THE HO CHI MINH TRAIL AND OPERATION COMMANDO HUNT: THE FAILURE OF AN AERIAL INTERDICTION CAMPAIGN

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In November 1968, the United States 7th Air Force began a year-round bombing campaign of southeastern Laos to slow the infiltration of Vietnamese troops and supplies into South Vietnam. Despite the massive amount of bombs dropped, the campaigns of Operation Commando Hunt were unable to stop the Communists from sending men and materiel down the Ho Chi Minh Trail to support their operations in the south. This thesis seeks to show that President Lyndon Johnson’s decision to stop bombing North Vietnam and President Richard Nixon’s Vietnamization policy, along with the North Vietnamese’s determination to keep their supply route open, combined to prevent Operation Commando Hunt from achieving its goal.
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LIST OF ABBREVIATIONS

ABCCC ..........Airborne Combat Command and Control Center
AO...............Area of operation
ARVN ..........Army of the Republic of Vietnam
CTZ.............Corps tactical zone
CBU ............Cluster bomb units
FAC.............Forward air controller
FSB ............Fire support base
IDP ............Interdiction point
ISC ............Infiltration surveillance center
LGB..............Laser guided bomb
MAC-V ........Military Assistance Command-Vietnam
NLF.............National Liberation Front
NVA.............North Vietnamese Army
RLAF ..........Royal Laotian Air Force
RLG.............Royal Laotian Guard
RTAB...........Royal Thai Air Base
CHAPTER 1

INTRODUCTION

In 1954, the Geneva Accords divided Vietnam at the seventeenth parallel into a communist North Vietnam led by Ho Chi Minh and a noncommunist South Vietnam led by Ngo Dinh Diem. Under the agreement, the supporters of Bac Ho\(^1\) were to immigrate to the north while supporters of the Diem government were to move to the south. While nearly a million Vietnamese, mostly Catholics, left their ancestral lands in North Vietnam and went south, many Communists in South Vietnam remained to oppose Diem’s rule. The continued communist presence in the south would eventually undermine the South Vietnamese regime.

From 1955 to 1959, the Diem regime had much success in pacifying South Vietnam. Diem’s troops defeated two armed religious groups, the Cao Dai and Hoa Hao, and an organized crime syndicate called the Binh Xuyen. The Communists, meanwhile, established the National Liberation (NLF) to represent them politically in South Vietnam, and the Viet Cong became the NLF’s military wing. Diem’s forces soon had the Viet Cong on the run, and by the end of 1959, the Communists had little control of the countryside.\(^2\) Due to the lack of success of the Viet Cong, North Vietnam’s government realized it would have to support its communist cadres in the south if they were to overthrow Diem’s government and unite Vietnam under communist rule. So the North Vietnamese high command began this effort by sending southerners who had gone north back to the south to wage an insurgency against the government of South Vietnam.

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\(^1\) This is the endearing term which the North Vietnamese used to refer to their leader. *Bac* is one of the Vietnamese words that can be translated as “uncle.” A man who is known as “bac” has higher standing within the family than other uncles who may be called *chu* or *cau*.

To send men and supplies into South Vietnam, the North Vietnamese looked to a network of primitive paths through the Truong Son Mountains along Vietnam’s border with Laos. These paths were the beginning of what Americans would call the Ho Chi Minh Trail.\(^3\) In 1959, the Hanoi government established “Group 559” to build and maintain the trail, and from 1960 to the end of the war in 1975, the Communists, despite difficult terrain, even more difficult weather conditions, disease, and eventually constant American bombing, built the trail from a footpath on which porters carried supplies on their backs to nearly three thousands of miles of paved roads that could accommodate two-way truck traffic. Along the trail, they constructed field hospitals to treat the sick and wounded, storage depots for their weapons and supplies, and rest stations for the men who traveled and worked on the trail. Most important, the North Vietnamese, with aid from the Soviet Union, the communist countries of Eastern Europe, and China, developed one of the most formidable aircraft defense networks in the world. Anti-aircraft artillery exacted a heavy price on America’s slow moving and low flying propeller-driven planes while surface-to-air missiles endangered B-52 bombers and the fast moving fighter-bombers sent to interdict the trail. Clearly, the North Vietnamese recognized the importance of this supply route in their effort to unite the two Vietnams, and as Air Force historian Bernard Nalty succinctly states, “In short, the North Vietnamese campaign to overthrow the government of Saigon and establish a unified, communist Vietnam ruled from Hanoi, depended on the Ho Chi Minh Trail.”\(^4\)

Historians on both sides of the conflict credit the Ho Chi Minh Trail as one of the primary reasons that North Vietnam was able to win the war.\(^5\) In *The Blood Road: The Ho Chi Minh Trail*...
Minh Trail and the Vietnam War, John Prados details the development of the trail and its importance to the Communists. Prados describes the North Vietnamese efforts to maintain and improve the trail despite the massive American and South Vietnamese interdiction effort to cut off the infiltration of men and materiel into the South. Prados notes the determination and will of the North Vietnamese and Laotian Communists who worked on the trail. While the United States relied on air power and technology, the Communists used simple methods to thwart the American effort. For instance, when the U. S. 7th Air Force dropped seismic and chemical sensors to detect activity on the trail, the North Vietnamese fooled the seismic sensors by running herds of water buffalo through the trail to mimic the tremors caused by truck traffic. To confuse the chemical sensors, the Communists hung bags of urine in areas known to contain these devices.6

Some have argued that the U. S. military was using a sledgehammer to swat flies when a simple fly swatter might have been more appropriate. Instead of depending upon the latest technology, a better method might have been to simply provide reconnaissance planes with more

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armament to directly attack traffic on the trail while calling air strikes. The initial forward air control aircraft used in Southeast Asia, the O-1, a military version of the Cessna Model 170, was completely unarmed. But perhaps it was the Communists' tenacity that nullified any efforts to block the trail, and they would have found an answer to this threat as well. Prados believes that the failure of American air power to interdict the trail led to the need to plan and launch Lam Son 719, the South Vietnamese operation to send ground troops into Laos to interdict the trail. This operation was conducted as President Richard M. Nixon’s Vietnamization program was escalating, so the Army of the Republic of Vietnam (ARVN) had to carry out the mission without American ground troops or advisors. Unfortunately, the South Vietnamese leadership was not up to the task, and the results of the invasion were disastrous. Again, the Communists were determined to keep the trail open, indicating its importance to them.

Richard L. Stevens, in *Mission on the Ho Chi Minh Trail: Nature, Myth, and War in Viet Nam*, writes about his forays into the Laotian jungle to explore the trail. In describing the dangers of the trail, Stevens compares it to the American frontier of the nineteenth century. Indeed, American soldiers referred to this part of Indochina as “Indian Country.” Much like the settlers who traversed the American west, the American soldiers who fought in eastern Laos faced harsh conditions as well as a formidable enemy who was not only determined to preserve the trail, but also intimately familiar with the terrain. Thus, the American soldier was in a foreign environment facing a tenacious foe who used tactics to which he was not accustomed.

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9 In his narrative, Stevens writes about his missions on the Trail with Viet, a former Viet Cong who rallied to the American side. Stevens notes the ease with which Viet moved through the jungle while he and the other Americans struggled to keep up. He also writes about the Communist efforts to hide and protect the Trail. Stevens also relates his concerns regarding Viet’s genuine conversion the American side. Every time Viet disappeared into the jungle, Stevens could not help but have a little fear that he was leading them into a trap.
In *The Road to Freedom: A History of the Ho Chi Minh Trail*, Virginia Morris also stresses the importance of the trail to the North Vietnamese. She interviews senior members of the North Vietnamese Army including Vo Nguyen Giap, who was Minister of Defense and Deputy Prime Minister during the war, making him second in command to Ho Chi Minh. She also interviews General Dong Si Nguyen, who commanded the activities on the trail. Nguyen was the Political Commissar of the 565th Military Advisory Group in 1966. He was the third commander of the development of the trail. Her interviews reveal that Communist leaders recognized the importance of building and maintaining the trail in order to wage war in South Vietnam. Morris believes that the Ho Chi Minh Trail was one of North Vietnam’s greatest military accomplishments.\(^\text{10}\)

In an article published in *Asian Survey* in 1972, Arthur Dommen writes, “(The trail’s) operation and construction, both in terms of distance covered and manpower involved, outrank General Vo Nguyen Giap’s record of supplying his army at the siege of Dien Bien Phu. . . .”\(^\text{11}\) Building the Trail was a difficult task. By comparing it to the Viet Minh victory over the French at Dien Bien Phu, Dommen shows the greatness of the North Vietnamese achievement, and the depth of their commitment to the trail.

Many American historians, whether they are writing general surveys of the war or about specific aspects it, include the significance of the Trail to the Communists’ victory. In *Triumph Forsaken*, Mark Moyar argues that the ability of the North Vietnamese to widen and pave the trail allowed them to deliver four times as many supplies into South Vietnam in 1964 than in

\(^{10}\) In Morris’s interview with Giap, the general says the North Vietnamese built the Trail because they were attacked by the Americans. This statement is misleading because the Communists began developing the Trail in 1959, long before the United States took an active role in the fighting.

previous years. In *A Better War*, Lewis Sorley notes the importance of the trail to General Creighton Abrams when he quotes 7th Air Force Commander Lucius Clay who said, “(Abrams) wants the Ho Chi Minh Trail in such a shape that a crow has to carry his rations to fly over.” Abrams recognized the need to damage the trail if the Americans were to foil the Communist victory in Vietnam.

In his collections of accounts of the men who fought in Vietnam, Xiaobing Li includes the story of Tran Thanh, a sergeant in the North Vietnamese Army, who believed in Ho Chi Minh’s edicts to defend the trail. In 1964, Thanh and his comrades made the difficult journey down the trail to fight the South Vietnamese. Thanh details the hardships that he readily endured, because he saw the importance of the Trail. In Lewis Sorley’s collection of monographs from South Vietnamese generals, Nguyen Duy Hinh writes how the trail evolved from a footpath used by porters who carried supplies on their backs to an elaborate system of roads that totaled over two thousand miles. Hinh believes this development of the trail was crucial to the Communists’ success in Southeast Asia.

North Vietnamese historians have emphasized the significance of the trail to their success. The authors of *Victory in Vietnam: The Official History of the People’s Army of Vietnam* describe the difficulties in building the Trail and defending it against American air

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power. Noting the difficult conditions on the trail, the authors write admiringly about the men who undertook the mission to move supplies to the South:

The long distance and heavy loads, the savage sweep operations and bombing attacks conducted by the enemy, and severe weather conditions all combined to extend the time required for the march to five or six months, adversely affecting the health of our troops. On days when rice supplies were exhausted our soldiers had to dig up jungle roots to eat in place of rice. Almost all cadre and soldiers caught malaria, some soldiers died on the march, and a number had to remain behind in our medical clinics along the common-liaison route.

Enduring these conditions allowed the North Vietnamese to keep their forces in the South armed and supplied. Although much of the Communists’ official history is hyperbole that borders on propaganda, the writers do show the importance of the trail to their efforts.

When President Lyndon B. Johnson declared bombing halts against North Vietnam in 1968 and ended Operation Rolling Thunder, the United States shifted many of the resources that it had been using to bomb North Vietnam to the effort to interdict the Ho Chi Minh Trail. From November 1968 through April 1972, the United States 7th Air Force conducted a series of bombing campaigns code-named Operation Commando Hunt to lessen the flow of men and supplies down the trail. The objectives of Commando Hunt were to destroy the enemy trucks that were transporting men and supplies to support the Communists’ insurrection in the south, and to increase the cost of infiltrating these men and supplies so that the effort would not be worthwhile to the Communists. The campaigns were numbered serially according to the weather pattern of Southeast Asia. The ones during the dry seasons of the northeast monsoons, which lasted from November to April, were given odd numbers, while the campaigns during the wet...


17 Pribbenow, *Victory in Vietnam*, 175.
seasons, which lasted May to October, were given even numbers.\textsuperscript{18} Traffic down the trail was heaviest during the dry seasons so the efforts of the 7th Air Force were greater at this time. The American efforts during the wet seasons of the southwest monsoons were less because the amount of traffic on the trail was lower due to the weather conditions. The 7th Air Force did conduct some bombing raids during the wet seasons because the Communists were using this time to repair the damage done to the Trail by American bombs during the previous dry season, but the overall effort during the wet seasons was much less than that of the dry seasons.\textsuperscript{19}

When President Nixon announced his policy of Vietnamization in 1969, he intended to gradually transfer the responsibility for defending South Vietnam to the South Vietnamese. Commando Hunt had caused hardships for the Communists in the South. Unfortunately, with the United States beginning to withdraw from the war, the North Vietnamese and the Viet Cong realized that they did not have to defeat the Americans. Instead they only had to hold out until American forces withdrew.\textsuperscript{20} Commando Hunt became less a strategy to defend South Vietnam against communist aggression and more a way to keep the enemy from massing supplies to launch a decisive offensive before the South Vietnamese were able to successfully defend themselves. So the 7th Air Force continued its campaign of aerial interdiction of the trail.\textsuperscript{21} As the dry and wet seasons followed one another, one Commando Hunt followed one another until the spring of 1972 when the North Vietnamese Easter Offensive put a premature end to Commando Hunt VII.

\begin{itemize}
\item[\textsuperscript{18}] Although it may seem paradoxical to refer to a northeast monsoons as a dry season, mountains kept the interior of Southeast Asia dry during the months of the northeast winds that come out of Siberia. The southwest winds from the Indian Ocean that hit Southeast Asia from the end of May through the end of October bring massive rains to Laos. Chapter Two further explains the weather conditions in Indochina.
\item[\textsuperscript{19}] Nalty, \textit{The War Against Trucks}, 5.
\item[\textsuperscript{20}] Ibid., 109.
\item[\textsuperscript{21}] Ibid., 111.
\end{itemize}
The aerial campaigns to interdict the trail had potential for success. Indeed, the amount of damage done to the enemy effort was impressive by any standard. But Johnson’s bombing halts in 1968 allowed the North Vietnamese to have freedom of movement within their own borders. They were able to mass supplies along their border with Laos so the amount of materials sent into Laos after November 1968 was significantly higher than during Rolling Thunder. Despite the significant destruction done to the Communists on the Trail, these increased resources allowed them to provide sufficient resources to continue their efforts in the South.

When Johnson decided to not seek reelection in 1968, Nixon was elected president partly due to his promise of a plan to extricate the United States from the war without admitting defeat. He called his peace with honor plan “Vietnamization”, and under this idea, the United States would gradually transfer the responsibility of the fighting to the South Vietnamese. Unfortunately, the accelerated pace of Vietnamization especially in terms of air power did not give the South Vietnamese time to master the advanced technology used by the Americans nor did they have the resources to carry out interdiction on the same level as the Americans. As a result interdiction of the Trail became less effective.

Despite the American determination to interdict the Ho Chi Minh Trail, Johnson’s bombing halts and Nixon’s Vietnamization program allowed the Communists to infiltrate enough men and supplies to the South to launch a major offensive in the spring of 1972. Ultimately, the Commando Hunt campaigns failed to prevent the North Vietnamese from invading South Vietnam.

This thesis examines U.S. aerial interdiction efforts against the Ho Chi Minh Trail, particularly the series of Commando Hunt campaigns. The U.S. made a substantial commitment
to making infiltration via the trail too costly for the Communists to sustain, but ultimately the latter managed not only to keep the trail open, but to expand it. The determined efforts of the Communists, President Johnson’s bombing halts in 1968, and President Nixon’s Vietnamization program prevented the Americans from achieving a vital goal.

Figure 1. Map of the Annamite Mountain range.
CHAPTER 2
BUILDING THE HO CHI MINH TRAIL AND THE EARLY INTERDICTION EFFORTS

When Diem’s oppressive measures proved effective against the Viet Cong’s insurgency in South Vietnam, the North Vietnamese leadership held a meeting of the Central Committee in January 1959 to discuss ways to send men and supplies into South Vietnam to support their communist cadres. They decided to establish supply routes into the South. One route would be a maritime one along the coast of the South China Sea. Another route would consist of paths and trails that wound through eastern Laos.¹ This overland route would traverse the dense jungles of the Truong Son Mountains, which were part of the Annamite Range, which runs along the entire eastern side of Laos and parallels the Mekong River. The deep valleys and the rugged peaks, reaching heights of eight thousand feet some places, made the movement of men and materiel from North Vietnam a formidable task.² Through endurance and determination, the Communists were able to establish this route, and the concept of the Ho Chi Minh Trail began.

Originally, the animal paths that would later become the trail were a means to resist the French who were trying to reestablish their colonial rule in Indochina after World War II. These same paths had been used for centuries by the Vietnamese people to resist foreign invaders, and they played an important role in their resistance to the Japanese during World War II and the French afterward. These primitive footpaths gave the Vietnamese nationalists a way to travel to and from the neighboring countries of Laos, Cambodia, and Thailand.³ As early as 1945, groups of Vietnamese began hacking their way southward through the Truong Son Mountains using

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¹ Pribbenow, *Victory in Vietnam*, xi-xii.
³ Khoi, *The Ho Chi Minh Trail*, 44.
only bush axes and pick-axes to build this route that would become vital to their resistance to French rule.  

After the 1954 Geneva Accords, the footpaths fell into disuse, and the jungle reclaimed the trails that the Vietnamese had established. By the end of the 1950s, with the Army of the Republic of Vietnam (ARVN), or the South Vietnamese Army, inflicting defeats upon the Viet Cong, the North Vietnamese realized they would need to build and maintain supply routes to deliver materiel to their cadres in the South. Using the coastal route, the Communists loaded supplies on fishing boats, junks, and freighters and smuggled them into South Vietnam. On the land route, they used porters, bicycles, and elephants to transport goods and weapons through the mountain and jungles of Laos by rebuilding the old trails that were used in the First Indochina War.

