



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

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ISBN 978-1-55238-760-3

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CONCLUSION¹

After Adolf Hitler's declaration of war against the United States on December 11, 1941, the U-boat war was extended to the eastern seaboard of the United States. Under the auspices of Operation Drumbeat (Paukenschlag), the "gray sharks" found harbors and ships well lit; and in what Samuel E. Morison, the official historian of the United States Navy in World War II, termed a "merry massacre," a mere five Type IX U-boats in January–February 1942 sank 25 ships of 156,939 tons. Vice Admiral Karl Dönitz, Commander U-Boats, sent out several more waves of U-boats over the next six months, eventually bagging 397 Allied ships of more than 2 million tons off the US coast, losing only seven boats in the process. Drumbeat was a spectacular surprise attack. It showed what massive destruction a mere five, slender 1,000-ton U-boats could wreak in the hands of experienced commanders.

On January 15, 1942 Dönitz, obviously emboldened by the first news of Drumbeat successes, decided to extend American operations to the vital nerve center of the Allied bauxite and oil supply: the Caribbean basin. He invited five U-boat captains and two Hamburg-Amerika Line captains to his command post in the Villa Kerillon at Kernével. The U-boat skippers were regular navy men, and had served with the surface fleet before joining the "Volunteer Corps Dönitz." Their assignment under Operation Neuland (New Land), was as straightforward as it was demanding: "Surprise, concentric attack on the traffic in the waters adjacent to the West Indies Islands. The core of the attack thus consists in the surprising and synchronized appearance at the main stations of Aruba a[nd] Curaçao."² The group was to commence operations during the new moon period beginning on February 16: Günther Müller-Stöckheim's *U-67* off Curaçao;

Werner Hartenstein's *U-156* and Jürgen von Rosenstiel's *U-502* off Aruba; Albrecht Achilles' *U-161* off Trinidad; and Asmus "Nicolai" Clausen's *U-129* off the coast of British and Dutch Guiana.

Formalized on January 17, 1942, "Operations Order No 51 'West Indien'" identified primary targets to be the lake tankers and bauxite freighters as well as the oil refineries on the islands—most notably the Standard Oil of New Jersey Esso Lago complex at San Nicolas, Aruba, the largest in the world; the Trinidad Leaseholds' refinery at Pointe-à-Pierre, the largest in the British Empire; and the Royal Dutch Shell Shottogat plant at Curaçao. The Hamburg-Amerika Line captains had briefed the vice admiral on the nature of the oil traffic. "The oil is brought to Aruba as well as Curaçao from the Gulf of Maracaibo in shallow-draft tankers of about 1,200 to 1,500 tons with a draft of 2 to 3 m[eters], is refined there and loaded onto large ocean-going tankers." Trinidad offered an especially target-rich environment: apart from housing the oil refinery and tank farms, it was the transshipment site for the bauxite needed for Allied air industries as well as the departure point for seaborne traffic bound for Cape Town. The U-boats undertook the great circle trips across the Atlantic—Aruba 8,000 nautical miles and Trinidad 7,200 nautical miles return—using only one diesel engine to save fuel. This left the captains two to three weeks at most on station in the Caribbean; the so-called "milk-cows" (Milchkühe), U-boat tankers, were not yet operational. The attacks were driven home precisely "five hours before day break" on February 16 to assure surprise.

Moreover, Operation New Land was a departure from Dönitz's customary operational tactics. This time the "gray sharks" were assigned specific targets to attack in a specific region. Their captains were free to interpret their zones of attack liberally and independently. They were not to hit and run, but to remain in theater to drive home their attacks. "Thus, do not break off [operations] too soon!" They were to deploy their torpedoes first, and thereafter their deck guns (if land targets were in the offing). In eager anticipation, the five skippers spoke of a dawning "Golden West." Still, New Land was a bold, even audacious gamble. It would require the utmost of U-boat crews both physically and mentally. And it would require a great deal of luck.

What did Dönitz and his U-boats do successfully? The element of surprise certainly was with the German raiders. The simultaneous explosions of tankers off Aruba, Curaçao, and Trinidad shattered the tranquility of Paradise. Radio transmitters from Galveston to Caracas blared out warnings of the new danger to shipping. There was a widespread exodus from coastal cities into the cacti-studded countryside on Aruba. Chinese tanker crews at Curaçao went on strike; 15 were shot by the local Dutch militia, 37 others simply “disappeared.”³ Islanders who were young children retained vivid memories of the panic and uncertainty of February 1942 all their lives.

For a short period, the Allied oil supply was put in jeopardy. The roughly 95 per cent of product for the east coast of the United States—59 million gallons per day—that came from the Caribbean and the Gulf of Mexico by tanker at the end of 1941 shrank by 25 per cent as a result of the U-boat onslaught. There was oil aplenty available at the Gulf Coast ports, but fewer and fewer tankers to ship it in. The slaughter of tankers at sea that began at the very start of the war, but which was dramatically increased with Operation Drumbeat in January 1942 and New Land in February 1942, caught the United States by surprise. At that point, no pipelines connected the oil-producing regions of Texas, Louisiana, and Oklahoma with the US east coast as far west as the Appalachian Mountains. Thus, all of New York, New Jersey, New England, and most of Pennsylvania and Virginia were supplied by sea by tanker. The railways had limited facilities for carrying oil to this vital region, while road transport was completely inadequate. The government made deep cuts in the supply of gasoline and fuel oil in the eastern part of the United States, while it and the oil companies sought a solution to the growing shortage. Eventually, a massive effort was made to push two pipelines—the “Big Inch” and the “Little Big Inch”—from the East Texas oil fields to Norris City, Illinois, and Seymour, Indiana, and then on to Philadelphia and New York.⁴ The pipelines, together with a major organization of the railway tanker car system, ended the short-run shortage. When large-scale tanker construction eventually added to this inflow of east coast oil by 1944, the shortages of 1942 disappeared forever.

With regard to Britain, Caribbean oil shipments declined from 67 per cent of total imports in 1941 to just 23 per cent by 1943.⁵ At the end of that

year, oil stocks had shrunk to six months' supply and shipments of refined gasoline by 20 per cent. Royal Navy stocks fell to the "danger level" and Royal Air Force squadrons faced a severe shortfall of vital high-octane aviation fuel. Anecdotally, King George VI strove to overcome the oil shortage by extinguishing central heat at Buckingham Palace and Windsor Castle, by allowing only single light bulbs to burn in bathrooms and bedrooms, and by having red or black lines painted on the inside of bathtubs to restrict hot-water use to five inches of tub.⁶

In launching the assault on Caribbean oil, Dönitz had found one of the few true strategic chokepoints in the Allied war effort. But he did not fully realize it at the time. The admiral knew that oil was a vital commodity in the war, and after he had gathered information from the Hamburg-Amerika Line captains, he knew that Caribbean oil was especially vulnerable. However, he did not know that a great part of US industrial production depended on tankers to carry oil from the Gulf of Mexico to the US east coast. He was ignorant of this because, unlike Britain and the United States, Germany had not prepared adequately for prolonged economic war against its enemies and had not planned a campaign to attack American or British strategic chokepoints. It is true that much of the Allies' planning for economic war was based on false assumptions or poor information, but at least they understood what sort of a war they were in and prepared to fight it.

With regard to bauxite, Britain in 1939 imported all of its raw supply – some 302,000 tons. By 1942, as the U-boats ravaged the waters of British and Dutch Guiana, that figure fell to a dangerous level of just 48,000 tons.⁷ Aircraft production was maintained only by drastically increasing the import of finished aluminum – almost exclusively from the United States – from 58,000 to 132,000 tons between 1939 and 1942. Similarly, the U-boats in the Caribbean made a severe dent in the annual shipments of one million tons of bauxite to ALCOA and ALCAN in the United States and Canada in 1942–43.

US Army Chief of Staff George C. Marshall in May 1942 sent Admiral Ernest J. King his assessment of the situation: the New Land boats had destroyed 22 per cent of the Allied bauxite fleet, one out of every four Army ships sent to reinforce the Caribbean theater, and 3.5 per cent of Allied tanker tonnage per month.⁸ "Our entire war effort," he warned the

Commander in Chief US Fleet, was now “threatened.” Over the first six months, the German raiders dispatched 965,000 tons of Allied shipping in the Caribbean, of which an alarming 57 per cent were tankers. King at times suspended sailings into the area. The US Navy calculated that the sinking of three average ships was equivalent to the damage inflicted by 3,000 successful Luftwaffe bombing sorties.

To give some reference points to these statistics, it took 10,000 gallons of 100-octane aviation fuel per minute to mount a large bombing raid over Germany, 60,000 gallons a day of regular gasoline to keep a single armored division fighting, and the fuel to fill the tanks of one battleship could heat an average family home for 500 years.⁹ Prime Minister Winston S. Churchill certainly was aware of the criticality of oil. “The terrible war machine,” he had informed the nation in a BBC radio broadcast on June 22, 1941, the day Germany invaded the Soviet Union, “must be fed not only with flesh but with oil.”¹⁰

With regard to the modern-day pirates of the Caribbean, the German skippers who undertook the first assault all enjoyed immense success and were well rewarded. Four received the coveted Knight’s Cross: Clausen in March 1942, Hartenstein in September 1942, Müller-Stöckheim in November 1942, and Achilles in January 1943. The fifth, Rosenstiel, was killed by aircraft action in the Bay of Biscay in July 1942 after having sunk or damaged 104,000 tons and thus certainly would have won his *Ritterkreuz* as well.¹¹ All five became Caribbean “aces”: Achilles with 27,997 tons destroyed, Clausen with 25,610, Hartenstein with 44,806, Müller-Stöckheim with 27,795, and Rosenstiel with 46,044.¹²

At first, the descent into the Caribbean basin was a wild success. Within 18 months of its launching, however, it was a significant failure. Why? The Germans’ initial successes were scored largely against an enemy that was caught flat-footed, divided politically and militarily, which lacked imagination as to the real threat in the Caribbean, and which had neither the equipment nor the training and capability to weather the onslaught. The United States acted early in recognizing that the security of the Panama Canal was a strategic necessity to it and ultimately to the Allies. Thus, the Americans began in the fall of 1940 to build a ring of concentric defenses on both the Atlantic and Pacific sides of the canal. The “destroyers-for-bases” deal of September 1940 was followed in quick

succession by the selection of bases on Britain's Caribbean possessions, and by the initial construction of bases for both the US Army Air Forces and the US Navy. What did not happen until many months after the start of Operation New Land was the forging of a united antisubmarine command, first among the Allies themselves – US, British, and Dutch – then among the Caribbean and Latin American nations that formed the political outer ring of defenses (Cuba, Columbia, Venezuela, and, outside the Caribbean Basin, Brazil), and finally among the US armed forces.

While the Allies stumbled toward unity of command under US leadership, men, artillery, naval vessels, and aircraft finally began to flow south. In time, a ring of airfields and seaplane bases encircled the Caribbean basin – from Cozumel, Mexico, to Waller Field, Trinidad, and from San Nicolas, Aruba to San Juan, Puerto Rico. Initially, the men were untrained, the vessels unsuitable and the aircraft slow, short-ranged, and poorly equipped. But that, too, changed. More and better aircraft – B-18 “Bolos,” A-20 “Havocs,” P-40 Warhawks, PBY Catalinas, and PBM Martin Mariners – equipped with radar, long-range capability, and effective submarine-killing weapons – flooded rapidly growing Caribbean air bases. When these aircraft were hooked up to inter-island human intelligence, long-range and land-based radar, and a command and control system sited on Panama, Cuba, Puerto Rico, and Trinidad, the Caribbean rapidly became an American lake. By July 1943 – 17 months after Neuland started – no U-boat running on the surface in the Caribbean or in the South Atlantic was safe from attack.

Ultimately, the tactical defeat of the U-boats, in the Caribbean as well as in the Atlantic, came through no single device or effort, but rather through a combination of Allied antisubmarine warfare technology. This began with ULTRA decryption of German Enigma radio signals to U-boats by British scientists at Bletchley Park. Through High-Frequency Direction-Finding, or “Huff-Duff,” the Allies were able to triangulate the U-boats’ replies to U-Boat Command to within a mile of their source. Thereupon, destroyer escorts were able to pinpoint the U-boats’ locations by way of new centimetric radars (Types 271, 286), and Allied aircraft by way of new air-to-surface (ASV) radars. Once located, the U-boats were illuminated by powerful new Leigh Lights attached to the underbellies or wings of a host of Allied aircraft, most notably the American-built

Consolidated B-24 Liberator heavy bomber, the Martin Mariner, the B-18 “Bolos,” and the Catalina PBY flying boat.

