

ABSTRACT

THE CONSTANT ENDEAVOR: RAF COASTAL COMMAND AND THE BATTLE OF THE ATLANTIC

This thesis is the story of how the RAF Coastal Command grew from a small reconnaissance outfit into an elite offensive fighting unit. The Battle of Atlantic was the longest and one of the most important battles of World War II. It was waged over the entire distance of the Atlantic as the Allies tried to protect their supply convoys and the Germans tried to sink them. Aircraft were ultimately indispensable to the protection of supply convoys because of the vast area that had to be covered. No force was more efficient or professional than RAF Coastal Command. This elite force of pilots and ground crews helped to turn the tide in the Battle of the Atlantic and no other Allied force inflicted as much destruction or created as much chaos for the U-boats. RAF Coastal Command was a crucial factor in turning the tide of the Battle of the Atlantic and preventing the British from suffering defeat as a result of a lack of supplies with which to wage war.

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May 2016

THE CONSTANT ENDEAVOR: RAF COASTAL COMMAND
AND THE BATTLE OF THE ATLANTIC

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A thesis
submitted in partial
fulfillment of the requirements for the degree of
Master of Arts in History
in the College of Social Sciences
California State University, Fresno
May 2016

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ACKNOWLEDGMENTS

I would like to thank my family, friends, and professors for all of their support with this project. A special thanks to Dr. Melissa Jordine, Dr. Michelle DenBeste, and Dr. Mark Arvanigian for their assistance and for inspiring me to pursue a career in history. I would also like to thank my girlfriend Sarah who has stood by me through this journey through graduate school and to my close friends Lt. Matt Suyderhoud and Lt. Hans Suyderhoud for their friendship. Thank you to my parents Dr. Ken Steinbach and Stella Steinbach for all of their love and support in everything I have pursued. Finally, I dedicate this thesis to my grandfather Dr. Owen Steinbach for his love and dedication to his family and profession.

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CHAPTER 1: INTRODUCTION

The Battle of the Atlantic was the longest and one of the most important battles of World War II. The battle was the struggle between the Allies and Germany for domination of the Atlantic shipping lanes. The Atlantic Ocean was the supply-line from North America to England and later to the Soviet Union. Tremendous amounts of materials and supplies initially purchased by the British, and later provided under the Lend Lease Act passed by the U.S Congress, were transported across the Atlantic. This supply line was necessary both to keep England in the war and to provide supplies essential to the liberation of Europe. Both the Allies and Germany knew that victory in the Atlantic would greatly increase their chances of overall success in the war. Both sides dedicated ships, aircraft, merchant fleets, submarines, and intelligence agencies to this battle. This commitment by both sides would lead to a battle that lasted the entire duration of the war and resulted in intense fighting above, on, and below the water.

The Battle of the Atlantic officially began on September 3, 1939 when German commanders ordered their submarine crews to attack any Allied military vessel. Hitler had greatly increased the size of the German navy during the 1930's and increased the German U-boat fleet to 57 submarines by the beginning of the war. This was in direct violation of the Versailles Treaty which limited the size and number of vessels the Germany navy could possess. In 1935, Admiral Karl Doenitz was given the task of building and training the U-boat forces. Germany knew that Britain would rely on the convoy system just as they had in World War One. To counter this tactic, Doenitz developed the wolf-pack attack technique, which involved orchestrated attacks by multiple submarines on a single target.¹

1. Karl Doenitz, *Ten Years and Twenty Days* (Annapolis: Naval Institute Press, 1990), 51.

These attacks were commanded by a flotilla commander, who issued orders via a short-wave radio to other U-boats.² This reliance on radio communication helped to make these attacks so effective. Another trait of this new tactic was that the U-boats attacked on the surface and at night. The designers of the type German U-boats (Type VII, Type IXB, and Type IXC) purposely built the towers of these submarines to blend in with the dark surface of the ocean.³ This made the escort ships of the Royal Navy ineffective as they could not use their ASDIC sonar to pick up U-boats on the surface. Donitz designed the wolf-pack around the strengths of the U-boat. Between January and July of 1942, the Allies lost 49 ships, or 283,208 gross tons, in the British patrolled sector of the Atlantic.⁴

