
Centered primarily in the DMZ region and, to the south, in the Nui Loc Son basin, the 116 battalion or larger size operations by III MAF units and the 7th Fleet's Special Landing Forces took a toll of 16,420 enemy in 1967. Of this total, 6,884 (or 42%) were killed north of Route 9, where the Marines defeated the enemy's four major invasion attempts of the year. And, by end-year, Army and Marine

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population in the Danang, Chu Lai and Phu Bai areas. Simultaneously, there was expansion into southern Quang Ngai, the Nui Loc Son basin and northern Quang Tri, bringing over 178,000 more people under GVN influence. III MAF's combat successes, coupled with the accomplishments of the ARVN in support of RD and the success of the Vietnamese national elections, created conditions in 1967 which allowed 250,000 people to flee the Viet Cong and find refuge with the government. These same conditions were a major factor in the record number of enemy defections (over 2,500), up 54% over the 1966 total of 1,653.

In sum, the enemy's efforts in I CTZ in 1967 were unsuccessful. Despite his best efforts, he was unable to win either a significant military, political, or popular victory. The three simultaneous, mutually supporting programs of the III MAF balanced campaign - illustrated below - continued to prove their combined worth in the war in I CTZ.



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AIR OPERATIONS.

The year 1967 found the tempo of Marine fixed and rotary wing aircraft operations accelerating to match the pace of III MAF ground operations and to support ARVN and other Free World forces. Fixed wing pilots of the 1st Marine Aircraft Wing flew 5,891 attack, reconnaissance, and other combat and combat support sorties during December, for a 1967 total of 79,532 sorties - 21,582 more than in 1966. And the helicopter pilots of the 1st Marine Aircraft Wing and the Special Landing Forces flew 31,191 sorties during December, amassing for 1967 a total of 510,595 sorties - an increase of 74,328 above 1966.

Marine Fixed Wing Operations

In support of in-country operations throughout the I CTZ during the year, 14,801 close air support, 37,063 direct air support and 7,968 reconnaissance sorties were flown. Of the attack sorties, 1,242 were in support of ARVN units, 1,107 in support of US Army units, 601 in support of ROK Marine units, and 79 in support of US Special Forces units. There were also 11,501 strike sorties flown in support of the 7th Air Force and Task Force 77 in North Vietnam and Laos. Marine A-4E Skyhawks flew 28,450 sorties, F-4B Phantom II's 22,384 sorties, A-6A Intruders 6,776 sorties, F-8E Crusaders 10,753 sorties, and EF-10B's, RF-4B's and EA-6A's of Marine Composite Reconnaissance Squadron-1 flew 6,383 reconnaissance and electronic counter-measure sorties. In addition, TA-4F's flew 478 sorties, TF-9J's flew 1,083, and O-1's flew 3,225 sorties.

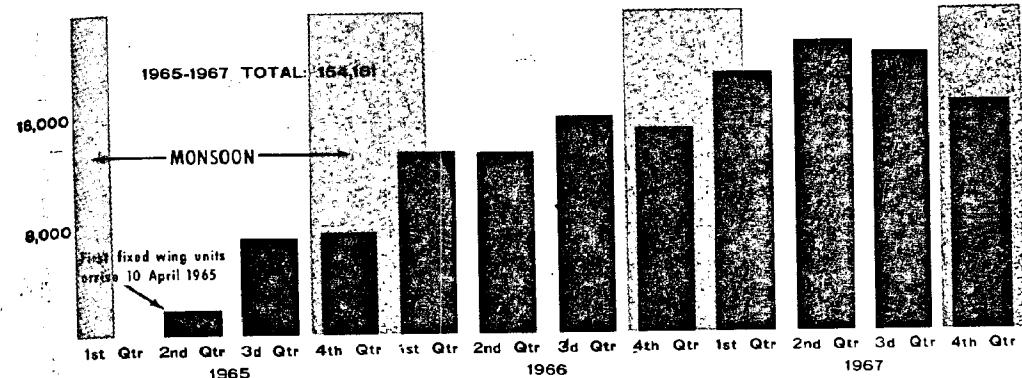
On the following page is a graphic review of fixed wing sorties flown, both total and by selected aircraft, since March 1965.