Germany, by contrast, never developed the necessary research and development loop to counter Allied ASW technology. Neither a host of primitive radar detectors such as the *Funkmessbeobachtungsgerät* (FuMB) nor decoys such as the *Aphrodite* balloons and *Bold* refractors proved effective. Radar remained a mystery. By May 1943, all Dönitz could do was to demand that his skippers overcome what he called Allied “cunning and technical innovations” with their “ingenuity, ability and iron will.”¹³ Using language that was reminiscent of that used by General Erich von Falkenhayn to justify the battle of Verdun in 1916, the “Great Lion” demanded that his skippers “force the enemy to undergo a permanent bloodletting, one by which even the strongest body must slowly and inevitably bleed to death.”¹⁴

In the Caribbean, the Allied force multiplier was airpower. With the first wave of New Land boats, the United States pressed its rights under the “destroyers-for-bases” deal to militarize the Bahamas, Jamaica, St. Lucia, Antigua, British Guiana, and Trinidad. Eventually, two-thirds of all United States ASW aircraft were based on these British holdings. Jungles were bulldozed and airfields constructed almost overnight. Harbors and inlets were dredged and flying-boat bases established. Of the roughly 90 U-boats that sortied in the Caribbean, US Navy patrol craft destroyed 30, US Army Air Forces bombers four, and the Royal Air Force three.¹⁵ As well, these Allied ASW measures combined in July 1942 to decimate Dönitz’s “milk cow” fleet (*U-487*, *U-459*, *U-461*, *U-462*, and *U-489*) off the Azores and Spain, leaving but two U-boat tankers to service the fleet.¹⁶ Even a cursory reading of the war diaries of the Caribbean boats reveals a litany of repeated and prolonged crash dives owing to being spotted from the air.

The Germans also suffered from a host of command and operations problems. From the start and throughout Operation Neuland, there had raged a bitter dispute behind the scenes concerning targeting. While Dönitz was, as ever, fixated on simple “tonnage warfare” against tankers and bauxite carriers, Grand Admiral Erich Raeder, Commander in Chief Kriegsmarine, had demanded that shore installations such as refineries and tank farms be given priority. He had a point. The giant Aruba refineries

alone produced 500,000 barrels of gasoline and diesel fuel per day, including 5,000 barrels of critical 100-octane aviation fuel. But Dönitz hoped that Germany could sink ships faster than Britain and the United States could build them. In the end, this simple and naive “strategy” failed.

Raeder, as early as February 11, 1942, had admonished Commander U-Boats that his vessels must “deploy their artillery with incendiary shells against oil tank farms”; five days later, he repeated his demand that Dönitz “inaugurate actions of boats Aruba–Curaçao by shelling tank farms.”¹⁷ To no avail. Each time the boats sortied, Dönitz promised compliance with Raeder’s injunctions. And each time he ignored them. On one of Dönitz’s many rebuttals, in which he again juxtaposed “strategic pressure” and tactical “sinkings,” Raeder’s staff queried whether “Commander U-Boats has been misled in these matters or simply does not want to understand them!”¹⁸

Second, there was confusion between the German admirals as to how to proceed operationally. Commander U-Boats’ position was that the available craft were to be sent out in rotating waves in order to maintain the element of surprise and to exert maximum pressure on Allied cargo carriers and their escorts. Raeder, on the other hand, demanded that no more waves be dispatched; instead, he wanted what he termed “continuous occupation” of the Caribbean basin by the U-boats.¹⁹ When Raeder on April 2 fired off an acid one-sentence telegram to Kernével, demanding that Commander U-Boats comply with his orders, Dönitz resorted to his customary practice: he did not reply. Instead, he documented his position on the primary mission in the war diary.²⁰

Third, there was no clear tactical objective behind Operation Neuland. What to target: the small tankers exiting the Bay of Maracaibo, the ocean-going tankers departing Aruba, Curaçao, and Trinidad, or the refineries on shore? And should whatever course chosen be undertaken by single boats in specific areas or by concentrated “packs” in one area at a time? In the end, it remained a pure “tonnage war.”

Fourth, if the Raeder–Dönitz antagonism was not enough, there was the constant meddling of the Commander in Chief, German Armed Forces. Time and again, Adolf Hitler, on the basis of his famous “intuition,” ordered U-boats diverted from the Caribbean and reassigned to “threatened” areas. Norway, he constantly lectured Dönitz, remained the

“zone of destiny”²¹ in the Battle of the Atlantic. In February 1942, at the very launch of Operation New Land, he ordered 20 U-boats to patrol Norwegian waters against an expected Allied invasion. Similarly, in June 1942, as yet another wave of boats headed for the Caribbean, the Führer ordered Dönitz to recall them and to redeploy them around the Azores as well as the Cape Verde and Madeira islands to rebuff what he was sure was an imminent Allied assault on North Africa.²² And when that operation came in November 1942, Hitler predictably ordered all available U-boats (eight) to execute a “completely victorious operation” against the Allied invasion flotillas.²³

Fifth, as Karl Hasslinger concluded in a US Naval War College study in 1996, Dönitz failed to apply “overwhelming force” at the “decisive point.”²⁴ He shifted his forces in order to react to enemy moves, rather than to concentrate them on a single target or product. Concentration off Aruba, Curaçao, and Trinidad yielded to concentration off Brazil, which, in turn, yielded to concentration off Africa – and finally to a return to “wolf pack” tactics against almost invulnerable Allied convoys in the North Atlantic. Dönitz’s firm conviction that the average sinking per U-boat per day (all documented on neat statistical tables nailed to the walls of his headquarters) gave a true sense of success was flawed, for it ignored the overall number of enemy ships (constantly on the rise) as well as the Reich’s limited labor and material with which to replace destroyed U-boats. That Hitler’s war in the East consumed ever greater amounts of labor, material, and fuel certainly was beyond Dönitz’s power to remedy.

Sixth, the vessels available in 1942 simply were not up to the task demanded of them. The workhorse of the German submarine fleet, the Type VIIC, was a small 800-ton craft with an optimum range of but 8,500 nautical miles at ten knots. The larger 1,541-ton Type IXC boats had an optimum range of 14,035 nautical miles at ten knots. Neither could compare with the 2,400-ton US Navy Gato- or Balao-class submarines, which were air-conditioned. In fact, conditions on board the U-boats in tropical waters were abysmal. Already on his first patrol, Achilles in *U-161* reported temperatures of 40 degrees Celsius and humidity near 100 per cent in the boat. After nine successive crash dives, the men “reached the limits of their physical and psychological capacities.”²⁵ The following month, Hartenstein in *U-156* reported similar conditions after 13 hours

underwater. "Humidity is much more troublesome than heat ... severe diminution of the crews' efficiency" was the result.²⁶ His chief engineer, Wilhelm Polchau, in July 1942, took pains to inform Dönitz that water at 30 degrees Celsius failed to cool the engines, that inside temperatures *averaged* 34 degrees, and that at 47 degrees it had been impossible to charge the batteries.²⁷ A month later, Achilles informed Commander U-Boats for a second time that heat (39 degrees) and humidity (near 100 per cent) in the tropics had taken their toll on the crew: skin sores, boils, digestive disorders, and exhaustion.²⁸

Operation New Land showed Dönitz at his operational best but strategic worst. He skillfully employed "operational maneuver as a force multiplier."²⁹ He thereby forced the Allies to patrol mammoth areas of water while he struck what he considered to be the weak points in their defense. In the process, he sought to ensure "the greatest successes ... at the least cost." While the Caribbean campaign dealt the Allies a stunning initial blow both materially and psychologically, Commander U-Boats never managed to sustain that effort. Lacking a base in the Caribbean, he hoped that the "milk cows" would be the answer to the problem of resupply. They were not. At no time did he station small surface tankers there in remote bays as "one-off" supply ships. Nor could he convince Hitler or Raeder to commit overwhelming force to that critical area.

In the end, Karl Dönitz remained wedded to his life-long belief that "tonnage" alone mattered. He adamantly refused – with the brief exception of the Caribbean campaign – to differentiate targets according to their cargo. He never conceded that sinking a ship carrying cotton to Britain was less effective than destroying a tanker bringing 100-octane aviation fuel to the Royal Air Force. Nor did it matter where enemy ships were torpedoed. He put it perhaps best in his war diary on April 14, 1942: "The enemies' shipping forms a single totality. Therefore, in this regard, it is immaterial where a ship is sunk; in the last analysis, it has to be replaced by a new construction."³⁰ More, it was "incomparably more important" simply to sink ships, whether loaded or in ballast, than "to reduce sinkings by making them in [only] a prescribed area." By then, "new constructions" referred primarily to United States, rather than British, shipyards. "Thus I attack the evil at its root when I assault [US] imports, especially the oil."

Could Operation New Land have succeeded? It was at best a one-time undertaking, one that could neither be repeated nor sustained over time. The February 1942 attack was predicated upon total perfection: intelligence, surprise, coordination, boats, engines, torpedoes, and fuel supply. There was no room for Carl von Clausewitz's notions concerning the "fog of uncertainty," or those of friction and chance. The botched attempt to shell the Esso Lago Refinery by Werner Hartenstein's *U-156* on February 16, 1942, due to the gunnery officer's failure to remove the tampion from the boat's deck gun revealed the "chancy" nature of the operation. Clausewitz's advice that friction could be overcome mainly by "mass" worked to the advantage of the Allies, not Germany. Dönitz's Caribbean "aces" eventually succumbed to Allied "mass" in the air as well as on the sea.

In the end, it was a fool's game. In the critical period between September 1942 and May 1945, as historian Clay Blair has shown, the U-boats sank only 272 of 43,526 Allied merchant ships on the Atlantic run; put differently, 99.4 per cent of Allied ships made it to port safely. Of the 859 "gray sharks" that sortied on war patrols, historian Alex Niestlé has calculated that 648 (75 per cent) were lost – and of these, a shocking 215 (33 per cent) on their first patrol. Allied air accounted for 234 U-boats (36 per cent of all boats lost).³¹ The human toll, whatever the final tally, remains even more shocking: a walk through the U-Boat Memorial at Möltenort confronts one with the names of 30,000 submariners killed during World War II etched on bronze tablets.³² Of two eminent students of the U-Boat war, the American Clay Blair speaks of the U-Boat war by 1943 as being a "suicidal enterprise"; the German Michael Salewski as being "dragged on like a ghostly, senseless, and murderous charade."³³ Operation Neuland at least was conceived within the realm of operational logic and probability. It failed for the same reasons as all of Hitler's campaigns. Step by step, from the invasion of Poland to the attack on the Soviet Union and the declaration of war against the United States, Germany dragged the world into the most far-reaching conflict in history without serious thought as to the long-term requirements, let alone the real possibilities, of waging such a war successfully. Dönitz caught the Allies napping in the Caribbean. But he was incapable of understanding just how vulnerable the route from Lake Maracaibo to the Dutch Antilles was, how totally dependent the United States was on tanker traffic from the Gulf of Mexico to the US east

coast, or how completely reliant the Royal Air Force was on Caribbean aviation gas. He himself declared that his submarines were not strategic instruments; it was fortunate for the Allied cause and for the campaign in the Caribbean that he believed that.

GLOSSARY

100 Octane A high-performance fuel commonly used in aviation.

A-20 The Douglas A-20 Havoc light bomber aircraft.

AAF The United States Army Air Forces.

Abaft Relative term meaning in the direction of the stern, or back, of a vessel.

Abeam Bearing at a right angle to a vessel's hull.

Ace U-boat commander who has sunk over 100,000 tons in Allied shipping.

Admiralty The Office of the Lord High Admiral, responsible for all military and administrative functions of the British Royal Navy.

Aft Relative term meaning towards the stern, or back, of a vessel.

Amidships The horizontal or vertical middle of a vessel.

Anglo-American Caribbean Commission A six-member committee created in March 1942 to deal primarily with social issues within the Caribbean.

Aphrodite A radar decoy used to misrepresent the location of a U-boat; a balloon tied to a raft with aluminum foil strips along the rope connecting the two.

Army Air Corps The predecessor of the United States Air Force; active from 1926 to 1942.

ASDIC A method for locating submerged objects through the use of echolocation; an acronym for the Anti-Submarine Detection Investigation Committee.

ASV Anti-Surface Vessel.

ASW Antisubmarine Warfare.

Ato *See* G7a torpedo.

Atlantic Charter An August 1941 statement outlining Allied goals following the conclusion of the Second World War, including no territorial changes

without population consent, freedom of the seas, and the disarmament of the Axis powers.

B-18 The Douglas B-18 Bolo medium bomber; originally based on the design of the Douglas DC-2.

B-24 The Consolidated B-24 Liberator heavy bomber.

Ballast Extra weight added to a vessel to improve stabilization, commonly in the form of soft iron; submersible vessels use water as ballast by flooding storage “ballast” tanks.

Barrel (unit) Measurement of volume used for petroleum products; equal to 42 US gallons or 159 litres.

Bauxite A type of ore that contains aluminum.

BdU (*Befehlshaber der Unterseeboote*) Commander-in-Chief of German U-boats Karl Dönitz; also used to informally refer to the headquarters of the U-boat service.