The majority of U-boats were stationed in the North Atlantic off the coasts of Iceland, Scotland, and in the middle of the North Atlantic. They formed patrol lines running north to south, with 20 mile intervals between them. When a U-boat sighted, or was given the location of a convoy, that submarine stalked the convoy until nightfall. During the day, the rest of the flotilla assembled and then attacked the convoy at night. The Royal Navy escort ships broke off the convoy and pursued the attacking U-boats. The U-boats that were not being chased continued attacking the convoy until they ran out of torpedoes, or were forced to submerge. This early success made the Germans confident that radio communications between U-boats did not give away their position and that the German naval codes were unbreakable. Since the Germans assumed their communications were safe,

² David Syrett, *The Defeat of the German U-Boats* (Columbia, S.C: University of South Carolina Press, 1994), 14.

³ Syrett, 3.

⁴ Winston Churchill, *The Hinge of Fate* (Boston: Houghton Mifflin Company, 1950) 126.

they continued to coordinate attacks that relied on constant radio communication and surfacing.

After the initial losses at the hands of the Germans, the British contemplated how to protect their ships more effectively. The British Admiralty knew they needed to keep the convoy system in operation because of its success in cutting their losses. The British had data demonstrating that losses for ships in convoys were lower than the average losses for ships that sailed independently.⁵ They first set out to find a way to locate a surfaced U-boat at night. A big problem the British faced was that they were constantly taken by surprise during these attacks, thus the British expanded their research into short wave radio detection. This technology would allow the Royal Navy escort ships to detect the location of a German radio signal. This was useful because U-boat captains were required to communicate the location of the convoy they were stalking. This system for locating radio transmissions became known as the Adcock aerial system. The Adcock aerial system is an antenna device that detects short-wave radio signals and gives the location of that radio signal, allowing escort ships to track the location of a stalking U-boat. These antenna systems were successfully produced in October, 1941 and were installed on British destroyers and cruisers. No longer could German U-boats sneak up on a convoy. Furthermore, the Germans did not learn that the Adcock system existed until after the war and thus never understood how they were detected. The second step was to break the German naval codes generated by the Enigma machine. The Germans took great pride in the codes generated by the Enigma machine and felt that these codes could never be broken. This miscalculation would prove costly as the British, with Polish assistance,

⁵ Syrett, 4.

would begin to decipher air force and army messages in 1940. British intelligence had a more difficult time with naval messages because the navy used different settings for the Enigma machine and maintained strict discipline so that codes were changed frequently, thus making it harder to decipher the messages.

As a result of the difficulty in breaking the German naval code and the importance of the battle being waged for control in the Atlantic, the British had instructed their naval forces to try and retrieve an Enigma machine and code documents from a German submarine.⁶ On May 9, 1941, the British destroyer, HMS Bulldog, attacked U-110. The German crew abandoned the U-boat assuming it would sink rapidly, but the British boarded the vessel and recovered documents containing the German Enigma codes, grid maps, and an Enigma machine.⁷ Access to an actual modified version of the Enigma machine and the code books proved to be the key for Turing and his colleagues at Bletchley Park who broke the naval code in 1941. The German navy responded to the sinking of U-boats and possible capture of documents by instituting changes, including adding an additional rotor, to make the code harder to break. However, after the initial breakthrough, British intelligence had a much easier time breaking the code again and could consistently read German naval messages by the end of 1941.

The British went to great lengths to prevent the Germans from discovering that their codes had been broken. The German High Command refused to believe that their encoded communications had been compromised despite attempts by a few high-ranking German and Italian officers to persuade the leadership that the Enigma codes had been compromised. The ability of the British to know where the

⁶ Marc Milner, *The Battle of the Atlantic* (St. Catherines, Ontario: Vanwell Publishing Limited, 2003), 64.

⁷ Milner, 64.

