

LONG NIGHT OF THE TANKERS: HITLER'S WAR AGAINST CARIBBEAN OIL

David J. Bercuson and Holger H. Herwig

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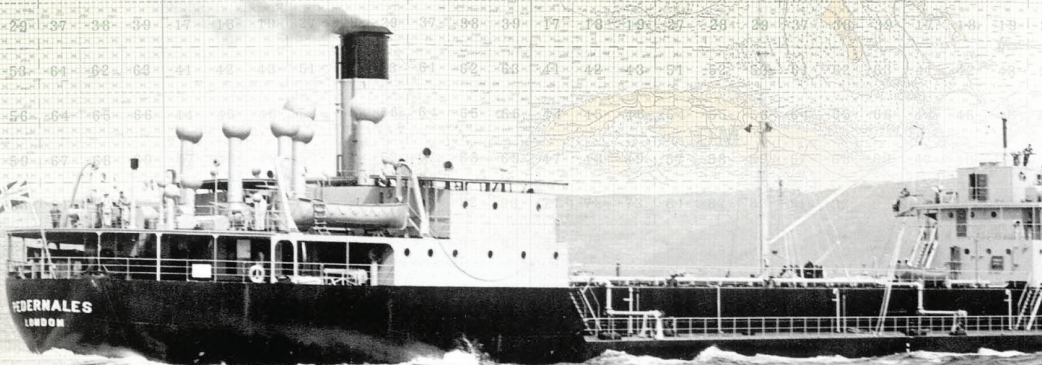
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DAVID J. BERCUSON
AND HOLGER H. HERWIG



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To Barrie and Lorraine

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– HOLGER H. HERWIG

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– DAVID J. BERCUSON

PROLOGUE

The waters north of Scotland are nasty at the best of times. During the long winter months, Force 6 to 10 storms with sleet and ice are normal. Winds of 30 to 40 knots howl over the heavy gray waves, with breaking crests forming streaks of foam. But Kapitänleutnant¹ Albrecht (“Ajax”) Achilles considered himself to be a lucky man – in fact, doubly lucky. In December 1941, Hans Witt, the first commander of the brand new *U-161*, had broken his leg in an accident on shore, and on the last day of the year, Achilles, until then First Watch (or Executive) Officer, at age 28 had been given command of the 1,200-ton Type IXC boat. His companion from pre-war merchant shipping days, Oberleutnant² Werner Bender, became the new executive officer. And now, the second piece of luck: the first week of 1942 brought only moderate Force 2 to 3 light breezes in those usually turbulent seas between the Shetland and Faeroe Islands. The sky was overcast, good protection from patrolling British aircraft. Gray boat. Gray seas. Gray skies.

U-161 was running well, covering more than 230 nautical miles per day. Ahead to the southeast lay the German-occupied French naval bases in the Bay of Biscay, the boat’s first port of call. On January 7, Achilles received a garbled message from Group North that a convoy had been sighted just west of his position, but he was too far off to the south to join the hunt. Then, around 12:30 p.m.³ on January 9, *U-161* received a terse, coded “for-officers-only” radio message from Vice Admiral Karl Dönitz, Commander U-Boats. “Proceed to Lorient at once.”⁴ What emergency had prompted this sudden haste, Achilles wondered? Was it a routine dispatch announcing that Lorient was to be *U-161*’s new home? Or was there a new theater of operations in the cards? Orders were orders. Achilles at once shaped course for Lorient. Within minutes, a smoke smudge appeared on the horizon. “Ajax” gave chase, but to his dismay, the target was moving too fast and was protected not only by a surface escort but also by an aircraft. *U-161* again shaped course south-southwest for Lorient.

Shortly before noon on January 10, the Old Man put his crew through the paces of an emergency dive. Within minutes, the boat became heavy by the bow and quickly plunged to depth “A,” 80 meters. Chief Engineer

Klaus Ehrhardt managed to trim the boat at that depth and reported that Dive Tank IV on the starboard side had unexpectedly taken on air due to a faulty seal and that seawater was penetrating the tank. Moreover, Ehrhardt suspected that oil was leaking into the dive tank from its hydraulic pressure hoses.

Back on the surface, the Atlantic was beginning to show its true winter face: Force 5 winds, with a fresh breeze and long waves cresting into foam and spray. On the bridge, Achilles discovered that *U-161* was indeed leaving an oil slick behind. No choice but to proceed as ordered. Fortunately, heavy leaden skies kept enemy bombers away. For the next five days, *U-161* crashed through the rising seas en route to Lorient. On the afternoon of January 15, the bridge watch sighted the low, gray shape of the Île de Groix, an eight-kilometer-long rock that protected Lorient from the often tempestuous southwesterly gales.⁵ The Kéroman and Scorff River U-boat pens lay further inland.

As Achilles carefully steered his boat toward the naval base, he could not help but take in the history and geography of the German command post. Off his port side lay Larmor-Plage, recently upgraded with a steel-reinforced concrete artillery post; off his starboard side was the massive stone fortress Port-Louis, originally built to protect the trade of the *Compagnie des Indes* and under Louis XIV expanded into a star-shaped citadel. The waters between the two points were about a kilometer wide, but this was deceiving since countless submerged rocks and mud banks studded the Larmor-Plage shore; in reality, the navigable channel of the Kernével Narrows was a mere 200 meters wide. Mariners since the days of the Celts and Julius Caesar had passed on the adage, “You must be crazy to moor in the Blavet River,” the main tributary into the harbor.

With the heavy gray winter sun sinking off its port side, *U-161* passed through the narrow channel and entered the *Rade de Lorient*, a two-kilometer-wide bowl formed by the confluence of the Scorff, Ter, and Blavet rivers. It was a maelstrom of fresh water, tidal sea water, heavy silt, and harbor offal. Off the left bow, Achilles could make out three elegant late-nineteenth-century villas along the beach of the resort town of Kernével: Kerillon, Margaret, and Kerozen. Completed in 1899 by a wealthy Breton engaged in the sardine fishing trade, they had been confiscated by German naval commander Dönitz in mid-October 1940 and the

owners given 24 hours to vacate. The middle building, the Villa Kerillon, was the headquarters of Commander U-Boats; the two flanking structures housed his staff.