Big Inch A petroleum pipeline from Texas to New Jersey created in 1942–43 as an emergency war measure. Along with “Little Big Inch,” the pipeline was viewed as a secure means to transport vital petroleum to the Eastern Seaboard of the United States when German U-boats threatened the traditional maritime means of transportation.

Bilge The floor, or bottom, of a vessel’s inside hull where waste liquids collect.

Biscay Cross A type of external antenna consisting of two pieces of wood shaped in a cross that were connected to a VHF receiver. The antenna had to be mounted to the top of the conning tower each time the U-boat surfaced.

Blitzmädchen The German female naval service of the Second World War.

Bluejackets A term used to describe sailors of the United States Navy, based upon the colour of the uniform they wore.

Boatswain The senior non-commissioned officer in charge of all deck work on board a vessel.

Bold Short for *Kobold* (Goblin); a calcium hydride-based, canister-type sonar decoy used by U-boats during the Second World War to produce a false sonar target.

Bow The front portion of a vessel’s hull.

Bridge The upper deck location of a vessel where all navigation, deck, and command responsibilities are made by the Captain or Officer of the Watch.

BUNGALOW Plan The US War Department’s plan for war with Vichy France.

Canal Zone A strip of territory along the entire length of the Panama Canal under the jurisdiction of the United States.

Caribbean Defense Command United States military command responsible for the defence of the Caribbean basin and for South America.

Caribbean Sea Frontier United States Navy coastal defence area responsible for the protection of Allied shipping in the Caribbean Sea and the Atlantic coast of South America.

Cash and Carry The neutrality policy of the United States to supply resources and material to belligerent states under the stipulation that they provide their own means of transportation, assume all the risks of transport, and immediately pay for all goods in cash.

Catalina *See* PBY Catalina Flying Boat.

Centimetre (cm) Measurement of length; equal to 0.3937 inch or one-hundredth of a metre.

CINCLANT Commander-in-Chief United States Atlantic Command.

Conning Tower The structure of a U-boat between the pressurized hull and exterior bridge.

Creole A rather broadly defined ethnic group typically characterized as people born in Spanish colonies with European, especially French, ancestry.

Cubic Metre (cbm) Measurement of volume; equal to 264 US gallons or 1,000 litres.

Davit Cast iron crane with hoisting gear for raising and lowering objects over the side of a vessel.

Davy Jones' Locker Sailor's idiom for the bottom of the sea and the final resting place of sailors, ships, equipment, or any other article that is lost at sea.

Defense Plant Corporation Company chartered by the United States Congress in August 1940 that had the responsibility of expanding new and existing equipment and facilities for wartime production.

Depth Charge Anti-submarine weapon; uses a hydrostatic fuse to detonate an explosive charge at a preset depth.

DGZ German General Time. UTC/GMT +1.

Die Wochenschau Weekly German newsreel; active from 1940 to 1945.

Dragon's Mouth A series of straits that separates the Paria Peninsula of Venezuela from Trinidad and Tobago.

Eel Idiom for torpedo.

Enigma (*Schlüssel M*) Electro-mechanical rotor machine used by the *Wehrmacht* to cipher and decipher secret messages. The Enigma had an appearance similar to a typewriter. One rotor on the Enigma carried 26 contacts, the number of letters in the German alphabet; several rotors were used in series to further complicate the encryption of a message.

Erster Wach-Offizier (or Executive Officer) Second-in-Command of a vessel, who only reports to the commanding officer.

Eto *See* G7e torpedo.

First Lord of the Admiralty President of the Board of Admiralty within the British Royal Navy; typically held by a civilian and member of the British Cabinet.

Flak Anti-aircraft fire.

Fliegerbombe (*Fliegers* or *Fliebo*) Aerially dropped depth charge.

Fo'c'sle The upper deck section of a vessel that is forward of the main superstructure.

Fore Relative term meaning towards the bow, or front, of a vessel.

Fregattenkapitän Commissioned rank of the *Kriegsmarine* equal to that of a Captain junior grade.

Frettchen German for ferret.

Führer Leader; the title or epithet belonging to Adolf Hitler.

FuMB-9 (*Wanze*) Variation of the FuMB Metox radar detector used by the German *Kriegsmarine* to detect Allied aircraft.

Funkmessbeobachtungsgerät (FuMB) Type of radar detector used by the *Kriegsmarine*.

G7a torpedo An air-driven torpedo of the *Kriegsmarine*.

G7e torpedo An electric powered torpedo of the *Kriegsmarine*.

Gallon (gal) Measurement of volume; equal to 3.79 litres.

Garbage Tour A U-boat tour that must navigate vast distances, such as across the Atlantic Ocean, before arriving at its area of operations.

GAT/TAG An Allied convoy code given to a convoys travelling Guantánamo to Aruba and Trinidad (GAT), or conversely, Trinidad to Aruba and Guantánamo (TAG).

Golden West A term U-boat crews used for the Caribbean.

Good Neighbor Policy United States policy on non-interference within the domestic affairs of Latin America.

Gray Sharks Idiom for German U-boats.

Great Lion Admiral Karl Dönitz; as referred to by his U-boat crews.

Hawser Thick cable or rope used for mooring a vessel.

High-Frequency Direction Finding (HF/DF or “Huff Duff”) Type of radio direction equipment used by the Allies in the Second World War to provide a bearing on German U-boats; multiple sets could be used to triangulate the position of a U-boat.

Hot Runner Dangerous situation caused when the motor of a torpedo is running, but the torpedo has failed to exit the tube.

Hydrophone Type of microphone used for hearing underwater sounds.

I.G. Farben German chemical company.

Jetsam Part of a vessel, its equipment, or cargo that has been purposely jettisoned, typically during an emergency.

Kapitänleutnant (*Kaleu*) German *Kriegsmarine* rank equal to Lieutenant Commander; often the rank held by the Commanding Officer of a U-boat.

Kilogram (kg) Measurement of mass; equal to 2.2 pounds.

Kilometer (km) Measurement of length; equal to 0.62 miles.

Knight's Cross German wartime decoration awarded for leadership and bravery in combat that came in several different grades.

Knot Measurement of speed; equal to 1.151 miles per hour or 1.852 kilometres per hour.

Kobold *See Bold.*

Korvettenkapitän *Kriegsmarine* rank equal to Commander.

Kriegsmarine Maritime service of German *Wehrmacht*; active from 1935 to 1945.

Kriegstagebuch (KTB) German war diary to provide testament of the decisions, actions, and other activities relating to command.

Leigh Light Extremely powerful 22-million-candlepower searchlight used by Allied aircraft as an anti-submarine device to locate U-boats on the surface at night.

Lend-Lease Act Program through which the United States provided the Allied nations with resources and materials between 1941 and 1945.

Lieutenant (jg) Inferior subdivision within the United States Navy commissioned rank of Lieutenant; equal to a Sub-Lieutenant in the Royal Navy.

List Leaning, or inclining, of a ship to one side; caused by the displacement of cargo or flooding of the hull.

Little Big Inch Petroleum pipeline from Texas to New Jersey created over the 1942–43 period as an emergency war measure. Along with “Big Inch,” the pipeline was viewed as a secure means to transport vital petroleum products to the Eastern Seaboard of the United States when German U-boats threatened the traditional maritime means of transportation.

Local Combined Defense Committee Committee of community and military authorities for the coordination of civil defense.

London Blitz Period between September 1940 and May 1941 when the city of London, and the United Kingdom in general, experienced sustained strategic bombing by the German *Luftwaffe* during the Second World War.

Long Tom 155mm field gun used by the United States during the Second World War

Luftwaffe The aerial service of the *Wehrmacht* during the Second World War. The service was active from 1935 to 1945.

Mae West Nickname for the first inflatable life preserver used by Allied servicemen; derived from the physical attributes of actress Mae West.

Magnetic Anomaly Gear Anti-submarine device used to detect variations in the Earth’s magnetic field; it was either towed behind a ship or attached to an aircraft.

MAN Diesel German company that produced large diesel engines for marine propulsion.

Meter (m) Measurement of length; equal to 3.28 feet.

Metox High-frequency radar warning receiver for detecting transmissions from patrolling aircraft; used by U-boats to detect Allied aircraft.

Midshipman Most junior commissioned rank in a navy comparable to an officer cadet.

Milchkub (Milch, or Milk, Cow) Type XIV U-boat; a support U-boat that resupplied, rearmed, and refuelled other U-boats in order to prolong their at-sea operations.

Mortar Type of weapon that fires projectiles at short range with a low velocity and high ballistic trajectory.

Nachtfernrohr Type of night vision telescope used in the *Kriegsmarine*.

Nautical Mile Maritime measurement of length; equal to 6,076 feet or 1,853 metres.

Oberleutnant *Kriegsmarine* rank equal to a Lieutenant senior grade.

Oil Control Board British government agency consisting of both government and industry representatives; responsible for the wartime rationing and management of petroleum products within the United Kingdom.

“Old Man” Term of endearment used by a ship’s company towards the Commanding Officer.

Operation Blue *Wehrmacht* offensive in southern Russia between June and November 1942.

Operation Neuland (or New Land) Codename for the February–March 1942 U-boat offensive in the Caribbean.

Operation Paukenschlag (Drum Beat) January–August 1942 U-boat offensive against merchant shipping along the East Coast of the United States; known as “the Second Happy Time.”

Operation Pot of Gold United States war plan to send over 100,000 soldiers to Brazil by air and sea in response to growing Axis influence within the country; the plan was never carried out.

Operation Torch Allied invasion plan of French North Africa during the Second World War; commenced 8 November 1942.

Panama Declaration Declaration made by American states at the conclusion of the September 1939 Panama Conference; participants reaffirmed their own neutrality in the war; prohibited belligerent submarines from using domestic ports; demanded the cessation of subversive activities by foreign agents; and proclaimed a maritime security zone of 300 miles (480 km) around both coasts of the American continents.

PBM Martin PBM Mariner; a patrol bomber flying boat.

PBY Consolidated PBY Catalina flying boat; a versatile seaplane used in the Second World War for anti-submarine warfare, search and rescue, patrol bombing, and convoy escort.

Periscope Long vertical tube that contains a set of internal lenses and prisms for reflecting and magnifying light to an observer below. Used by U-boats to view the surface while remaining submerged.

Petroleum Administrator for War (PAW) Wartime agency of the United States for the organization and allocation of petroleum products.

Petroleum Coordinator for War Position held by Harold L. Ickes, the United States Secretary of the Interior, which entitled him to enact emergency war measures in the United States petroleum industry.

Petroleum Industry War Council Leaders of the United States petroleum industry who advised on the management, production, and distribution of petroleum resources for the wartime requirements of the United States military and civilian population.

Plantation Line Pipeline in the southeast of the United States spanning 1,261 miles or 2,029 km from Baton Rouge, Louisiana, to Greensboro, North Carolina.

Port Left-hand side of a vessel when facing towards the bow.

Q-Ship Merchant vessel with concealed heavy weaponry; for attacking U-boats unexpectedly while they operated on the surface.

Quadratkarte Type of quadrant chart used by the *Kriegsmarine* for navigation; world's oceans were divided into large squares, which were then further divided into smaller squares. To transmit a location, U-boats would first name the large square (such as "EC") and then the corresponding numbers to the smaller squares inside.

Radiogram Telegraph style of radio message.

RAINBOW 5 Pre-war plan of the United States based upon an alliance with Britain and France.

Screw(s) Propeller(s) of a vessel.

Serpent's Mouth Informal name of Columbus Strait; separates the southwest corner of Trinidad and Tobago from the coast of Venezuela.

Smutje Ship's cook.

Standard Oil United States petroleum company that ultimately grew into the largest oil refiner in the world; dissolved into smaller corporations in 1911 under the Sherman Antitrust Act.

Starboard Right-hand side of a vessel when facing the bow.

Stern The back end of a vessel.

Stevedore Dockworker, or waterfront worker, who assists in the loading and unloading of vessels in port.

Stoker Person who maintains the fire in a vessel's steam engine.

SOS Morse Code international distress signal consisting of three dots, three dashes, and another three dots; often thought to stand for “save our ship” or “save our souls”; however, the letters have no formal significance.

SSS A Morse Code international distress signal consisting of three dots repeated three times; exclusively used to broadcast that a hostile submarine caused the distress.

Supply Priorities and Allocations Board (SPAB) United States precursory agency to the War Production Board.

T2 Tanker Class of oil tankers constructed and produced within the United States during the Second World War.

Tampion Plug used to temporarily close the muzzle of a large gun.

Tarpaulin A tarp; long sheet of material used for its water resistance.

Tin can Idiom used by U-boat crews for a destroyer or other anti-submarine warship.

Ton Measurement of mass; equal to 2,000 pounds or 907 kilograms.

Tonnagekrieg (tonnage war) A German military strategy aimed at destroying as much merchant shipping as possible; based upon a core assumption that merchant ships can be sunk faster than they can be replaced.