U-boats were patrolling was a great asset to safe guarding their ships. British merchant sailors could reroute their ships around the known German patrol lines. Royal Navy “hunter groups,” patrolled around the convoys and waited for the Germans to get close. Once the British made contact with an approaching U-boat, the British attacked using depths charges, cannons, or bombs. Even if the British failed to destroy the U-boat, this action scared the Germans away from the convoy. While Royal Navy vessels were effective to the extent that they could be and did destroy a number of U-boats, the British needed a better way to defend their convoys and would use increasingly use strategic air power.⁸

On July 8, 1943, a German submarine (U-514) was cruising on the surface near Cape Finisterre Spain. It was cruising among a group of fishing boats when a B-24 Liberator of 224 Squadron Royal Air Force Coastal Command descended upon it and released a salvo of armor-piercing rockets from 800 yards away.⁹ When the Liberator was 500 yards away it released four more rockets which shot through the water around the U-boat. One rocket came back to the surface. It had gone straight through the pressurized hull of the U-boat. The Liberator came around for a second pass and dropped eight depth charges on the U-boat.¹⁰ RAF pilot, Terence Bulloch made a third pass and dropped an acoustic homing torpedo for good measure. U-514 sank with the entire crew on board.¹¹ This was just one of the many incidents during the Battle of the Atlantic where an Allied aircraft destroyed a U-boat.

⁸ For additional information about the British efforts to keep the success of Ultra secret, the attempt by the Italians to convince the Germans their code had been broken and the refusal of the German High Command to believe the Enigma Code had been broken and to change it, see the following works: Hugh Sebag-Montefiore, *Enigma: The Battle for the Code*. New York: Chichester, 2000.

⁹ Milner, 157.

¹⁰ Milner, 158.

¹¹ Milner, 158.

The Engagement of U-514 was a prime example of the power of RAF Coastal Command during the Battle of the Atlantic. Fast, deadly, and able to patrol for extended periods of time, the long range aircraft of RAF Coastal Command were a tremendous problem for German submarine crews and the German surface fleet. The RAF's use of Coastal Command aircraft, along with the intelligence efforts to decipher German naval codes, were essential in winning the Battle of the Atlantic. Aircraft were vitally important because a small number of them could protect a large convoy of ships. In a battle where survival of supply ships was more important than the destruction of enemies, aircraft proved their worth by simply being in the area. The ability of aircraft to rapidly maneuver made them an effective weapon for finding elusive U-boats. Long range bombers, such as the VLR B-24 Liberator, had a range of 2,600 nautical miles and could carry 1,500 pounds of depth charges, bombs, acoustic homing torpedoes, and heavy machine guns. All of these capabilities made the B-24, and aircraft with similar capabilities, ideal for patrolling the vast "Air-Gap" over the Atlantic. The air gap was the area over the North Atlantic where short range aircraft could not patrol due to their lack of fuel reserves. This area was out of reach of both English and North American based aircraft, thus making it the ideal hunting ground for U-boats.

While my thesis focuses on the campaign in the Atlantic during WWII, it is vitally important to understand naval developments in both Britain and Germany prior to the outbreak of war. Robert Jackson's, *The Royal Navy in World War II*, focuses on the years leading up to the war and the rapid build-up of the German navy. This work offers an important look at Germany's preparation for waging unrestricted submarine warfare against the Allies. In addition, it discusses specific ships the British used, as well as their intelligence capabilities. Jackson's work is important because it shows how unprepared the Royal Navy was to take on the U-

boats by themselves which supports my argument in regard to the limits of the effectiveness of the Navy and the necessity of the Coastal Command patrols.

Edwin Hoyt's, *The U-Boat War*, examines how Germany concealed their efforts to build up their navy during the interwar years. This book also looks at how in 1938, the British began to assume that war was coming, and concluded that they must reexamine the issue of how they protected their supply lines during World War I. Hoyt argues that it was Winston Churchill who invented the modern convoy system while he was first lord of the Admiralty in World War I. Furthermore, Hoyt states that Churchill knew the Germans would break the treaties they had signed and build up their armed forces as they wished. This came true in the mid 1930's as Germany quickly began to expand its naval and army forces. During this time, Churchill did not hold political power but worked to persuade British scientists to develop military technology such as anti-aircraft weapons systems.¹² Hoyt discusses topics that were not mentioned in other works, such as his discussion of British Admiralty insisting upon interviewing survivors from ships that had been sunk by U-boats. Their goal was to see what went wrong and how to avoid these same mistakes in the future.¹³ These details create a more vivid picture of how hard the British were trying to protect their ships and thus shows how great a threat the U-boats were. While Hoyt examined the British perspective more closely, the next secondary source predominantly examined the German perspective.