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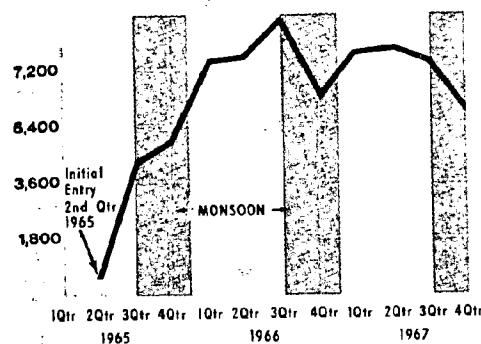
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### FIXED WING SORTIES 1965-1967

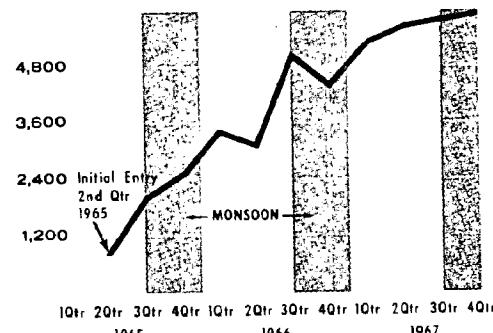
TOTAL FIXED WING COMBAT/COMBAT SUPPORT SORTIES



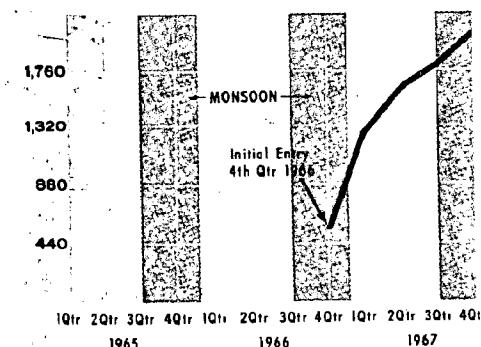
## A-4 COMBAT/COMBAT SUPPORT SORTIES



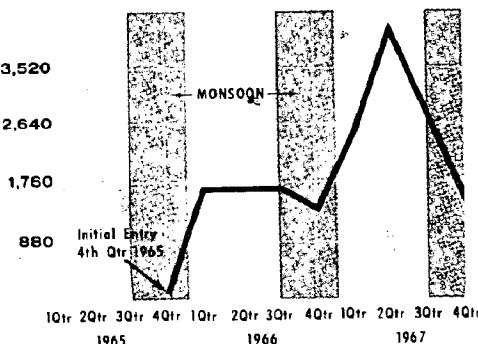
## F-4 COMBAT/COMBAT SUPPORT SORTIES



## A-6 COMBAT/COMBAT SUPPORT SORTIES



## F-8 COMBAT/COMBAT SUPPORT SORTIES

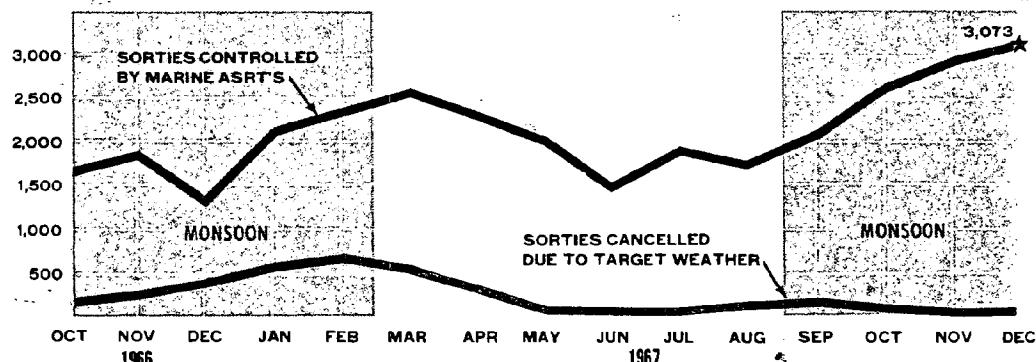


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-All Weather Marine Air Support