Torpedo Directorate German naval office responsible for the design, testing, and virtually anything else relating to the use of torpedoes.

Torpedo Junction Name given by the Allies to the merchant shipping-rich waters between Guiana and Trinidad.

Torrid Zone Waters located between the Tropic of Cancer and the Tropic of Capricorn.

Transocean Press Service Wireless news service; located in Berlin, Germany.

Trinidad Mobile Force United States military force made up of troops from Guantánamo and Trinidad that prepared for the invasion of Vichy France-controlled Martinique; the invasion did not take place.

Triton The four-rotor version of the Enigma machine.

Triton-Null Order (the *Laconia* Order) Order by Admiral Karl Dönitz commanding U-boats to cease the maritime custom of assisting survivors of a sunken vessel.

Tulsa Plan United States wartime petroleum strategy made by experts of the Petroleum Industry War Council. The plan made several recommendations on maximizing the existing petroleum pipeline infrastructure, but further

called for the construction of new pipelines between Texas and the east coast to meet escalating demand.

Type VII Most common type of German U-boat in the Second World War; with 703 produced, the Type VII is also the most produced submarine in history.

Type VIIC “C” variant of the Type VII U-boat; 568 were commissioned during the Second World War.

Type IX Class of German U-boat built for prolonged operations away from home-port facilities; carried up to 22 torpedoes.

Type IXC “C” variant of the Type IX U-boat; 54 were constructed.

Twin Fifties Pair of .50-calibre machine guns.

U-boat Submarine operated by Germany in either the First or Second World War.

ULTRA Codename of the British military intelligence organization that deciphered high-level encrypted German signals intelligence during the Second World War.

U.S. Caribbean Defense Command United States military organization that defended Panama and the surrounding Caribbean area.

VLR Abbreviation for Very Long Range.

VP Designation of United States maritime patrol squadrons used for reconnaissance, anti-surface warfare, and anti-submarine warfare.

Volunteer Corps Dönitz Elitist term for U-boat crews that reflected their voluntary nature and the privileges associated with the U-boat service.

W. Anz g 1 *See* **FuMB-9**.

Wanze *See* **FuMB-9**.

War Production Board Agency of the United States government that oversaw wartime production, including the allocation and rationing of resources.

Wasserbomben (Wabo) *See* **Depth Charge**.

WAT/TAW Allied convoy code for convoys travelling Key West to Aruba and Trinidad (WAT), or conversely, Trinidad to Aruba and Key West (TAW).

Zeiss binoculars Type of prism binoculars, known for folding the optical path and consequently reducing the size of the binoculars.

Zentrale The control room of a U-boat.

NOTES

PROLOGUE

- 1 Lieutenant in the US Navy; “Kaleu” in German naval parlance.
- 2 Lieutenant (jg) in the US Navy.
- 3 German General Time, or DGZ; deduct one hour for Greenwich Mean Time (GMT).
- 4 War Diary (*Kriegstagebuch*, or KTB), *U-161*, 1. Unternehmung, PG 30,148/1, Bundesarchiv-Militärarchiv (hereafter, BA-MA), Freiburg, Germany.
- 5 See Jak P. Mallmann Showell, *Hitler’s U-Boat Bases* (Annapolis: Naval Institute Press, 2002), 94–106.
- 6 From Christophe Cérino and Yann Lukas, *Keroman. Base de sous-marins, 1940–2003* (Plomelin: Palantines, 2003), 24–27; and Gordon Williamson and Ian Palmer, *U-Boat Bases and Bunkers 1941–45* (Botley, Oxford: Osprey, 2003), 42–43.
- 7 See Lawrence Paterson, *Second U-Boat Flotilla* (Barnsley, Yorkshire: L. Cooper, 2003), 74.
- 8 I am indebted to Rear Admiral Pierre Martinez, Commandant la Marine à Lorient, for taking me on a guided tour of the Villa Kerillon on Saturday morning, July 22, 2006 – HH.
- 9 The Third Reich’s premier civil and military engineering group, roughly akin to the US Army Corps of Engineers.
- 10 Karl Dönitz, *Memoirs: Ten Years and Twenty Days* (London: Weidenfeld and Nicolson, 1959), 129.
- 11 See Gaylord T. M. Kelshall, *The U-Boat War in the Caribbean* (Annapolis: Naval Institute Press, 1994), 26–27.
- 12 Entry for May 21, 1940. I SKL, Teil CVII, Überlegungen des Chefs der SKL und Niederschriften über Vorträge und Besprechungen beim Führer, September 1939–Dezember 1940, PG 32184 Case 230, BA-MA, 146–47.
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 - 15 Thus Ronald H. Spector, *At War at Sea: Sailors and Naval Combat in the Twentieth Century* (New York: Viking, 2001), 224. See also Marc Milner, *Battle of the Atlantic* (Stroud, UK: Vanwell, 2003).
 - 16 See Michael Gannon, *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks along the American Coast in World War II* (Annapolis: Naval Institute Press, 2009).
 - 17 Accessed October 4, 2013.

INTRODUCTION

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- 4 D. J. Payton-Smith, *Oil: A Study of War-time Policy and Administration* (London: H.M. Stationery Office, 1971), 111–12; See also <http://www.warsailors.com/freefleet/shipstats.html>.
- 5 Payton-Smith, *Oil*, 114.
- 6 Ibid., 13.
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- 9 Martin Gilbert, ed., *The Churchill War Papers*, vol. 3, *The Ever Widening War, 1941* (New York and London: W. W. Norton, 2000), 847.
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- 11 Ibid., 201–2; Larson et al., *History of Standard Oil*, 397.
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 - 8 Gomes, *Through a Maze of Colour*, 161–62.
 - 9 Ibid., 28.
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 - 11 O’Connor, *Some Trinidad Yesterdays*, 90–91.
 - 12 16 to 22 cents per hour for skilled agricultural workers, 7 to 23 cents for skilled industrial laborers, 22 cents for stevedores, and 16 to 25 cents for trained transportation workers.
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- 22 Conn et al., *The Western Hemisphere: Guarding the United States and its Outposts*, 373.
- 23 *United States Army in World War II. The Technical Services, The Transportation Corps: Operations Overseas* (Washington: US Government Printing Office, 1957), 24.
- 24 Calder-Marshall, *Glory Dead*, 29.
- 25 Gomes, *Through a Maze of Colour*, 95–96.
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- 27 *The Caribbean Islands and the War*, 79.
- 28 *The Annexation of Chaguaramas*, 9.
- 29 Ibid., 12, 14.
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- 31 Ibid., 403.
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- 36 Johnston and Shoultz, “History of the Trinidad Sector and Base Command,” 165.
- 37 Ibid., 172.
- 38 Entry for August 15, 1939. ISKL Iu. U-Boote, Allgemeines, RM 7/2319 I, PG 33325a, BA-MA. These figures, compiled at the start of the war, obviously differed from boat to boat and from sortie to sortie.
- 39 *Erster Wach-Offizier*; Executive officer, or First Watch officer.
- 40 For a typical Lorient departure, see Wolfgang Hirschfeld, *The Secret Diary of a U-Boat* (London: Phoenix, 2000), 58.

2: ATTACK ON ARUBA

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- 2 While the army gave calibers in millimeters, the navy used centimeters.
- 3 From David J. Bercuson and Holger H. Herwig, *Deadly Seas: The Duel between the St Croix and the U305 in the Battle of the Atlantic* (Toronto: Random House Canada, 1997), 96–98.
- 4 Ibid., 57–58, 107.
- 5 Lawrence Paterson, *Second U-Boat Flotilla* (Barnsley: L. Cooper, 2003), 123.
- 6 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
- 7 “Erinnerungen des Dr. Götz Roth an die Fahrten mit U 161 (Kapitänleutnant Achilles),” [hereafter “Roth Erinnerungen”], File *U-161*, Deutsches U-Boot-Museum, Cuxhaven-Altenbruch, Germany. Hereafter DU-B-M. Roth was Second Watch Officer on *U-161*.
- 8 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
- 9 See Manfred Dörr, *Die Ritterkreuzträger der U-Boot-Waffe* (Osnabrück: Biblio, 1988), 1:111–12.
- 10 Bernd Gericke, *Die Inhaber des Deutschen Kreuzes in Gold, des Deutschen Kreuzes in Silber der Kriegsmarine und die Inhaber der Ehrentafelspange der Kriegsmarine* (Osnabrück: Biblio, 1993), 97.
- 11 Erich Topp, *Fackeln über dem Atlantik. Lebensbericht eines U-Boot-Kommandanten* (Herford and Bonn: Mittler, 1990), 91.
- 12 Gordon Williamson and Darko Pavlovic, *U-Boat Crews 1914–45* (London: Osprey, 1996), 27–28, 58–59.
- 13 Léonce Peillard, *U-Boats to the Rescue: The Laconia Incident* (London: Coronet, 1961), 24.
- 14 All actions from War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
- 15 Inspection of the lagoon from Rodgers Beach during a research trip to Aruba in February 2006 confirmed the wisdom of Hartenstein’s decision.
- 16 *Pan Aruban*, January 10 and 17, 1942. Archivo Nacional, Oranjestad, Aruba. In current US dollars, the Fords and Chevrolets would have fetched about \$1,300 and the Buicks \$2,100.
- 17 There is wild confusion in the literature concerning the timing of the Neuland attacks. U-boat clocks remained on German General Time (DGZ) and all actions were so logged in the war diaries (KTB). It makes no sense to give the DGZ diary entries, as this would have placed the attack after daybreak. Sunrise came to Aruba at 7 a.m., and hence Dönitz’s orders to commence Operation Neuland *precisely* “five hours before sunrise” places the attack at 2 a.m. (0800 in Hartenstein’s KTB). Throughout these chapters, Caribbean time is taken to be six hours behind DGZ. David Rooney, Curator of Timekeeping at the Royal Observatory, Greenwich, confirmed in a letter of May 4,

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- 18 The best account of the San Nicolas action is by William C. Hochstuhl, *German U- Boat 156 Brought War to Aruba February 16, 1942* (Oranjestad: Aruba Scholarship Foundation, 2001); and by the boat’s Second Watch Officer, Paul Just, *Vom Seeflieger zum Uboot-Fabrer: Feindflüge und Feindfahrten 1939–1945* (Stuttgart: Motorbuch-Verlag, 1979). A highly dramatized version is R. Busch and H. J. Röhl, “*Shatten voraus!*” *Feindfahrten von U-156 unter Werner Hartenstein* as a special edition of *Der Landser Grossband* (Rastatt: Pabel-Moewig, 1996). Contemporary estimates of the general contours of the campaign are in United States, National Security Group, “Intelligence Reports on the War in the Atlantic,” 1979.
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 - 21 *Miami Herald*, February 17, 1942.
 - 22 *The Nassau Daily Tribune*, February 17, 1942.
 - 23 “The Attack on Aruba.” The 37-mm battery at Camp Savaneta could not possibly have sighted the submarine, which was close inshore and probably out of view.
 - 24 Ibid., 38.
 - 25 Ibid.
 - 26 Ibid., February 16, 1942, 24.
- ### 3: LONG NIGHT OF THE TANKERS
- 1 War Diary (KTB), *U-502*, 2. Feindfahrt, PG 30, 539/2, BA-MA. Raeder chastised Dönitz for not having allowed *U-502* to deliver a “surprise attack” already on February 14, when Rosenstiel spied several tankers off Aruba – only to be lectured by BdU that Neuland was to be a concerted surprise attack by all boats precisely five hours before sunrise on February 16, 1942.
 - 2 There is approximately a one-to two-hour difference between the local times for the sinkings as recorded in the U-boat logs and those of the US Army.
 - 3 “The Attack on Aruba,” 38–40.
 - 4 War Diary (KTB), *U-502*, 2. Feindfahrt, PG 30, 539/2, BA-MA; “The Attack on Aruba,” 40.
 - 5 “The War Years at Lago: 1939–A Summing Up–1945,” *Aruba Esso News* special edition. Archivo Nacional, Oranjestad, Aruba. See also Hochstuhl, *German U-Boat 156*, 31.
 - 6 Peillard, *U-Boats to the Rescue*, 26.
 - 7 Sources differ as to whether the *Arkansas* was at San Nicolas or Oranjestad. Several websites list it as being at the “Eagle Dock” in San Nicolas. The Eagle Dock belonged to the Royal Dutch Shell refinery at Eagle Beach, Oranjestad. Hartenstein never refers to a third tanker struck at San Nicolas in the KTB, but does mention the attack in Oranjestad against the Eagle dock.
 - 8 War Diary (KTB), *U-67*, 4. Unternehmung, PG 30,064/4, BA-MA.
 - 9 Ibid.