The Battle of the Atlantic, by Andrew Williams, closely examines Karl Donitz and his buildup of the German submarine forces. Williams argues that

¹² Edwin Hoyt, *The U-Boat War* (New York: Arbor House, 1984), 3.

¹³ Hoyt, 41.

Donitz spent a great deal of time recruiting young and enthusiastic German officers who wished to be submariners. Serving on a submarine was quite dangerous, but the U-boat force promised to promote its officers quickly.¹⁴ Williams also argues that Doenitz did not think the German naval buildup meant they were preparing for war. However, by 1938, Donitz soon realized that Hitler and Raeder were preparing for war when they announced the military buildup was to wage war against Great Britain.¹⁵ These works offered crucial perspectives on developments in Britain and Germany that provide a foundation for my examination of the evolution of British policies in regard to protecting their convoys and the success of the Coastal Command efforts.

Williamson Murray and Allen Millett (eds.) offer further analysis of key developments in Germany and Britain, emphasizing the extent to which they did and did not innovate or change their military forces and the strategic views underlying the direction of development in both countries, during the interwar years.¹⁶ This analysis of the relative strengths and weaknesses of the British and German naval and air power also supports my argument that the missions carried out by Coastal Command against German U-boats had the most impact upon Germany's ability to continue to successfully wage war in part due to the very real limitations of strategic bombing that the British ignored.¹⁷

¹⁴ Andrew Williams, *The Battle of the Atlantic* (New York: Basic Books, 2004), 21.

¹⁵ Williams, 25.

¹⁶ Williamson Murray and Alan Millett, *Military Innovation in the Interwar Years* (New York: Cambridge University Press, 1998), 242.

¹⁷ Murray and Millett, 248.

Christopher Bell examines Churchill's strategy to use British bombers to bomb Germany instead of escorting Allied convoys.¹⁸ Bell argues that Churchill's strategy of utilizing an offensive bombing campaign was not strategically sound because it wasted resources and men. A more effective strategy, according to Bell, would have been to give these bombers to RAF Coastal Command and my thesis provides specific examples and evidence that show that Coastal Command was an effective weapon against German U-boats whereas scholarly assessments of the bombing campaign clearly demonstrate that it was not as effective as predicted.¹⁹

As previously discussed, the British knew that convoys decreased losses and originally thought that convoy system in and of itself would be effective enough to protect their supply lines. However, despite the convoy system, the Germans were sinking hundreds of thousands of tons of supplies every month and this was debilitating to Britain's ability to sustain the war effort.²⁰ Convoys had air cover along the British coastline but soon lost the air cover when they left British airspace. In addition, some convoys had air cover over the Atlantic but due to limited fuel supply, the aircraft had to return to base after 90 miles. This means the convoys were still vulnerable and the British were not able to provide air cover for many convoys during their entire journey. The lack of air support was not because Britain didn't have long range bombers that could have been deployed as escorts for convoys. The issue was that Churchill, and officers of the RAF, namely Sir Arthur Harris, were determined to use long-range aircraft to bomb Germany.

¹⁸ Christopher M. Bell, *Churchill and Sea Power* (New York: Oxford University Press, 2013), 159.

¹⁹ Bell, 337.

²⁰ Syrett, 1.