Achilles was ordered to put into the narrow basin leading up to the large Kéroman U-boat pens. He made fast at the pier at precisely 6:50 p.m. The next day, Chief Engineer Ehrhardt would supervise repairs to the faulty diving tank by way of an ingenious system of wet and dry bunkers.⁶ *U-161* was scheduled to be taken into an enclosed “wet” berth, on whose sloping floor rested a 45-meter-long cradle. Once secured on the cradle, water would be pumped out of the berth and cradle and the U-boat, secured by an overhead crane, would be lowered onto a wheeled trolley. The boat would then be hauled out of the water, up a sloped slipway, placed on a 48-meter-long traversing unit on eight sets of rails, and thereby aligned with and directed into any of the two sets of five “dry” Kéroman bunkers on either side of the traversing unit. The operation would take up to two hours. Amazingly, never once did Allied bombers manage to damage a single boat undergoing this transfer process.

Would there be time for shore leave, Achilles wondered? Perhaps a quick trip to Paris? No such luck. No sooner had *U-161* been safely berthed, than “Ajax” was peremptorily ordered to report to Dönitz’s headquarters. As darkness set in, a staff car took him across the Ter River to the Villa Kerillon. It was a veritable fortress: an anti-tank ditch surrounded the modest château and three 5-cm anti-tank guns as well as the turret of an old French tank protected it against land attack; numerous small-caliber anti-aircraft guns mounted in concrete pillboxes and countless searchlights studded the coastline along the narrow channel guarding against hostile aircraft.⁷ The wiry, athletic Achilles quickly bounced up the eight stairs of the villa and via a small foyer entered a vast space of three interconnected rooms. This was the admiral’s operations nerve center. Elegance abounded: the ceilings were six-meters high, the floors had been constructed of inlaid oak planks, plate-glass windows offered splendid views of the harbor channel as well as the flood-lit openings of the “wet” Kéroman bunkers, and an exquisite spiraling wooden staircase led to the upper two floors of what Dönitz’s staff had dubbed “le château des sardines.”⁸

From the great window of the central room, Achilles could see that the lawn leading down to the beach had been replaced with a brownish concrete slab – the roof of three steel-reinforced concrete bunkers completed by the Organisation Todt⁹ in 1941 as protection against enemy bombs, which had first fallen on Lorient on September 1 and 27, 1940, just to remind the Germans of the air dimension to the Battle of the Atlantic. The bunkers housed Dönitz's communications center, called "Berlin" by its staff. Further off toward the land approach to the Villa Kerillon was another set of massive bunkers, these for the command post's naval security detail.

The villa's three rooms were Dönitz's operations center.¹⁰ Maps and charts studded the walls in the two "Situation Rooms." Pins and small flags marked the positions of the U-boats on patrol as well as anticipated convoys and known dispositions of Allied anti-submarine warfare (ASW) forces. Others consisted of weather charts, world time zones, ice and fog conditions in the North Atlantic, dates on which U-boats were expected back from patrol, and times when new boats were scheduled to deploy. A globe one meter in diameter gave a realistic picture of the broad sweeps of the Atlantic, allowing better distance calculations due to the curvature of the ocean's surface. The third room was the so-called "Museum," where yet more charts and graphs tracked sinkings at sea, U-boat losses, average sinkings per day at sea, and success rates against convoys.

Achilles noticed immediately that several men were already sitting around a massive oak table. All were of the same rank as he – Kapitänleutnant. He recognized the senior member of the group, the 33-year-old Werner Hartenstein, the gruff commander of *U-156*. Korvettenkapitän Viktor Schütze, 2nd Flotilla Leader, then introduced himself as well as three other skippers: Jürgen von Rosenstiel of *U-502*, Günther Müller-Stöckheim of *U-67*, and Asmus Nicolai Clausen of *U-129*. Obviously, Dönitz had chosen his skippers carefully. All were "regular navy," men who had graduated from the Naval Academy and then served on surface warships. All were senior commanders who had just turned 30 or were about to reach that milestone. Dönitz calculated that they would be up to the rigors of two- to three-month-long journeys over some 10,000 nautical miles, much of it in temperatures reaching 40 degrees Celsius inside the boat. Two civilians completed the group.¹¹

After brief acknowledgments, Schütze introduced Captains Strüwing and Kregohl, both former merchant skippers of the Hamburg-Amerika Line. Both had plied the waters of the Caribbean Sea before the war. Achilles sat up at once. So, this was the reason for the terse command to head for Lorient without delay. He, Achilles, also had worked for the same shipping line as a cadet officer, mainly in the waters around Trinidad, as had his Executive Officer, Bender. For the next hour, the U-boat captains took detailed notes as Strüwing and Kregohl briefed them on currents and reefs, shipping routes and harbor installations, and the sailing patterns of numerous Caribbean steamship lines.

Late in the evening, “the Great Lion,” as Dönitz was called by his U-boat crews, joined the group. His large forehead and ears and thin mouth gave his head an unbalanced look. But his chin was set and his small, steely blue eyes penetrating. His admiral’s uniform sat immaculately on his lanky frame. He had not put on a pound since his days as commander of *U-68* in the Adriatic Sea during the Great War. He took his place at the head of the table and eyed each man in turn. Then he got down to business. Whereas Adolf Hitler until recently had vetoed all plans by the navy to interdict the trans-Caribbean flow of crude and refined oil or to shell the large refineries because “oil centers belong to Standard Oil, thus American corporation,”¹² now that the United States was officially in the war, there was no further impediment to action. The boats were to mount a special operation, code-named “Neuland,” or New Land, an assault on the oil tankers and bauxite carriers that plied the Caribbean basin. The operations orders were precise: “Surprise, concentric attack on the traffic in the waters adjacent to the West Indies Islands. The core of the task thus consists in the surprising and synchronized appearance at the main stations of Aruba a[nd] Curaçao.”¹³ The group was to commence operations during the new moon period beginning on February 16, 1942. Müller-Stöckheim’s *U-67* was to take up station off Curaçao; Hartenstein’s *U-156* and Rosenstiel’s *U-502* off Aruba; Achilles’ *U-161* was to attack Port of Spain, Trinidad; and Clausen’s *U-129* was to patrol the coast of the Guianas. Primary targets, apart from the oil tankers and bauxite freighters, were also the mammoth oil refineries on Aruba that produced almost 500,000 barrels of gasoline and diesel fuel per day. An

ocean-going tanker with 3.5 million gallons of refined gasoline in its bunkers would be a splendid target!