On 19 May 1959, the Party Central Committee summoned Colonel Vo Bam, a supply specialist for the Ministry of Defense, to its meeting in Hanoi. General Nguyen Vanh Vinh, a permanent member of the Central Committee, informed the Colonel that he was being given the task of developing communications lines to support the revolution in the south. At first, Vo Bam planned to create a route to the Demilitarized Zone (DMZ), where the supplies would be passed on to the Viet Cong, who would then take them south to support their efforts against the Diem government. But the Viet Cong already had their hands full fighting the ARVN. So Vo Bam formed the Military Transportation Group 559, named after the month and year in which it

4 Ibid., 46.

5 Vongsavanh, RLG Military Operations and Activities in the Laotian Panhandle, 5. The First Indochina War was fought from 1945 to 1954 between the French and the Viet Minh. The Second Indochina War lasted from 1955-1973, with the North Vietnamese and the Viet Cong fighting the South Vietnamese and the United States. The Third Indochina War was fought between the North Vietnam and the South Vietnam. It lasted from 1973, when the United States completed the withdrawal of its combat troops from Vietnam, until 1975, when the North overran the forces of the South.

6 Prados, The Blood Road, 9.
was formed, to establish routes for infiltration of weapons and supplies into South Vietnam.

The group originally consisted of two battalions totaling 607 men, and they immediately began hacking footpaths through the dense jungle of eastern Laos.\(^7\) The supplies going south converged at Vinh, a town in southwest North Vietnam where three major LOCs met. These lines were Route 1A, which went along the coastal lowlands, Route 15, which traversed the western mountains, and Rail Line Six. Vinh was important because it was only forty miles from the Nape Pass, the northern most entry point into Laos. Further south, Route 15 cut through the

\(^7\) Ibid., 18.
Mu Gia Pass, another entry point, and Route 101 went further southeast to the Phuong Chay ferry junction where it connected to Route 137, which went into Laos at the Ban Karai Pass. So the four primary entry points into eastern Laos were the DMZ and the mountain passes of Nape, Mu Gia, and Ben Karai. From these mountain passes, supplies went to Tchepone in northeastern Laos, which was only twenty-five miles from Khe Sanh in South Vietnam. From there, the trail continued south through the Laotian panhandle and emerged at multiple points in Military Regions I and II in South Vietnam. The trail eventually extended to Cambodia and allowed the Communists’ supplies to reach further into South Vietnam.

With the assassination of Diem in March 1963 and the resulting instability in the government of South Vietnam, the Communists saw an opportunity to win the war, so they increased the level of infiltration via the trail from hundreds of men and tens of tons of supplies to thousands of men and hundreds of ton of supplies per month. Using the trail, the North Vietnamese sent an estimated 45,000 troops into South Vietnam from 1959 through 1964. Their 1964 total of nearly 12,500 men was nearly triple what they sent in 1960. In 1965, the U. S. sent ground troops to South Vietnam and became directly involved fighting communist forces there. The Communists responded by expanding the capacity of the trail to accommodate truck traffic.

Although the building a trail through mountains and jungles was difficult, construction of the Ho Chi Minh Trail would have been impossible had the North Vietnamese not used the

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9 Ralph Littauer and Norman Uphoff, eds., The Air War in Indochina, second ed, (Boston: Beacon Press, 1971), 67. The U. S. military divided South Vietnam into four military regions with MR I the northern most and MR IV the furthest south.
10 Please see Appendix A.
mountains and the immense forests of the Truong Song Mountains. The steep mountains made interdiction of the path by land difficult, while the triple canopy jungle provided a challenge for aerial interdiction. These same conditions also created difficulties for the builders of the trail as well. Bernard Nalty describes the conditions of the trail for the North Vietnamese:

The unit went to work enlarging the narrow trails, some of them used by communist troops during the war against the French, which wound through the ravines and valleys among the mountains that vary from eighteen hundred feet to three thousand feet in height and define the boundary between Vietnam and Laos. The engineers faced a sobering challenge, for a variety of dangers lurked in this wilderness. Ahead lay swiftly moving streams that for centuries had attacked the porous limestone ridges, gouging out caves and creating pillar-like karst formations. Jungle blanketed the mountains, with dense thickets of bamboo flourishing at lower elevations beneath a thick canopy of trees, while above twenty-four hundred feet, towering evergreens replaced the other growth.

The varied terrains of the Truong Son Mountains were a daunting obstacle that the Communists would have to overcome.

The North Vietnamese began building the trail on 20 May 1959 when the six hundred men from Group 559, divided into units of fifteen, began the journey down the Truong Son Mountains. The initial layout of the trail called for it to follow the eastern slope of the Truong Son Range and cross Route 9 in South Vietnam, which was just south of the DMZ. On 20 August the first supplies arrived in South Vietnam by way of this overland supply route. By the end of 1959, the Communists had sent 542 men into South Vietnam via the trail. Most of this early group was specialists assigned to perform specific duties to aid the resistance to the Diem regime.

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In early 1960, a South Vietnamese clearing operation discovered four French-made rifles that had been left behind by careless porters at a coffee plantation near Khe Sanh. The next day, ARVN troops arrived to halt the activity of Group 559 and succeeded in cutting off the DMZ as a viable route for infiltration. Le Duan, a Politburo member representing the South, called for an infiltration route that would be unknown to the South Vietnamese. Vo Bam realized that the supply route road could run along the western side of the Truong Son Mountains, and the Communists could infiltrate men and supplies into South Vietnam through Laos. By the end of 1960, after only five hundred days of operation, the North Vietnamese had moved twenty-one weapons, including mortars and machine guns, hundreds of tons of food, and a total of two thousand troops into South Vietnam. Vo Bam’s decision to extend the trail further west into Laos was largely responsible for this success. The original trail was only twenty miles from Laos’s border with Vietnam. The extension took it seventy miles further west.

In January 1960, troops and weapons reaching South Vietnam were substantial enough to allow four Viet Cong companies to coordinate an attack and overrun the headquarters of the ARVN 32nd Regiment in the Mekong River Delta area, the southernmost part of South Vietnam. Diem and the American officials in were immediately concerned, and rightfully so as the tide began to turn against the South Vietnamese president and his army. Over the next three years, political and military conditions deteriorated as students and Buddhist monks publicly protested Diem’s policies. Diem was losing control of his country, and the John F. Kennedy administration wanted new leadership, so it supported the ARVN generals who wanted to

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19 Ibid., 16-17.
overthrow the Diem government. The South Vietnamese generals’ *coup d’état*, and Diem’s subsequent murder in November 1963, however, did not improve the situation, and North Vietnam continued to send men and supplies to support its cadres in the South via the Ho Chi Minh Trail. The success of the Communist forces had begun in 1960 when they were able to reinforce the Viet Cong by way of the trail. The resulting instability in the South Vietnamese government was a significant factor in the overthrow of its president.

Unfortunately for the South Vietnamese, the end of the Diem regime did not improve the situation in their country. Diem’s death led to a series of incompetent and corrupt generals claiming the leadership of South Vietnam. The instability in the South Vietnamese government allowed the Communists to reopen the area around the DMZ as an infiltration point. In 1966, the United States, with American ground troops directly involved in the fighting, sent Marines to Khe Sanh to take over the army bases of Ca Lu and Ba Long and stop the infiltration across the DMZ. Here, the Americans instituted Secretary of Defense Robert McNamara’s electronic anti-infiltration system by placing sensors along the western part of the DMZ. These sensors and the heavy bombing of the North Vietnamese panhandle greatly decreased the infiltration level across the DMZ and forced the enemy to rely even more heavily on the Trail.\(^20\)

To keep open its hopes of reinforcing and resupplying its men in the South, Hanoi realized it would have to depend even more on the trail. In 1964, before the American effort at the DMZ, the North Vietnamese began a huge construction project to upgrade the trail and make it suitable for truck traffic. In 1964 alone, 12,500 North Vietnamese Army (NVA) troops and their Viet Cong allies who had gone north for training made the trek down the Trail into South

\(^{20}\) Thorndale, Interdiction in SE Asia, 5.
By 1965, laborers, both North Vietnamese and conscripted Laotians, were building roads at a rate of two miles a day in good weather. The trail was also naturally widened by constant use, and by working at night and under the cover of the jungle’s triple canopy, the Communists were able to build a network that allowed them to sustain a high level of logistical support for their forces in South Vietnam. By late 1965, an estimated 4,500 enemy troops and 300 tons of supplies were entering the South Vietnam via the Trail every month.

To counter the Communists’ measures, the United States began bombing campaigns directed at the enemy in North Vietnam and Laos. Like the Communists’ infiltration efforts, the American campaigns were also largely dependent on the monsoons of Southeast Asia. From May through October, southwest winds from the Indian Ocean brought monsoons to most of Southeast Asia, including Laos. But the Annam Cordillera blocked these winds from reaching North Vietnam, creating good conditions there. From November through April, northeast winds from Siberia and northern China blew across the South China Sea and the Gulf of Tonkin, causing monsoons in northern and central Vietnam while the rest of Southeast Asia remained dry. These environmental factors explain why the Communists’ activities in North Vietnam were heaviest during the summer and fall, while their activities in Laos were heaviest during the winter and spring. In response to these conditions, the United States concentrated its bombing on North Vietnam during the summer and fall and on Laos during the winter and spring.

In 1965, to punish the Communists for attacks on American interests in South Vietnam, Johnson authorized Operation Rolling Thunder to bomb North Vietnam. In December 1964,

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23 Thorndale, Interdiction in SE Asia, 7.

24 Ibid., 21.
before the onset of Rolling Thunder, the United States had already launched Operation Barrel Roll in which the United States Air Force (USAF) bombed northern Laos to support the Royal Laotian Government (RLG) in its civil war against the communist Pathet Lao, and to interdict the trail.\textsuperscript{25} At its inception, the USAF called Barrel Roll missions “armed reconnaissance,” implying that American aircraft were merely scouting an area and would only return fire when the enemy fired on them.\textsuperscript{26} In reality, the operation was conducting close air support and interdiction missions to support RLG forces in the Plain of Jars in northern Laos.\textsuperscript{27} So Barrel Roll operations began when USAF and Royal Laotian Air Force (RLAF) aircraft patrolled eastern Laos and the Laotian panhandle to hit targets on the Trail. On 14 December 1964 four F-105 jets, with eight F-100’s flying MIG cover, and three RF-101 BDA/WX aircraft, on an armed reconnaissance mission, struck targets on the Nape Highway Bridge. Over the next three months, the USAF flew forty-eight Barrel Roll missions of which thirty were armed reconnaissance assignments against the major supply routes in Laos.\textsuperscript{28}

As an example of the North Vietnamese’s determination to keep open their main supply route into South Vietnam, the Communists responded by undertaking great measures to protect their men and supplies from American interdiction. These actions included placing men on top of truck cabs and using red beacons and gunshots to alert truck drivers if American planes were spotted. Other measures included digging foxholes along the length of the trail, prepositioning supplies and dirt to prevent flooding at fords that were hit by American bombs, and constructing bypasses around heavily bombed parts of the trail. These efforts allowed the North Vietnamese


\textsuperscript{26} Prados, \textit{The Blood Road}, 92-93.

\textsuperscript{27} Littauer, \textit{The Air War in Indochina}, 113.

\textsuperscript{28} Warren A. Trest, CHECO Report: Control of Air Strike in SE Asia, 1961-1966, 59. TTVA
to minimize the length of time that a road was closed. For example, in the Steel Tiger area in the 1967-1968 dry season, Defense Intelligence Agency (DIA) estimated closure times on the trail were “nine hours for a bridge destroyed or cratered, six hours for a ford destroyed or cratered, and four hours for a road destroyed or cratered.”\(^{29}\) Thus, American bombing at this point did not have a large effect on the enemy’s transit time down the trail.

In addition, the North Vietnamese built mock ups of storage depots and replica trucks to further confuse the American bombers. They built phony antiaircraft emplacements to lure fighter-bombers into the killing zones of the real weapons. They also built and concealed alternate positions in which their artillery could be placed when the main site came under attack.\(^{30}\) Furthermore, the Communists made the trail an ever changing system. Despite constant aerial attacks, an estimated 19,450 North Vietnamese and conscripted Laotians worked to keep the trucks moving down the trail by building new roads, truck parks, and storage areas in addition to maintaining current roads and facilities.\(^{31}\) The determined efforts of the Communists allowed them to keep enough supplies flowing down the trail to continue their insurgency.

Another advantage for the Communists was that resupply did not have to be at a high level to support their kind of warfare. Earl Tilford writes that the defensive tactics of the Viet Cong and the NVA required only one hundred tons of supplies per day. The enemy needed fewer than fifty trucks to bring this amount into South Vietnam. The Communists also used porters and modified bicycles to carry supplies to supplement truck traffic. When poor weather

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\(^{29}\) Thorndale, *Interdiction in SE Asia*, 128.

\(^{30}\) Nalty, *The War Against Trucks*, 98.

\(^{31}\) Ibid., 99.
made the roads impassable, they loaded fifty-five gallon drums with materials and floated them along the streams and rivers that flowed along the trail.32

In launching Barrel Roll, the United States intended to make infiltration of supplies into South Vietnam too costly and time consuming to be worthwhile for the Communists. However, the effectiveness of Barrel Roll was hindered by difficulties in communication, the restrictions of the rules of engagement, and an overall low priority for sorties in Laos, because both the Americans and the North Vietnamese viewed the war as being mainly about South Vietnam. The fighting in northern Laos did force the Communists to divert some resources from South Vietnam, and the Johnson administration believed that interdicting the trail was important since the enemy brought troops and supplies directly into South Vietnam via the trail. Still, the American focus at this point was on South Vietnam. So after four months of bombing, the level of supplies going through Laos showed no signs of slowing much less stopping.33 The United States needed to intensify its efforts against the trail.

At this time, the USAF split Barrel Roll into two operations. The northern part of the campaign remained as Barrel Roll and continued to support RLG ground troops in their war with the Pathet Lao. The southern portion of the operation was named Steel Tiger and focused directly on the interdiction of NVA and Vietcong infiltration routes of the Trail.34 Despite the sorties flown and ordnance dropped on the trails, roads, convoys, and depots in the Steel Tiger area of operation, the number of communist supplies going through Laos actually increased.35 Like Barrel Roll, Steel Tiger was also hampered by restrictions on its execution and a low

32 Thorndale, Interdiction in SE Asia, 113.
33 Nalty, The War Against Trucks, 25.
number of assigned sorties. As a result, between October and November 1965, the Communists were able to move an estimated 4,500 men per month and three hundred tons of supplies per day into South Vietnam by way of the Trail, which was the same level as Barrel Roll.36

One reason for Steel Tiger’s lack of success was that it attempted to maintain strikes on the entire trail in its area instead of focusing on a single target category. In February 1967, a 7th Air Force Directorate of Operations Analysis study titled “Some Thoughts on Road Interdiction Strategy” revealed only 24.3 percent of the trucks sighted in the Steel Tiger area were damaged or destroyed. The study also stated the current method of interdiction was reactionary to the actions of the enemy and contributed to the dilution of the Air Force’s attempts to cover many targets and lessened its offensive initiative. The study goes on to suggest striking sixteen choke points in the Laotian and North Vietnamese panhandles with four sorties every eight hours. The operation would have been more successful if it had focused on striking truck parks, or interdicting choke points, or attacked moving trucks. The strategy of striking all three lowered the level of effectiveness of the Steel Tiger attacks.37 With the low level of assigned sorties, Steel Tiger did not have the resources to attack all three parts of the enemy’s infiltration system.

As a result, the 7th Air Force developed the “hub” plan to strike major junctions on the trail with the idea of causing a traffic gridlock of trucks and supplies that would present more lucrative targets for air strikes. But the Communists responded by rapidly repairing the road cuts at night. They also concentrated anti-aircraft batteries in these areas to make interdiction of hub sites very costly for the Americans.38

37Thorndale, Interdiction in SE Asia, 60.
38Ibid 74.
Another complication for Steel Tiger was that many of its sorties were weather diverts from the bombing campaign on North Vietnam. For instance, in December 1966, 940 of the sorties flown in the Steel Tiger area were intended for Rolling Thunder. In addition, another 221 were actually intended for Barrel Roll. From December 1966 through May 1967, the dry season in Laos, 29%, or 5,418 out of 18,513, sorties flown in Steel Tiger were diverts from North Vietnam. The pilots of these sorties had to fly over territory with which they were not familiar to hit targets that they had not planned on attacking. The resulting confusion of the unplanned traffic in the Steel Tiger airspace limited the impact of these strikes. The result of these missteps was that truck traffic along the trail increased without a corresponding increase in the number of trucks reported as damaged or destroyed.

Instead of launching an entirely new operation, General William Westmoreland, commander of the Military Assistance Command, Vietnam (MACV), decided to focus the American effort on a special zone within the current organizational setup. Thus, on 6 December 1965, Operation Tiger Hound began in far southeastern part of the Steel Tiger area. This operation was significant in that it was the first integrated interdiction campaign in Laos. Tiger Hound combined Hillsboro, or the C-130 Airborne Battlefield Command and Control Center, forward air controllers, Army Mohawks, fighter aircraft, B-52s, flare ships, and defoliation, all in an effort to interdict the trail in this corner of Laos.

The rules of engagement for Tiger Hound permitted armed reconnaissance on all roads that could support motorized traffic in that specific area of the Laotian panhandle, but only

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39 Ibid., 61.
40 William C. Westmoreland, *A Soldier Reports* (Garden City, New York: Doubleday & Company, 1976), 196. Westmoreland writes that he named the operation “tiger” for aggressiveness in attacking the enemy and “hound” for the forward air controllers’ ability to find the enemy and call in air strikes.
41 Thorndale, *Interdiction is SE Asia*, 25.
targets of opportunity within two hundred yards of the road could be attacked. Beyond two hundred yards, Americans could only strike targets previously approved by the RLAF, or targets already marked by RLAF spotters. In addition, way stations were off limits and the use of napalm was not permitted in this area. Although the rules of engagement were looser in Tiger Hound, they still limited the targets that could be attacked.