The 1st Marine Aircraft Wing made good use in 1967 of the five TPQ-10 radar equipped Marine air support radar teams (ASRT's) located in I CTZ to deliver ordnance at night and during periods of poor weather. These ASRT's, which guide aircraft to predetermined release points by radar, have a functional radius of approximately fifty miles and are positioned to provide complete coverage of the five northern provinces of South Vietnam, as well as the DMZ region. During the year, 27,248 ASRT controlled sorties were flown, of which 3,073 were flown during December, the highest monthly total to date. Below is the monthly number of bombing attacks controlled by Marine air support radar teams since October 1966, and the low number of sorties cancelled due to target weather.

**BOMBING ATTACK SORTIES CONTROLLED BY MARINE AIR SUPPORT RADAR TEAMS**-Marine Close and Direct Air Support In-Country

During December, 7,132 tons of bombs, 2,198 aircraft rockets, and 23,780 rounds of 20mm ammunition were expended by 3,347 Marine close and direct air support

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sorties against targets in-country. The results achieved included 131 enemy killed, which brought to 2,931 the year's enemy casualties, directly attributable to Marine air attacks.

The swift response of Marine pilots, throughout the year, to the needs of engaged ground units through the established Marine air control system, was illustrated during the battle of Khe Sanh in the Hill 881 North, 881 South and 861 complex from 24 April through 6 May. Marine pilots conducted 979 air attacks, which were instrumental in the defeat of a well dug-in regimental size enemy force. On 1 May, during the assault of Hill 881 North, 107 close air support and 45 direct air support attacks were flown in close coordination with ground elements. A count of 81 enemy dead resulted from these attacks. Accurate napalm and bombing attacks against pinpoint targets uncovered enemy bunkers and fortifications throughout the battle, exposing the enemy for subsequent engagement by Marine ground units.

#### -Support of DMZ Operations

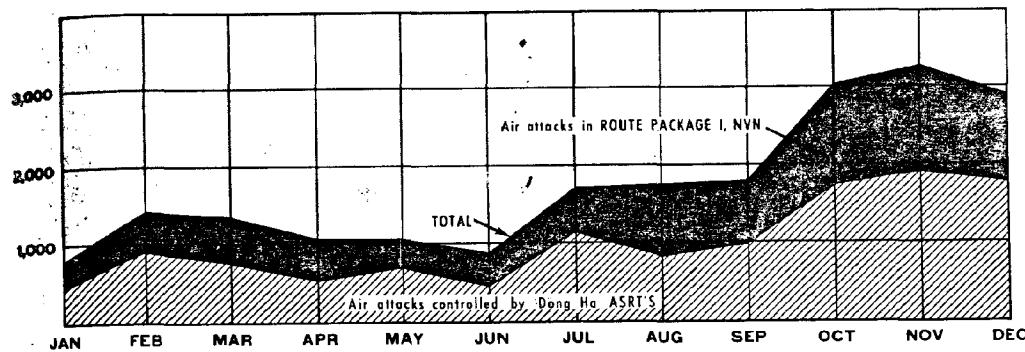
Defeat of the enemy on the critical Khe Sanh terrain, was in large measure ascribable to the pilots of the 1st Marine Aircraft Wing. And, as the enemy continued to focus his attention on the northern Quang Tri region, Marine air increased the tempo of attack operations against enemy positions in that area, including the sanctuary north of the Ben Hai river. In support of Marines contiguous to the DMZ, the number of air attacks in Route Package I, the southern-most division of North Vietnam, increased throughout the year, from 268 sorties in January 1967 to over one thousand sorties during December. During the year, the two air support radar teams positioned at Dong Ha controlled 12,365 aircraft, or 45% of all ASRT controlled sorties flown, with the aircraft expending their ordnance on enemy storage and supply areas, gun emplacements and choke points in the

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DMZ area. The increase of Marine air support in the DMZ area is shown below, both by the monthly number of attacks in Route Package I and the attacks controlled by the Dong Ha positioned ASRT's.