Dönitz then pushed back the pile of papers on the table before him and assumed a more relaxed posture. His skippers knew well that the time had come for the customary pep talk. The admiral impressed on them the importance of the operation and its expected effect on enemy land, sea, and air operations. He informed them of the rich harvest that the six boats currently deployed in Operation Drumbeat (*Paukenschlag*) were taking off the United States' eastern seaboard. He expected no less from Neuland. He reminded them yet again that the Atlantic was "the decisive theater of the war." He demanded victory at all cost. "Be strong! Do not falter!" The Führer and his Wehrmacht stood at the gates of Moscow. "Faith in the Führer is a German officer's first and foremost duty," Dönitz sternly lectured the Kaleus. "Find, engage, destroy!" "Attack, attack like wolves!" The pep talk behind him, "the Great Lion" turned the briefing back over to Schütze and his staff.

"Operations Order No. 51 'West Indies,'" formalized on January 17, 1942, defined specific targets. Aruba stood at the top of the list. The oil refineries, first and foremost the Standard Oil of New Jersey Lago plant at San Nicolas and secondarily the Royal Dutch Shell refinery north of Oranjestad, were the main targets. Willemstad on Curaçao was home to a much larger Royal Dutch Refinery. "The oil is brought to Aruba as well as Curaçao from the Gulf of Maracaibo [Venezuela] in shallow-draft tankers of about 12 to 1,500 tons with a draft of 2 to 3 m[eters], is refined there and loaded onto large ocean-going tankers." The Gulf of Maracaibo was protected by a large sand bank and as a result of the shelling of Maracaibo's Fort San Carlos in January 1903 by the German cruiser *Vineta*,¹⁴ Juan Vicente Gómez, the Venezuelan dictator, had refused to dredge the sand bank for fear that other foreign warships might enter the Gulf. Thus, only small tankers could exit Maracaibo and only at high tide, "usually at day break." Trinidad offered another target-rich environment, as it not only contained oil refineries and tank farms but was also the port of destination and transshipment site from the Guianas of valuable bauxite, vital for airplane production. Furthermore, it was the departure point for traffic bound for Cape Town, South Africa. A third target was the Florida Strait

and the tankers that traversed it en route to New Orleans, Galveston, and Port Arthur.

Antisubmarine defenses, the former Hamburg-Amerika merchant captains reported, existed only at Trinidad. But it was likely, Schütze's staff allowed, that the first "wave" of attacks would in time bring antisubmarine nets, aerial reconnaissance and surface U-boat hunters to the Caribbean. Still, the lack of war experience of what was expected to be hastily dispatched and inexperienced American forces would render ASW "of little fighting value." All U-boats were to proceed to the West Indies running on one diesel engine only, to save fuel oil. Once they crossed the line 40 degrees west longitude, they were to radio in their position and fuel supply. Kernével would then give the signal to commence operations: "Neuland 186," with the first and third letters denoting the day, February 16. The initial attacks were to be driven home "five hours before day break."

Werner Hartenstein was to command the assault group. The skip-pers were to interpret their zones of attack liberally and independently – a departure for Dönitz, who liked to keep tight control of operations. They were free to repeat their attacks after initial strikes. "Thus, do not break off [operations] too soon!" They were to use their torpedoes first and thereafter their 10.5-cm deck guns if land targets were in the offing. Last but not least, Schütze handed the commanders commercial sea charts for Aruba, Curaçao, and Trinidad, as well as the most recent sailing plots for the West Indies.

Unbeknown to the Kaleus, a bitter dispute as to targeting had broken out behind the scenes between Dönitz and Grand Admiral Erich Raeder, Commander in Chief Kriegsmarine. While Dönitz as ever was fixated simply on "tonnage war" (sinking ships), Raeder demanded that shore installations such as refineries and tank farms be given priority. He had a point. The world's largest oil refinery was the Standard Oil "Esso" facility at San Nicolas, Aruba; and with the Royal Dutch Shell refinery at Eagle Beach, they together produced 5,000 barrels per day of critical 100-octane gasoline for aircraft alone. Raeder also knew that Pointe-à-Pierre on Trinidad was home to the largest refinery in the British Empire, Trinidad Leaseholds Ltd. The "Great Lion" chose to leave the targeting issue for further discussion.

“Ajax” Achilles was delighted. He and Bender had sailed the waters off Trinidad before the war and they knew intimately its reefs and currents as well as harbors and onshore installations. They planned to exploit this advantage. Moreover, the Caribbean was virgin territory for the U-boats. Surprise was thus assured. Surely, Knight’s Crosses (*Ritterkreuze*) would be in the offing. And what a welcome relief the warm waters of the Caribbean would be from the frigid wastes of the North Atlantic. The meeting broke up precisely at 10 p.m., Dönitz’s self-imposed bedtime.

* * *

Operation New Land was, of course, but one part of the greater Battle of the Atlantic, “the most prolonged naval campaign in history.”¹⁵ For six long years, German surface and subsurface raiders fought a tenacious battle for control of the North Atlantic sea lanes that connected Britain to its vital allies in North America. Most specifically, Karl Dönitz launched more than 1,000 of his “gray sharks” from their lairs in the Bay of Biscay in so-called “wolf packs” against the Allied lifelines; roughly 780 boats and 30,000 sailors never returned from the Atlantic. For the Allies, 175 warships, 2,700 merchant ships, and 30,000 merchant sailors met a similar fate. In time, an army of technical experts mounted a complex and sophisticated air and sea assault against the U-boats, while especially American industry ramped up merchant-ship production to the point where already by July 1941 the number of new vessels entering the Allied shipping pool surpassed total losses.

As the war escalated, especially after America’s entry as a result of the Japanese attack on Pearl Harbor on December 7, 1941, Dönitz sent his U-boats ever further west, seeking out the Allied convoys at their North American point of egress. His most spectacular campaign was dubbed Operation Drumbeat (“Paukenschlag”), launched on January 13, 1942, with the arrival of five U-boats in the waters between the Gulf of St. Lawrence and Cape Hatteras; eight boats followed in March and April.¹⁶ It was a stunning surprise: in what S. E. Morison, the official historian of the US Navy in World War II termed “a merry massacre,” the raiders destroyed 470,000 tons of Allied shipping off the eastern seaboard of the United States in February, and 1.15 million tons to the end of April 1942.

Thereafter, sinkings declined precipitously as the US Navy finally adopted convoy, blackened its ports, and concentrated its air and sea resources against the German raiders.

The greater story of the Battle of the Atlantic is well known and well told – nearly 300 titles in the catalog of the Library of Congress and 90.9 million Google hits¹⁷ attest to this. It is not our story. Rather, we concentrate on the post-Drumbeat period, when Dönitz redirected his “gray sharks” to the waters of the Caribbean and the Gulf of Mexico to wreak havoc with the Allied supply of vital stocks of crude oil, refined diesel and gasoline, and bauxite. For without those resources, the Battle of the Atlantic would have ground to a halt.