The allowed targets were divided into three categories. Priority Alpha was assigned to targets that had some military value and could be struck without coordination with the RLG. Priority Bravo was given to targets that had been destroyed, abandoned, or had little military value. Priority Charlie was assigned to military targets that could not be struck for political or military reasons without validation from Vientiane or the RLAF. Despite these restrictions, Tiger Hound averaged one hundred sorties per day by 28 December.

One important aspect of Tiger Hound was defoliation conducted by Operation Ranch Hand. After much debate about extending the use of defoliants to Laos, Ranch Hand received final approval to begin spraying in Laos, and on 6 December 1965, C-123s flew out of Da Nang and Tan Son Nhut Airport daily to begin spraying the far eastern part of Route 922. The initial spray effort was only partially effective because the foot trails that the Americans sought to defoliate were three to five thousand feet above sea level. The high winds at this altitude dispersed the spray, making it less effective. To maximize the approximately three gallons of defoliants per acre of land needed to strip the trees of their leaves, C-123s flew in tight formation with overlapping spray patterns at altitudes not much higher that the level of the treetops. The first sign of damage to the foliage could be seen in twenty-four to forty-eight hours. A color

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42 Porter, Tiger Hound, 10.
43 Ibid., 16-17.
change was usually apparent after one week. After six to eight weeks, the sprayed area was barren, and vertical visibility improved forty to seventy percent.45

As the number of sorties increased, and the defoliation effort started having an effect, the results for January 1966 were an improvement over those for November. During this month, the 7th Air Force reported a total of 3,476 strike sorties that used 3,286 tons of ordnance to destroy fifteen trucks and damage another eight, demolish forty-one bridges and damage another thirty-six, and incapacitate twenty-two anti-aircraft positions and damage another fifteen. Also Tiger Hound sorties destroyed 261 structures, damaged another 202, and caused 133 secondary explosions.46 This level of damage and destruction denied the Communists in South Vietnam a significant amount of fuel and ammunition.

For the first week of March, the 7th Air Force claimed even more impressive results. Eighty-two vehicles were destroyed and another forty-three were damaged. The week also saw 108 secondary explosions, four bridges destroyed, six landslides over roads, 104 road segments cut or cratered, and 197 structures destroyed.47 During the second week of March, strike sorties reached an average of 130 per day, and the results continued to climb. In this week, Tiger Hound operations destroyed thirty-two trucks and damaged another nineteen. Additionally, 124 road segments were damaged, and sixteen landslides resulted from the airstrikes. Five bridges were destroyed, and another 202 structures were destroyed or damaged resulting in sixty secondary explosions.48 According to the 7th Air Force, even bigger results followed in April when spotters detected truck parks and bunkers built into the sides of mountains. Truck kills

45 Porter, Tiger Hound, 43-45.
46 Ibid., 20.
47 Ibid., 27.
48 Ibid., 28.
reached 325 destroyed and 205 damaged for the month. An additional 442 secondary explosions were detected. Compared to the truck kills reported for January, the truck kills in April represented a 230% increase. Tiger Hound was clearly having an effect on the enemy.

But was this effect enough to deter the enemy from imposing his will on South Vietnam? The Communists gave a resounding answer to that question when they launched their massive Tet Offensive and the corresponding attack on Khe Sanh in Corp Tactical Zone I (CTZ I) on 30 January 1968. The fact that the North Vietnamese could infiltrate enough men and materiel into South Vietnam to attack every large city, most of the provincial capitals, and many of the district capitals shows that the American attempts to interdict the Trail were not working. While calling the defense of South Vietnam against these enemy attacks a success, General Creighton Abrams, who succeeded Westmoreland as MACV commander, in a summary of enemy and allied activities in 1968 and 1969 admitted, “Tet and Khe Sanh were high points for the enemy but not for us. The whole enemy structure—Main Force, Local Force, laborers, intelligence, guides, communications, supplies—all this was at the peak of effectiveness and made it possible for him to commit his troops.” Despite the American efforts to interdict the Ho Chi Minh Trail, the Communists were still able to launch a conventional offensive on a scale that had previously been unseen in the conflict.

When President Johnson ordered a halt to the bombing of North Vietnam to induce to Communists to come to the negotiating table, Operation Rolling Thunder came to an end, and the resources used to bomb North Vietnam were transferred to Laos to interdict the trail. While Barrel Roll continued in northern Laos, in November 1968, the beginning of the dry season in Laos, Task Force Alpha began the first campaign of Operation Commando Hunt, a series of

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49 Ibid., 34.
year-round aerial assaults on the trail. Commando Hunt superseded Steel Tiger, which had been in interdicting the trail since April 1965, and Tiger Hound, which had been in operation since December 1965.

Although Steel Tiger and Tiger Hound produced impressive results in the number of trucks destroyed or damaged, road segment cuts, and secondary explosions, the results of this effort were not enough to impact the enemy’s operations in South Vietnam. The fact that the Communists were able to attack the entirety of South Vietnam during the Tet holiday of 1968 shows the failure of these operations. The American hope was that Operation Commando Hunt would bring different results.
CHAPTER 3
COMMANDO HUNT CAMPAIGNS I-IV

While Barrel Roll continued in northern Laos after the bombing halt over North Vietnam, Operation Commando Hunt, conducted by the 7th Air Force with assistance from the Navy’s Task Force 77, superseded Operations Steel Tiger and Tiger Hound in southern Laos. President Johnson’s decision to halt the bombing of North Vietnam in November 1968 ended the Rolling Thunder campaign. The halt allowed the USAF to shift the sorties planned for North Vietnam to southern Laos. As a result, an additional 480 aircraft flew missions against the Trail each day, increasing the daily sortie average to 620.\(^1\) The Commando Hunt Area of Operation (AO) was west of the DMZ, and it covered the three major entry points into Laos from North Vietnam: the Nape, Mu Gia, and Ban Karai Passes, as well as the key exit points from Laos into South Vietnam. Commando Hunt’s goal was to decrease the logistical flow from North Vietnam by lengthening the time it took the enemy to move supplies into South Vietnam. It intended to accomplish this aim by destroying trucks and other supplies going into the South.\(^2\)

The planners of Commando Hunt I divided the operation into three phases. The first phase struck choke points where multiple roads converged and the construction of bypasses was most difficult. The Mu Gia and Ban Karai Passes were the most frequently targeted sites. The second phase shifted the focus away from choke points to the trail itself as the 7th Air Force sought to hit the enemy wherever it found him. Phase Three combined the increased level of air attacks in southeastern Laos with a southward extension of the sensor field to monitor the heavy road traffic south of Tchepone. This phase featured munitions packages that consisted of a laser-

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\(^1\) Nalty, *The War Against Trucks*, 98.

\(^2\) Tilford, *Set Up*, 172.
guided bomb to cut the trail, antipersonnel mines to kill or wound the repair crews, and antivehicular mines to damage heavy equipment.³

Task Force Alpha of the 7th Air Force Command Center controlled the Commando Hunt I operations. It was located at Nakhon Phanom Royal Thai Air Base (RTAB), Thailand and served as the Infiltration Surveillance Center, using high-powered IBM computers to analyze information from the Igloo White sensors that the Americans had scattered around Khe Sanh and throughout the trail.⁴

Commando Hunt differed from Steel Tiger and Tiger Hound in that it made greater use of previously planted electronic sensors. In Operation Igloo White, the USAF had dropped these sensors in the old Mud River and Dump Truck areas in Laos. Mud River was the anti-vehicular area located in Steel Tiger. Dump Truck was the anti-personnel area and covered the trails within twelve miles of the DMZ and North Vietnam’s border with Laos.⁵ The USAF also dropped sensors in the areas of the DMZ that had been important in the fighting at Khe Sanh, the roads leading into the A Shau Valley, the base areas in the northern part of South Vietnam, and the roads in the panhandle of North Vietnam. In 1968, Task Force Alpha allowed these old sensors to expire and concentrated on the sensor fields that reported traffic in southern Laos.⁶ The sensors were dropped from F-4 jets flying at low altitude, 500-2000 feet, and high speed, 550 knots. Five types of sensors were used: the Acouboy was an acoustic sensor with a parachute that allowed it to hang from trees in areas of heavy canopy; the Spikeboy was a sensor

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that had a spiked end that could be implanted on the ground in less dense areas; the Air Delivered Seismic Intrusion Detector) and the Fighter Aircraft Delivered Seismic Intrusion Detector (FADSID) were seismic sensors implanted on the ground; and the Acoustic Seismic Intrusion Detector (Acousid) was both a seismic and an acoustic sensor. Its primary use was as a seismic sensor, but it also had a microphone and antenna that transmitted audio information.\textsuperscript{7} All of these devices were implanted in strings consisting of five or six sensors. Eighty-eight percent of the sensors were seismic sensors that detected truck activity by sensing vibrations caused by vehicular movement. The acoustic devices were especially effective in locating storage sites and construction areas. The average seismic sensor was active for forty-five days, and the average acoustic sensor was active for fifteen days. All sensors had a self-destruct feature that was activated by a timer or an anti-tamper device. An EC-121 aircraft flew specified orbits to stay in range of sensor transmissions. When the EC-121 received information from a sensor, it relayed the data to the Infiltration Surveillance Center (ISC) at Nakhon Phanom RTAB. The ISC analyzed the sensor data and reported truck movements to the Airborne Battlefield Command and Control Center (ABCCC).\textsuperscript{8} In evaluating the effectiveness of sensors, the Electronic Battlefield Subcommittee reported, “The sensors allowed for early warning and active target acquisition not only close in but deep within enemy-held terrain, and contributed to the subsequent destruction of these targets. The sensors allowed the field commanders to quickly locate enemy assembly areas; find, destroy or render ineffective the main force before he could close on the United States' main battle position.”\textsuperscript{9}

\textsuperscript{7} Report of the Electronic Battlefield Senate Subcommittee of the Ninety-second Congress: Investigation into the Electronic Battlefield Program, March 1, 1971, 5. The Senate established this subcommittee to determine the effectiveness of surveillance equipment in detecting and locating the enemy. The subcommittee concluded that the sensor program saved a significant number of American lives.


Operational during the wet season of 1968 (May through October), these sensors revealed
the presence of Communist trucks, supplied by the Soviet Union, China, and the communist bloc
countries of Eastern Europe. These trucks traveled mainly at night and stopped only for fuel and
repairs at depots located about five hundred yards from the main trail. If a sensor picked up a
truck after an interdiction point was struck, intelligence specialists surmised that the enemy had
built a bypass road. Also, the activation of seismic sensors immediately after sunset indicated
that a convoy had left the truck park. When the Automatic Data Relay equipment was
unavailable, airborne ISC operators monitored sensor activity, sending date information in near
real time to the ABCCC, which then relayed the information to the ISC and the 7th Air Force.
During Commando Hunt III, an average of seventy-four Igloo White sensor strings was
maintained in the Steel Tiger area.

Commando Hunt I was also the first air interdiction campaign in the Vietnam War that
concentrated on Laos rather than North Vietnam. The end of Rolling Thunder meant that the
USAF had plenty of resources available for the start of the new interdiction campaign. The 7th
Air Force used air power in a twenty-four hour per day interdiction of the North Vietnamese
logistical effort in southern Laos. Communists’ resupply activities were at a high level from
January through April 1969, and the U.S. carried out 399 fighter-attack sorties, two gunship
sorties, and twenty-two B-52 sorties per day. This effort destroyed or damaged six thousand
trucks and produced 50,293 secondary fires and explosions. As a result, according to Air Force
records, the NVA was only able to transport 8,537 tons of supplies to South Vietnam out of the

11 Ibid., 105-106.
13 Ibid., xiv.
45,119 tons brought into Laos from North Vietnam.\textsuperscript{15} This lower level of supplies into South Vietnam may have prevented the Communists from launching a major offensive in 1969. In their official history of the Vietnam War, the North Vietnamese admit that by the end of 1968, their “offensive posture began to weaken,” and their forces in the South suffered from attrition. Also the areas of South Vietnam under their control shrunk as their main force troops were forced back to the border or to bases in the mountains.\textsuperscript{16}

By the end of April 1969, the onset of the southwest monsoon season turned the roads of southeastern Laos into a quagmire. The Communists shifted their efforts to massing supplies along the border of North Vietnam and Laos for a logistics surge at the start of the next dry season, and as in Operations Steel Tiger and Tiger Hound, both enemy movement and U.S. air operations in Laos lessened considerably.\textsuperscript{17}

During the five month campaign, the time it took the enemy to move from the Mu Gia Pass to South Vietnam increased from 2-4 days to 6-8 days. The Air Force flew 67,094 tactical air sorties and 3,811 B-52 sorties, which resulted in forty-six road and bridge cuts per day and a total of 4,300 trucks destroyed and another 1600 trucks damaged.\textsuperscript{18} The enemy’s movement of supplies from North Vietnam decreased to such an extent that he had to use the resources he had stored in Laos to resupply his forces in South Vietnam. This decrease in infiltration prevented the Communists from increasing their level of activity in the South between January-April 1969. It also forced them to decrease their activity during the wet season as they became more cautious and fearful of losses. The Communists showed their lack of aggressiveness during an offensive

\textsuperscript{16} Pribbenow, \textit{Victory in Vietnam}, 237-238.
\textsuperscript{18} Sams et al., \textit{The Air War in Vietnam, 1968-1969}, 43.
over the Tet holiday of 1969. Due to his losses in the Tet Offensive of 1968 and the interdiction effort, which prevented him from fully resupplying his forces in South Vietnam, the enemy’s attacks on 22 and 23 February 1969 amounted to little more than hit-and-run raids. Operation Commando Hunt I was only in operation for five months, but it was already having an effect on enemy.

Unfortunately for the American effort, the partial bombing halt of North Vietnam in March 1968 and the total halt in November 1968 permitted the enemy to mass his supplies on the border of North Vietnam and Laos. This allowed him to get a head start on the dry season of 1969-1970. In an interview in 1970, General George S. Brown, commander of the 7th Air Force, called the bombing halts a “serious mistake,” because they eased one of the two pressures on the Communists, the other being ground operations in South Vietnam. The halt allowed the enemy to increase his activities in the south and bring about significant negotiations in Paris. The November halt essentially gave the enemy a free pass to his border with Laos and an early start at the beginning of each dry season Commando Hunt campaign.

Furthermore, the bombing halts also allowed the enemy to shift his antiaircraft defenses from North Vietnam to the Trail. Thus, surface-to-air missiles and 100 mm cannons made their appearance in defense of the trail at the start of Commando Hunt III. Also, the Communists were able to employ more sophisticated technology in defense of the trail. At first the defenses in southern Laos were crude compared to the radar-directed guns and missiles that defended North Vietnam. By the dry season of 1968-1969, more than half of the guns protecting the trail were optically aimed 37-mm cannons, which were most effective against aircraft flying below

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19 Ibid., 46.
21 Sams et al., The Air War in Vietnam, 9.
eighty-two hundred feet. American pilots and photo interpreters also reported 23-mm guns, accurate below five thousand feet, and 57-mm guns, effective up to twelve thousand feet. The Communists had succeeded in establishing a defense system that could threaten American aircraft flying at any altitude. This increased anti-aircraft presence lessened the impact of American bombing and allowed the Communists to build bigger roads and construct fuel pipelines through Laos.

Commando Hunt I also faced the same environmental difficulties as the Steel Tiger and Tiger Hound operations. At the start of the dry season in November, cloud cover obscured important areas like the Ban Karai Pass. The Trail’s defenders also used the natural jungle canopy and built additional trellises to hide from FACs and airborne sensors. This allowed them to build additional roads and cutoffs and repair existing roads where needed. In addition, the complete bombing halt meant that a large number of aircraft passed through the Commando Hunt area on their way to other places. On the day after the ban, the number of sorties in the Commando Hunt area doubled, causing much confusion for the forward air controllers. This confusion further dampened the effectiveness of the American effort.

Commando Hunt II, the first wet season campaign, began in mid-May and continued through September. Although activity on both sides decreased, American pilots used this period to harass the Communists as they tried to repair the roads that were being washed out by the rains. When weather permitted, fighter-bombers flew armed reconnaissance missions over the Mu Gia and Ban Karai Passes as well as the previously established interdiction points at Ban

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22 Nalty, *The War Against Trucks*, 98.
23 Ibid., 97.
24 Nalty, *The War Against Trucks*, 104.
Phanop and the ford at Ban Laboy. In addition, cloud seeding efforts of the USAF made the 1969 monsoon rains one of the heaviest ever recorded in southern Laos. These factors lessened the already low level of traffic on the trail.

While the rains made truck travel difficult for the Communists, they made aerial observation just as difficult for the Americans. In the 1969 wet season, due to the difficulties associated with air reconnaissance, the CIA’s roadwatch teams played a greater role in the interdiction of the trail. The USAF was not particular fond of using these teams since they reported to Task Force Alpha instead of the 7th Air Force. Also, airstrikes called by road watch teams had to be delayed so that the observers could exit the area. With weather limiting aerial reconnaissance, the roadwatch teams did occasionally discover targets for the Air Force to strike. For instance, in August 1969, a road watch team discovered a truck park with fifty-two vehicles that soon became the target of an air strike.

With the decreased level of activity along the Trail, the USAF used some of its resources to assist the Royal Laotian Army in its efforts against the North Vietnamese and the Pathet Lao. At Ban Thateng, Air Force helicopters ferried reinforcements to hold the city after a Communist offensive caused the Laotians to abandon their positions. In June, Air Force and Air America helicopters played important roles in Operation Left Jab to cut Route 110 and disrupt the road network linking Cambodia, Laos, and South Vietnam with the aim of easing the pressure on Attopeu. In September, as a part of Operation Junction City, Junior, the USAF’s A-1 gunships

26 Nalty, The War Against Trucks, 115.
27 Ibid., 116.
28 Ibid., 117.
helped the Laotian army take Muong Phine on the western side of the Ho Chi Minh Trail.\textsuperscript{29} American air power remained busy even though traffic on the trail was light.