Churchill and the commanders of the RAF and RAF Coastal Command were in constant conflict over the allocation of bomber. According to Bell, Churchill directed his military resources away from the most immediate threat and focused on the unattainable objective of bombing Germany out of the war. However, it is noted that aerial bombing was the only method of offense the British had at this time. The British Army could not attack German forces so bombing Germany was the only offensive action the British had at this time. In order to show some effort of an aggressive campaign, Churchill decided that bombing Germany was the best option. Churchill felt that British ships could sustain the British Isles despite the heavy losses they were taking. However, Bell states that Britain could not have survived if it had continued to sustain losses same pace that it did in 1942.²¹ Bell also examines the controversy surrounding the allocation of aircraft, which has not been well researched previously. This issue directly influenced how the British protected their supply lines and is thus extremely significant. Aircraft dictated the tactics of the Germans because they invested a great amount of time and resources in order to protect their U-boats from air attacks and the deployment of aircraft therefore determined where the Germans would send their submarines. This evidence clearly demonstrates that Churchill's insistence on continuing the bombing campaign instead of shifting aircraft to Coastal Command had a negative impact on the war effort when considered in conjunction with the evidence I provide that Coastal Command patrols were effective against the U-boat campaign and reduced losses to convoys.

Ultimately, Britain's heavy losses prompted them to change their strategy in order to fight back against the Germans. In David Syrett's *The Defeat of the*

²¹Bell, 214.

German U-Boats, he argues that the Allies won the Battle of the Atlantic because they were able to improve their technology, such as radar and HD/DF, at a much greater pace than the Germans.²² The author also states that the Allies utilized the convoy system to its maximum potential and protected these convoys with naval escort ships such as destroyers and corvettes. Moreover, Syrett argues that aircraft helped to keep U-boats from attacking convoys because the Germans knew they could be attacked by an aircraft circling above.²³ Syrett also credits British intelligence for aiding in the tracking of German U-boats, which allowed for Allied ships to avoid or prepare for U-boat attacks.²⁴ He also shows that the British countermeasures began to take their effect on the Germans, and in May of 1943, the Germans began to pull back their submarine force due to heavy losses.²⁵ The Germans tried a variety of tactics to regain the advantage in the Atlantic, but this was done in vain. The rest of the war was a disaster for the U-boats because they could no longer stop the flow of materials into Great Britain. Furthermore, they were losing more submarines than they could build and as I will demonstrate the turning of the tide was a direct result of the increased use of Coastal Command patrols.

Marc Milner's, *The Battle of the Atlantic*, examines the Battle of the Atlantic as a whole. American, British, and German sources are used extensively in this work as the author examined this conflict from multiple sides. Milner argues that due to the Allies ability to build a massive shipping fleet, the Germans

²² Syrett, xi.

²³ Syrett, 261.

²⁴ Syrett, 260.

²⁵ Syrett, 263.

could not sink enough ships to stop the Allies from crossing the Atlantic.²⁶

Furthermore, the advances in Allied technology simply outpaced the Germans and Allied intelligence breakthroughs, along with the rise of aircraft and escort ships, made it impossible for the Germans to regain the advantage they enjoyed in the early stages of the war.

Geoffrey P. Jones', *Defeat of the Wolf Packs*, examines the first four years of the war in just one chapter. Jones dedicates the remainder of the book to October, 1943 and beyond. This is because the Allies had turned the tide in the Battle of the Atlantic and the Germans were now the ones scrambling to save their naval forces. Jones carefully examines how convoys used escort ships and aircraft to create a double layer of protection from stalking U-boats on patrol. Jones argues that this dual threat made it very difficult for U-boats to get into position for an attack. The author also analyzes the effect that U.S aircraft carriers had on hunting for U-boats but although it is a fact that U.S. patrols also took a toll on German U-boats this was only after initial successes by Coastal Command had diminished the U-boat threat.

Finally, Jones examines the toll that the Allies took on the German submarine pens in France and Germany. The Americans and British began bombing these pens in December 1943 and inflicted heavy damage on U-boats being manufactured and already completed.²⁷ This chapter shows that the Allies were able to take the fight to the U-boats and strike at them before they even left their bases. This goes supports Jones' thesis that the Germans really began to lose the Battle of the Atlantic in mid to late 1943. From then on, the Allies would

²⁶ Milner, 7.