INTRODUCTION

No man knew more about the importance of oil for the Allied war effort than British Prime Minister Winston S. Churchill. On June 22, 1941 – the day Nazi forces invaded the Soviet Union – Churchill informed his countrymen during a BBC radio broadcast that Germany’s “terrible military machine must be fed not only with flesh but with oil.”¹ As First Lord of the Admiralty prior to World War I, he had been the key figure pressing the Royal Navy to change from a coal-fired to an oil-fired navy. He agreed with Sir Marcus Samuel, one of the principal owners of Royal Dutch Shell (formed in a merger of Samuel’s Shell Oil Company and Royal Dutch Petroleum in 1906) that oil was a much more efficient fuel for warships than coal. Samuel had campaigned for the conversion since 1899, but the tradition-bound Admiralty had dragged its heels, even though some of the newest and most powerful British warships, such as HMS *Dreadnought* (launched in 1906), were in fact fitted with oil-fired boilers.

In 1912 Churchill established the Royal Commission on Oil Supplies, headed by First Sea Lord Sir John Fisher to examine the advantages of oil. The commission’s finding was predictable – Fisher was a strong advocate of the conversion – and the result was decisive: coal was obsolete; oil would fire all Royal Navy ships in future. In Churchill’s words, “oil gave a large excess of speed over coal. It enabled ... speed to be obtained with far greater rapidity. It gave 40 per cent greater radius of action for the same rate of coal. It ... made it possible in every type of vessel to have more gun-power and more speed for less size and cost.”²

The sudden conversion of the world’s principal navies – especially the British, American, French, and Japanese – to oil, combined with the rapid expansion of those navies in the decade prior to the war, made the problem of securing oil supplies a matter of utmost importance. Britain was particularly concerned since the Royal Navy was the United Kingdom’s principal source of international power and the guardian of both its trade and its independence. Thus, Churchill was also in the forefront of Britain’s drive to ensure that the Royal Navy had both secure and adequate supplies. The world’s largest producer of oil by far was the United States,

which was also self-sufficient in oil. Since it was simply inconceivable to the British government that it might rely largely on US sources, Churchill was forced to secure the UK's own oil supply.

The British Isles had virtually no oil resources. Thus, Britain encouraged UK financiers such as Samuel to secure whole or partial ownership of as many new or newly expanding fields in other parts of the world as possible. Russia, Romania, Persia (Iran), Iraq, and the Caribbean were the best choices. As a result, British-owned companies such as British Petroleum, the Anglo-Persian Oil Company (51 per cent owned by the UK government), and Royal Dutch Shell (40 per cent owned by Samuel) came to dominate the international oil scene outside the United States. In the interwar years Britain came to depend almost exclusively on supplies from the Far East (the Dutch East Indies), Iraq and Iran in the Middle East, and Venezuela, which by 1939 was the world's third largest producer and second largest exporter. The British supply system constituted a global network of oilfields, pipelines, refineries, tank farms, and oil ports, linked by some 500 British-flagged tankers capable of moving about 20 million barrels of oil at any one time – the largest tanker fleet in the world by far.

On the outbreak of World War II, both the Axis and the Anglo-French allies were fully aware of the importance of securing their oil supplies. Not only were the economies of these industrialized societies highly dependent on oil, but oil was essential for their war machines. The Allies appeared to be in a much more favorable position than the Axis since neither Germany nor Italy had natural oil reserves and both countries had very little tanker capacity. The British and French set out almost immediately to lease as many tankers as they could from countries such as Norway (which was neutral until April 1940), both to ensure their own supplies and to deny those ships to the Germans. But Germany was far from bereft of oil.

German scientists had been working on the means to produce synthetic oil from coal since before World War I. Even though the synthetic product proved to be six times as expensive as natural crude, the exorbitant cost was a price Adolf Hitler was willing to pay, at least until Germany could acquire natural crude through diplomacy or by conquest. Thus, the Nazis contracted with the chemical giant I.G. Farben to subsidize synthetic oil production. By 1939, synthetic oil accounted for just

over one-third of Germany's oil needs. Immediately after the German army rolled into Poland in September 1939, special units fanned out to seize existing oil stocks and to take control of the small fields in Galicia before the Soviet Union did. This move was only partially successful; the Red Army occupied a sizeable chunk of that region as it took the territory allotted Moscow under the Nazi-Soviet Non-Aggression Pact. But Stalin was willing to be reasonable: the USSR sold oil to Germany literally until June 22, 1941, the day Hitler pounced on Russia. Romania was another major German supplier, especially after it joined the Axis in the summer of 1940. Romania soon became Germany's primary source of both crude oil and refined products from the giant and very modern refining complex at Ploesti. After the French surrender in June 1940, a small French-controlled field in Alsace was also commandeered. Although the German army seized key oilfields in the Soviet Caucasus in the summer of 1942, the Wehrmacht was expelled by the Red Army before any significant amount of Caucasus oil could be sent to Germany.³

Allied oil resources suffered from severe structural weaknesses which quickly became apparent. The greatest of these was the reliance on oil tankers. As well, the United States proclaimed strict neutrality at the start of the war and adopted a policy of "cash and carry" toward the belligerents. In other words, the Allies or the Axis could purchase whatever they wanted from the United States, but in cash, and they had to carry it away in their own ships. While this policy allowed both Britain and France to purchase oil or refined products from the United States, it was unclear whether the more than 400 US-flagged tankers would be allowed to carry oil or refined petroleum products to Allied ports in charter. Normally, neither country would even think of relying on American (or other neutral) tankers – except that the Battle of the Atlantic and the "tonnage war" waged by the German submarine force began to cut into Allied tanker capability from almost the very start of the war. And the more Allied tankers lost, the greater the damage to the worldwide system of supply that Britain had carefully built up since the earliest days of the oil-fired Royal Navy.