- 10 Hochstuhl, *German U-Boat 156*, 16; also, "The War Years at Lago," 7.
- 11 Hochstuhl, *German U-Boat 156*, 29.
- 12 "U-156 Roundtable Newsletter # 2," 30 September 2003. This website is maintained by Don G. Gray of California in memory of that fateful February 16, 1942: <http://www.lago-colony.com>.
- 13 The following is from "The War Years at Lago," 4–7, 11.
- 14 "The Attack on Aruba," 40.
- 15 *Pan Aruban*, vol. 14, Nr. 7. Archivo Nacional, Oranjestad, Aruba.
- 16 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
- 17 Ibid.
- 18 "The War Years at Lago," special insert, November 29, 1946.
- 19 War Diary (KTB), *U-502*, 2. Feindfahrt, PG 30,539/2, BA-MA.
- 20 "U-156/U-502 Roundtable Newsletter #6," <http://www.lago-colony.com>.
- 21 "The Attack on Aruba," 42.
- 22 Ibid., Appendix B, "List of Ships Sunk by Enemy Submarines in the Caribbean Area."
- 23 *Miami Herald*, February 17 and 18, 1942.

4: MARTINIQUE

- 1 Local Caribbean time; 0155 in the KTB (German General Time [DGZ]).
- 2 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
- 3 French doctors amputated more of Borne's leg. In May 1944, he was taken to New York, put on

the Swedish liner *Gripsholm*, and landed at Barcelona. He was eventually exchanged for Allied prisoners of war and returned to Germany. After the war, Borne joined the navy of the Federal Republic.

- 4 Lee A. Dew, "The Day Hitler Lost the War," <http://www.lago-colony.com>.
- 5 C. Alphonso Smith, "Martinique in World War II," *United States Naval Institute Proceedings* 81 (February 1955): 169ff.
- 6 Johnston and Shoultz, "History of the Trinidad Sector and Base Command," 195.
- 7 Michael C. Desch, *When the Third World Matters: Latin America and United States Grand Strategy* (Baltimore and London: Johns Hopkins University Press, 1993), 65.
- 8 Reference to Charles de Gaulle, the leader of the Free French government-in-exile in London.
- 9 See US Chargé in France (Murphy) to Secretary of State Cordell Hull, December 14, 1940. *Foreign Relations of the United States: Diplomatic Papers 1940*, vol. 2, *General and Europe* (Washington: US Government Printing Office, 1957), 490–93.
- 10 Data taken from *Jane's Fighting Ships of World War II* (New York: McGraw-Hill, 1989), 123–27, 134; *Jane's Fighting Ships 1942* (New York: McGraw-Hill, 1944), 171, 178–79, 182; and Fitzroy André Baptiste, *War, Cooperation, and Conflict: The European Possessions in the Caribbean, 1939–1945* (New York, Westport, CT, and London: Greenwood Press, 1988), 63–64.

- 11 Entry of June 19, 1940. "Diaries of Prime Minister William Lyon Mackenzie King," MG26-J13, Library and Archives Canada, Ottawa.
- 12 Entry of June 21, 1940; *ibid.*
- 13 *Ibid.*
- 14 At one point in these three days, Mackenzie King declared that if force was to be used, the British could pursue with their cruiser once the French ship left. They did not. No doubt Churchill was still mulling over what action he might take regarding the now Vichy-controlled French fleet.
- 15 Admiral Georges Robert, *La France aux Antilles de 1939 à 1943* (Paris: Plon, 1950), 48.
- 16 See *The Memoirs of Cordell Hull* (2 vols., New York: MacMillan, 1948), 1:818; and William L. Langer, *Our Vichy Gamble* (New York: A.A. Knopf, 1947), 103. The figure of 12 billion francs is from General Charles-Léon Huntziger's official report to the Germans on August 20, 1940. *Documents on German Foreign Policy 1918–1945*, Series D (1937–1945), vol. 10, *The War Years June 23–August 31, 1940* (London: H.M. Stationery Office, 1957), 516–20. Conversion to 2007 US dollars is from <http://eh.net/hmit/compare/result>.
- 17 Johnston and Shoultz, "History of the Trinidad Sector," 192.
- 18 *Ibid.*, 198.
- 19 Vice Admiral Kurt von dem Borne was a former chief of staff and now head of the Kriegsmarine's economics section.
- 20 *Foreign Relations of the United States: Diplomatic Papers 1942*, vol. 2, *Europe* (Washington: US Government Printing Office, 1962), 611–12, 616, 619.
- 21 David J. Bercuson and Holger H. Herwig, *One Christmas in Washington: The Secret Meeting between Roosevelt and Churchill that Changed the World* (New York: Overlook Press, 2005), 145ff.
- 22 Secretary of the Navy Frank Knox to Cordell Hull, December 26, 1941. Cordell Hull Papers, Library of Congress, Washington, D.C., Reel 21 Correspondence.
- 23 Johnston and Shoultz, "History of the Trinidad Sector," 207.
- 24 Smith, "Martinique in World War II," 170–71, 174. The US diplomatic maneuvers are in *Foreign Relations of the United States: Diplomatic Papers*, vol. 2, *General and Europe*, 453ff.
- 25 Johnston and Shoultz, "History of the Trinidad Sector," 213.
- 26 *Ibid.*, 220–26.
- 27 *Ibid.*, "History of the Trinidad Sector," 190.
- 28 In July 1943, the Free French took control of the French Antilles – and the gold at Fort Desaix. The United States "evacuated" Robert to Puerto Rico, from where he made his way back to Vichy. He was dismissed from the French navy in disgrace after the war but escaped incarceration because his son had been a member of the French resistance.
- 29 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA. Hartenstein obviously encoded the Grid Chart locations in case of interception by the Allies: all action had, in fact, taken place in Quadrant ED.
- 30 *Ibid.*

- 31 The German term *Faule Grete* is untranslatable. The following from Erich Glodschey, *U-Boote. Deutschlands Scharfe Waffe* (Stuttgart: Union-Duetsche Verlagsgesellschaft t, 1943), 174–75; and *Das Archiv* 14 (April 2000), 40.
 - 32 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA; and Just, *Vom Seeflieger zum Uboot-Fahrer*, 79–85.
 - 33 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
 - 34 Ibid.
 - 35 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA. See also Glodschey, *U-Boote*, 174–75; and *Das Archiv* 14, 40.
 - 36 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
 - 37 This was the standard German measurement for fuel. One cubic meter (cbm) is equal to 1,000 liters or 220 imperial gallons.
 - 38 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
- 5: “THE FERRET OF PORT OF SPAIN”
- 1 See Hans Goebeler, *Steel Boat, Iron Hearts: A U-Boat Crewman’s Life aboard U-505* (New York: Savas Beatie, 2005), 37–38.
 - 2 “Ständige Befehle für U-Boots-Besatzungen,” Heft 1, RM 91/18, BA-MA.
 - 3 See Hirschfeld, *The Secret Diary of a U-Boat*, 130, 137, 152.
 - 4 This painful procedure, named after Arthur Kollmann, a 19th-century German urologist, consisted of dilating the urethra, “a canal about 20 cm in length that opens at the extremity of the glans penis.” The first successful treatment of a patient using penicillin took place in Britain in March 1942.
 - 5 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30,143/2, BA-MA.
 - 6 Dönitz’s evaluation, RM 98/360 KTB “U156,” BA-MA.
 - 7 Peillard, *U-Boats to the Rescue*, 14, 101.
 - 8 Local time, six hours behind German General Time (DGZ).
 - 9 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
 - 10 Haussmann, “Latin American Oil in War and Peace,” 355ff.
 - 11 *Dictionary of American Naval Fighting Ships* (Washington: Navy Department, 1959), I:130.
 - 12 Kelshall, *U-Boat War in the Caribbean*, 22.
 - 13 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
 - 14 Ibid.
 - 15 Ibid. Also, “Roth Erinnerungen,” 3–4.
 - 16 Kelshall, *U-Boat War in the Caribbean*, 39.
 - 17 Ibid., 40–41.
 - 18 Clay Blair, *Hitler’s U-Boat War*, vol. II, *The Hunted, 1942–1945* (New York: Random House, 1998), 506.
 - 19 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
 - 20 Aerial depth charge; *Fliegerbombe* or *Fliebo* for short.
 - 21 A shallow-depth gauge.
 - 22 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.

6: WAR COMES TO ST. LUCIA

- 1 Kelshall, *U-Boat War in the Caribbean*, 60–61.
- 2 Local time; 0700 DGZ in the war diary (KTB).
- 3 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
- 4 “Roth Erinnerungen,” 4.
- 5 St. Lucia National Archives, *The West Indian Crusader*, week of March 2 to 9, 1942.
- 6 St. Lucia National Archives, *The Voice of St. Lucia*, week of March 2 to 9, 1942.
- 7 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
- 8 The following account is from St. Lucia National Archives, The Administrator of St. Lucia (Alban Wright) to the Governor of the Windward Islands, GRENADA, May 28, 1942, including depositions by the Vigie Lighthouse crew.
- 9 St. Lucia National Archives, *The Voice of St. Lucia*, March 10, 1942, 1.
- 10 Ibid., Issue of March 17, 1942, 3.
- 11 Ibid., Issue of March 19, 1942, 1, 3.
- 12 St. Lucia National Archives, The Administrator of St. Lucia to the Governor of the Windward Islands, GRENADA, May 28, 1942.
- 13 Ibid.
- 14 “Roth Erinnerungen,” 5; War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2, BA-MA.
- 15 War Diary (KTB), *U-129*, 4. Unternehmung, PG 30/119/5, BA-MA.
- 16 Ibid.
- 17 Ibid.
- 18 Ibid.
- 19 Ibid.
- 20 Clay Blair, *Hitler's U-Boat War*, vol. I, *The Hunters 1939–1942* (New York: Random House, 1996), 507; Paterson, *Second U-Boat Flotilla*, 136; and <http://www.ubootwaffe.net>.
- 21 Glodschey, *U-Boote*, 163.
- 22 Dönitz evaluation, RM 98/365 KTB “U-161,” BA-MA.
- 23 *Miami Herald*, February 24, 1942.
- 24 Winston S. Churchill, *The Second World War*, vol. IV, *The Hinge of Fate* (Boston: Houghton-Mifflin, 1950), 119.
- 25 The “tragedy of 20 April 1942” has been largely ignored in British and American works on the war in the Caribbean. The story was unearthed in the Centraal Historisch Archief in Curaçao by Junnes Sint Jago, *De Tragedie van 20 April 1942. Arbeidsconflict Chinese zeelieden en CSM mondt uit in bloedbad* (Curaçao: Imprenta Atiempo, 2000). Marjan Eggermont at the University of Calgary kindly helped with the Dutch translation.
- 26 Currency conversion is at best an approximation. In the period under discussion, it took 1.55 florin or guilder to buy one US dollar. Thus, the Chinese were paid \$32 per month in 1942, which <http://www.ch.net> translates into 428 US 2010 dollars. I am indebted to my colleague Herb Emery of the Department of Economics, University of Calgary, for his assistance in this.
- 27 Max Domarus, ed., *Hitler. Reden und Proklamationen*, vol. II/2,

- Untergang* (Munich: Süddeutscher Verlag, 1965), 1862; Henry Picker, ed., *Hitlers Tischgespräche im Führerhauptquartier 1941–1942* (Stuttgart: Seewald, 1963), 281–83.
- 28 The aircraft is frequently referred to as the Me-110, but it had been designed and built by the Bayerische Flugzeugwerke (hence the designation Bf) before Messerschmitt acquired the firm in 1938.
- 29 The strategic failure to target the lake tankers is discussed in Karl M. Hasslinger, “The U-Boat War in the Caribbean: Opportunities Lost,” a paper submitted to the Department of Operations, US Naval War College, Newport, March 1996.

7: TORPEDO JUNCTION

- 1 Kelshall, *U-Boat War in the Caribbean*, 72; Blair, *Hitler's U-Boat War*, I:537–38.
- 2 Memorandum of March 15, 1942. I SKL, Teil C IV, KTB U-Bootskriegsführung 1942, RM 7/846, BA-MA.
- 3 Raeder to Dönitz, March 26, 1942; *ibid.*
- 4 Dönitz to Raeder, March 28, 1942; *ibid.*
- 5 Staff telegram of April 2, 1942; *ibid.*
- 6 Dönitz's war diary, April 14, 1942. Kriegstagebuch, KTB 2.1—30.4 1942, RM 87/5 BdU, BA-MA.
- 7 Dönitz's war diary, April 30, 1942; *ibid.*
- 8 Data from Rössler, *Geschichte des deutschen Ubootbaus*, 195, 229; see also John F. White, *U Boat Tankers 1941–1945* (Annapolis: Naval Institute Press, 1998).
- 9 Blair, *Hitler's U-Boat War*, I: 576.
- 10 Kelshall, *U-Boat War in the Caribbean*, 71.
- 11 War Diary (KTB), *U-156*, 3. Unternehmung, PG 30,143/3, BA-MA. Entry for April 23, 1942.
- 12 Kelshall, *U-Boat War in the Caribbean*, 75.
- 13 Also known as “Cuprex,” it was a blue-green copper-sulfate ointment produced by Merck Pharmaceutical.
- 14 Local time. 2005 hours in the KTB (German General Time).
- 15 War Diary (KTB), *U-156*, 3. Unternehmung, PG 30,143/3, BA-MA. Entry for April 23, 1942. See also Just, *Vom Seeflieger zum Uboot-Fahrer*, 86ff; and Busch and Röll, “*Schatten voraus!*,” 27ff.
- 16 Theodore Taylor, *Fire on the Beaches* (New York: Norton, 1958), 158.
- 17 Cited in Max Paul Friedman, *Nazis and Good Neighbors: The United States Campaign against the Germans of Latin America in World War II* (Cambridge: Cambridge University Press, 2003), 62
- 18 Just, *Vom Seeflieger zum Uboot-Fahrer*, 99.
- 19 “War Damage Report, USS Blakeley,” June 4, 1942. RG 38 Serial 028, Loc. 370 45/1/3 Box 853, National Archives, College Park, Maryland. *Blakeley* was towed to Philadelphia, where it received a new bow. It returned to convoy escort duty in the Caribbean until February 1945. *Dictionary of American Fighting Ships*, I: 130.
- 20 Just, *Vom Seeflieger zum Uboot-Fahrer*, 103.