With the start of the 1969-1970 dry season, the 7th Air Force launched Commando Hunt III to again reduce the flow of North Vietnamese troops and materiel into South Vietnam and increase the cost of supporting the insurgency in the South Vietnam and Laos.\textsuperscript{30} The Communists committed more resources to their 1969-70 resupply campaign than in previous dry seasons. They maintained 2,400 trucks in Laos during Commando Hunt III compared to 1,200 during Commando Hunt I. They also added approximately 650 kilometers of drivable roads to their infiltration network. These roads were complete with storage and refueling areas as well as maintenance crews. Furthermore, they defended these roads with more than 1,000 anti-aircraft weapons, consisting of primarily 37mm guns but included everything from automatic rifles to 100mm cannons. Committing a large amount of manpower to their effort, they were able to build eighty kilometers of pipeline and develop 150 kilometers of waterways to free float supplies.\textsuperscript{31} To counter the Communists’ massive effort, the U.S. committed an estimated five hundred aircraft to the interdiction of the trail by using planes ranging from O-2 light observation aircraft flown by forward air controllers to B-52 heavy bombers. Of these aircraft, AC-130 gunships emerged as the most effective weapons in destroying and damaging trucks.

\textsuperscript{29} Nalty, \textit{The War on Trucks}, 119.

\textsuperscript{30} Commando Hunt III, 7\textsuperscript{th} Air Force Headquarters Report, 2.

\textsuperscript{31} Ibid., 25.
The enemy’s resupply effort during Commando Hunt III was divided into three phases. Phase I was the buildup and occurred between 1 November 1969 and 6 January 1970, when supplies were stockpiled along the southwestern part of North Vietnam. The North Vietnamese also focused on rebuilding the road network, replenishing their supplies, and strengthening their anti-aircraft defenses. As the rains eased, they moved their stockpiled supplies from the North Vietnamese side of the Mu Gia and Ban Karai Passes to the Laotian side. They also increased the use of bulldozers, road graders, and other heavy equipment in Commando Hunt III. By mid-December, about six weeks into the dry season, the entire Trail network had been made drivable, allowing the North Vietnamese to disperse their truck traffic and make their vehicles less vulnerable to air strikes. From the entry passes, supplies flowed down the trail to a series of base areas, where some of them were infiltrated directly into South Vietnam. The remaining supplies went to the next base, where again a portion went eastward into South Vietnam and the rest continued to the next base. This process continued until the supplies reach the Cambodian

Table 1. Aircraft Effectiveness in Commando Hunt III

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<thead>
<tr>
<th>Aircraft</th>
<th>Trucks D/D</th>
<th>Sorties Flown</th>
<th>D/D Per Sortie</th>
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<tr>
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Without a concerted ground effort that opposed their activities in Laos, the North Vietnamese were able to build extensive underground storage areas. When combined with the bombing halt, this infiltration system allowed the enemy to increase the truck traffic in November 1969 by twenty-three percent over November 1968.35

The North Vietnamese also maintained a substantial anti-aircraft force in Laos at the beginning of the campaign. Weapons ranging from 12.7 mm guns and 57 mm guns were stationed along the main route between the Mu Gia and Ban Karai passes as well as the area around Tchepone.36 They also developed their surface-to-air missile (SAM) sites adjacent to these passes, and fired SAMs at American aircraft flying reconnaissance missions over the Route Package I.37 Monitoring SAM sites was difficult due to weather conditions, the number of sites, and the mobility of these sites. Also, the rules of engagement stated that a SAM site could only be attacked if it fired upon U. S. aircraft.38 Interdiction efforts during Phase I focused on daytime attacks on the trail network and road repair equipment and gradually increased to include night attacks against trucks as well as day and night attacks against anti-aircraft sites.

Denial munitions packages were dropped along the Mu Gia and Ban Karai Passes to delay truck passage into Laos.39 These packages were the latest developments in U.S. weaponry and included the Paveway and the Walleye laser-guided bombs, which proved to be very accurate, the FMU-72 fuse bomb, which had a variable fuse with a delay of up to 144 hours, the

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36 Sams et al., Air War in Vietnam, 40-41.
37 To coordinate the bombing of North Vietnam, the Air Force divided the country into seven packages, with Route Package I being the farthest south and Route Package VII being the farthest north.
38 Mission Vietnam: Unofficial publication of the 7th Air Force, 43.
Rockeye II, an armor piercing cluster bomb, and the M-36 incendiary cluster, which was a particularly effective truck killer.\textsuperscript{40}

To prevent repair teams from clearing the munitions packages, the 7th Air Force began Operation Night Owl, in which F-4 jets conducted night time missions and dropped flares for illumination to deliver cluster bomb units (CBUs) on the trail. The gain from this program was not worth the effort, however, and so the program was curtailed in December.\textsuperscript{41}

The USAF also attacked points along the routes that were difficult to repair or bypass with one ton laser-guided Paveway bombs to create landslides and cut fords. The U. S. also used nighttime attacks that focused on finding and destroying trucks. When more AC-130 gunships became available, they became the primary truck-attack aircraft. These gunships also attacked anti-aircraft sites day and night to suppress their firing on American aircraft that were hitting sites identified by photo or visual reconnaissance.\textsuperscript{42} However, the Communists, determined to protect the trail, had ready replacements for the guns that the Air Force destroyed. Although the effort against anti-aircraft sites took away resources from the direct interdiction of the Trail, the attacks forced the enemy to divert his resources from his resupply activities. Thousands of men were needed to man the guns, and trucks that could have been used to move supplies had to be used to carry anti-aircraft ammunition. The Communists also had to devote considerable time and effort to camouflage and move their guns. To avoid American air strikes, they had to maintain four to five times as many sites as guns.\textsuperscript{43}

In addition to anti-aircraft sites, the Air Force struck truck parks and storage areas. Since these targets were not as time sensitive as

\textsuperscript{40} Sams et al., Air War in Vietnam , 53.
\textsuperscript{41} Jan Churchill, \textit{Hit My Smoke! Forward Air Controllers in Southeast Asia} (Manhattan, Kansas: Sunflower University Press, 1997), 207.
\textsuperscript{43} Commando Hunt III: 7th Air Force Headquarters Report 9-10.
trucks and communications networks, attacks against truck parks and storage areas allowed operational flexibility.\textsuperscript{44}

In early January, the Communists began a logistics surge and raised input into South Vietnam to 131 tons per day. During February, this number increased to 216 tons per day. Their construction and repair on the trail, the buildup of the storage areas, and a fifty percent increase in the number of their trucks in Laos allowed them to raise the level of resupply by the same percentage as the December figure. The two main entry areas were the Mu Gia and Ban Karai Passes, with twice as much going through Ban Karai. The Mu Gia supplies went through the western LOCs while the Ban Karai supplies paralleled them along the eastern routes. This dispersal of traffic forced the interdiction effort, already reduced by attacks on anti-aircraft sites, to cover a wider area.\textsuperscript{45} The 7th Air Force countered the surge by directly striking the enemy’s trucks and supplies, with trucks receiving priority over communications network targets. This emphasis resulted in seventy-two trucks killed per day in January and seventy-six per day in

\textsuperscript{44} Ibid., 10.

\textsuperscript{45} Commando Hunt III: 7th Air Force Headquarters Report, 11.
February. This attrition rate dropped traffic by fifty percent during February, and the North Vietnamese practically abandoned Mu Gia pass. In January and February, they began preparing a shorter route around the DMZ. This route became known as the 1039/92A route complex, and it integrated routes 92A, 1032, and 1039 with a fuel pipeline, which reduced their dependence on trucks to deliver this vital commodity. Also included in this complex was the Xe Banghiang River, also known as Waterway 7, which the Communists used as a supply route. The free flow of drums and waterproof bags down the river was inexpensive and extremely difficult to detect at night.  

By January 1970, the river had been sufficiently channeled and thousands of fifty-five gallon drums and plastic containers floated down the water route. Due to the natural cover of the jungle the North Vietnamese were able to use the complex day and night.  

In addition to anti-aircraft guns, MIGs became a threat to the U.S. freedom of action in the air during Commando Hunt III. As early as 1965, the Chinese and the North Vietnamese held joint air exercises along the border between the two communist countries. Several air bases in southern China had been improved, and new ones had been built. The Chinese had also sent their most modern jets, the MiG-19s, to North Vietnam. On 28 January, a MIG shot down an American helicopter on a rescue mission over Laos. The MIG presence in North Vietnam had grown from fifty jets in June 1969 to over 130 in February 1970. Thus, the USAF planners had to divert fighter aircraft from interdiction missions to perform escort duties.  

When the Communists began the surge phase of their infiltration, interdiction planners countered by making truck strikes a priority. Although the enemy surge provided rich targets for

48 Prados, The Blood Road, 75.
air strikes, the interdiction effort was further reduced by twenty-seven sorties a day when two additional Marine air squadrons left Vietnam as a result of President Nixon’s Vietnamization strategy. Also, sorties in the Steel Tiger area had to be diverted to northern Laos to relieve some of the pressure that the Communists were putting on General Vang Pao, the RLA commander. To balance this situation, sorties originally planned for South Vietnam were reallocated to the Steel Tiger area.50 Thus, truck activity on the trail began increasing in November and December as the Communists reopened their roads in Laos. This traffic increased sharply in mid-January as the North Vietnamese began their surge phase. The level of activity then decreased dramatically in late February as the enemy suffered heavy losses due to the American air effort. The decrease continued into April when a small uptick resulted from their final attempt to get supplies into South Vietnam to support their wet season activities.51

Despite the decrease in the total number of interdiction sorties, truck kills in January rose to an all-time high of seventy-two per day and then rose again in February to seventy-six per day. This high rate was due to the high level of enemy activity and the efficiency of the gunships, which accounted for forty percent of the trucks destroyed and damaged in January and fifty percent in February.52 Sorties flown at the previous levels could have had a devastating effect on the Communists.

Still, the campaign had a negative effect on the North Vietnamese. The main emphasis of Commando Hunt III was to attack enemy trucks whenever and wherever the 7th Air Force found them. Beginning in the second week of January, the attacks on trucks followed the uptick in

50 Ibid., 15.
51 Ibid., 72.
52 Ballard, Fixed Wing Gunships, 149.
sensor activity. The decrease in the number of sorties in February reflects the decreased truck activity, which was due in part to the tactical air effort in January.\textsuperscript{53}

While truck strikes were emphasized, truck parks and storage areas did not escape the attention of the American air strikes. From November 1969 through April 1970, 14,545 sorties were flown against these targets.\textsuperscript{54} A large part of the damage to truck parks and storage areas can be attributed to the Arc Light B-52 strikes, which averaged eighteen sorties per day in November and increased to thirty-three sorties per day in February. As enemy stockpiles grew, the productivity of the B-52 strikes also grew. The number of secondary fires and explosions peaked in February due to the high level of stockpiled supplies and the increased productivity of the Arc Light strikes. The number of secondary explosions per B-52 sorties rose from 1.81 in November to 2.85 in February. The USAF claimed that the result of strikes against truck parks and storage areas was 7,900 tons of Communist supplies destroyed, or twenty-five percent of the total destroyed in Commando Hunt III.\textsuperscript{55}

Interdiction points (IDPs) were also fruitful targets for the 7th Air Force. While strikes against IDPs caused little destruction of enemy supplies, they had a considerable effect on the enemy’s infiltration rate. When an IDP was hit, congestion developed on the roads behind it, forcing the Communists to use alternate routes that were longer and made their trucks more vulnerable to air strikes.\textsuperscript{56} Also, supplies had to be placed in temporary storage behind the IDP, increasing their travel time to South Vietnam. Thus, strikes on IDPs indirectly led to the damage of the other categories of truck parks, storage areas, and trucks.\textsuperscript{57}

\textsuperscript{53} Nalty, \textit{The War Against Trucks}, 129.
\textsuperscript{55} Ibid., 103.
\textsuperscript{56} Sams et al., \textit{Air War in Vietnam}, 42.
\textsuperscript{57} Commando Hunt III: 7th Air Force Headquarters Report, 104.
When the North Vietnamese became adept at clearing and repairing IDPs, the USAF developed special munitions packages, consisting of anti-vehicular and antipersonnel mines as well as cutting ordnance to hamper their efforts. Cutting ordnance consisted of Paveway laser guided or general purpose bombs; anti-vehicular weapons were MK 36 landmines, which were five hundred pound general purpose bombs fitted with retarding fins and a magnetic fuse; and MK 82 general purpose bombs fitted with a delayed fuse set to go off at specified times over a twelve hour period. Antipersonnel weapons included the canister dispensed CBU-39 Gravel; camouflaged mines; CBU-24/49, which were bomblets set to detonate on impact or at random intervals up to thirty minutes after impact; and the CBU-42, which were bomblets armed to detonate after impact, deployed by trip wires, and detonated if disturbed.58

The Mu Gia Pass was notable for its potential IDPs. Route SE 6061B was geographically ideal, because it was at the intersection of routes 12F and 1201, less than half a mile from the North Vietnamese border. The sharp westward rise and eastward decline of the terrain made bypass construction difficult. However unfavorable weather and the threat of anti-aircraft guns prevented this area from being attacked often.59

To further prevent the North Vietnamese from pre-positioning their repair teams and anti-aircraft defenses, the 7th Air Force selected six primary interdiction points along the trail and divided them into three package pairs. Both points within each of these pairs were attacked simultaneously, and the pairs were struck alternately. Again the USAF claimed that the package emplacement tactic resulted in a decrease in the input through the Mu Gia Pass and each package decreased input by fourteen truckloads per week.60

58 Ibid., 105.
59 Ibid., 107.
60 Ibid., 109-110.
During Commando Hunt III, the enemy anti-aircraft order of battle consisted of the same patterns and locations as Commando Hunt I. However, the North Vietnamese had developed their anti-aircraft defenses during the wet season and by 1 November 1969 they had nearly 450 weapons active in the Steel Tiger area. The qualified and well-equipped gun crews were able to fire twice as often as the crews during Commando Hunt I. Also, the Communists were able to develop and maintain a formidable, mobile, and flexible anti-aircraft defense. They were never gun limited and maintained over six hundred active guns.\(^{61}\) Weapons used were 12.7mm and 14.5mm automatic weapons, which were most effective against low flying aircraft. The 12.7mm guns endangered American aircraft flying up to three thousand feet, and the 14.5mm guns were effective against aircraft up to 4500 feet. The 23mm guns could fire up to 800 rounds per minute and had a range of 6600 feet. The most widely deployed anti-aircraft weapon was the 37mm cannon. This highly mobile weapon could fire 1.6 pound shells in five round clips at a rate of eighty rounds per minute. The 57mm gun could shoot seventy high explosive rounds per minute at a range of 19,700 feet. The 100mm guns had a range of 39,000 feet, but they were only fired once in November and twice in January. Four percent of the total tonnage brought into the Steel Tiger area from the end of October 1969 through April 1970 was ammunition for anti-aircraft guns. This resulted in an aircraft loss rate of .74 per 1,000 sorties, which exceeded the rate of .69 for Commando Hunt I.\(^{62}\)

The 7\(^{th}\) Air Force responded by devoting more strikes against anti-aircraft sites. During Commando Hunt III, twelve percent of its attack sorties, or 6481 of 54,000, were devoted to attacking such positions. Only six percent of the sorties in Commando Hunt I were flown

\(^{61}\) Ibid., 34.

against these targets.\textsuperscript{63} As the weather improved, the Communists’ activities along the trail increased, resulting in an increase in American air attacks. In January 1970, 1,641 out of 10,397 sorties were flown against anti-aircraft sites, or sixteen percent. The percentage decreased to twelve percent, and remained at this level through April 1970.\textsuperscript{64}

Although the Communists increased their use of waterways and pipelines, trucks continued to move the bulk of their supplies into South Vietnam. The North Vietnamese used a series of short shuttles rather than long distance hauls. This tactic allowed the drivers and repair crews to become familiar with the segment of the trail that they drove. This familiarity allowed the drivers to drive at night without using lights to avoid American air strikes. The main truck used by the NVA was the ZIL 157, a six-wheel drive vehicle that could carry nearly five tons of cargo at speeds up to forty-one miles per hour through the trail. The number of trucks operating in the Steel Tiger area ranged from two hundred to eight hundred each night, with an average of 450.\textsuperscript{65}

In addition to moving their trucks at night, the Communists used the phases of the moon to schedule their truck movements. When moon illumination was high, trucks could move without using headlights, reducing the chance of detection. At full moon, sensor activity was twice what they were at new moon from November 1969 through February 1970.\textsuperscript{66}

Attacks on trucks accounted for the largest portion of the tonnage destroyed, and the emphasis on trucks limited the enemy’s ability to resupply his forces in the South by forcing him

\textsuperscript{63} Commando Hunt III: 7th Air Force Headquarters Report, xxv.
\textsuperscript{64} Ibid., 64.
\textsuperscript{65} Ibid., 36.
to reduce his operations along the trail.\textsuperscript{67} Input and throughput, the amount of supplies entering Laos and the amount reaching South Vietnam, were heaviest during January and February until the cumulative effect of interdiction attacks forced the enemy to reduce his input, resulting in a decrease in supplies reaching South Vietnam. In its report on the Commando Hunt III campaign, the USAF recorded that the Communists sent 54,277 tons of supplies from North Vietnam. Of this amount, 31,954 tons were destroyed by air attacks, and 15,266 tons were consumed along the transportation route, resulting in 18,976 tons entering South Vietnam.\textsuperscript{68}

Throughout Commando Hunt III, the 7th Air Force adapted to the Communists’ logistics campaign. Sorties were flown against the enemy’s truck buildup at the Mu Gia and Ban Karai passes. As truck activity increased on the Trail, interdiction strikes increased correspondingly. Most of the attack sorties against trucks were flown at night when traffic was the heaviest.\textsuperscript{69}

Also during Commando Hunt III, the enemy used the two southern passes into Laos instead of the three used in Commando Hunt I. Instead of the Nape Pass, the NVA used routes around the DMZ as well as two pipelines and at least one waterway. These routes were sparsely monitored by sensors and allowed the enemy to have increased truck traffic even though the calculated input was similar to Commando Hunt I.\textsuperscript{70}

The Commando Hunt III campaign forced the enemy to take costly measures to get a limited amount of supplies into South Vietnam and, along with ground and air operations in the Republic of Vietnam, restricted the Communists’ ability to take the initiative in South Vietnam and impose their will on the people. They also had to dedicate resources to defend and repair the

\textsuperscript{67} Nalty, \textit{The War Against Trucks}, 17.
\textsuperscript{68} Commando Hunt III: 7th Air Force Headquarters Report, xxix.
\textsuperscript{69} Ibid., 81.
\textsuperscript{70} Commando Hunt III: 7th Air Force Headquarters Report, xxx.
trail, which prevented them from rebuilding their industrial plant. The supplies, trucks, equipment, and trained personnel used in Laos impacted North Vietnam’s economic recovery and growth. As a result, the Communists failed to meet their logistical goals during Commando Hunt III, and their forces in South Vietnam suffered from shortages in ammunition, medical supplies, equipment, and food. These shortages prevented them from carrying out their planned operations during this time. 71 Again in their official history, the North Vietnamese admit that their troops in South Vietnam were suffering. The amount of food going into South Vietnam was too low to sustain their troops. Each unit had to devote ten to fifteen percent of its manpower to food production. 72 The Communists also write that the difficulty in getting supplies and replacements after their summer campaigns of 1969 forced them to withdraw a large portion of their army to their base areas to regroup. 73 The cost of interdiction in terms of money and lives was clearly less than the cost of fighting a well-armed and well-supplied enemy on the battlefield.