The initial blows fell early. On September 8, 1939, submarines sank the British tankers *Kennebec* (5,548 tons) and *Regent Tiger* (10,177 tons). Two more tankers were lost by the end of September, for a total deficit of

34,007 tons. By the end of May 1940, twenty-two British flagged tankers had gone down to torpedoes, gunfire, or mines, for a loss of about 150,000 tons – with another 67,000 idled by damage, mostly from mines. Other Allied tankers and neutral tankers were also lost, though not nearly as many.⁴ At first glance, the British tanker loss appears minor compared to the total tanker fleet – about 4 per cent of capacity over a nine-month period. But at a time when British ship-building capacity was taken up almost exclusively by the production of warships, when tanker construction had fallen, and when Britain had also lost about 200,000 tons of other merchant shipping that had to be replaced, 4 per cent was a significant number. If current losses continued, a deep cut in British tanker capacity seemed unavoidable. But then German attacks appeared to slacken, and negotiations between Britain and Norway resulted in an increase in the number of Norwegian tankers available for charter by the Allies. Thus, by the end of March 1940, in the words of the official history of British oil policy and oil administration in World War II, “the barometer [measuring the future of British oil supplies] was set ‘fair’.”⁵

* * *

On April 9, 1940, Germany attacked Norway. The fighting raged over much of the country’s coastal areas. The Norwegians were aided by British, French, and other Allied forces, but surrendered in early June. The Norwegian king and government fled to London. A few Norwegian tankers were in port at the time of the German victory and were seized by the Nazis, but the vast majority were at sea, in charter, and now available without restriction to the Allies. That was certainly a positive event, but it was more than cancelled out when, in May 1940, Germany attacked France and the Low Countries and Italy entered the war. The Dutch and the Belgians were both quickly defeated; their governments fled to the UK; and control of the vast majority of their tankers was assumed by London. “These summer months of 1940,” in the words of the official history, “formed a unique interlude in the history of wartime oil supply; a period when tankers were in surplus.”⁶

When France surrendered in late June 1940, its navy remained under the control of the ostensibly neutral but decidedly pro-Axis French Vichy

government. So did all of French North Africa. Suddenly, the Mediterranean had effectively become an Axis lake – *mare nostrum* (“our sea”), as the fascist Italian regime put it. From Suez to Gibraltar, the Royal Navy’s only port of call was Malta and most of the northern and southern shores of the Mediterranean were hostile or neutral. Britain’s shipping in the Mediterranean was subject to air attack along most of its length. Its oil supplies from the Middle East were virtually cut off. It could still obtain oil from Iraq and Iran or from the Dutch East Indies via the Cape of Good Hope, but that route was very long and vulnerable to submarine attack. Since Britain began the war with virtually no strategic reserve, the oil supply picture suddenly grew very dark once again.⁷

The British government did everything it could to reallocate fuel from civilian to military consumption. A government-appointed Oil Control Board, consisting of both government and industry representatives, took control of all British oil companies and their operations. Strict civilian rationing was imposed, storage tanks were moved to areas less susceptible to bombing, underground tanks were hurriedly prepared, and aviation gas was carefully husbanded. All of these moves helped, but none came close to alleviating Britain’s growing petroleum shortage.

In the high summer of 1940, the German Air Force began a concerted bombing campaign against the British Isles, beginning with attacks on coastal shipping and ending with the London Blitz – the ceaseless, mostly nightly raids against the capital that began in the fall and continued until late May 1941. At first the Germans’ main objective was the bases and installations of the Royal Air Force. But they also attacked docks and oil terminals, oil storage facilities and refineries, rail yards, and transportation hubs, not to mention most of the industrial cities and shipbuilding and ship repair yards that were in range. The attacks on Britain’s east coast ports, which were closer to German air fields, were especially damaging. In raids against Plymouth and the Clydeside, Royal Navy oil stocks suffered severe damage. If the Luftwaffe had sustained its attack against British refineries and oil storage facilities, it might have done considerable damage, but it did not. Bombing of British oil installations was sporadic and ineffective much of the time. Hence, although British stocks ran low – sometimes dangerously low – they never came close to running out.

The problem for Britain was not so much the maintenance of daily stocks as it was trying to ensure future stocks in what was certain to be a long war, especially now that Britain stood alone. That was a significant challenge because in late 1940 its tanker fleet began to deteriorate once again. France's surrender gave Germany two major advantages over the UK it had not had at the outbreak of war. First, French ports and naval bases on the Atlantic were now open for use by submarines; a substantial number of U-boats were transferred from Germany to newly built shelters and maintenance facilities along the Bay of Biscay. This significantly cut the distance that U-boats needed to travel to get to the North Atlantic and to waters south of Newfoundland. It also increased their time on station and thus their ability to find and sink ships. Second, German aircraft based at French airfields could cover much more of the UK while long-range aircraft, such as the four-engine Focke Wulf 200 Condor, could fly far out into the Atlantic to attack convoys or to vector U-boats to them.

One British response to these dangers was to curtail shipping to its east coast and the Thames River. This kept ships somewhat out of harm's way but led to massive congestion in the UK's west coast ports and the rail lines and roads that ran from and into them. Congestion led to delays, which made the ships and their cargoes more vulnerable. There was an increase in both sunk and damaged tankers. Soon, British shipyards were overwhelmed. Oil stocks began to slide again; this time it "was beginning to look catastrophic,"⁸ despite everything being done to speed up tanker unloading and to ease rail and road congestion. By February 1941, more than a million tons of tanker capacity was immobilized.

It was not just tanker losses that put a major squeeze on Britain's oil reserves. As Churchill told the House of Commons in a secret session on June 25, 1941:

The protective measures of the Admiralty – convoy, diversion, degaussing (mine-proofing of steel hulls), mine clearance, the closing of the Mediterranean, generally the lengthening of the voyages in time and distance, to all of which must be added delays at the ports through enemy action and the blackout – have reduced the operative fertility of our shipping to an extent even more serious than the actual loss.⁹

Put simply, the problem was the friction caused by war added to the normal business of conveying oil. Convoying, as Churchill mentioned, was a particular difficulty. Even those tankers which were not sunk, or damaged, were greatly impeded in their passage by measures that Britain was forced to take to protect wartime shipping from the U-boats. Prior to the war, for example, Caribbean crude or refined products (which made up a large part of Britain's domestic oil supply) were shipped directly to the UK from the refineries on Trinidad, Aruba, and Curaçao. But very shortly after war was declared, the Royal Navy took control of all commercial traffic into and out of the UK and, together with the Royal Canadian Navy, instituted the convoy system. It became compulsory for all vessels crossing the Atlantic to deliver cargo to the UK to travel in convoy from east coast Canadian ports. Vessels that could steam above 15 knots were exempt from sailing in convoys, but tankers slower than 15 knots (the great majority at that time) were forced to sail in "HX" or "fast" convoys from Halifax or "SC" or "slow" convoys that departed from Sydney, Nova Scotia.