- 21 Wilhelm Polchau, Engineer Report, 3rd War Patrol, 22.4–7.7. 1942. “U156” KTB Ing., RM 98/525, BA-MA.
- 22 Dönitz’s evaluation, *U-156*. War Diary (KTb) *U-156*, 3. Unternehmung, PG 30, 143/3, BA-MA.
- 23 Topp, *Fackeln über dem Atlantik*, 92; in English, *The Odyssey of a U-Boat Commander: Recollections of Erich Topp* (Westport and London: Praeger, 1992), 85.
- 24 Freiherr Karl Friedrich Hieronymus von Münchhausen (1720–1797) was noted for his outrageous tall tales about service with the Russian army in Turkey in the 1740s.
- 7 Ibid., 104; Blair, *Hitler’s U-Boat War*, I:532–33.
- 8 Kelshall, *U-Boat War in the Caribbean*, 85–86.
- 9 War Diary (KTb), *U-162*, 2. Unternehmung, PG 30, 149/2, BA-MA.
- 10 Whitsuntide (or Pentecost) is observed on the seventh Sunday after Easter.
- 11 Dönitz’s war diary, May 14, 1942. BdU, Kriegstagebuch, RM 87/22, BA-MA.
- 12 Entry for June 17, 1942. Gerhard Wagner, ed., *Lagevorträge des Oberbefehlshabers der Kriegsmarine vor Hitler 1939–1945* (Munich: Lehmann, 1972), 396.
- 13 Dönitz’s war diary, June 1, 1942. BdU, Kriegstagebuch, RM 87/6, BA-MA.

8: HUNTING OFF THE ORINOCO

- 1 There is no equivalent rank in the British or United States navies as it falls between those of commander and captain.
- 2 See “Jürgen Wattenberg, U-162,” in Melanie Wiggins, *U-Boat Adventures: Firsthand Accounts from World War II* (Annapolis: Naval Institute Press, 1999), 1–12.
- 3 Dönitz’s evaluation, *U-162*. War Diary (KTb) *U-162*, 2. Unternehmung, RM 98/366, BA-MA.
- 4 Ibid.
- 5 Ibid. See also Hans Kreis, “Schweinejagd auf dem Atlantik,” Kriegsmarine press release, Summer 1942, File *U-162*, DU-B-M; and Machinist Walter Hartmann memoir, *ibid.*, 46.
- 6 Stephen W. Roskill, *The War at Sea, 1939–1945*, vol. II, *The Period of Balance* (London: H.M. Stationery Office, 1956), 103.
- 14 War Diary (KTb), *U-161*, 3. Unternehmung, PG 30, 148/3, BA-MA.
- 15 Ibid. Also, “Roth Erinnerungen,” 6–7.
- 16 Ibid., 7.
- 17 Two books claim that Achilles had dived deep after launching his torpedoes and was then rammed when he had resurfaced to press the attack: Kelshall, *U-Boat War in the Caribbean*, 102–3; Paterson, *Second U-Boat Flotilla*, 161–62. Neither Achilles’ KTB nor Roth’s memoirs support such a scenario.
- 18 The usually reliable U-Boat Museum credits Achilles with sinking the *Scottsburg*; other sources merely credit him with an unidentified 4,000-ton freighter. Both steam freighters were sunk in Grid Quadrant ED 94; Achilles at the time listed his position as Grid Quadrant ED 73.

9: WAR BENEATH THE SOUTHERN CROSS

- 1 Information concerning *U-157*'s departure, route, and attack on SS *Hagan* is from Blair, *Hitler's U-Boat War*, I: 611; and Homer H. Hickam, *Torpedo Junction: U-Boat War Off America's East Coast, 1942* (Annapolis: Naval Institute Press, 1989), 288.
- 2 Blair, *Hitler's U-Boat War*, I 611; Hickam, *Torpedo Junction*, 289; Wiggins, *Torpedoes in the Gulf*, 106; and "U-157," at <http://www.uscg.mil/history/uscghist/U157.asp>.
- 3 Wiggins, *Torpedoes in the Gulf*, 91–95.
- 4 Kelshall, *U-Boat War in the Caribbean*, 92–110.
- 5 Ibid., 110–11.
- 6 The official US Atlantic Fleet report of the sinking accompanied by a series of sketches and photographs; <http://www.uboatarchive.net/U-158Analysis.htm>.
- 7 US Office of Chief of Naval Operations, Intelligence Report, Curaçao, 21 June 1942; File *U-161*, DU-B-M.
- 8 Kelshall, *U-Boat War in the Caribbean*, 85.
- 9 "Roth Erinnerungen," 8.
- 10 War Diary (KTB), *U-161*, 3. Unternehmung, PG 30,148/3, BA-MA.
- 11 "Roth Erinnerungen," 8–9.
- 12 War Diary (KTB), *U-161*, 3. Unternehmung, PG 30,148/3, BA-MA.
- 13 Ibid.
- 14 War Diary (KTB), *U-162*, 2. Unternehmung, BA-MA. Brazil postponed its formal declaration of

war against Germany until August 22, 1942.

- 15 Frank D. McCann, Jr., "Brazil and World War II: The Forgotten Ally. What Did You Do in the War Zé Carioca?," *Estudios Interdisciplinarios de América Latina y el Caribe* 6 (July 1995): 9–10.
- 16 Werner Rahn and Gerhard Schreiber, eds., *Kriegstagebuch der Seekriegsleitung 1939–1945* (Herford and Bonn: Mittler, 1992), 34:295.
- 17 Ibid., 497.
- 18 Paterson, *Second U-Boat Flotilla*, 155–56.
- 19 Rahn and Schreiber, eds., *Kriegstagebuch*, 36:411, 451, 463.
- 20 Roskill, *The War at Sea, 1939–1945*, II:203.
- 21 McCann, "Brazil and World War II," 11–13.
- 22 Cited in Wagner, ed., *Lagevorträge*, 420–24.
- 23 See especially F. H. Hinsley, *British Intelligence in the Second World War* (5 vols., London: H.M. Stationery Office, 1979–90); and David Kahn, *Seizing the Enigma: The Race to Break the German U-Boat Codes, 1939–1943* (Boston: Houghton-Mifflin, 1991).
- 24 U-Boat Command diary entry for September 28, 1942. ISKL, Teil CIV, KTB U-Bootskriegsführung 1942, RM 7/846, BA-MA.

10: THE ALLIES REGROUP

- 1 Conn et al., *The Western Hemisphere: Guarding the United States and its Outposts*, 409–11.
- 2 Ibid., 412–13.
- 3 Ibid., 417–19.
- 4 Monica Rankin, "Industrialization through Unity," in Thomas M.

- Leonard and John F. Bratzel, eds., *Latin America During World War II* (Plymouth: Rowan and Littlefield, 2007), 20–22.
- 5 “Anti-Submarine Activities in the Caribbean Defense Command,” 45–46.
 - 6 For information on Cuban armed forces in World War II, see “Cuban Aviation,” <http://www.geocities.com/urrib2000/Miul1-4-e.html?200918>; and “Submarine Warfare around Cuba during WW II,” <http://archiver.rootsweb.ancestry.com/th/read/Mariners/2008-01/1199209641>.
 - 7 George M. Lauderbaugh, “Bolivarian Nations: Securing the Northern Frontier,” in Leonard and Bratzel, eds., *Latin America*, 115–19.
 - 8 “Anti-Submarine Activities in the Caribbean Defense Command,” 49–50.
 - 9 Lauderbaugh, “Bolivarian Nations,” 120.
 - 10 Johnston and Shoultz, “History of the Trinidad Sector and Base Command,” 33–34.
 - 11 Ibid., 40–44.
 - 12 Ibid., 229–40.
 - 13 Kelshall, *U-Boat War in the Caribbean*, 73.
 - 14 “Anti-Submarine Activities in the Caribbean Defense Command,” 14–15.
 - 15 Charles H. Bogart, “From the Coast to the Field,” *Field Artillery Journal* 15 (Sept.–Oct. 1986): 28–30.
 - 16 “Anti-Submarine Activities in the Caribbean Defense Command,” 73–74.
 - 17 Kelshall, *U-Boat War in the Caribbean*, 166, 218–19.
 - 18 Ibid., 320–21.
 - 19 Caribbean Commission, U.S. Sector, *The Caribbean Islands and the War: A Record of Progress in Facing Stern Realities* (Washington: US Government Printing Office, 1943), 43.
 - 20 Ibid., 70–71.
 - 21 See Ralph de Boissière, *Rum and Coca-Cola* (London: Allison and Busby, 1984), 89.
 - 22 Ibid., 105, 121.
 - 23 Samuel Selvon, *Ways of Sunlight* (London: St. Martin’s Press, 1957), 90–91.
 - 24 Annette Palmer, *World War II in the Caribbean: A Study of Anglo-American Partnership and Rivalry* (Randallstown, MD: Block Academy Press, 1998), 67–68.
 - 25 “The American Soldier’s Guide Book to Trinidad,” n.p., n.d.; US Army Military History Institute, U113.3.T7 A44 1940.
 - 26 Palmer, *World War II in the Caribbean*, 88.
 - 27 Stephen J. Randall and Graeme S. Mount, *The Caribbean Basin: An International History* (London and New York: Routledge, 1998), 81.
 - 28 Gomes, *Through a Maze of Colour*, 5, 8, 13, 87–88, 135.
 - 29 Robert Antoni, *My Grandmother’s Erotic Folktales* (New York: Grove Press, 2000), 7–8.
 - 30 See Conn et al., *The Western Hemisphere: Guarding the United States and its Outposts*, 404–5.
 - 31 Antoni, *My Grandmother’s Erotic Folktales*, 159.
 - 32 In the late 1940s, the entertainer Morey Amsterdam claimed authorship of the song and recorded his version with the Andrews Sisters; it became the best-selling record of the 1940s, with 4 million singles. In the 1950s

- “Lord Invader” (Rupert Grant) filed a lawsuit in US court against Amsterdam and was awarded \$150,000 in back royalties. http://www.lightyearsip.net/ip_trinidad_song.shtml. “Koomahnah” was a bastardized form of Cumana, which lies between Port of Spain and Chaguaramas.
- 33 Cited in Palmer, *World War II in the Caribbean*, 83.
- 34 Cited in *ibid.*, 70.
- 35 *Ibid.*, 71.
- 36 De Boissière, *Rum and Coca-Cola*, 70.
- 37 Cited in Palmer, *World War II in the Caribbean*, 125.