²⁷ Jones, 136.

always have the advantage and would continue to pressure the Germans into sacrificing more U-boats in an attempt to secure their former hunting grounds.

Micheal Gannon, in *Black May*, examines the build up to the worst month for U-boat losses during the entire war. During May, 1943, Germany lost 43 U-boats, a quarter of their entire operation fleet. Gannon argues that these losses prompted Donitz to believe the Battle of the Atlantic was lost for Germany. However, the Germans continued to fight for victory in the “tonnage war,” which they believed would bring victory in the Battle of the Atlantic. The “tonnage war” was the German idea that they could sink more ships than the Allies could build. If they achieved this goal, then the Allies would be starved into surrendering.

This effort to sink more ships than the Allies could build would lead to more U-boat losses as Allied convoy defenses became more efficient at locating and destroying U-boats. Gannon also states that Donitz continued the U-boat war because he felt that it would take Allied forces away from the air and land war in Europe. Donitz also had faith that once the new generation of U-boats known as the Walter boats were operational, the tide would once again turn in favor of the Germans. However, technological innovation did not save the U-boats because Allied air power had become too strong. The author states that Coastal Command's presence in the Bay of Biscay had become too threatening to the U-boats. U-boats could only surface at night and crossing the bay took much longer than it had before. Even after the brutal month of May, U-boat losses continued to amass as Coastal Command sunk 11 U-boats in the month of July.²⁸ Gannon concludes by saying that Allied air power was the most effective means of hunting U-boats. While ships attached to hunter-killer groups were effective, they only sunk 20 U-

²⁸ Micheal Gannon, *Black May* (New York: Harper Collins Publishers, 1989), 389.

boats compared to the 173 that Coastal Command sunk throughout the war. Through this and other research, Gannon concludes that aircraft were the best weapon the Allies had in winning the Battle of the Atlantic and my thesis provides a great deal of additional evidence that proves that it was not just aircraft but the Coastal Command patrols that were most effective.

Another important secondary work is, *U-boat Tankers: 1941-1945*, by John F. White. White argues that U-boat tankers were crucial to the German efforts in the Battle of the Atlantic. Furthermore, White argues that British intelligence was the crucial factor in defeating the U-boats. The author states that the British often knew more about the U-boat operations than the Germans did due to the fact that German radio messages were frequently intercepted and decoded. In addition, the German mechanical ciphers were captured on numerous occasions and thus the German naval codes were broken throughout the war. White also discusses the issues that came with U-boat tankers, such as how they were the favored target among Allied aircrews. Due to the fact that tankers were rare and resupplied so many U-boats, sinking just one of these submarines would mean that U-boats would have to return to base in order to stay operational.²⁹

While this work focuses on U-boat tankers, White discusses how the Allies used U-boat technology and tactics against them. An example being that U-boats were not true submarines but rather submersible torpedo carriers. The fact that U-boats could only remain submerged for an hour while moving shows that U-boats only had a limited amount of time to evade an enemy. This coupled with the fact that merchant ships traveled faster than U-boats could while submerged meant that U-boats would lose contact with their targets if they remained submerged for too

²⁹ John F. White, *U-boat Tankers: 1941-1945*. (Annapolis: Naval Institute Press, 1998), 9.

long. These weaknesses which effected U-boat tactics as well as the overall German campaign in the Atlantic are on the factors that made Coastal Command the most effective force against them.

U-Boats Destroyed, by Paul Kemp, discusses every U-boat ever lost in history. Kemp also describes the cause for each U-boat being destroyed or captured. In total there were 178 U-boats destroyed in World War I and 784 destroyed in World War II. Kemp states that some stories involving certain U-boats are still changing because new evidence is being collected on why it was destroyed. The author argues that the U-boat arm suffered the highest percentage of casualties of any naval force during World War II. This book is essentially a record of each U-boat lost and is useful since it can be used as a reference for U-boat losses and can verify information in primary sources.