A tanker headed for the UK from Trinidad, for example, would have to make its way to Halifax. When it arrived, it had to wait until a convoy was formed. Once the convoy sailed, the tanker was forced to stay with the convoy at the convoy's best speed, which was determined by the slowest ship. When the tanker arrived in UK waters, it had to proceed in a local convoy to a port as far from German bomber bases as possible. The oil would then be offloaded into local storage facilities or railway cars, or the tanker would join a coastal waters convoy that could take as long as three weeks to travel from, say, Northern Ireland to the farther destinations on the UK coast. All this additional waiting and convoying added literally weeks to the normal journey.

Thus, turn-around times for tankers increased dramatically. In the spring of 1940 a tanker might be expected to make an average of six round trips a year between the UK and the Caribbean; that dropped to 4.5 trips by winter. This 25 per cent reduction in carrying capacity could only be made up by adding at least one extra tanker for every four already in service. By the end of May 1941, oil stocks in the UK had fallen "below the level that had been declared to be the absolute minimum for safety."¹⁰

More tankers were needed; the United States stepped in decisively. At the end of June 1941, the Americans made tankers available to cover the “Canadian trade” (carrying oil from Venezuela to the major refinery complexes at Montreal), thus relieving eight Canadian and eight Norwegian vessels chartered to Canadian companies. They also made tankers available to cover the trade of five long-charter Norwegian tankers working in South American waters. Later in July, 19 more long-charter Norwegian tankers were relieved. These moves effectively freed up 30 tankers for the North Atlantic. Then 26 US-owned, Panamanian-flagged tankers were pressed into service bringing oil from the Caribbean to New York or Halifax, where the cargo was transferred to British-chartered vessels. The United States paid the entire cost for these charters; by the fall of 1941, British oil stocks were recovering nicely.¹¹

* * *

Even before Britain effectively lost access to Middle East oil, it had become highly dependent on oil from the Caribbean; by 1940, some 40 per cent of its petroleum requirements came from Trinidad and Venezuela.¹² In less than four decades, the Caribbean basin had emerged as one of the fastest growing oil-producing regions in the world. By the late 1920s, Colombia’s oil fields were pumping from 40,000 to 69,000 barrels a day, most of it for Standard Oil of New Jersey or one of its affiliates. By 1940, Trinidad, a British colonial possession, was lifting some 58,000 barrels a day. Its refineries, including the Empire’s largest at Pointe-à-Pierre, were churning out more than 28 million barrels a year, much of it from Venezuela.

In fact, by the outbreak of World War II, Venezuela had become the third-largest oil producing country in the world. Its daily output was over half a million barrels, 80 per cent of it produced by Standard Oil of New Jersey and Royal Dutch Shell in fields under and near the eastern shore of Lake Maracaibo. Due to a lack of deep-water ports on the Venezuelan coast, the shallowness of Lake Maracaibo, and the turbulence of Venezuelan politics, American and British producers had long ago decided not to refine Venezuelan crude locally. Instead, it was transported to refineries in the Dutch West Indies (Aruba and Curaçao) and Trinidad via slow,

shallow-draft, tankers. Purpose-built for the Lake Maracaibo-Dutch West Indies trade, these ships were terribly vulnerable, as was the entire sea-borne line of supply. Cut that line and the refineries on Aruba and Curaçao would have closed in short order.

When taken together, three Caribbean islands – Aruba, Curaçao, and Trinidad – were home to the largest refining complex in the world. The Lago Oil & Transport Co. at San Nicolas, Aruba, a subsidiary of Standard Oil of New Jersey, produced about 300,000 barrels of refined product per day. It employed between 8,000 and 10,000 people, most of the island's adult population. The company ran the island almost like a private preserve, building its own grocery stores, restaurants, movie theaters, tennis courts, and golf courses. The American executives, engineers, and other professionals who lived on Aruba had their own American schools with American teachers and an American-style hospital staffed with American doctors. There were a few Britons there as well. They and Netherlanders ran the small Royal Dutch Shell Arend (or Eagle) refinery at Oranjestad with a through-put of some 8,000 barrels daily.

On Curaçao, the Royal Dutch Shell Santa Anna refinery produced 200,000 barrels daily, the crude arriving via pipeline from the deep-water terminal at the Bay of Caracas. Together, Aruba and Curaçao had a refining capacity of slightly more than half a million barrels daily. Added to this was the 80,000 barrel-a-day refining capacity of Trinidad.¹³ This surpassed some of the world's other major refining complexes at the time: 280,000 barrels a day at the Anglo-Iranian refinery at Abadan, Iran; 230,000 barrels a day at the Soviet plant at Baku; and 100,000 barrels a day at the American refineries along the Gulf of Mexico coast.

The Caribbean was highly important to Britain because the Standard Oil of New Jersey refinery on Aruba was one of the key global sources for the newly developed 100-octane aviation gasoline, a product obtained by a complex process known as catalytic cracking, first developed experimentally in the 1920s. Through a variety of production processes pioneered by Standard, Shell, and other companies, a sort of hybrid gasoline was developed from ordinary gasoline that could be used in high-compression engines. The gasoline was given a rating of "100 octane," which was a measurement of its anti-knock capability or its ability to fire high compression engines without roughness or engine knocking, which occurs

when the fuel-air mixture fed in to the cylinder is too imperfect to burn cleanly, quickly and with the maximum push. The 100-octane gasoline enabled a great increase in engine power without increases in the size or weight of an aircraft engine. Higher compression ratios “enabled a plane to achieve greater speed, climb at a higher rate, and fly at higher altitudes ... the extra power [also] increased a plane’s carrying capacity.”¹⁴

The US Army Air Corps adopted 100-octane gasoline as the standard for all its combat aircraft – fighters and bombers – in 1937. The Royal Air Force did the same shortly after. The Germans chose not to. Instead, their fighter aircraft manufacturers, such as Messerschmitt, concentrated on producing fuel-injection systems versus the carburetors used in the early models of British Hurricanes and Spitfires. Prior to the outbreak of war, refineries in the United States began to produce substantial quantities of aviation gas – in June 1935, the US Army Air Corps purchased its first million gallons of 100-octane gasoline. Two years later the RAF contracted with Standard to produce aviation gas at its refinery on Aruba because the British were worried that, in the event of war, Washington might adopt a policy of strict neutrality and not allow Britain access to US aviation gas.