As a result of USAF activity, the Communists’ traffic at the end of February 1970 was half of the January-February level. In response, they continued building a complex of shorter trails around the DMZ. The new route allowed the North Vietnamese to use the road network in North Vietnam to move their supplies to the new routes around the DMZ. They had to continue moving supplies, however, through the Ban Karai Pass because these new routes could not accommodate their desired level of infiltration. 74

71 Ibid., xxi-xxxii.
73 Ibid., 246.
A moderate surge in the Communists’ activity along the trail accompanied the approach of the rainy season in April 1970. The North Vietnamese had to move the sizable stockpiles into Laos before the rains made their roads impassable. By the end of April, the input through the Ban Karai Pass decreased, and the shorter routes around the DMZ became the main route of input. The North Vietnamese also began constructing new roads and improving the existing ones to make them usable during the wet season. Many of these new roads were built on higher ground to give them an all-weather capability that would allow the North Vietnamese to continue to resupply their forces and continue their activity in South Vietnam from May to November. To defend these routes, they moved their anti-aircraft defenses from Mu Gia and Ban Karai Passes to the southern part of the Steel Tiger area. As a result, the Communists’ artillery shot down eight American aircraft during the third week of April, including the first AC-130 gunship to be downed during the campaign.\(^75\)

Despite the Communists’ efforts, American air interdiction, by the end of the dry season, made communist activities in South Vietnam ineffective. In CTZ I, they suffered heavy casualties in their April assaults on the fire support bases around Tam Ky. After four days of fighting, the Communists suffered 234 killed. In CTZ II, widespread communist attacks failed and resulted in another 133 killed. In CTZ III, the Communists were limited to terrorism attacks in Saigon.\(^76\) These shortages contributed to the limiting of their dry season initiative and prevented them from launching their planned dry season offensive. Also the cumulative effect of the wet season air strikes forced the Communists to drastically curtail their resupply activity in the dry season.\(^77\)

\(^{75}\) Ibid., 17.


As the North Vietnamese shifted their supply traffic to the DMZ area, the 7th Air Force also moved the area of focus of airstrikes and gunship deployment to the communications networks south of the Ban Karai Pass, where traffic was the heaviest. The number of trucks destroyed and damage decreased at this time, but this was due to the decrease in enemy activity. The proportion of trucks destroyed and damaged versus the total number of trucks sighted actually increased despite the Communists’ attempt to change their routes. During the first week of April 1970, five hundred trucks were destroyed or damaged, and gunships destroyed or damaged fifty-five percent of the trucks they observed.78

Using new munitions and sensors, Commando Hunt III improved its effectiveness by thirty percent from November 1969 to April 1970, with a peak daily average of ninety trucks destroyed or damaged between 28 January and 3 February. The decrease in truck kills in February was due to the diversion of sorties in the Steel Tiger area to Barrel Roll to aid the RLA during the NVA’s Plain of Jars offensive.79

Of the aircraft used in Commando Hunt III, gunships, especially the AC-130, were the most effective against trucks, accounting for forty-eight percent of the trucks destroyed and damaged while flying only eight percent of the sorties.80 For the entire campaign, Commando Hunt III destroyed and damaged over 10,000 trucks. Examination of the number trucks available to the North Vietnamese reveals the effectiveness or the campaign. The DIA estimated the North Vietnamese had an inventory of 8,746 to 10,746 trucks in November 1969. 1,309 trucks were imported into North Vietnam from their Communists allies. Their truck inventory in April was 5,206 to 7,206. Also, sensor detections revealed the number of trucks moving south was twelve

percent higher than the number that were northbound.\textsuperscript{81} The higher number of southbound trucks indicates that many trucks were being destroyed on their way to resupply the Communists in the South. Commando Hunt III was obviously impacting the Communists’ available supplies.

In the overall analysis, the examination of the level of the American effort, measured as trucks damaged or destroyed, truck related secondary fires or explosions, and truck park and storage area secondary fires or explosions, versus the level of effort, measured as the number of packages emplaced, the number of sorties per package, and the number MK 36s per package, revealed a strong correlation between an increase in the number of sorties per package and a decrease in the level of traffic detected by sensors.\textsuperscript{82} Thus the larger the package, the larger was its effect.

Sixty percent of the strike sorties were flown at night, but eighty-six percent of the hits on American aircraft and sixty-nine percent of the losses occurred during the day when gunners could sight and spot the aircraft. Daytime sorties were required to scout enemy activities and deny them the use of the Trail.\textsuperscript{83} The NVA’s anti-aircraft operations also diverted aircraft from interdiction strikes to search and rescue missions. Up to 270 aircraft were required the rescue of one downed crewman. The average time needed was twenty-nine hours.\textsuperscript{84}

The Communists’ anti-aircraft buildup forced further diversions from interdiction targets. Twelve percent, or 640, of the attack sorties flown in Commando Hunt III were against anti-aircraft targets, as compared to six percent in the previous dry season. Destroying anti-aircraft sites made little difference in the enemy’s air defenses. American attacks destroyed or damaged

\textsuperscript{81} Commando Hunt III: 7th Air Force Headquarters Report, 90.
\textsuperscript{82} Col. James H. Raddin, 7\textsuperscript{th} Air Force Headquarters Report: Munitions, 1969, 4. TTVA
\textsuperscript{83} Commando Hunt III: 7\textsuperscript{th} Air Force Headquarters Report, 128.
\textsuperscript{84} Ibid., 131.
750 guns during the campaign and forced the Communists to eventually replace their entire gun inventory in the Steel Tiger area. Due to support from the Soviet Union, the North Vietnamese were able to do just that. Because of this, the 7th Air Force had to emphasize flak suppression measures. To silence anti-aircraft guns temporarily, Americans used antipersonnel bombs like CBU-24s and general purpose bombs to kill the crews or keep them from firing.\textsuperscript{85} The most effective weapon used against anti-aircraft defenses was the Paveway laser guided bomb, which was used in quantity for the first time during Commando Hunt III and delivered by modified F-4 jets.\textsuperscript{86}

The beginning of the southwest monsoon season in April saw a deterioration of weather conditions. Commando Hunt III came to a close, and the 7th Air Force initiated Commando Hunt IV. To enhance the impact of the Commando Hunt campaigns, the United States and the ARVN invaded Cambodia in April of 1970. One purpose of this operation was to interdict the Sihanoukville Trail that ran across Cambodia.\textsuperscript{87} The result of the Cambodian Incursion was the capture of about twenty thousand weapons, seven thousand tons of rice, sixty tons of medical supplies, and fifteen million tons of ammunition.\textsuperscript{88} Due to the lower level of interdiction in the wet season, strike sorties available for Commando Hunt were diverted to support the ground operations in Cambodia. A larger percentage of strikes were use against road segments and IDPs in the southern Steel Tiger to increase the effects of the monsoon. Sorties against truck parks

\textsuperscript{85} Ibid., 132.
\textsuperscript{86} Ibid., 134.
\textsuperscript{87} In the addition to the Ho Chi Minh Trail, the North Vietnamese were using the Sihanoukville Trail to move supplies brought into the port at Sihanoukville in western Cambodia, to South Vietnam. While the traffic through Cambodia was less than what went through southern Laos, the Sihanoukville Trail was important to the Communists because it was mostly paved and relatively free from air strikes or ground attacks. Closing this route would force the Communists to rely on the Ho Chi Minh Trail, where their supplies were vulnerable to Commando Hunt operations. Nalty, \textit{War on Trucks}, 137.
\textsuperscript{88} Nalty, \textit{The War on Trucks}, 138.
and storage areas continued but were hampered by weather. These factors combined to decrease the number of trucks destroyed and damaged to thirty-nine per day in May from fifty-eight per day in April.89

Although traffic and road construction decreased drastically with the onset of the wet season, it did not stop completely. Some North Vietnamese engineer units remained in Southern Laos and did extensive work on the road system. Also, the Communists had kept anti-aircraft guns in North Vietnam during the wet season of 1969 in case the United States resumed bombing there. In the wet season of 1970, they were convinced that the Americans would not resume the bombing of their country. The North Vietnamese moved this artillery to southern Laos to defend the trail.90 Thus, the halt in the bombing of North Vietnam created a more dangerous situation for American airmen in Laos.

In the 1970 wet season, the Communists did not send their construction battalions back to North Vietnam. Instead, the road crews stayed in southern Laos and built a new road west of Ban Bak to bypass the interdiction points that had been the brunt of numerous air strikes in Commando Hunt III. They also improved the road-waterway-pipeline complex west of the DMZ. This input point was the shortest and least exposed supply route into South Vietnam. Within North Vietnam, they continued their preparations for an intensive resupply effort in the upcoming dry season. They improved roads, transshipment points, and bridges to speed the movement of trucks into Laos.91

The most significant development during Commando Hunt IV was the closure of the Sihanoukville port to North Vietnamese activity. The Communists had long used this resource

90 Nalty, The War Against Trucks, 143.
in Cambodia to link their maritime supplies with the Ho Chi Minh Trail. Closure of the port essentially shut down the NVA’s use of Cambodia as a way to send supplies into South Vietnam. The Communists were now almost completely dependent on the Ho Chi Minh Trail to support the war in the south.\textsuperscript{92}

In South Vietnam, the level of NVA and Viet Cong activity decreased as they shifted battalion-sized operations to smaller unit actions. This change resulted in a drop in the intensity of each attack. This result was due to the supply shortages resulting from the previous Commando Hunt campaigns.\textsuperscript{93}

Unfortunately for the American effort, Vietnamization proceeded throughout Commando Hunt IV, and the Nakhon Phanom Surveillance Center was the victim of cost cutting and manpower reductions, which resulted in a reduced strength of 155 persons and one of the two 360/65 IBM computers that processed the information from intelligence reports.

The first four Commando Hunt campaigns were an improvement over the earlier efforts to interdict the Trail. The 7\textsuperscript{th} Air Force destroyed enemy trucks and supplies at an unprecedented level and forced hardships on the North Vietnamese who were fighting in the South. Although the amount of supplies flowing into South Vietnam was substantially reduced and NVA activity was lessened in 1969, the Communists were still able to infiltrate enough supplies to continue their insurgency. Their determination to keep the trail open is evident in the speed with which they built bypasses after American sorties struck a section of the trail. Also, Johnson’s complete bombing halt over North Vietnam, beginning in November of 1968, allowed the North Vietnamese to have the freedom of movement to mass their supplies on their border with Laos. The bombing halt also allowed the Communists to shift their anti-aircraft guns from defending


\textsuperscript{93} Commando Hunt V: Headquarters Seventh Air Force Report, 3.
North Vietnam to southern Laos to defend the Trail. Finally, Nixon’s Vietnamization program began during Commando Hunt IV and proceeded at such a rapid pace that the South Vietnamese did not have the time or the training to master the technology that the Americans were using to interdict the Trail. Thus, although the early Commando Hunt campaigns were more successful than the previous efforts to interdict the Trail, they could have been even more successful had it not been for the Communists determination to maintain their main pathway into South Vietnam, Johnson’s bombing halt over North Vietnam, and Nixon’s Vietnamization program.
CHAPTER 4
COMMANDO HUNT CAMPAIGNS V-VII

At the beginning of the 1970-71 northeast monsoon season, the 7th Air Force predicted that the Communists would launch a major resupply effort in southern Laos via the Ho Chi Minh Trail. Allied naval patrols had reduced resupply by sea to a level that would be insufficient for the Communists to achieve their goals. They had also lost their Cambodian seaport, and ARVN activity near the DMZ made this area difficult to infiltrate. The Trail would have to be their main pathway to resupply their troops in South Vietnam and Cambodia.\(^{94}\) While the North Vietnamese were preparing for a bigger resupply effort, Nixon’s Vietnamization policy called for U.S. air activity in Commando Hunt V to be less than the previous dry season campaigns. For fiscal year (FY) 1971, the authorized number of attack sorties would be 14,000 per month, or one-half of the Commando Hunt III level.\(^{95}\)

So the 7th Air Force launched Commando Hunt V on 10 October 1970, and it lasted until 30 April 1971. The objective of Commando Hunt V remained the same as the previous four campaigns: reduce the infiltration of men and supplies into South Vietnam and Cambodia and make the Communists pay a greater price for waging their war in South Vietnam.\(^{96}\) In order to achieve its goal, the 7th Air Force continued to concentrate its efforts on the trail. As a result, 9,800, or seventy percent, of the 14,000 of the authorized monthly fighter-attack sorties were allocated to the Steel Tiger area. An addendum to the plan stated that most of the one thousand per month authorized Arc Light sorties would be available to strike the entry points from North

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\(^{95}\) Ibid., 4.

Vietnam into the Steel Tiger area. Unlike the previous campaigns, Commando Hunt V, to reduce infiltration rate into the South, shifted its focus from striking truck parks and storage areas on the Trail to the four entry points in the mountain passes: Mu Gia, Ban Karai, Ban Ravine, and the area around the DMZ. To coordinate the attacks, planners and intelligence officers drew interdiction boxes labeled A (Mu Gia), B (Ban Karai), C (Ban Ravine), and D (the DMZ) with each box varying from one square mile to one quarter of a mile in width and one and a half miles in length. This strategy aimed to strike the enemy before he maximized his road construction and delay the surge phase of his interdiction plan. It would also allow time for the buildup and training of the AC-130s and B-57Gs that were so effective against trucks. In addition, B-52 Arc Light strikes were concentrated on entry points. An average of twenty-seven Arc Light strikes and 125 tactical air strikes were conducted against these sites daily. F-105 jets protected the B-52s against SAMs, and F-4s provided protection from flak and the potential threat of MIGs. These attacks compounded the effect that the bad weather on the Communist’s activities in these infiltration corridors.

Striking Box A, the Mu Gia Pass, forced the Communists to use a bypass that was sixty-five kilometers long and was open and vulnerable. Box B, the Ban Karai Pass, contained numerous bypasses built during previous interdiction campaigns and was not ideal for road interdiction. Box C, Ban Ravine, covered the Banghiang River, or Waterway 7J. It could be bypassed by following Route 910 from North Vietnam. However, a large portion of this road

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97 Nine hundred of the monthly sorties were allocated to Barrel Roll in northern Laos to assist the Royal Laotian forces, and the remaining 3300 were devoted to action in Cambodia and South Vietnam, Commando Hunt V: 7th Air Force General Report, 4.
98 Tilford, Set Up, 180.
100 Ibid., 7.
consisted of dirt trails, and it was not used heavily. Box D, the area around the DMZ, cut through several routes and was also a transshipment point for Waterway 7J.\textsuperscript{101}

The Communists had four options to overcome entry interdiction: they could stop or reduce interdiction by military means; they could force men and materiel through the interdiction boxes; they could construct bypasses; or they could create new input sites.\textsuperscript{102} For the first option, they could move SAM sites to within range of the interdiction boxes. They could also use 100mm guns and introduce fire control radar into the target area. In addition, they could use MIGs to force the B-52s to move away from the entry interdiction boxes. They chose to use SAMs in the Ban Karai Pass, Ban Ravine, and DMZ area boxes. The Communists also used 100mm guns at the Ban Karai Pass box and jet fighters to defend the Mu Gia Pass.\textsuperscript{103}

For their second option, pushing supplies through the interdiction boxes despite the saturation bombing, the North Vietnamese resorted to porters who manually carried supplies through or around a box. Portering usually began after an Arc Light strike, and the Communists employed it in all four boxes. Americans believed floating supplies along waterways was another option to push through the interdiction boxes, but on the Communists’ waterways in the entry areas, possibly because of saturation bombing, the river banks had been destroyed to the point that free floating supplies was not possible. The Communists did construct roads through the interdiction boxes since the drying of the soil and its pulverization from American bombs made road construction easier.\textsuperscript{104} Building bypasses was another way for the North Vietnamese

\textsuperscript{101} Commando Hunt V: 7th Force Headquarters Report 7-12.
\textsuperscript{102} Ibid., 13-14.
\textsuperscript{103} Clay, USAF Operations in Laos, 17.
\textsuperscript{104} Commando Hunt V: 7th Air Force Headquarters Report, 17.
to lessen the effects of American bombing. An eastern and a western bypass were built around Box B. Bypasses also quickly appeared around Boxes C and D.\textsuperscript{105}

The fourth option, the construction of new entry points, was never attempted. The 7th Air Force considered Route 910 a probable site for entry, but the Communists never developed it. To minimize the effects of American air strikes, new entry points would have to be built further north. This would increase the travel time on the trail, and the longer distance would have exposed supplies, troops, and materiel to more American bombs. In fact, with the bombing halt on North Vietnam, the Communists stopped using Nape Pass and focused on the Mu Gia and Ban Karai Passes, allowing their supplies to remain on North Vietnamese soil, where it was safe from air strikes, for a longer period.