The National Archives in London has digitized many documents which are crucial to my research on Coastal Command. The most important primary documents are the daily action reports from the British officers who flew in this campaign. The files of the Air Ministry contain daily records of British aircraft engagements against the Germans which are divided by date, squadron, and subject. This information enabled me to pinpoint exact battles between British aircraft and U-boats. The most informative are those of Squadron 120 from January 1942 to December 1943. In a few cases I was able to cross reference this with documents, translated from German, that show how the U-boats were responding to these attacks. These translated documents are found under the DEFE file and were intercepted radio communications from German, Italian, and Japanese forces. In addition to this, the files of the Admiralty were useful in providing insight on the politics behind the Battle of the Atlantic.

In addition to these archive documents, I utilized memoirs such as Tom Dudley-Gordon's, *I Seek my Prey in the Waters*. This is an excellent memoir depicting his experience as a Coastal Command pilot during the early stages of the war. His account provides personal details of an individual's experience that compliments statistical data and formal accounts in official records. Dudley-Gordon talks about the daily routine of living on a remote base on the coast of Great Britain. He explains how hard it was for everyone to cope with the long work days and bad weather while living on a raggedy base. He also shares how boring and tedious a 12 hour mission could be while searching for a U-boat. This work, gives personal details about what life was like as a Coastal Command pilot. This is important information because archive records and secondary sources cannot offer the same personal touch as a primary source. The details regarding daily life for a RAF pilot are useful to understanding the challenges these men faced when they were not fighting the Germans. Another important primary source is Karl Doenitz's, *Ten Years and Twenty Days*.

This is Admiral Doenitz's memoir which focuses on World War II. This work gives insight on the man who developed the German U-boat fleet and devised the "Wolf-pack," attack technique. In his memoir, Doenitz describes his plan for the German U-boat fleet to starve Britain out of the war. Doenitz also writes about the lessons he learned during World War I and how he knew the British would use the convoy system to supply their people. This memoir is important because it offers a German perspective that has been translated. Furthermore, Doenitz was that most influential German officer in running the U-boat war. His plans for unrestricted submarine warfare nearly brought the Allied war effort to a halt. However, his strategy could not keep up with Allied advancements and thus his U-boat forces lost the advantage by May of 1943.

My argument focuses exclusively on the contribution of aircraft and the reasons why they were so effective at protecting the convoys and hunting enemy submarines. I illuminate the pre-war conditions that caused Coastal Command to be so ill equipped to fight the U-boats at the beginning of the war and then focus on the conditions under which Coastal Command pilots operated and demonstrate that their turmoil was often caused by factors other than their enemies. In addition, I examine the convoy system as aircraft often worked hand in hand with naval escorts to further protect against the U-boat threat. My main evidence is provided by primary and secondary accounts of aircraft taking direct and effective action against U-boats and other German threats such as aircraft and battleships. Overall, I will argue that Coastal Command played a pivotal role not just in defeating the U-boats but in allowing the Allies to supply each other in the build up to D-Day. Furthermore, their efforts protected the supply lines to the Soviet Union during the German invasion, as well as supplied the Allied ground forces once they were in mainland Europe.

The story of this small force and its enormous impact has long been neglected and it may be due of the very nature of submarine warfare. It was often difficult to calculate if a U-boat was sunk and the British rarely released the statistics on how many submarines they destroyed. This was because they wished to keep the Germans guessing as to whether their sailors were still alive or not. This form of psychological warfare was meant to demoralize the German navy and people. Furthermore, there were no journalists on board submarines or anti-submarine aircraft to report on the action. This meant that engagements at sea often went unreported except to those in command of naval forces. Both the Allies and Axis forces went to great lengths to keep their submarine forces as secretive as

possible. It was the element of surprise for both aircraft and submarines that make them such lethal instruments of war.