11: WHITE CHRISTMAS

- 1 [http://www.lanepl.org/BlountJBCOLSS/documents; Searchable Columns by Jim Blount of the *Hamilton Journal-News*, #226, December 21, 1992—“Christmas first real holiday in wartime 1942.”](http://www.lanepl.org/BlountJBCOLSS/documents;Searchable%20Columns%20by%20Jim%20Blount%20of%20the%20Hamilton%20Journal-News,%20#226,%20December%2021,%201992-%20Christmas%20first%20real%20holiday%20in%20wartime%201942.)
- 2 James F. de Rose, *Unrestricted Warfare* (Edison, NJ: Wiley, 2006), 38.
- 3 Michael Gannon, *Operation Drumbeat* (New York: Harper & Row, 1991), various pages.
- 4 “March a Month of Drastic Shrinkages,” *The Oil Weekly* 105 (30 March 1942), 9.
- 5 Robert C. Fisher, “We’ll Get Our Own’: Canada and the Oil Shipping Crisis of 1942,” in *Naval History.CA*, <http://www.familyheritage.ca?Articles/oilarticle.html>.
- 6 Haussmann, “Latin American Oil in War and Peace,” 355–56.
- 7 “East Coast Trouble Upsetting Industry,” *The Oil Weekly* 105 (March 9, 1942), 10.
- 8 *Ibid.*
- 9 *Ibid.*
- 10 United Kingdom, Department for Business Enterprise & Regulatory Reform, “Crude Oil and Petroleum products; Imports by product; 1920–2006.”
- 11 “Tanker losses ahead of new launchings,” *The Oil Weekly* 105 (March 9, 1942), 10.
- 12 Robert Goralski and Russel W. Freeburg, *Oil and War: How the Deadly Struggle for Fuel in WWII Meant Victory or Defeat* (New York: Morrow, 1987), 111.
- 13 *Ibid.*, 103.
- 14 *Ibid.*, 117.
- 15 *Ibid.*; “East Coast Shortage Brings Long Expected Rationing Announcement,” *The Oil Weekly* 105 (April 27, 1942).
- 16 Arthur M. Johnson, *Petroleum Pipelines and Public Policy, 1906–1959* (Cambridge, MA: Harvard University Press, 1967), 313.
- 17 Nash, *United States Oil Policy*, 162–63.
- 18 “Tank Trucks Relieve Tank Cars” and “East Coast Shipments at Record Levels,” in *The Oil Weekly* 105 (March 16, 1942).
- 19 “Offer Partial Solution to East Coast Oil Shortage,” in *ibid.*, March 23, 1942.
- 20 Igor I. Kavass and Adolf Sprudz, eds., *A History of the Petroleum Administration for War, 1941–1945* (Buffalo, NY: W.S. Hein, 1974), 83.
- 21 Johnson, *Petroleum Pipelines*, 307–8.
- 22 *The Big Inch and Little Big Inch Pipelines: The Most Amazing*

- Government–Industry Cooperation Ever Achieved*, The Louis Berger Group Inc. (East Orange, NJ, n.d.), 4.
- 23 Ibid., 13–14.
- 24 Kavass and Sprudz, eds., *History of the Petroleum Administration*, 102.
- 25 “Rejects East Coast Pile Line Again,” *The Oil Weekly* 105 (March 9, 1942), 11.
- 26 Johnson, *Petroleum Pipelines*, 314–16.
- 27 “Washington Sees Big Pipe Line Only Solution,” *The Oil Weekly* 105 (April 27, 1942), 12.
- 28 Kavass and Sprudz, eds., *History of the Petroleum Administration*, 105–6.
- 29 Johnson, *Petroleum Pipelines*, 324.
- 30 A good précis of the entire project, based on a wide variety of secondary sources, is *The Big Inch and Little Big Inch Pipelines*.
- 31 Harold F. Williamson et al., *The American Petroleum Industry: The Age of Energy, 1899–1959* (Westport, CT: Northwestern University Press, 1981), 764.
- 32 Kavass and Sprudz, eds., *History of the Petroleum Administration*, 110.
- 33 All statistics from Williamson et al., *American Petroleum Industry*, 766–67.

12: THE ALLIES STRIKE BACK

- 1 Peter Kemp, *Decision at Sea: The Convoy Escorts* (New York: Elsevier-Dutton, 1978), 53.
- 2 W.A.B. Douglas et al., *No Higher Purpose: The Official Operational History of the Royal Canadian Navy in the Second World War, 1939–1943*, vol. II, part 1 (St. Catharines, ON: Vanwell, 2002), 396–97.
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- 11 Hasslinger, “The U-Boat War in the Caribbean: Opportunities Lost.”
- 12 For HMS *Churchill* and HMS *Havelock*, see <http://www.naval-history.net> and <http://www.uboat.net/allies/warships>.
- 13 Kelshall, *U-Boat War in the Caribbean*, 147–49.
- 14 Douglas et al., *No Higher Purpose*, vol. II, part 1, 407–10.
- 15 “Analysis of Aircraft Action Report,” September 22, 1941. RG 38 Serial 00768, Loc. 370 45/7/2–3 Box 1141, National Archives,

- College Park, Maryland, U.S.A. (hereafter cited as NA).
- 16 Canadian action from The Commanding Officer, H.M.C.S. OAKVILLE to Captain (D) Halifax, August 9, 1941, "REPORT OF ATTACK ON 'U-94'."
- 17 Ibid.
- 18 Hal Lawrence, *A Bloody War: One Man's Memories of the Royal Canadian Navy, 1939–1945* (Toronto: Macmillan of Canada, 1979), 95–104. See also "Confidential," Navy Department, Office of the Chief of Naval Operations, Serial No. 5, "Report on the Interrogation of Survivors from U-94 sunk on August 27, 1942," which seems to be the basis for most subsequent treatments of this encounter; RG 38, 10th Fleet ASW Files, File No. 1529, No. 1574 Box 78 and 79, 370/47/1/7, NA. Finally, <http://www.uboatarchive.net/U-94VP-92ActionReport.htm>.
- 19 From H.G.D. de Chair, "Sinking of U-162 – H.M.S. 'Vimy' – Narrative," September 15, 1942, RG 38, 10th Fleet ASW Files, File No. 1529, No. 1574, Box 78 and 79, 370/47/1/7, NA; and Commander E. A. Gibbs, Secret Report, H.M.S. "Pathfinder," 5th September 1931, to Senior British Naval Officer, Trinidad.
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- 21 Paterson, *Second U-Boat Flotilla*, 172–73; Henry Graham de Chair, *Let Go Aft: The Indiscretions of a Salt Horse Commander* (Tunbridge Wells: Parapress, 1993), 143–46; <http://www.uboatarchive.net/U-162PathfinderReport.htm>.
- 22 de Chair, "Sinking of U-162."
- 23 Conn et al., *The Western Hemisphere: Guarding the United States and its Outposts*, 429.
- 24 Wesley Frank Craven and James Lea Cate, eds., *The Army Air Forces in World War II*, vol. I, *Plans and Early Operations, January 1939 to August 1942* (Chicago: University of Chicago Press, 1948), 302.
- 25 Ibid., 531.
- 26 "Anti-Submarine Activities in the Caribbean Defense Command," 63.
- 27 Ibid., 63–65.
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- 29 Conn et al., *The Western Hemisphere: Guarding the United States and its Outposts*, 433.
- 13: A HARD WAR: HARTENSTEIN AND U-156
- 1 Blair, *Hitler's U-Boat War*, I:685–97.
- 2 Josef W. Konvitz, "Bombs, Cities, and Submarines: Allied Bombing of the French Ports, 1942–1943," *International History Review* 14 (February 1992): 28–29; and Randolph Bradham, *Hitler's*

- U-Boat Fortresses* (Westport and London: Praeger, 2003), 8ff.
- 3 ULTRA was the name British code-breakers used to decrypt Enigma machine messages. German operators deployed “form letters” for daily weather reports, using the same settings on the Enigma machine almost every day.
 - 4 Diary entry for September 9, 1942. RM 7/846 ISKL. Teil CIV, KTB U-Bootskriegsführung 1942, BA-MA.
 - 5 Note of August 10, 1942. RM 87/7 KTB Grand Admiral Dönitz, BA-MA.
 - 6 Diary entry for September 30, 1942; RM 87/23, BA-MA.
 - 7 Diary entry for December 19, 1942; RM 87/7, BA-MA.
 - 8 Diary entry, May 1943; RM 87/27, BA-MA. This undated message was attached to the entry for May 15, 1943.
 - 9 Diary entry for May 24, 1943; *ibid.*
 - 10 Entries for December 30, 1942 and January 1, 1943. RM 7/259 ISKL. Teil CA, Grundlegende Fragen der Kriegsführung 1942–43, BA-MA.
 - 11 Notes of the meeting in Wagner, ed., *Lagevorträge*, 452–54.
 - 12 *Ibid.*, 475–78.
 - 13 Diary entries for spring 1943. Kriegstagebuch des B.d.U., RM 87/8 1.1.—30.6.1943, BA-MA. See also Dönitz, *Memoirs*, 340–41.
 - 14 From Bercuson and Herwig, *One Christmas in Washington*, 227, 229.
 - 15 Diary entry for January 8, 1943. Elke Fröhlich, ed., *Die Tagebücher von Joseph Goebbels*, part 2, *Diktate 1941–1945* (Munich: K.G. Saur, 1994), III:69–70.
 - 16 John Ellis, *World War II: A Statistical Survey* (New York: Facts on File, 1993), 280.
 - 17 War Diary, *U-156*, 4. Unternehmung, PG 30,143/4, BA-MA.
 - 18 Michael L. Hadley, “Grand Admiral Karl Dönitz (1891–1980): A Dramatic Key to the Man behind the Mask,” *The Northern Mariner* 10 (2000), 12.
 - 19 Dönitz, *Memoirs*, 259–63.
 - 20 Dan van der Vat, *The Atlantic Campaign: World War II’s Great Struggle at Sea* (New York: Harper and Row, 1988), 353–54.
 - 21 Assistant Chief of Staff, Intelligence, Historical Division, “The AAF Command” April 1945, 139; obtained from <http://www.uboatarchive.net/AAFHHistory.htm>.
 - 22 *Ibid.*, 139–40.
 - 23 Van der Vat, *The Atlantic Campaign*, 336; “US Navy – Tenth Fleet Fights the U-boats,” on http://www.uboa.net/allies/ships/us_10thfleet.htm.
- 14: HIGH NOON
- 1 *Flieger-Abwehr-Kanone*, or anti-aircraft gun.
 - 2 Radio messages intercepted by Bletchley Park. RG 38, Intercepted Radio Traffic. U-156. Box 106, 370/1/4/6. OP20-6 *Ultra* intercepts/decrypts, NA. At the time, it was still taking four weeks to get ULTRA decrypts to the front in the Caribbean.
 - 3 *Ibid.*
 - 4 The B-18 encounters from Kelshall, *U-Boat War in the Caribbean*, 269–71.
 - 5 War Diary (KTB), *U-156*, PG 30,143/5, BA-MA. This is the brief, reconstituted war diary of

- the fifth war patrol on the basis of signals received from Hartenstein.
- 6 Following from Dryden's "Report of Antisubmarine Action by Aircraft" of March 8, 1943, as well as official evaluation reports of the action. RG 38, ASW Assessment Files, No. 2646, Box 94, 370/47/2/3, "Tenth Fleet ASW Files, VP 53 and the destruction of U-156," NA.
 - 7 For a graphic account, see Lee A. Dew, "The Sinking of U-156," *Red River Valley Historical Journal of World History* 4 (Autumn 1979): 64–76.
 - 8 Nickname for a Type B-4 inflatable lifejacket based on the buxom figure of Hollywood actress Mae West (1893–1980).
 - 9 Author's tour of the Villa Kerillon on July 22, 2006, courtesy of Admiral Pierre Martinez, Commandant la Marine à Lorient.
 - 10 Van der Vat, *The Atlantic Campaign*, 333, suggests this. He also claims that Peter-Erich Cremer was in command at the time, but Cremer did not again take command of U-333 until May 18, 1943. See also <http://www.uboot.net/boats/u333.htm>.
 - 11 Chris Bishop, *The Essential Submarine Identification Guide: Kriegsmarine U-Boats, 1939–45* (London: Amber Books, 2006), 86.
 - 12 "Anti-Submarine Activities in the Caribbean Defense Command," 103–5.
 - 13 Ibid.
 - 14 Ibid., 105–8.
 - 15 "Analysis of Anti-Submarine Action by Aircraft," May 17, 1943, in <http://www.ubootarchive.net/U-128-11-Anl.htm>
 - 16 "Anti-Submarine Activities in the Caribbean Defense Command," 113–14; also, "Appendix B, List of Ships Sunk in the Caribbean Area," 20–21.
 - 17 <http://www.uboot.net/boats/u590.htm>.
 - 18 <http://www.uboot.net/boats/u759.htm>.
 - 19 Anita Lesko, "Mariner's Victory at Sea," *Naval Aviation News* (Jan.–Feb. 2000): 22–23.
 - 20 "Report of Antisubmarine Action by Aircraft, July 21, 1943," in http://www.ubootarchive.net/U-662VP94ASW6_5_43.htm.
 - 21 <http://www.uboot.net/boats/u359.htm>.
 - 22 "Report of Antisubmarine Action by Aircraft, July 29, 1943," in <http://www.ubootarchive.net/U-159ASW-6.htm>.
 - 23 <http://www.uboot.net/boats/u572.htm>.
- 15: GUNDOWN: *U-615* AND *U-161*
- 1 See Kelshall, *U-Boat War in the Caribbean*, Chapter 19, "The greatest battle."
 - 2 Gaylord T. M. Kelshall, "Ralph Kapitzy: Battle in the Caribbean and the Death of U-615," in Theodore P. Savas, ed., *Silent Hunters: German U-Boat Commanders of World War II* (Annapolis: Naval Institute Press, 2003), 43–44. This account in many details differs from the one in *U-Boat War in the Caribbean*.
 - 3 War Diary (KTB), *U-615*, 1. Unternehmung, PG 30,646/1, BA-MA.
 - 4 Taffrail [Taprell Dorling], *Blue Star Line at War 1939–1945*