**MARINE AIR ATTACKS IN ROUTE PACKAGE I AND ATTACKS CONTROLLED BY DONG HA ASRT'S - 1967**



Estimates of damage inflicted upon the enemy by these attacks in the DMZ region frequently are unobtainable due to weather, terrain and enemy disposition. At times though, an assessment can be made. Such was the case on the night of 30 May when two F-4B fighter/attack aircraft from VMFA-314 were launched against a four gun enemy artillery position, firing from across the DMZ on the Marine position at Con Thien. Aerial reconnaissance of the area the following day revealed the four enemy artillery pieces had been destroyed. Confirming this reconnaissance report was the fact no enemy artillery rounds impacted on Con Thien during the succeeding thirty hours.

-A-6A Intruder Operations

Since the arrival of the first Marine A-6A at Danang in November 1966, 7,417 sorties have been logged by Intruder pilots of VMA(AW)-242 and 533. Through use of its self-con-

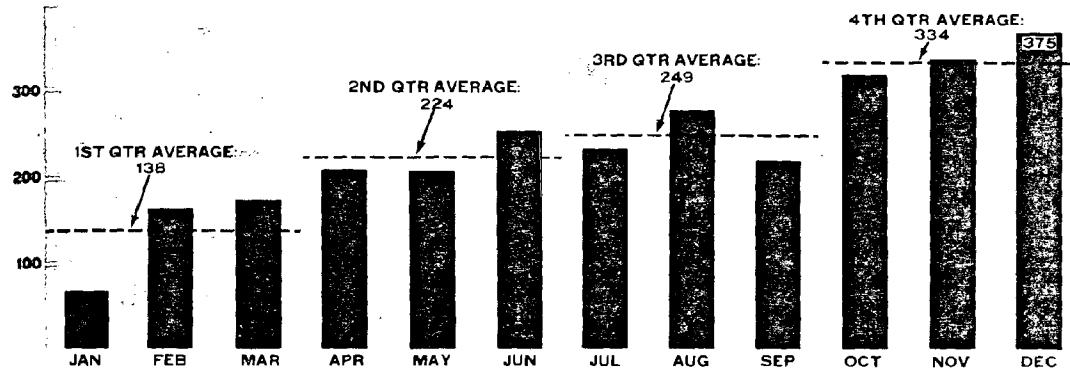
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tained, automated navigational and attack problem-solving systems against targets obscured by darkness and bad weather, the A-6A has successfully attacked stationary and moving targets both in-country and in the farthest reaches of North Vietnam.

The Marine A-6A's have contributed substantially to the interdiction campaign in North Vietnam. During December, 375 attack sorties were flown, the highest monthly total recorded thus far. Below is depicted, for 1967, the monthly A-6A sorties flown against targets in North Vietnam.

#### MONTHLY MARINE A-6A ATTACK SORTIES IN NORTH VIETNAM - 1967



Companion to the A-6A attacks north of Route Package I, a program initiated in April 1967, is the protective electronic countermeasure sorties flown by the four EA-6A's of Marine Composite Reconnaissance Squadron - 1. During December, 64 EA-6A sorties were flown north of the DMZ, providing electronic interference of enemy surface-to-air missile and antiaircraft radar fire control systems. In total, 1,213 combat support sorties have been flown by the EA-6A's since their arrival in-country during the 4th quarter, 1966.

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-Enemy Surface-to-Air Missile Threat in DMZ area

At the end of 1966, the southernmost enemy surface-to-air missile (SAM) threat was located just north of Dong Hoi. To counter the increasing pressure placed upon him by an increased air interdiction effort against his positions in the DMZ region, the enemy extended the threat southward during 1967, by establishing limited SAM defenses which covered the DMZ area.