Still, the USAF considered Commando Hunt V the most successful of the interdiction campaigns. Changes in the sensor fields, especially Commando Bolt strings, and the increased ability of Task Force Alpha to advise aircraft led to impressive numbers.\textsuperscript{106} Commando Bolt had begun during Commando Hunt III, and it placed elongated sensor strings in high activity areas of Steel Tiger. When truck movements were detected by Task Force Alpha, it directed orbiting aircraft, such as the F-4 jets or the Navy/Marine A-6s to predetermined points along the strings.\textsuperscript{107} Entry point interdiction began with an Arc Light strike against Box A on 10 October 1970. By 13 October, observers reported roads closed in all boxes except B, the Ban Karai Pass.\textsuperscript{108}

\textsuperscript{105} Clay, USAF Operations in Laos, 35.
\textsuperscript{106} Nalty, \textit{The War Against Trucks}, 148.
\textsuperscript{107} Clay, USAF Operations in Laos, 45-46.
Ban Karai was the most heavily used entry point, so it was the one the Communists were most determined to keep open. Thus, the 7th Air Force struck this input site more than the others.\textsuperscript{109} In early November, secondary fires and explosions on the northern edge of Box B suggested that the Communists were storing their supplies outside of the interdiction box. Observers discovered portering on the western edge of Box B and identified a trail that was a potential truck bypass around Box B. For seventeen days from the end of October to the beginning of November, sensors revealed no truck activity in Box B. Then on 8 November, sensors detected twenty-one southbound trucks below the Ban Karai Pass. The next day, an observer reported evidence of recent truck activity on the western bypass around the Pass.\textsuperscript{110} Despite the efforts of the 7th Air Force, the Communists had succeeded in getting at least some of their supplies down the Trail.

As the weather improved, truck activity increased in all input corridors except the DMZ. The Communists began a major input surge 19 November that lasted ten days. This surge coincided with a decrease in the level of entry interdiction strikes due to diversions of air resources to strike North Vietnam. The Communists’ ability to move supplies showed that the box concept was losing its effectiveness. After only one month, the bombing effort appeared to reach its maximum level of destruction. Continuous bombing had cratered the boxes, and the monsoon rains made the roads impassable. But the roads had been so powdered that they actually became easier to clear. Constant bombing had made the once rugged terrain level, and the bomb craters in the pulverized soil were reduced to one-third of their original depth. The powdered terrain allowed the enemy to clear his roadway quickly after a strike.\textsuperscript{111} The 7th Air

\textsuperscript{109} Ibid., 22.
\textsuperscript{110} Ibid., 23.
\textsuperscript{111} Clay, USAF Operations in Laos, 53.
Force responded by moving the strike boxes. Box A was moved about 2 km to the southwest. Boxes B and C, alternate interdiction boxes, would have to be closer to the North Vietnamese border, which would increase the exposure of American aircraft to the SAM threat.112

On 4 December, the Communists began another surge with most of their supplies going through or around the Ban Karai Pass. Aerial photography on 4 and 5 December did not reveal any traffic going through the box and sensors on the western bypass showed no activity. To avoid detection, the Communists were using an eastern bypass that had been under construction since late November.113

On 14 December, an upsurge in traffic was seen around the DMZ box. The 7th Air Force initially devoted three sorties per day to strike Box D. This number of attacks had little effect on traffic so on 26 December, fifteen Arc Light sorties attacked the box and reduced the traffic to almost zero.114 B-52 bombers, the weapon most feared by the enemy, again made an impact.

A game of cat and mouse emerged as the USAF continued to adjust the input interdiction operations while the North Vietnamese built bypasses. On 19 January 1971, the Air Force discontinued Arc Light strikes on the Mu Gia Pass and increased the emphasis on the other areas. Tactical strikes continued because the better weather at this northernmost area made these strikes more effective. After the enemy deemphasized the Nape Pass as a major entry point, the Mu Gia Pass became the farthest entry point from the exit areas, exposing the traffic that began there to more air attacks. Supplies going through this site had further to travel farther and would be more exposed to air strikes from Arc Light operations in Boxes B, C, and D. These strikes, however, ceased on 6 February for the ARVN operation Lam Son 719, a South Vietnamese

113 Ibid., 28.
ground attempt to halt infiltration down the Trail. Arc Light strikes did not resume until 7 April.115

Weather was again a complicating factor for entry point interdiction. The low ceilings created by clouds from the spillover of the northeast monsoon made visual and photographic reconnaissance difficult. Thus sensor detections could not be confirmed. Also some interdiction boxes could not be seen for days, making entry interdiction ineffective against road repairs. SAMs did not affect tactical air operations but did divert some Arc Light attacks.116

Despite the weather, the entry interdiction program had a definite negative effect on enemy activity, especially in the early months of the campaign. The number of southbound vehicles was inversely related to the number of bombs delivered into an interdiction box. Entry interdiction also gained time for the buildup of the truck-killing aircraft, the B-57Gs and the AC-130 gunships. Also strikes on Boxes C and D caused severe cratering and erosion of the banks of Waterway 7, making it unusable for free-floating supplies. By mid-December, when the truck killers were operational, the Communists were sixty-four percent below, or two and a half weeks behind, their 1970 dry season schedule.117 Because of the entry interdiction activity, truck activity on the Trail did not rise above wet season levels until mid-November 1971.118

Like the previous Commando Hunt dry season campaigns, strikes against trucks were an important part of Commando Hunt V. The 1970-1971 campaign built on the experiences of the Commando Hunt I and III and was the most effective campaign in killing trucks as the systems for destroying vehicles matured.119 The AC-130 gunships had demonstrated their effectiveness

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118 Ibid., 41.
119 Nalty, The War Against Trucks, 147.
in Commando Hunt III, and their numbers were even larger in Commando Hunt V. The AC-119K and the B-57G also played important roles in the success of the campaign.\textsuperscript{120}

Sensor detections did not show a high level of truck activity until later in November. Activity near the Ban Karai Pass was the first to show a high level, peaking in the week of 18 through 24 November. The North Vietnamese continued to move their resources at night. In all sectors, southbound trucks were fifty-five percent of the truck activity between 1800 and 2400 hours. North bound traffic became heavier after midnight until morning when almost all truck activity ceased.\textsuperscript{121}

In the first six weeks of the campaign, when truck activity was still relatively low, forty-six to seventy-five percent of the trucks observed were struck. This percentage dropped to forty-three percent in mid-December when the Communists’ surge occurred and the number of gunships and B-57Gs had not reached its full force. The AC-130, the AC-119K, and the B-57G were the only aircraft that flew more than half their sorties to interdict trucks. The AC-130 struck the most trucks and was the most efficient. The AC-119K struck fewer trucks than the B-57G but was more proficient.\textsuperscript{122}

In the two week period of 18 November to 1 December, the percentage of trucks observed that were actually destroyed dropped to a low of only fourteen percent. This low number was due to technical problems with the AC-130s, which were used heavily in truck strikes. The first AC-130s proved too lightly armed and were vulnerable to the enemy’s anti-aircraft guns. In response, the USAF created the “Surprise Package” for the gunships. The new design replaced the standard four 20-mm guns and four 7.62-mm mini-guns with two 20-mm

\textsuperscript{120} Ballard, \textit{Fixed Wing Gunships}, 179.
\textsuperscript{121} Commando Hunt V: 7th Air Force Headquarters Report, 46.
\textsuperscript{122} Clay, USAF Operations in Laos, 44.
Gatling guns and two 40-mm Bofors anti-aircraft type guns. Also, the Air Force equipped the aircraft with low-light-level television and improved infrared equipment. Finally, the AC-130 was also reconfigured to give the gun crews more room to operate.\textsuperscript{123} After these problems were resolved, and the crews of all three types of aircraft became proficient, the percentage of trucks destroyed or damage rose to thirty-six percent by the first week of December. Air Force documents claim that by the second week of April 1971, this number peaked at seventy-nine percent. Also the percentage of trucks observed that were actually damaged rose from a low of six percent during 18 November through 1 December to a high of seventy-two percent during the week of 7 through 13 April.\textsuperscript{124}

The 7\textsuperscript{th} Air Force also struck three other categories of targets: truck parks and storage area, defenses, and communications networks. First, the Communists maintained a dispersed network of truck parks and storage areas. In response to previous Commando Hunt campaigns, they developed camouflage techniques using the jungle canopy, revetments, caves, and tunnels to hide their truck parks and storage areas from the prying eyes of the USAF. Their facilities ranged from small, transient truck parks to semi-permanent storage areas that also provided for the construction and maintenance of the trail network.\textsuperscript{125} Most of the results of strikes against truck parks were not observable. In January 1971, 2,186 tactical air sorties were flown against suspected truck parks and storage areas resulting in 3,720 secondary explosions and fires, of which seventy-three percent were the result of night time strikes. Two-thirds of these secondary explosions were the result of twenty-eight sorties against three lucrative targets.\textsuperscript{126} Tactical air

\textsuperscript{123} Ballard, \textit{Fixed Wing Gunships}, 126-127.
\textsuperscript{124} Commando Hunt V: 7th Air Force Headquarters Report, 52.
\textsuperscript{125} Clay, \textit{USAF Operations in Laos}, 30.
\textsuperscript{126} Commando Hunt V: 7th Air Force Headquarters Report, 90.
discovered 73,995 fires and secondary explosions during Commando Hunt V. 53,088 of these were associated with truck parks and storage areas, which provides a better estimate of the damage and destruction of the enemy’s supplies. The number of secondary explosions recorded in Commando Hunt V was higher than any other campaign in the Steel Tiger area.127

As for the second category, attacks against the Communists’ anti-aircraft defenses were important because they allowed other strike measures to be more effective. The enemy’s active gun inventory was below the Commando Hunt III level. The most effective munitions in silencing the enemy’s anti-aircraft guns were area weapons: the CBU-24, CBU-49, M-36E2, and napalm. Fighter jets escorting gunships and B-52s used these weapons for flak suppression.128 Gunship escort sorties were responsible for most of the attacks on anti-aircraft positions, and the two thousand and three thousand pound laser-guided bombs (LGBs) accounted for fifty-eight percent of the guns destroyed or damaged in the Steel Tiger area. An average of two LGBs was needed to destroy one gun, and because of their size and accuracy, the number of guns destroyed per LGB sortie was much higher than all other sorties.129

The Communists first deployed the SA-2 missile during Commando Hunt V. Photographic surveillance discovered the first site on 5 March. Despite foliage and camouflage, it was struck the next day, forcing the North Vietnamese to abandon the site. Later in March, the Air Force discovered and hit two more sites, resulting in the destruction of one and the abandonment of the other.130

127 Ibid., 92.
130 Ibid., 96-97.
Strikes against communication networks were also effective because they forced the Communists to expend their resources developing countermeasures. The Communists had to devote much effort to developing alternate fords and underwater bridges. They had to build bypasses and new roads, the most significant of which was the Route 99 that paralleled Route 92. 7th Air Force intelligence confirmed 436 km of new roads were built between 26 November and 26 February. Communication interdictions in central and exit areas were much more difficult than in the entry areas where the terrain was better suited for interdiction. Intense bombing of the previous campaigns had eroded most of the good IDPs in these areas. Also, the creation of new roads and bypasses made the remaining IDPs less valuable targets. When strikes were launched against these IDPs, the size and accuracy of the LGBs made them effective weapons.131

Exit points were more emphasized targets during Commando Hunt V than the previous dry season campaigns. On 28 March 1971, 85 tactical sorties struck exit route IDPs. After this initial attack, an average of thirty sorties per day hit the exit sites, but the estimated level of supplies going into South Vietnam continued to rise. On 14 April, the number of sorties flown against exit IDPs increased reaching about forty-five per day by 19 April. They were up to eighty to ninety per day by 30 April.132

To ensure that struck roads stayed closed, FACs began 24 hour surveillance of exit points beginning on 27 April 1971. Road cuts slowed enemy traffic by making vehicles take longer and more hazardous routes that made them more vulnerable to American airpower. While building new roads gave the Communists more options, it also forced them to spread their resources over

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131 Ibid., 102-103.
a larger area, reducing their efficiency. The North Vietnamese had to augment their engineering units with resources from other areas.

The result of this effort was a drop in sensor detected truck movements in mid-March, well before the southwest monsoons began. Commando Hunt V destroyed twice as many trucks as Commando Hunt III with the AC-130s again being the most effective of the three truck-killing aircraft. It accounted for sixty-one percent of the total trucks reported damaged or destroyed. The AC-119K and the B-57G were about equal in truck killing effectiveness. All three systems combined to make the Communists’ logistical operations on the Ho Chi Minh Trail more costly to them than any previous dry-season campaign.

A modified version of the Martin B-57G emerged as an effective weapon for night attacks against trucks. During Commando Hunt V, the aircraft was credited with the destruction of 2,103 vehicles, just less than one truck per hour of patrol time. Laser-guided bombs were responsible for the success of the B-57G as well as the deadliness of the F-4 fighter-bombers against the enemy’s anti-aircraft positions.

![Figure 4. Martin B-57G Gunship](image)

134 Ibid., 65.
Of the fighter-attack aircraft, the A-6 was the best in terms of trucks destroyed and damaged per sortie. Only twenty-five percent of F-4 sorties were flown against trucks, but the total number of F-4 strikes against trucks was higher than any other aircraft type. Although less effective than gunships, jet fighters accounted for a significant number of the trucks damaged or destroyed. They also maintained a daytime presence over the Trail, forcing the enemy to operate at night.136

Furthermore, concurrent ground operations affected Commando Hunt V more than the previous dry season campaigns. Thai and RLA troops fought the Communists on the western part of the Trail, while South Vietnamese forces launched an attack from Khe Sanh toward Tchepone. The Thai and Laotian operations were supported by 7th Air Force aircraft but were not decisive because the allies withdrew after each offensive. However, these attacks forced the NVA to devote resources to secure that part of the Trail against future probing attacks.137

The RLG increased the level of its ground operations in Laos, but the most significant of these ground operations was Lam Son 719, a three division ARVN effort to interdict the Trail at the Tchepone area and destroy enemy supplies with the aim of decreasing his level of infiltration until the rains of the southwest monsoons came in May.138 Lam Son 719 would also be a test case for Nixon’s Vietnamization program since the ground operation would be conducted entirely by the South Vietnamese. American airpower, however, would play a significant role. Strike forces were shifted from direct interdiction of the Trail to support the South Vietnamese operation.139

137 Nalty, *The War Against Trucks*, 150.
In February 1971, the 7th Air Force phased down the input interdiction effort as resources were shifted to support the ARVN operation in Laos. The South Vietnamese were to conduct a ground campaign to interdict the Trail in Laos without the aid of American ground troops or advisors. Although American air and fire power would be used to prepare the ARVN assault, no American boots were to be on the ground in Laos. Thus, American ground troops would play no part in Lam Son 719.140

The operation was to consist of four phases. In Phase I, which began on 30 January, 1971, United States forces would clear and secure the Vietnamese side of Route 9, giving the ARVN a direct path to Tchepone. Then the 5th Brigade would protect the deployment of two heavy artillery divisions to cover the ARVN advance into Laos. Phase I was expected to take five to eight days. In Phase II, ARVN I Corps, with American air support including 7th Air Force, would rapidly attack to the west and take A Loui, the first objective on the way to Tchepone. Then, the ARVN 1st Airborne would conduct heliborne assaults and take Tchepone while the 1st ARVN Infantry would secure Route 9 between A Loui and Tchepone. Phase III, which was to last until the start of the southwest monsoons, called for ARVN forces, after the capture of Tchepone, to conduct search and destroy raids on the area south and west of Tchepone and destroy the enemy’s Base Area 604. Phase IV was a planned withdrawal of ARVN troops from Laos under the cover of American air and artillery fire.141

140 Lam Son 719 was an ARVN effort to interdict the Trail in the Laotian panhandle. The South Vietnamese were to conduct this operation without the support of American ground troops. No American troops were allowed to touch Laotian soil, not even advisors. The USAF, however, played an important role in support of the Vietnamese ground forces. Without American air support, the South Vietnamese could never have launched the incursion into Laos. B-52 strikes softened the Communists’ resistance in southeastern Laos, allowing South Vietnamese troops to be rapidly inserted into landing zones in Laos. Tactical air support played a vital role in the deployment and resupply of ARVN troops. Also, ARVN troops, fighting on unfamiliar terrain, were outnumbered by the North Vietnamese forces. They would have never reached Tchepone without the support of American B-52s, tactical air, and helicopters. Finally, American helicopters were important in extricating South Vietnamese troops from Laos once the ARVN began their withdrawal.