- (London: Foulsham, 1973), 109–12.
- 5 War Diary (KTB), *U-615*, 1. Unternehmung, PG 30,646/1, BA-MA.
 - 6 Following from War Diary (KTB), *U-615*, 2. Unternehmung, PG 30,646/2, BA-MA.
 - 7 Ibid.
 - 8 Ibid.
 - 9 Cited in Blair, *Hitler's U-Boat War*, II:363.
 - 10 From Wolfgang Ott, *Sharks and Little Fish: A Novel of German Submarine Warfare* (Guilford, CT: Pantheon, 2003), 299–301.
 - 11 Recollections of Machinist Mate Reinhold Abel, June 14, 1985. File *U 615*, DU-B-M. Hereafter cited as “Abel Recollections.”
 - 12 A “top secret” electric night telescope, nicknamed *Seebund Drei* (seal three), that allowed a broader field of vision and greater brightness.
 - 13 RG 38, Translations of German Intercepts U-615, Box 141, 370/1/5/7, NA.
 - 14 Blair, *Hitler's U-Boat War*, II:363.
 - 15 The ensuing hunt for *U-615* taken from “Enemy Action Summary,” U.S. Naval Base Trinidad, Reports from July 31 to August 11, 1943. RG 38, 10th Fleet, Trinidad Daily Summaries, August 1–11, 1943, Box 55, 370/47/1/4, NA.
 - 16 Local time; GMT –5.
 - 17 “Abel Recollections.”
 - 18 Kelshall, *U-Boat War in the Caribbean*, 387.
 - 19 Three separate searches by three separate researchers at the National Archives (NA) failed to unearth Crockett's (mandatory) after-action report.
 - 20 “Abel Recollections.”
 - 21 Kelshall, *U-Boat War in the Caribbean*, 399.
 - 22 Kelshall, “Ralph Kapitzy,” 69. The “Kapitzy Diary” has never been found. Schlipper made no deposition with the Deutsches U-Boot Museum in Cuxhaven-Altenbruch.
 - 23 Herbert Skora, “Letzte Feindfahrt von U 615,” September 17, 1992. File *U 615*, DU-B-M.
 - 24 War Diary, *USS Walker*, RG 38, Records of the Office of the Chief of Naval Operations *USS Walker*, August 7, 1943; NA.
 - 25 War Diary (KTB), *U-615*, 4. Unternehmung, PG 30,646/4, BA-MA. Reconstituted on the basis of Enigma signals traffic.
 - 26 RG 38, Translations of German Intercepts U-615, Box 141, 370/1/5/7, NA.
 - 27 War Diary (KTB), *U-161*, 4. Unternehmung, PG 30,148/5, BA-MA.
 - 28 Paterson, *Second U-Boat Flotilla*, 215.
 - 29 Local time; GMT –2.
 - 30 Confidential “Report of an Interview with the Chief Officer—Mr. E.C. Martyn,” presented by the Royal Navy Submarine Museum, Gosport, to the then U-Boot-Archiv, Cuxhaven-Altenbruch, May 13, 1988. File *U 161*, DU-B-M.
 - 31 File *U 161*, DU-B-M; and <http://www.ubootwaffe.net>.
 - 32 See *ibid.* for a suggestion that the ship actually collided with the motor-ship *Aracati*, and that its owners sued for damages in the Tribunal Marítimo Rio de Janeiro. Virtually every other sources credit Achilles with the “kill.”

- 33 Following action from Patterson's "Report of Antisubmarine Action by Aircraft," September 27, 1943. RG 38, ASW Assessment Files, No. 4619, Box 120, 370/47/2/6, Tenth Fleet ASW Files, VP 74 and destruction of U-161, NA.
- 34 Kelshall, *U-Boat War in the Caribbean*, 420.
- 35 Reconstituted War Diary (KTB), *U-161*, 5. Unternehmung, PG 30,148/6, BA-MA.
- 36 Lieutenant-Commander.
- 37 Cited in Bercuson and Herwig, *Deadly Seas*, 295.
- 8 Statistics from Desch, *When the Third World Matters*, 68–72.
- 9 Look Magazine, *Oil for Victory*, 14–15.
- 10 British Library of Information, <http://www.ibiblio.org>.
- 11 Compiled from the website <http://www.uboat.net>.
- 12 From Kelshall, *U-Boat War in the Caribbean*, 467–68.
- 13 Diary entry, May 1943. RM 87/27, Kriegstagebuch (KTB) des BdU, BA-MA. The undated message was attached to the diary entry for May 15, 1943.
- 14 Diary entry for May 24, 1943. Ibid.
- 15 Compiled from Kelshall, *U-Boat War in the Caribbean*, 461–71.
- 16 See White, *U Boat Tankers 1941–1945*.
- 17 Raeder to Dönitz, February 11 and 16, 1942. RM 7/2336 Chefsache Bd. 3: U-Boote. Allgemein, BA-MA.
- 18 Note of August 10, 1942. RM 87/7 KTB des BdU, BA-MA.
- 19 Raeder to Dönitz, March 26, 1942. RM 7/846 I SKL, Teil C IV, KTB U-Bootskriegsführung 1942, BA-MA.
- 20 Diary entry of April 14, 1941. RM 87/5, KTB des BdU, BA-MA.
- 21 See Holger H. Herwig, *Politics of Frustration: The United States in German Naval Planning, 1889–1941* (Boston and Toronto: Little, Brown, 1976), 243ff.
- 22 Entry for June 17, 1942. Wagner, ed., *Lagevorträge*, 396.
- 23 Cited in Paterson, *Second U-Boat Flotilla*, 180.
- 24 Hasslinger, "The U-Boat War," 9–10.
- 25 War Diary (KTB), *U-161*, 2. Unternehmung, PG 30,148/2. BA-MA.

CONCLUSION

- 1 Since writing this chapter, Holger Herwig has summarized some of the conclusions in "Slaughter in Paradise," *Naval History* 24 (February 2010): 56–63.
- 2 Committed to paper two days later as "Operationsbefehl 'West Indien' No 51, Secret. For Commanders Only!" RM 7/2336 Chefsache, vol. 3, U-Boote. Allgemein, BA-MA. Signed "Dönitz."
- 3 See Sint Jago, *De Tragedie van 20 April 1942*.
- 4 See Frey and Ide, eds., *A History of the Petroleum Administration for War 1941–1945*.
- 5 War Cabinet and Cabinet Office: Historical Section: War Histories, "Statistics of petroleum supplies, disposal and stocks in the UK 1938 and 1940–50," Civil CAB 102/588, NA, Kew.
- 6 Wiggins, *Torpedoes in the Gulf*, 148–49.
- 7 The Times, *British War Production, 1939–1945*, 135–36; and Baptiste, "The Exploitation of Caribbean Bauxite and Petroleum," 110–13.

- 26 War Diary (KTB), *U-156*, 2. Unternehmung, PG 30, 143/2, BA-MA.
- 27 Wilhelm Polchau, Engineer Report, 3rd War Patrol, 22.4—7.7.1942. RM 98/525 “U156” KTB Ing., BA-MA.
- 28 War Diary (KTB), *U-161*, 3. Unternehmung, PG 30, 148/3, BA-MA.
- 29 Hasslinger, “The U-Boat War,” 14.
- 30 Entry for April 14, 1942. RM 87/5, KTB des BdU, BA-MA.
- 31 Blair, *Hitler’s U-Boat War*, II:705, 707; Alex Niestlé, *German U-Boat Losses During World War II* (Annapolis: Naval Institute Press, 1998), *passim*.
- 32 For a recent tally, see Timothy Mulligan, *Neither Sharks nor Wolves: The Men of Nazi Germany’s U-Boat Arm* (Annapolis: Naval Institute Press, 1999).
- 33 Blair, *Hitler’s U-Boat War*, vol. II, 705; Michael Salewski, “The Submarine War: A Historical Essay,” in Lothar-Günther Buchheim, *U-Boat War* (New York: Bonanza Books, 1978), n.p.; Holger H. Herwig, “Germany and the Battle of the Atlantic,” in *A World at Total War: Global Conflict and the Politics of Destruction, 1937–1945*, eds. Roger Chickering, Stig Förster, and Bernd Greiner (Cambridge: Cambridge University Press, 2005), 71–88.

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The Deutsches U-Boot Museum (formerly Traditionsarchiv Unterseeboote, U-Boot-Archiv), Cuxhaven-Altenbruch, Germany, constitutes a treasure trove of U-boat materials. Records researched include the technical data of the Neuland boats used in this study (*U-94*, *U-156*, *U-161*, *U-162*, *U-615*), the personal files for the skippers who commanded those boats (Albrecht Achilles, Werner Hartenstein, Otto Ites, Ralph Kapitzky, Jürgen Wattenberg), and the photographic collections pertaining to these boats and men. Of course, the most important records are the war diaries (*Kriegstagebuch*, or KTB) of the boats: “*U 94*” August 16, 1941 – August 27, 1942; “*U 156*” September 4, 1941 – February

28, 1943; “*U 161*” July 8, 1941 – September 29, 1943; “*U 162*” September 9, 1941 – June 8, 1942; and “*U 615*” March 26, 1941 – July 28, 1943.

The intercepted signals from, and the ends of, the U-boat raiders in the Caribbean (and elsewhere) were reconstructed from Allied records, mainly at the National Archives at College Park, Maryland. For *U-94*, RG 38 Translations of German intercepts U-94, Box 101, 370/1/4/4; and RG 38 10th Fleet ASW files, File No. 1529, No. 1574, Box 78 and 79, 370/47/1/7. For *U-156*, RG 38 Intercepted Radio Traffic U-156, Box 106, 370/1/4/6, and OP20-6 *Ultra* intercepts/decrypts; and RG 38 Tenth ASW Assessment Files No. 2646, Box 94, 370/47/2/3. For *U-161*, RG 38 Intercepted Radio Traffic U-161, Box 106, 370/1/4/6, and OP20-6 *Ultra* intercepts/decrypts; and RG 38 Tenth Fleet ASW Files, No. 4619, Box 120, 370/47/2/6. For *U-162*, RG 38 Tenth Fleet ASW Files, No. 1529 and 1574, Box 78 and 79, 370/47/1/7. And for *U-615*, RG 38 Translations of German Intercepts U-615, Box 141, 370/1/5/7; and RG 38 10th Fleet, Trinidad Daily Summaries, August 1–11, 1943, Box 55, 370/47/1/4. *U-615* survivors’ interrogation records are in RG 38 Op-16-Z, “U-615” Box 28, 370/15/9/6; and RG 165 MIS-Y, “U-615” Box 734, 390/35/14/7. The end of *U-162* has also benefited from: Royal Navy, Submarine Museum, Gosport, CB 4050/42 (11), Monthly Anti-Submarine Report (November 1942), “Narratives.”

The service records of U-boat commanders are in Manfred Dörr, *Die Ritterkreuzträger der U-Boot-Waffe* (2 vols., Osnabrück, 1988); and Rainer Busch and Hans-Joachim Röhl, eds., *German U-Boat Commanders of World War II: A Biographical Dictionary* (London, 1999). Memoirs and biographies are few and far between: three of the five commanders did not survive the war; the two who did left no memoirs. Otto Ites receives but scant attention from Theodore Taylor, *Fire on the Beaches* (New York, 1958); and Albrecht Achilles from Erich Glodschey, *U-Boote. Deutschlands scharfe Waffe* (Stuttgart, 1943). Very little biographical information exists on Ralph Kapitzy. Gaylord T. M. Kelshall, “Ralph Kapitzy: Battle in the Caribbean and the Death of U-615,” in Theodore P. Savas, ed., *Silent Hunters: German U-Boat Commanders of World War II* (Annapolis, 2003), has provided a Wagnerian interpretation of Kapitzy’s final hours. Jürgen Wattenberg drew the attention of Melanie Wiggins, *U-Boat Adventurers: Firsthand Accounts from World War II* (Annapolis, 1999). Werner Hartenstein’s torpedoing of the troop transport *Laconia* in September 1942 naturally assured him due attention: Léonce Peillard, *U-Boats to the Rescue: The Laconia Incident* (London, 1961); and Frederick Grossmith, *The Sinking of the Laconia: A Tragedy*

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Long Night of the Tankers presents a fresh account of a critical but often overlooked component of the Atlantic naval theatre in World War II. Using war diaries, after-action reports, and first-hand accounts, authors Bercuson and Herwig examine the story behind Operation Neuland, the German plan to prevent vital oil supplies reaching the United States and the United Kingdom from key refineries in the Caribbean. Starting in February 1942 with the initial German success in choking the oil supply to the Allied war machine, *Long Night of the Tankers* details the planning and execution of German operations and the subsequent diplomatic, political, and military responses of the Allies that ultimately overcame the German effort and transformed the Caribbean shipping lanes into a death trap for German U-boats.

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