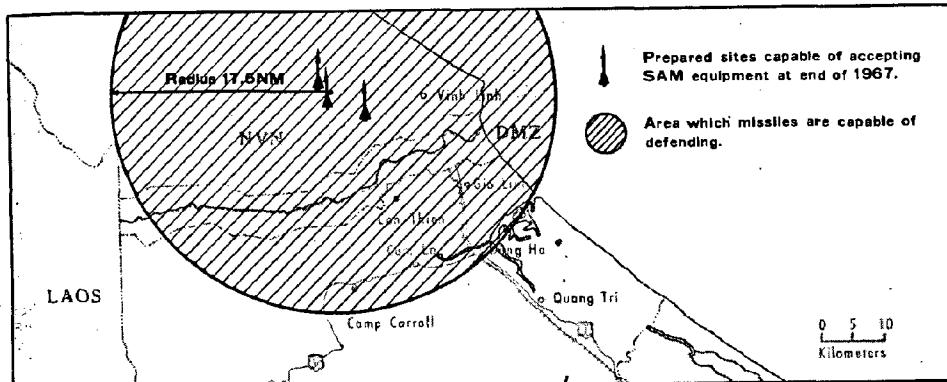
On 2 March, the first confirmed prepared SAM site was identified in the DMZ area, although no missiles, transporters or radars were noted. Deployment of missiles to the area was first revealed on 28 April when two SAM sites with missile associated equipment were photographed. On 10 May, the first North Vietnamese firing occurred, which resulted in the downing of a Marine Skyhawk. The guidance section of a SAM was found just south of Con Thien by Marines the following day while another section was found on 29 May. Since then, SAM's have been fired on eight separate occasions. Two other aircraft, an Air Force O-1 and another Marine A-4, were downed by SAM's on 22 May and 6 July respectively. In addition, B-52's flying in the vicinity of the DMZ were fired upon by SAM's on 17 September, 29 October and 20 December.

During 1967, seven prepared sites were discovered contiguous to the DMZ and situated so that their coverage presented a limited threat throughout the DMZ area. Although air attacks, artillery and naval gunfire inflicted heavy losses to SAM equipment in the area, three sites retained a limited capability of accepting missiles. On the following page is depicted the location of these three sites and the area which missiles, if launched from the sites, are capable of defending.

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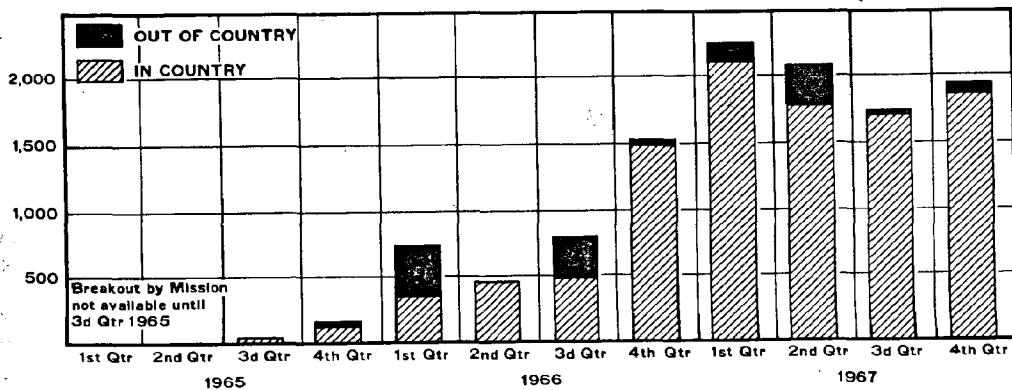
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## ENEMY SURFACE TO AIR MISSILE SITES

-Marine Reconnaissance Operations

During the year, 7,968 reconnaissance flights were flown by Marine aircraft, compared with 3,488 during 1966. This effort, although inadequate for total battlefield coverage, enabled a portion of enemy activity to be monitored through visual and sensor surveillance, including the continued enemy attempt to move supplies and men through A Shau Valley. To provide a further surveillance capability, eighteen US Army Mohawks were placed under III MAF operational control during November. The reconnaissance effort of Marine fixed wing aircraft, both in-country and out-of-country from 1965 through 1967 is shown below.