141 Loye, Lam Son 719, 23-26. Format?
Lam Son 719 began at one minute past midnight on the morning of 30 January, 1971, when the U.S. 1st Brigade, 5th Infantry Division, with attached 45th Engineer Group, moved down Route 9 to open the road from Dong Ha to Khe Sanh and reconstruct the runway at Khe Sanh and build fire support bases containing heavy artillery from Khe Sanh to the border with Laos. A task force securing the route reached the Laotian border on 3 February. ARVN forces began assembling at Khe Sanh, and the ARVN 1st Armored Task Force crossed into Laos on 8 February. At the same time five battalions of ARVN rangers and infantry made helicopter assaults north and south of Route 9. The poor conditions of Route 9 made the armored column’s advance difficult, and it only progressed ten kilometers on the first day and five kilometers on the second. Poor weather delayed the helicopter insertion of additional battalions until 10 February. By 12 February, the ARVN reached the positions they would statically hold until 3 March. By 16 February, South Vietnamese forces in Laos consisted of ten thousand men. They also constructed fire support bases on the high ground overlooking Route 9.

Despite the efforts of the American and South Vietnamese planners to keep the operation secret, the Communists were aware of the planned invasion and had a large force prepared to defend the Trail. American intelligence had grossly underestimated the level of their enemy’s forces, especially his armored units. Still, initial resistance to the ARVN activities was light with first contact occurring on 4 February, 1971, when an encounter left five enemy dead. On 8 February, tactical airstrikes and heavy artillery hit the Laotian side of the border to prepare the way for the ARVN invasion. At 1000 on 8 February, ARVN troops moved into Laos with no enemy contact reported. The following heliborne assaults met little resistance, and ARVN

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142 Ibid., 43.
144 Clay, USAF Operations in Laos, 145.
rangers were able to secure the flanks of the Armored Task Force, which had moved only ten kilometers due to the poor condition of Route 9. By nightfall, 6,200 ARVN had crossed the border into Laos. Poor weather over the next two days limited the ARVN advance to a total of ten miles. The North Vietnamese used this opportunity to move heavy artillery into the combat area. The ARVN continued its advance toward Tchepone and by 12 February, ten thousand South Vietnamese troops were in Laos. NVA infantry probes then harassed the ARVN troops who were trying to carry out sweeps to search for the NVA’s caches of weapons and consolidate their landing zones. Less than a week into the operation, the ARVN drive to Tchepone had lost its momentum.

As ARVN troops consolidated their landing zones, the North Vietnamese attempted to encircle them with infantry, artillery, armor, and mortar attacks. American airpower struck the enemy’s positions continually, but the intensity of the communist attacks continued to increase.

On 18 February 1971, a tank and infantry attack, with the support of heavy mortars and rockets, overran an ARVN ranger battalion, and on 20 February, the Communists overran an airborne fire support base, forcing the USAF to send gunships and flare ships to rescue the surviving South Vietnamese rangers. Heavy fighting occurred on the flanks until 21 February when both sides used a lull to replenish their forces. The NVA sent an additional five infantry divisions into Laos along with tank and artillery regiments, bringing the communist strength to 35,000. The ARVN added two marine brigades, an infantry regiment, and two armored units to raise its strength to 17,000. In the pre-dawn hours of 25 February, the North Vietnamese

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145 Loye, Lam Son 719, 45.
146 Ibid., 47.
147 Loye, Lam Son 719, 51. Format?
began a generalized offensive against ARVN positions, beginning with the fire support base near A Loui. By 1100, the entire ARVN perimeter was under attack. The NVA launched combine tank and infantry attacks on many of the South Vietnamese positions. Despite support from tactical air strikes, ARVN troops were forced to abandon several fire support bases, but American air support minimized the Communists’ successes, and the attacks were, for the most part, stopped. On 3 March, the South Vietnamese resumed their march to Tchepone. American helicopter attacks created several landing zones from 4 to 6 March and allowed the South Vietnamese to deploy their troops into the area around Tchepone. On 7 March, three ARVN battalions entered Tchepone and conducted search and destroy activities in and around the town. They reported the capture of a large amount of enemy weapons.\textsuperscript{149} After conducting operations around Tchepone for four days, the South Vietnamese troops returned to LZ Sophia on 10 March, 1971.\textsuperscript{150}

ARVN operations in and around Tchepone met with light resistance, because the North Vietnamese were gathering their forces for a large counteroffensive. As the ARVN 1\textsuperscript{st} Infantry Division began redeploying to the east, the Communists launched an assault on 14 March, 1971, that hit all South Vietnamese positions. Beginning 18 March, every ARVN position was being hit by mortar, artillery, and rocket fire. By 19 March, all ARVN units in Laos were engaged in heavy fighting that caused the ARVN battalions to abandon many artillery pieces and artillery dumps that were not destroyed by enemy fire.\textsuperscript{151} Ambushes took a heavy toll and tactical air strikes were needed to disrupt the attacks on the armored division and allow the South Vietnamese to return across the border on 24 March. American helicopters were needed to

\textsuperscript{149} Loye, Lam Son 719, 66. Format?
\textsuperscript{150} Commando Hunt V: 7th Air Force Headquarters Report 71.
\textsuperscript{151} Loye, Lam Son 719, 70-71.
extract the airborne and marine battalions and by 24 March, all ARVN troops were out of Laos. Reconnaissance and harassing units were sent back into Laos in the first week of April. Lam Son 719 ended on 8 April, 1971. The final phase was planned as an orderly withdrawal. It was in reality a disastrous retreat.

To support the South Vietnamese operation, the 7th Air Force shifted its emphasis in the Steel Tiger area from interdiction to ground support. The sortie rate in March also increased significantly. In all, the USAF flew 8,512 tactical sorties, 1,358 Arc Light sorties, and 2,809 tactical air sorties during Lam Son 719.

The South Vietnamese claimed 13,000 enemy troops killed. Ground sweeps confirmed 4,364 were killed by air. Also sixty-one tanks were destroyed, and thirteen were damaged. The Air Force believed that the actual numbers were probably higher since sweeps were not conducted in many areas known to have been hit by air strikes. Arc Light B-52s again did great damage. Also truck strikes were an important part Lam Son 719. The AC-130 again proved to be the most effective aircraft by destroying or damaging 1,630 trucks, eighty percent of the total, in only 136 sorties. As the resistance to landing zone assaults increased, Arc Light strikes and fighter sorties provided extensive preparation of the landing zones.

An estimated 135 antiaircraft guns were in the AO when Lam Son 719 began. Most of these were 37mm cannon. Fifteen percent, or 1,284, of the sorties flown in the operation struck NVA air defenses. Forty-nine percent of these sorties were flown against automatic weapons and mortars, the main threat to helicopters at the landing zones.

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153 Ibid., 73-74.
154 Ibid., 77.
155 Loye, : Lam Son 719, 15.
Lam Son 719 also shifted the focus of the air battle, causing the Communists to move their anti-aircraft guns from the Trail to the defense of Tchepone. Diversions to the Laotian operation led to a decreased number of sorties striking the Trail. As a result, enemy anti-aircraft guns only shot down eleven American aircraft, compared to sixty during Commando Hunt III.\footnote{Nalty, \textit{The War Against Trucks}, 157.} Forty-two fixed-wing aircraft were hit, and seven were lost, which was a hit rate of 3.4 per 1,000 sorties and a loss rate of .58 per 1,000 sorties, about twice the rates of Commando Hunt III. Tactical air strikes against IDPs averaged twenty-five per day in the Lam Son 719 AO. An average of seven Arc Light flights per day hit the input routes in Box D, leading to a marked decrease in sensor-detected truck activity. Only six percent of struck storage areas were struck, but some of these attacks produced a great deal of damage.

The failure of the South Vietnamese in Lam Son 719 affected Commando Hunt V by forcing the USAF to divert aircraft from operations on the Trail to aid ARVN troops when they came under attack on their way to Tchepone. Thus the ground operations in Laos caused a shift in air force resources that prevented Commando Hunt V from being even more successful.\footnote{Nalty, \textit{The War Against Trucks}, 155.}

The Communists’ logistics movement showed their desire to continue using the central route structure. They used bypasses and alternate routes to keep the flow of traffic moving down the Trail. Although reported enemy losses were difficult to confirm and may have been inflated, the Communists’ losses lessened their ability to launch later large-scale tactical assaults. The air resources that supported the ARVN during Lam Son 719 were mostly diverts from the interdiction campaign in the Steel Tiger area.\footnote{Commando Hunt V: 7th Air Force Headquarters Report, 82.}
In December 1970, the North Vietnamese deployed surface-to-air missiles on their side of the border with Laos. Three times that month, they fired missiles from these sights at American aircraft flying just west of the Ban Karai and Mu Gia Passes. On 1 January, they fired three missiles at a cell of B-52s bombing southern Laos. Because of bad weather, the 7th Air Force did not strike the SAM sites until 20, 21, and 28 February, 1971. Even then, the weather hampered the strikes; sixty-seven attack sorties destroyed only five missiles, fifteen missile transporters, and fourteen other vehicles. During Lam Son 719, SAMs proved to be a danger to USAF aircraft flying in support of the South Vietnamese.\footnote{Nalty, \textit{The War Against Trucks}, 158.}

In addition to Lam Son 719, smaller scale ground operations also augmented the air effort. Operation Gauntlet II began at the start of Commando Hunt V when five battalions of the RLAF planted mines along the routes west and south of Tchepone. 220 U.S. tactical air sorties supported the operation, which ended on 21 November, 1970.

After Lam Son 719, the Communists continued expanding their road system on the trail. They built a new bypass leading from the junction of Routes 96 and 110 leading to the Cambodian border. They built another bypass along Route 237, and a new road going south from the Mu Gia Pass. A new spur from the trail channeled troops and supplies into northeastern Cambodia. By the end of Commando Hunt V, Task Force Alpha estimated that the transportation network in Laos contained fifteen sectors and around 3,375 trucks, fifty to sixty percent of which were active on any given night. As daylight approached the trucks took cover in some five thousand truck parks, storage areas and transshipment points scattered throughout the trail.\footnote{Nalty, \textit{The War Against Trucks}, 159.}
Despite the road construction, the improved defenses, and the diversion of sorties caused by Lam Son 719, American commanders considered Commando Hunt V a success. General William W. Momyer, commander of the 7th Air Force, estimated that only one-fourth of the input into the Trail made it to South Vietnam. This contributed to the absence of significant communist activity in South Vietnam in the spring of 1971. The 7th Air Force reported only 11.7 percent of the 60,158 tons of cargo that went into Laos during Commando Hunt V made it into South Vietnam.\(^{162}\) Thus Commando Hunt V was the most successful interdiction campaign to date.

Unfortunately for the American effort, the enemy committed larger amount of supplies going into Laos from North Vietnam than the previous dry season campaigns. Due to the Vietnamization policy, the number of fighter sorties committed to Commando Hunt V was 14,000 per month, about half of what was authorized for Commando Hunt III.\(^{163}\) By the 1970 campaign, the U. S., using sensors, gunships, and bombers, had developed a system capable of severely limiting communist activity in South Vietnam. But the ending of the bombing of North Vietnam had allowed the Communists to input more supplies into Laos. The Vietnamization policy further reduced the effectiveness of Commando Hunt V by decreasing the number of sorties flown during the campaign.

Commando Hunt VI, the third wet season campaign, began in May 1971. With the onset of the southwest monsoon, the North Vietnamese again began stockpiling their border with Laos as the halt in the bombing of North Vietnam gave the Communists a running start for the next dry season.\(^{164}\) Commando Hunt VI was the first campaign in the series to cover operations in

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South Vietnam and Cambodia as well as Laos. In the first two weeks of May, the Communists achieved an increase in the throughput-to-input ratio to 1 to 3.5 compared to 1 to 9 in the previous wet season campaigns. The main USAF effort at this time was against the exit points, especially Route 922 complex.\footnote{Ibid., 6.}

Weather played an even greater role in the summer of 1971. Two typhoons and a tropical storm in July reduced sensor-detected movement to below two hundred per week so tactical air strikes focused on truck parks and storage areas. As the dry season approached, two more tropical storms in early October made all entry points to Steel Tiger impassable. Then another typhoon on 23 October, 1971, further hindered the Communist effort. But within a week, they had re-established their previous traffic level. Weather also reduced the effectiveness of tactical air strikes so the throughput-to-input ratio remained at 1 to 3.5.\footnote{Ibid., 7.}

In South Vietnam, the NVA was constructing a new road, Route 103, through the western part of the DMZ into Military Region I (MR-1). They were also extending Route 103, which was part of their plan to build a LOC from the DMZ to the routes near Khe Sanh. Completion of this complex would have shortened the transit time of their supplies and reduced their exposure to American airpower.\footnote{Ibid., 16-18.} To counter this activity, the 7th Air Force began seeding the route with antivehicular and antipersonnel mines on 9 August 1971. Sensors were used in each segment to track enemy construction and clearing activity. Quick Reaction Force aircraft struck areas with enemy initiated sensor activity. The mines were then reseeded in the strike areas, or mines and sensors were placed in new seeding segments and detected bypasses. Airpower failed to completely halt the Communists’ construction activity, but did force them to devote their

\footnote{Ibid., 6.}
\footnote{Ibid., 7.}
\footnote{Ibid., 16-18.}
resources to build numerous bypasses, pushing back their infiltration time table for the next dry season, and the morale of their construction troops declined due to the constant bombardment.\textsuperscript{168}

Of the 5,361 trucks observed during Commando Hunt VI, only 1,774 were shown to be moving, which probably meant that the Communists were using their trucks for road repair activity. Also, the weekly number of sorties flown and sorties striking trucks during the campaign decreased steadily throughout the campaign. Correspondingly, the ratio of trucks struck to trucks observed trended downward. This decrease was due to the deterioration of the weather in southern Laos and the replacement of experienced air crews with new ones.\textsuperscript{169} Still, the 7\textsuperscript{th} Air Force claimed the campaign was a success, and a comparison of the sensor-detected movements in the first four weeks of Commando Hunt VII to the movements in the same time frame for Commando Hunt V supports this view. The figure for the 1971 campaign was twenty-eight percent less than previous dry season campaign.\textsuperscript{170} Thus Commando Hunt VI prevented the enemy from getting a head start on the following dry season.

As in the other wet season campaigns, due to the decreased number of trucks on the Trail, the 7th Air Force emphasized the other targets. Again, truck parks and storage areas were struck by Arc Light B-52s as well as B-57s, F-4s, and A-7s. Weather and camouflage made bomb damage assessment difficult for these strikes so secondary fires and explosions provided an idea of the damage, but damage to nonflammable supplies was rarely recorded.\textsuperscript{171} Another target was the Communists’ defense system. As in Commando Hunt V, area munitions and laser guided bombs were the most the most effective against the NVA’s anti-aircraft guns and SAM sites.\textsuperscript{172}

\begin{flushleft}
\textsuperscript{168} Pribbenow, \textit{Victory in Vietnam}, 243.
\end{flushleft}

\begin{flushleft}
\textsuperscript{169} Layton,: Commando Hunt VI, 26.
\end{flushleft}

\begin{flushleft}
\textsuperscript{170} Ibid., 32.
\end{flushleft}

\begin{flushleft}
\textsuperscript{171} Nalty, \textit{The War Against Trucks}, 180.
\end{flushleft}

\begin{flushleft}
\textsuperscript{172} Layton: Commando Hunt VI, 38.
\end{flushleft}
Against communication lines, the 7th Air Force’s main efforts were against road construction activities and the IDPs, where geographical features and the effects of monsoons made road repair difficult. The 7,239 sorties flown against communication networks during Commando Hunt VI created 3,663 road cuts and mud slides. During Commando Hunt V, 10,340 tactical air sorties had caused 4,513 cuts and slides.\(^{173}\)

While the USAF considered Commando Hunt VI a success, the results could have been even better. Throughout the campaign, U.S. aircraft were diverted from the Trail and its waterways to operations in southwestern Laos, Cambodia and South Vietnam. Aircraft that might have been used against the Trail flew four thousand sorties to support South Vietnamese operations in the Au Shau Valley. The 7th Air Force also conducted a one thousand sortie attack against the Communists’ supply lines in Cambodia. In September, it conducted two thousand air strikes to help the South Vietnamese against NVA local attacks on the Cambodian border. This diversion occurred at the same time the Air Force was withdrawing from Southeast Asia. When Operation Commando Hunt began in the fall of 1968, American aircraft based in South Vietnam and Thailand totaled 1,777. At the beginning of Commando Hunt VI, this number had dropped to 1,199. By the end of the campaign, the number stood at 953.\(^{174}\) Overall, the Communists brought 4,753 tons of supplies into the Steel Tiger area during the 1971 wet season. Of these, 1,406 tons, or thirty percent, reached South Vietnam and Cambodia. The throughput to input ratio was one to three. During the 1970 wet season, they put through 2,357 tons out of an input of 13,287, or eighteen percent. However the start of the following dry season was slower than the previous dry season.\(^{175}\)

\(^{173}\) Ibid., 40.


\(^{175}\) Layton, *Commando Hunt VI*, 40.
At the end of Commando Hunt V, the North Vietnamese continued to move men and supplies down the trail. American planners recognized that successful interdiction of the trail was crucial to the success of Nixon’s Vietnamization program. So as in the spring of 1971, before the end of Commando Hunt V, the USAF began plans for an interdiction campaign in the fall of 1971. This campaign was Commando Hunt VII, which would have to be carried on despite the Vietnamization of interdiction.\(^\text{176}\) Commando Hunt VII consisted of three phases. The first phase lasted from 1 November to 22 November and concentrated on the entry routes into southern routes. Air Force and Navy planes hit logistical targets such as fords, waterways, truck parks, and logistics areas throughout the Mu Gia and Ban Karai Passes and the border area around the DMZ. The second phase began on 23 November, when Air Force and Navy planes created blocking belts where main roads paralleled each other, and the construction of bypasses would be difficult. Three such points were near Tchepone, Ban Bak, and Chavane. The third phase was the interdiction of exit areas. This phase began at the end of November and lasted through March. Interdiction boxes were created across the seven main exit sites leading into South Vietnam and Cambodia.\(^\text{177}\) Striking exit sites became crucial because the Communists had extended the road network of the Trail by four hundred miles in 1971 to a total of 2,710 miles.\(^\text{178}\)

With the onset of the 1971-1972 dry season, the Air Force began the Commando VII campaign. Again the goal was to restrict the flow of men and material through Laos into South Vietnam and Cambodia. However, the number of strike sorties in Commando Hunt VII was nearly thirty percent less than in Commando Hunt V, while the Communists’ road network had

\(^{176}\) Ballard, *Fixed Wing Gunships*, 221.