That did not happen. When war broke out in September 1939, the United States continued to sell aviation gas to Britain. When this was combined with the aviation gas supplied by refineries in the Caribbean, at Abadan and the Dutch East Indies, and in the UK itself, the RAF was able to maintain sufficient stocks to defend the British Isles and fight the Luftwaffe in the Battle of France. After the Mediterranean was effectively closed to the UK, Britain was forced to rely entirely on the United States and the Caribbean for aviation gas. But as the United States began to build up its own air force after the surrender of France, even US supplies were not completely guaranteed.

Britain relied on the Caribbean for more than oil and aviation gas. The southern shore of the Caribbean and Central and South America were a treasure trove of strategic materials such as tungsten, manganese, chromite, copper, tin, industrial diamonds, mica, platinum, nickel, and quartz.¹⁵ All of these minerals were necessary for the production of modern weapons and the machine tools and modes of transportation that would produce and carry them. Many or most were in short supply even in

the United States, and even though Canada had large deposits of nickel, both countries needed to look south for the rest. The virtual total lack of any means of land transportation from either the east or the west coast of Central and South America to North America, let alone the Caribbean, meant that these minerals had to be transported by sea lanes that were vulnerable to German submarine attack.

One of the most important of these minerals – the raw material from which aluminum is made – was bauxite. It was absolutely vital for American and British aircraft industries. British Guiana and Dutch Guiana (Suriname) together produced 1.5 million tons of this strategic mineral each year, most of it through a virtual monopoly exercised by both the Aluminum Company of America (ALCOA) and the Aluminum Company of Canada (ALCAN). The two colonies accounted for close to 40 per cent of total global production. The rapid increase in the manufacture of warplanes in the UK after September 1939 and another increase in the spring of 1940, and US plans for a multifold increase in the US Army Air Corps, drove up the value of bauxite from this region. Britain's entire requirement of 302,000 tons came from British Guiana. US President Franklin D. Roosevelt's audacious plans, announced in December 1941, to increase US aircraft production a hundred-fold (the United States in fact accomplished it in only three years) could only be fulfilled if both British Guiana and Suriname increased shipments to at least 2 million tons each per annum. Suriname was the source of some 60 per cent of the US aluminum industry's supply of bauxite.¹⁶

By the summer of 1940, Britain had come to rely heavily on the Caribbean for crude oil, aviation gas, and bauxite, among other crucial commodities. Put simply, Caribbean crude kept Britain in the war. The fortunes of war had made this beautiful and tranquil sea a key theater of war. And yet, the Caribbean trade stayed virtually untouched for the first 18 months of the war. This was partially because the United States and 20 other American states on September 23, 1939, issued the Panama Declaration, which not only proclaimed their neutrality but also announced the formation of a Maritime Security Zone to extend 480 kilometers into the Atlantic from the coasts of the United States and Central and South America. The area, which included much of the western Caribbean and all the American-owned islands such as the US Virgin Islands and Puerto

Rico, was then patrolled by US planes and ships. To avoid conflict with the United States and to ensure that the neutral American states were not dragged into war, the Germans observed the zone and kept their warships clear. Until Pearl Harbor.

* * *

The United States produced sufficient oil for virtually all its needs before Pearl Harbor. Imports amounted to just 2.9 per cent of requirements, or roughly 140,000 barrels a day (daily domestic production pumped out 3.8 million barrels).¹⁷ But the United States still relied heavily on ocean tankers to supply those parts of the nation that were far away from the producing regions; 95 per cent of the Atlantic coast's requirements came by sea. There were no large-capacity pipelines from California, Texas, Oklahoma, or the Gulf of Mexico to the east coast. Most of the oil that heated the homes and fed the factories and refineries of New York, New Jersey, and Pennsylvania, among other industrial states, for example, came by sea. In the fall and winter of 1940–41, and as winter approached again at the end of 1941 – always peak demand seasons for oil products – the U-boat offensive in the Atlantic caused serious disruptions in supplies as Allied, neutral, and even some American tankers were sunk in increasing numbers. Neither the railroads nor the highways were capable of handling enough petroleum supplies to make up the difference. In the words of one historian of the period, “The Administration’s response to such problems was slow and haphazard.”¹⁸

The major fault lay with Congress. No doubt swayed by the powerful petroleum lobby, it was reluctant to interfere in the allocation and distribution of oil. As a result, President Roosevelt delegated his executive authority to deal with the nation’s war-related supply problems to Secretary of the Interior Harold Ickes, a lawyer and a political reformer who was no friend of business. In May 1941, Roosevelt appointed Ickes Petroleum Coordinator for National Defense (later known as the Petroleum Administrator for War or PAW). In usual Roosevelt fashion, the title was more impressive than Ickes’ powers, which remained vague and ill-defined. But Ickes was determined to define his own powers by creating a virtual government-business alliance to coordinate production, allocation,

and distribution of petroleum products. His first move in making peace with the industry was to select Ralph K. Davies, vice president of Standard Oil of California, as his deputy and vest him with power equal to his own. That went a long way to win the oil industry over. On June 19, Ickes and Davies met with some 1,500 oil men and told them the government was determined to build a partnership between the oil business and the government and that no measures would be imposed on the industry that had not been agreed upon beforehand.¹⁹ Ickes also managed to convince the US Attorney General to exempt the oil industry from antitrust charges as they pooled resources and equipment or cooperated in coordinating supply.

Under Ickes' stewardship, the companies voluntarily reduced deliveries to gasoline and fuel oil retailers by 10 per cent; the diverted product was used to produce aviation gasoline and other defense-related products. Ickes sought to rationalize the overland delivery of oil and petroleum products by pooling and coordinating the movement of railway tank cars. The result was a dramatic increase in rail shipments of oil to the east from 40,000 barrels per day in June to 140,000 per day in October 1941.²⁰ But even this was not enough; the east coast remained about 100,000 barrels a day short of its requirements. Ickes thus also proposed the construction of a 22- to 24-inch crude pipeline, capable of delivering at least 60,000 barrels per day from the Southwest to the Atlantic coast. Due to Roosevelt's plan to rapidly expand war production, however, there was not enough steel available to begin production before Pearl Harbor.

On the eve of its entry into World War II, the United States was in far better shape than Britain to ride out the blows that were about to fall on its oil supply. But due to the lack of a national pipeline network, it was still far from being able to meet its own requirements for both civilian and defense needs, let alone offer the increased aid to Britain that would be so necessary for victory. And like Britain, the United States was almost totally dependent on South America for bauxite and other important strategic materials. Any widening of the war at sea – in the North or South Atlantic or in the Caribbean – would add significantly to the strains the United States was already under in the late fall of 1941.