## MARINE FIXED WING RECONNAISSANCE SORTIES



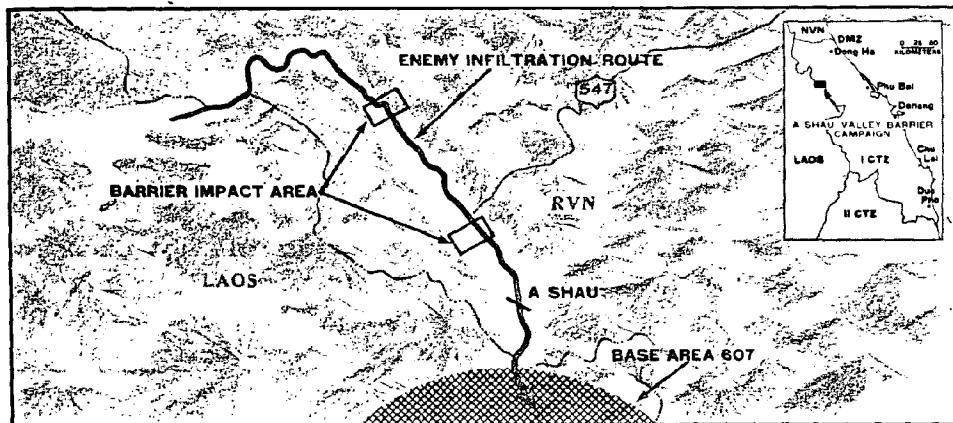
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-A Shau Valley Operations

Aerial reconnaissance during the spring and summer of 1967, revealed that the A Shau Valley, thirty miles west - southwest of Hue, remained a major enemy infiltration route. Therefore, an air campaign was initiated to create barriers (of overlapping bomb craters) at selected choke points within the valley. During the initial establishment of two barriers during September, 274 Marine and 27 B-52 sorties were flown.

The two barrier points, continually maintained, have thus far halted vehicular traffic and greatly impeded enemy personnel movement. The locations of the two A Shau Valley barriers are shown below.

**1ST MARINE AIRCRAFT WING'S A SHAU VALLEY BARRIER CAMPAIGN****AIR IN SUPPORT OF A SHAU VALLEY BARRIERS**

MAINE SORTIES	TONS ORDNANCE DELIVERED
SEP 587	1,534
OCT 94	162
NOV 139	275
DEC 324	687

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On 4 June 1967, the first operational Marine Tactical Data System (MTDS)-equipped squadron, Marine Air Control Squadron-4 (MACS-4), arrived at Danang from Camp Pendleton, California. The squadron, whose primary mission is control of airborne Marine fixed wing and rotary wing aircraft in I Corps Tactical Zone, was positioned at Monkey Mountain.

During July, the squadron successfully interfaced with the Navy Tactical Data System (NTDS) aboard 7th Fleet ships on Yankee Station, providing an instant display of airborne activity from south of Chu Lai to north of Hanoi. This was the first use of a real time tactical data link in an active combat environment. In addition, an aircraft data information link, from the control squadron to the Marine Light Antiaircraft Missile Battalion at Danang, for HAWK missile intercept of enemy aircraft, will be completed early in 1968. And, by late spring or early summer 1968, when the Air Force Backup Interceptor Central (BUIC) is installed at the Air Force Air Control and Warning Site, Monkey Mountain, MACS-4 will provide simultaneous digital data exchange of air defense information between Navy and Air Force control agencies.

Marine Helicopter Operations

The mobility provided ground forces by Marine helicopters served to help overcome the polarization of Marine infantry forces in the DMZ region and in the southern coastal areas. This mobility and maneuverability was enhanced during the year by the incremental replacement in-country of the CH-37 by CH-53 helicopters, the only new aircraft introduced into III MAF's inventory during 1967.