\(^{177}\) Nalty, *The War on Trucks*, 231.

\(^{178}\) Ballard, *Fixed Wing Gunships*, 228.
increased twenty seven percent during the previous wet season.\textsuperscript{179} The master plan to interdict the Trail was called Operation Island Tree, while the plan to interdict troops going through the Trail was termed Project Island Tree. During September, Task Force Alpha developed a plan to isolate and attack three segments on the Trail. The Americans used acoustic sensors to pick up troop movements. Under the advice of Leonard Sullivan, the Deputy Director of Defense Research and Engineering for Southeast Asia Matters, the 7th Air Force resurrected the idea of attacking NVA troops infiltrating through southern Laos. He thought these attacks would hurt the North Vietnamese directly, and the South Vietnamese could continue the assaults after the Americans had withdrawn. He also predicted that Commando Hunt VII would only destroy one percent of the truck production of the Soviet Union and China.\textsuperscript{180} Thus, the North Vietnamese were in no way truck-limited, so destroying trucks would not greatly affect their activity in South Vietnam.

In concert with Vietnamization, Sullivan intended to give the South Vietnamese the ability to go after a resource that was purely North Vietnamese, the troops of the NVA. He hoped to combine the attacks with disease and desertion to achieve a fifty percent attrition rate. To achieve this rate, Sullivan wanted to locate and attack twelve of the estimated sixty way stations along the Trail.\textsuperscript{181} Also, as part of Vietnamization, the South Vietnamese were to play an important role in Phase III, the attacks on the exit points.\textsuperscript{182}

Sullivan proposed the use of South Vietnamese troops in small, mobile, and self-reliant units to ambush the North Vietnamese troops and plant antipersonnel mines along the Trail. The

\textsuperscript{179} MAC-V Command History: General Report 1971, 31.
\textsuperscript{180} Nalty, \textit{The War on Trucks}, 194-195.
\textsuperscript{181} Nalty, \textit{The War Against Trucks}, 197-198.
\textsuperscript{182} MAC-V Command History: General Report 1971, 33.
7th Air Force agreed that ground forces would be needed for successful infiltration of the Trail. However, these patrols had little chance of success due to the enemy’s ground defenses. Sensors, therefore, would continue to be used to locate enemy troops.

Fierce B-52 attacks, dropping high explosive and anti-personnel munitions, pounded the Trail from December 1971 to March 1972. The sixty-three strikes in February probably delayed an offensive that the Communists had planned for that month. Despite the intense bombing, the NVA still launched their Easter Offensive, an invasion of South Vietnam, on 30 March.

The Communists countered by abandoning any station that the Americans attacked and building a new one two to three miles away. The new stations caused American intelligence to temporarily lose contact with NVA troops moving down the Trail. This made Sullivan’s plans to strike directly at the enemy’s manpower more difficult.

Like the previous Commando Hunt campaigns, Commando Hunt VII began with B-52 strikes against the entry passes into the Steel Tiger area, with F-4s protecting the bombers against a now credible threat of enemy MIGs. Phase II would be strikes against trucks travelling on the Trail. Phase III would again consist of Arc Light strikes on the exit sites into South Vietnam.

By the start of Commando Hunt VII, Vietnamization was in full swing. The gradual withdrawal of American forces from Southeast Asia not only diluted experience, it also decreased the number of aircraft available. At the start of Operation Commando Hunt in the fall of 1968, the Air Force had 105 B-52s available in the western Pacific and 1,700 aircraft of all kinds in South Vietnam and Thailand, including 621 fighter-bombers. For Commando Hunt III,

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186 Mark, *Aerial Interdiction*, 345
it had 89 B-52s and 545 fighter-bombers. For Commando Hunt V, it had 54 and 309, respectively. For Commando Hunt VII, it had 54 and 226. The number of AC-130s did increase from six to eighteen.\textsuperscript{187}

Although the Vietnamization of air power led to a decrease in missions flown by the USAF, the number of operations flown by South Vietnamese airmen increased. The number of squadrons in the South Vietnamese Air Force doubled from twenty to forty from 1969 to 1972. These squadrons, however, consisted of Northrop F-5s, which were not the standard USAF fighter-bomber. Cessna T-37s, used for training, were modified for use as attack aircraft. The only gunships available to the South Vietnamese were the slow and therefore vulnerable C-47 and C-119 transports, which were only good for defending outposts against enemy infantry attacks.\textsuperscript{188}

Also, the South Vietnamese never had the opportunity to understand and use the complex technology that the United States had employed in the interdiction program. American officials doubted the ability of the South Vietnamese to handle the sophisticated American technology with which the United States was conducting the war. So they gave their ally simpler weapons like the CBU-55s and mini-gunships. They were eased into the interdiction program by attacking the less defended portions of the trail while Commando Hunt VII operations continued to attack the heavily defended areas.\textsuperscript{189}

Despite the American effort, the North Vietnamese were able to increase the roadways in Laos to thirty-three hundred miles. The expanded network gave the Communists a level of flexibility that allowed them to move cargo by trucks in the face of an intense aerial attack.

\textsuperscript{187} Ibid., 347-348.
\textsuperscript{189} Nalty, \textit{The War Against Trucks}, 249.
These attacks rarely cut roads long enough to create a traffic jam that would provide a lucrative bombing target. Also, the Communists sustained enough trucks and fuel to meet their needs. By 1971, they had seven and half million gallons stored in Laos, which was enough to fuel twenty-nine hundred trucks for the entire dry season. They were also able to maintain their truck level. In 1971, they received 5,600 vehicles from the Soviet bloc countries. In July 1972 alone, they raised their truck inventory by 2,200 vehicles. Many of these new trucks had diesel engines, making the ignition detectors useless.190

The North Vietnamese also raised the level of their air defenses, which became even more aggressive. Although the AC-130 was effective against trucks, it lacked weapons with sufficient range to combat the enemy’s guns. F-4s, using laser designation and low-light level television cameras, were needed to attack the Communists’ anti-aircraft batteries.191

Also, SAMs had a dramatic effect on Commando Hunt VII. Their appearance alone affected the planning of Arc Light strikes. For instance, B-52 operations near the Ban Karai Pass were halted due to SAM firings. By the end of December, the NVA had fired twenty-two missiles compared to three in the last two months of 1970. During January 1971, they were firing SAMs from sites inside Laos. Missiles lessened the level of Arc Light strikes on important target boxes near the Mu Gia and Ban Karai Passes, Tchepone, and Muong Nong. Efforts to locate and destroy missile sites detracted from the effort against trucks.192

Due to Vietnamization, the number of sorties available for Southeast Asia decreased sharply during Commando Hunt VII. Fourteen thousand tactical aircraft and one thousand

gunship sorties were allocated each month in Commando Hunt V. These numbers dropped to ten thousand and seven hundred in Commando Hunt VII.\(^{193}\)

Also, the North Vietnamese made a slight change in their mode of operation that proved to be one of their most effective countermeasures. They altered their heaviest truck movement from early evening to late afternoon. Previously truck movement peaked after 8:00 PM when complete darkness allowed the gunships to make full use of their sensors to locate trucks. By sending their trucks out earlier, anti-aircraft gunners could silhouette the black AC-130s against the sky while the infrared sensors and low-light-level television were less effective in partial light.\(^{194}\) The buildup of anti-aircraft defenses made this possible.

On 30 March 1972, the Communists launched the Easter Offensive as NVA divisions, supported by tanks traveling down the Trail, crossed the DMZ. Three divisions and several independent brigades of the NVA, supported by tanks and artillery, invaded South Vietnam. This invasion was their largest operation since the Tet Offensive of 1968.\(^{195}\) The Communists named the operation “Nguyen Hue,” the birth name of Emperor Quang Truong, who moved his troops through hundreds of miles of mountains and jungles from central Vietnam to defeat the invading Chinese on the outskirts of Hanoi in 1789.\(^{196}\) The Communists were apparently hoping for history to repeat itself. Using the now mostly paved Trail, the Communists sent hundreds of tanks into Laos prior to the offensive.\(^{197}\) Nixon’s Vietnamization policy, which called for a


\(^{194}\) Nalty, The War Against Trucks, 227.

\(^{195}\) Ballard, Fixed Wing Gunships, 365.


\(^{197}\) Ballard, Fixed Wing Gunships, 368.
reduction of American personnel to below seventy thousand by the end of April 1972, was a motivating factor for the Communists to launch their invasion when they did.\textsuperscript{198}

In addition to the assault across the DMZ, the Communists also began large assaults on Kontum in MR II and around Saigon in MR III. The enemy had committed almost all of his force in his invasion of South Vietnam. Despite the intense bombing of the Trail, the North Vietnamese were able to commit fourteen divisions, twenty-six separate regiments, hundreds of supporting armor and artillery in an effort to overrun South Vietnam. The only division not invading South Vietnam was the NVA 316\textsuperscript{th}, which continued to operate in Laos.\textsuperscript{199} Thus Commando Hunt VII failed to stop the infiltration of enemy troops.

The Easter Offensive forced the 7\textsuperscript{th} Air Force to shift its focus away from interdicting the Trail to close air support of ARVN forces in the battlefields of South Vietnam. After taking significant losses in the early stages of the enemy attack, the ARVN, with the support of American air power and the remaining American and Free World troops, regained much of the lost territory.

With the transfer of aircraft from interdiction along the Trail to close air support in the battlefields in South Vietnam, enemy trucks moved uncontested down the Ho Chi Minh Trail. The 7\textsuperscript{th} Air Force was no longer interdicting the Trail. Commando Hunt VII came to a premature close, and the planned Commando Hunt VIII campaign was canceled.\textsuperscript{200} Thus, the last aerial interdiction campaign failed to prevent the Communists massing troops and materiel to launch their largest invasion South Vietnam to date.

\begin{footnotes}
\footnotetext[198]{Truong, \textit{The Easter Offensive of 1972}, 10.}
\footnotetext[199]{Ibid., 13.}
\footnotetext[200]{Nalty, \textit{The War Against Truck}, 234.}
\end{footnotes}
Learning valuable lessons from previous campaigns, Commando Hunt V was the most effective operation to date, and Commando Hunt VII had the potential to be even more destructive. But like the Army’s body count figures in the ground war, the Air Force’s claims of the number of truck kills and secondary explosions were not accurate assessments of the progress in the air war. Nearly four years of bombing the Trail had failed to keep the Communists from invading South Vietnam.
CHAPTER 5

CONCLUSION

When evaluating the success of the Operation Commando Hunt, one has to look at the goals and results of the operation. If the goal was to destroy trucks, then one could argue that the campaigns were a success. They also prevented the Communists from mounting a large offensive until the spring of 1972. But the goal was not to just destroy trucks and delay a major offensive. Commando Hunt was also intended to make the cost of infiltration so costly that the Communists would be unable to maintain their operations in South Vietnam. Despite the American effort, the North Vietnamese were able to adjust the flow of men and materiel to sustain the level of combat that they desired.\textsuperscript{201} American military leaders like General Alton D. Slay of the 7th Air Force staff believed that the operation prevented the enemy from launching a more effective Easter Offensive in the spring of 1972. That might be true. The Communists’ attempt to overrun South Vietnam failed. But the very fact that they were able to infiltrate sufficient supplies to invade South Vietnam meant that the bombing of southeastern Laos from 1968 to 1972 was ineffective. Operation Commando Hunt had not prevented the North Vietnamese from infiltration enough men and supplies into South Vietnam to maintain their activities. In that sense, Operation Commando Hunt was a failure.

So one has to ask the question: why did this operation, part of the largest bombing effort ever conducted, fail to prevent the North Vietnamese from infiltrating men and supplies into South Vietnam? Two reasons become apparent. First, the total bombing halt on North Vietnam beginning on 1 November 1968 gave the Communists an advantage in that it allowed them to stage their supplies during the wet season with impunity. The halt permitted full freedom of

\textsuperscript{201} Nalty, \textit{The War Against Trucks}, 186.
movement in North Vietnam. They were able to mass their supplies at the entry passes into Laos during the wet season and gain a running start on the following dry season campaign. Although the Commando Hunt campaigns destroyed an impressive number of trucks and supplies, the enemy’s elevated input level allowed him to continue his activities in South Vietnam. Johnson apparently ignored the results of previous bombing pauses, which were designed to get the North Vietnamese to negotiate a political settlement. The Communists did not respond diplomatically to two pauses in 1965, the second of which lasted from 24 December 1965 to 30 January 1966. Instead, they used the break to rebuild their strength and speed up the infiltration into the South.\(^{202}\) The total bombing halt beginning 30 November 1968 followed the partial bombing halt in April. Both were intended to nudge the North Vietnamese to the negotiating table. The effect of the bombing halt was the North Vietnamese were able to mass their supplies along their border with Laos. Despite subsequent interdiction efforts on the Trail during Commando Hunt I and III, the increased input allowed them to maintain enough supplies to continue their operations in South Vietnam.

Second, in his campaign during the 1968 presidential election, Richard Nixon promised a plan for the U.S. to leave Vietnam with honor. After his election, Nixon revealed his program of Vietnamization, in which the U.S. would transfer the responsibility of fighting the war over to the South Vietnamese. President Nixon’s Vietnamization program to get the United States out of Vietnam prevented the Air Force from conducting the required number of sorties needed to impact the infiltration of troops and supplies into South Vietnam. Beginning with Commando Hunt III, each dry season campaign flew fewer sorties than the previous one. The Air Force attempted to prepare the South Vietnamese Air Force to assume aerial interdiction of the Trail,
but the accelerated pace of Vietnamization and the sophisticated technology used by the Americans prevented the South Vietnamese from assuming this role effectively. Vietnamization of the South Vietnamese Air Force focused on close air support of ground operations. It did not focus on aerial interdiction of the Ho Chi Minh Trail. The best weapons for interdiction, the AC-130s, laser-guided bombs, and B-52s, were diverted to South Vietnam to defend against a North Vietnamese invasion.²⁰³

Lam Son 719 provides an example of the effect of Vietnamization on interdiction. The Cooper-Church Amendment banned U.S. ground troops from going into Laos. In fact, the Joint Chiefs of Staff gave General Creighton Abrams just three days to remove U.S. troops who were already in Laos. When Lam Son 719 began, no American ground troops participated in the fighting in Laos.²⁰⁴ Without the support of even their American advisors, the South Vietnamese, especially their leadership, proved inadequate to conduct such an operation.

The NVA Easter Offensive reveals the failure of the Operation Commando Hunt. Four years of continuous bombing the Trail failed to prevent the enemy from accumulating men and materiel to invade South Vietnam. The goal of the operation was to make the enemy pay such a heavy price for using the Trail that it would not be a worthwhile pathway for him. This never happened. Not only did the Communists continue using the Trail, they expanded it and made it more effective. Although, the enemy’s determination and innovation allowed him to maintain and develop the Trail, the American bombing halt in 1968 and the Vietnamization program that began in 1969 prevented the 7th Air Force from interdicting the Trail more effectively. The North Vietnamese input rose with each dry season campaign, while the number of sorties flown

²⁰³ Nalty, The War Against Trucks, 237.
²⁰⁴ Ibid., 245.
against them declined. The result was the Easter Offensive in which they were able to attack nearly all parts of South Vietnam.
APPENDIX A

NVA TROOP INFILTRATION INTO SOUTH VIETNAM, 1959-1964
<table>
<thead>
<tr>
<th>Year</th>
<th>Confirmed Number of NVA Troops</th>
<th>Probable Number of NVA Troops</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-1960</td>
<td>4,556</td>
<td>26</td>
<td>4,582</td>
</tr>
<tr>
<td>1961</td>
<td>4,118</td>
<td>2,117</td>
<td>6,295</td>
</tr>
<tr>
<td>1962</td>
<td>5,362</td>
<td>7,455</td>
<td>12,857</td>
</tr>
<tr>
<td>1963</td>
<td>4,726</td>
<td>3,180</td>
<td>7,906</td>
</tr>
<tr>
<td>1964</td>
<td>9,316</td>
<td>3,108</td>
<td>12,424</td>
</tr>
<tr>
<td>Total</td>
<td>28,078</td>
<td>15,886</td>
<td>44,064</td>
</tr>
</tbody>
</table>

APPENDIX B

AIRCRAFT EFFECTIVENESS ON THE HO CHI MINH TRAIL
<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Trucks D/D</th>
<th>Sorties Flown</th>
<th>D/D Per Sortie</th>
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</thead>
<tbody>
<tr>
<td>AC-130 SP</td>
<td>822</td>
<td>112</td>
<td>7.34</td>
</tr>
<tr>
<td>AC-130 Other</td>
<td>2,562</td>
<td>591</td>
<td>4.64</td>
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<tr>
<td>AC-123</td>
<td>440</td>
<td>141</td>
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<tr>
<td>AC-119</td>
<td>987</td>
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<tr>
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<td>A-7</td>
<td>959</td>
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<td>A-4</td>
<td>245</td>
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APPENDIX C

UNITED STATES MILITARY PERSONNEL IN SOUTHEAST ASIA
<table>
<thead>
<tr>
<th>Year</th>
<th>Air Force</th>
<th>All Services</th>
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<tbody>
<tr>
<td>1960</td>
<td>68</td>
<td>875</td>
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<tr>
<td>1961</td>
<td>1,006</td>
<td>6,164</td>
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<td>1962</td>
<td>2,429</td>
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<td>156,776</td>
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<td>1972</td>
<td>7,608</td>
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