* * *

The Panama Canal was a vital strategic interest of the United States, whose fate it had been deeply involved in determining since the turn of the century. Completed in 1914, the canal was greatly beneficial to much of the world's shipping for obvious reasons, but particularly to the United States, which used it heavily for sea transport from coast to coast. It also allowed the United States to quickly move its fleet (larger US warships were specifically built to allow them to pass through the canal's locks) from one ocean to another. Not surprisingly, as Germany and Japan began to build powerful fleets in the interwar period and grew more aggressive on the world stage, the United States took steps to shore up its defenses in the Canal Zone and on US-held islands and bases to the east of it.

Initially, the Americans worried more about sabotage of the canal by potential enemy agents. By the late 1930s, however, that concern had been surpassed by the possibility that enemy aircraft carriers might attack the canal from one ocean or the other, or that islands or airbases held by unfriendly countries might allow their territories to be used for air attacks against it. As soon as war broke out in Europe, additional US troops and aircraft were deployed to both Panama and Puerto Rico. The bulk of the aircraft were obsolete open-cockpit P-36 monoplane fighters and Douglas B-18 bombers that were limited in bomb load and had an operational radius of less than 600 miles. The task of defending the Canal Zone and Puerto Rico fell to the US Army, while the US Navy was responsible for defending the Caribbean. Not only did the two services clash often about both strategy and priorities, but the facilities available for defense in the fall of 1939 were very limited. The navy had a base at Guantánamo on the eastern tip of Cuba, a radio station at San Juan, Puerto Rico, and a small Marine Corps airfield at St. Thomas in the Virgin Islands.

During the first six months of 1940, the US garrisons and air contingents in Panama and Puerto Rico expanded rapidly; new airstrips were built, new barracks constructed, new radio and radar facilities created. But the surrender of France and the conquest of the Low Countries by June 1940 changed the entire Caribbean defense picture. The French Caribbean islands of Guadeloupe and Martinique fell under the control of the new pro-Axis Vichy government. Martinique possessed an excellent harbor and naval base; at the very moment of the French surrender, the aircraft carrier *Bearn*, with 106 US-built planes, was anchored there.²¹

The British took responsibility for the defense of Aruba and Curaçao from the Dutch government-in-exile. On May 24, British ambassador to the United States Lord Lothian sent a cable to London suggesting that the UK make a formal offer to the United States to ask it to lease lands for air bases in Trinidad, Newfoundland, and Bermuda. At first the British Cabinet balked at this suggestion. After all, the United States had done virtually nothing at that point to help the Allies. But with the French surrender on June 22 and the first arrival of American rifles, ammunition, and some artillery to the UK, the Cabinet's thinking shifted. On June 29, it agreed to offer leases to the United States for base sites in Newfoundland, Bermuda, and the British West Indies.

On September 2, 1940, US Secretary of State Cordell Hull and Lord Lothian signed an arrangement²² whereby the United States would transfer to the UK 50 World War I flush-deck destroyers in return for leases for bases in Bermuda, the Bahamas (Great Exuma Island), Antigua, St. Lucia, Trinidad, British Guiana, and Newfoundland. The United States had chosen well. Newfoundland, already under Canadian protection, flanked the first 1,000 miles of sea route from the east coast of the United States and Canada to the UK. Bermuda sits near the main oil tanker routes from the Caribbean to the UK. The other bases extended on an arc from the Bahamas, close to the coast of Florida, to northern South America – an outer ring of defenses for the Panama Canal.

But the Caribbean bases-to-be faced significant challenges. Local governors had to be won over to the American choice of base sites. Local populations consisted of multiple cultures – Blacks, Asians, South Asians, who were both Muslim and various Christian denominations, and small but socially and economically dominant White minorities. Each of these peoples had long-developed cultures and most – even the non-American Whites – clashed significantly with the American way of doing things. The social issues were not helped by a climate in British Guiana and Trinidad that was hot, rainy, and humid and thus tended to exacerbate and magnify cultural differences.²³

The US military began preliminary site visits and initial engineering work shortly after the destroyers-for-bases deal was signed, but British agreement to negotiate leases was just that – agreement to negotiate. The negotiations turned out to be long and protracted with arguments and

disagreements over a wide range of issues from base sites to postal authority to jurisdiction over criminal matters (extra-territoriality). Roosevelt's announcement of his "lend-lease" offer to the UK on December 17, 1940, did not, at first, smooth the discussions. In March 1941, however, the new US ambassador to the UK, John G. Winant, told the British that Congress might not approve Roosevelt's Lend-Lease Bill without a successful conclusion to the lease negotiations. Churchill quickly broke the deadlock by essentially ordering the British negotiators to concede on almost all of the contentious points. The leases were signed on March 17, the same day Roosevelt signed the Lend-Lease Act.

In anticipation of the successful conclusion of the lease negotiations, the US Army began to consider a command structure for the new bases as early as the fall of 1940. Eventually, a Caribbean Defense Command was established under General Daniel Van Voorhis; on May 3, 1941, the new command was officially approved. It had three departments, one each for the Panama, Puerto Rico, and Trinidad sectors. The Panama Department was responsible only for Panama; the Puerto Rico Department included commands for Puerto Rico and the US bases in the Bahamas, Jamaica, and Antigua. The Trinidad Department would command the US bases in Trinidad, St. Lucia, and British Guiana. The Caribbean Defense Command was officially inaugurated on May 29.

Although the US Army with its Army Air Corps (soon to become the Army Air Forces) was responsible for the defense of the Canal Zone, Puerto Rico, and the US bases themselves – and the air defense of the sea lanes between them – the US Navy had the responsibility to patrol the waters of the Gulf of Mexico, the Caribbean, and the 400 miles of ocean to the east of the Windward and Leeward Islands – the neutrality zone proclaimed at the Panama Conference in September 1939. It must be remembered that at this point – mid-1941 – the United States still thought the main threat to the Panama Canal and other US territory in the region (including the new bases) would come from German aircraft carriers – even though Germany had none. No one was thinking very seriously about a U-boat threat. It would be the Navy's responsibility to deal with any threat from an enemy fleet. Thus, in June 1941, the Navy set up the Caribbean Sea Frontier, which extended from the Yucatán Peninsula to an area west of the island of Grand Cayman, northward

to Cuba, out through the Bahamas, eastward into the Atlantic north of Puerto Rico, then southeast to the coast of Brazil. Eventually, the Caribbean Sea Frontier was divided into the Panama, Trinidad, Puerto Rico, and Guantánamo sectors.²⁴ The islands, and especially Trinidad, awaited a tsunami of Americans and their culture.