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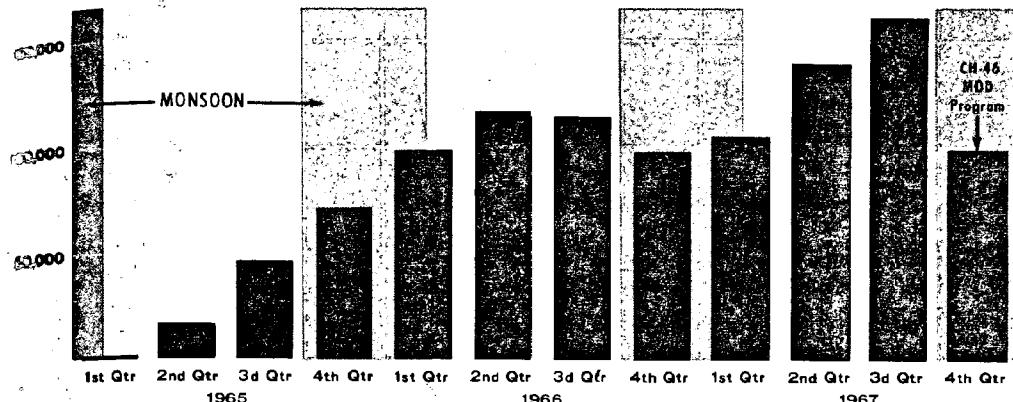
During the year, the thirty-six CH-53's assigned to the 1st Marine Aircraft Wing flew 29,986 sorties, transported 128,038 personnel and lifted 31,030 tons of cargo. Additionally, the CH-53's, capable of lifting UH-34 or CH-46 helicopters, retrieved over 120 damaged aircraft which would have otherwise been destroyed in place due to prevailing combat conditions.

In total, 510,595 helicopter sorties were flown in support of Marine, ARVN and other Free World forces in 1967, transporting 628,486 personnel and lifting 70,651 tons of cargo. On the following page is a graphic review, since March 1965, of Marine WestPac helicopter sorties flown, both total, and by type helicopter.

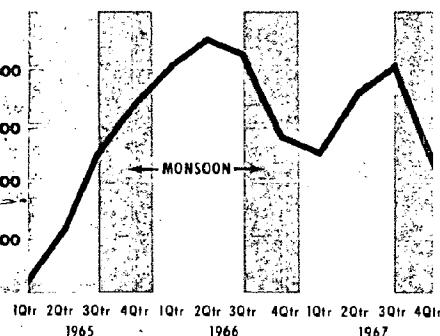
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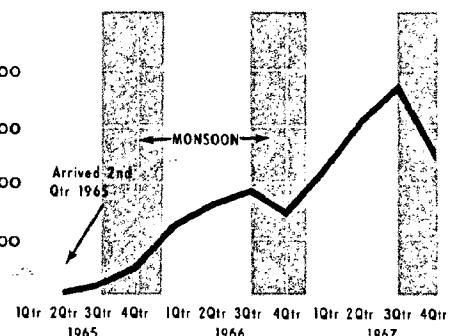
## 1ST MAW/SLF HELICOPTER SORTIES 1965-1967



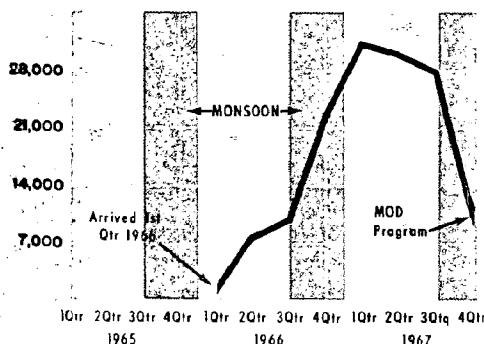
## UH-34 SORTIES



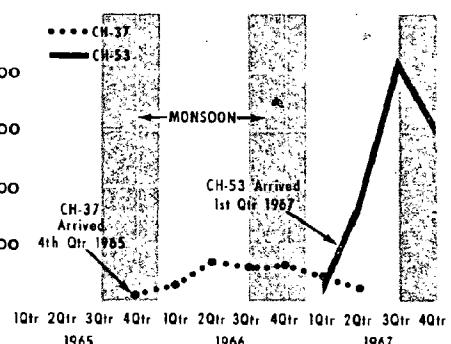
## UH-1E SORTIES



## CH-46 SORTIES



## CH-37/CH-53 SORTIES



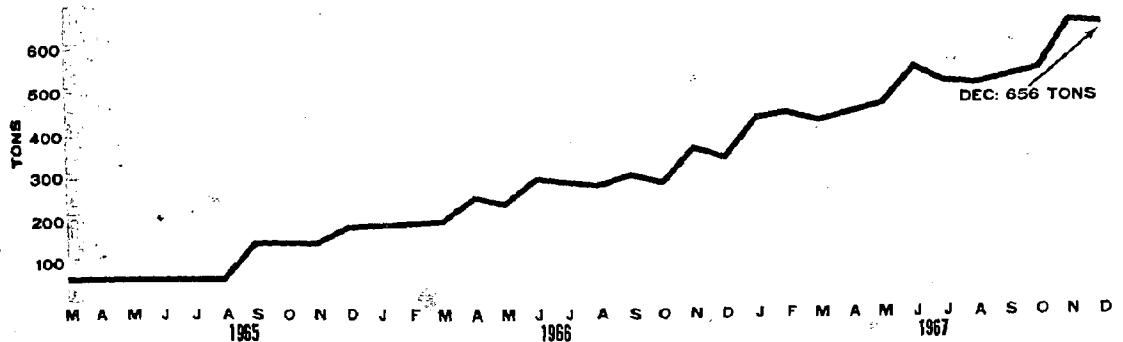
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The CH-46 modification program, consisting of structural and system modifications, and described in past editions of this series, was completed on 20 December, eleven days prior to the target date.

At end-year, assigned Marine WestPac helicopter assets consisted of 142 UH-34's, 79 UH-1E's, 137 CH-46's and 36 CH-53's. This represented a total operational lift capability of 656 tons, a 77% increase over the end 1966 capability. Below is portrayed, by month, the Marine WestPac operational lift capability of assigned helicopters since March 1965.

**GROWTH OF MARINE OPERATIONAL LIFT CAPABILITY\***  
**MARCH 1965 - DECEMBER 1967**



-Aircraft Losses

During December two fixed wing aircraft, an F-4B Phantom II and a TF-9J Cougar, were lost due to enemy ground fire, compared to one fixed wing aircraft during November and four during October. This brought the total fixed wing aircraft lost due to combat, since March 1965, to 66. An additional 35 aircraft were damaged, compared with 52 during November and 20 during October.

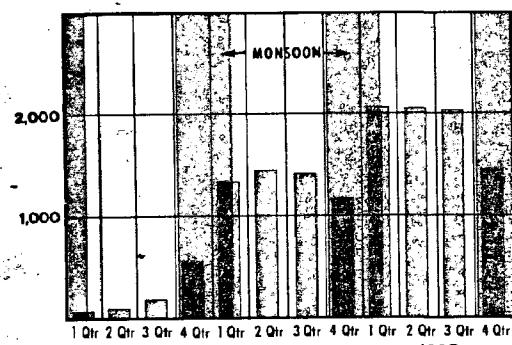
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Helicopter losses during the month, due to combat action, were four UH-34's, which brought the total number of helicopters lost through enemy action to 113 since March 1965. There were also 80 helicopters that received combat damage during December, compared with 99 in November and 74 in October.

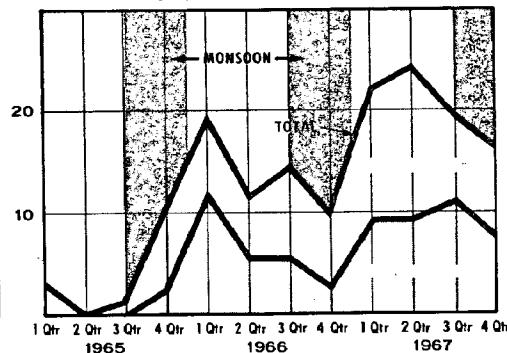
The increased tempo of flight operations in support of intensified ground efforts during 1967 was evident in the number of enemy antiaircraft fire incidents reported during the year. The graph below displays the increase of enemy ground fire incidents and attendant aircraft combat losses.

### AIRCRAFT LOSSES/ANTIAIRCRAFT INCIDENTS

ENEMY ANTAIRCRAFT INCIDENTS



MARINE AIRCRAFT COMBAT LOSSES DUE TO ENEMY ANTAIRCRAFT FIRE



Does not include losses due to attacks by mortar, rockets or artillery.

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