Another factor in the failure to highlight the efforts of Coastal Command is the fact that the RAF had traditionally thought of itself as the bomber and fighter wing of the British military and did not embrace the role as a maritime aviation force with great enthusiasm.³⁰ Due to having to spend money on maritime aircraft and maritime training for pilots. Due to the interwar military doctrine that emphasized strategic bombing, the RAF focused on strengthening its bomber force and held great confidence in its ability to bomb an enemy into submission. This theory would prove to be a grave miscalculation because the German people were not demoralized by British bombing and German anti-air defenses were stronger than had been expected and led to horrendous losses in the early bombing campaigns of 1940 and 1941. With these losses came the demand for more aircraft and this demand had a negative impact on Coastal Command who were the real protectors of the British people. The real threat to Britain was the U-boat and its destruction of British bound supplies. The safeguarding of merchant shipping was the right course of action as it kept Britain in the war, and inflicted losses on one of Germany's most prized possessions, the U-boat. While the members of Coastal Command could not singlehandedly win the war, they were one of the key reasons the Allies were able to secure the vital supply lines needed initially to survive and ultimately to liberate Europe from Nazi Germany.

³⁰ Norman Franks, *Dark Sky, Deep Water: First Hand reflections of the Anti-U-boat War in WWII* (London: Grub Street, 1997), IV.

CHAPTER 2: COASTAL COMMAND

First Lord of the Admiralty A. V. Alexander referred to RAF Coastal Command as the “Cinderella Service.” While Coastal Command was officially formed on July 14, 1936, the story of this unit and the factors that shaped its development go back to 1919. The international situation between 1919 and 1935 had an impact on its creation and the duties it was assigned. The Versailles Treaty, signed in 1919 and which is beyond the scope of this thesis and will therefore not be discussed in detail,³¹ severely limited the size and strength of the German Navy. However, the leader of the Reichsmarine or German Navy, Admiral Erich Raeder did not abide by the official terms of the Versailles Treaty nor did the Chief of the General Staff for the Army General von Seeckt.

Raeder expanded U-boat research, in direct violation of the Versailles Treaty, which stated that Germany could have no submarines, and built a new surface fleet. The German Navy would conceal its research and development of new prototypes for submarines by subcontracting the work out to Krupp Manufacturing Company. Krupp carried out this research in Holland and from it came the designs for the 250, 500, and 750 ton U-boats. Prototypes were built in Finland and the torpedoes were built in Spain. The submarines were trained in Turkey and would conduct trial runs from Spanish and Finnish ports. Although the Germans made efforts to hide their rearmament both the British and French knew Germany was violating the terms of the Versailles Treaty but failed to do anything to stop them.³²

³¹ For more information on the Versailles Treaty and its impact see Manfred F. Boemeke, Gerald D. Feldman, Elisabeth Glaser, *The Treaty of Versailles: A Reassessment After 75 Years*. Cambridge University Press: New York, 1998.

³² Blair, 34.

In 1929, the Labor party of Great Britain was elected into power. This party started a process of disarmament and severely cut funding to all branches of the British military. Development of new aircraft was put on hold and this caused many small aircraft manufacturing companies to go out of business.³³ In addition, the training of new pilot and navigators was slowed down as the government felt there was little need for large air squadrons. The funding given to the RAF, which was insufficient for major growth and development, was used for the development of fighter and bomber aircraft.³⁴ The RAF believed that the greatest threat to Britain would be aerial bombardment. To counter this threat, the RAF decided that the best response would be a capable bomber fleet that could deliver large-scale destruction to any enemy.³⁵ This theory accompanied the belief that the RAF's future role would be to just carry out strategic bombing. In the early 1930's, this smaller version of the RAF worked adequately for Britain's security needs. Despite these limitations, Coastal Command was neither eliminated or absorbed into another RAF squadron, and would organize itself into an elite military establishment.

Adolf Hitler became Chancellor of Germany in 1933 and took steps to increase industrial production and continued to violate the size limits as well as other restrictions imposed the armed forces imposed by the Versailles Treaty. However, it was only after President Hindenburg died and Hitler became Fuehrer in 1935 that he abandoned the policy of building up Germany's armed forces in secret. Hitler announced in the spring of 1935 that Germany would be expanding

³³ Christina J.M Goulter, *A Forgotten Offensive: The Royal Air Force Coastal Command's Anti-Shipping Campaign, 1940-1945* (London: Frank Cass, 1995), 101.

³⁴ Goulter, 102.

³⁵ Goulter, 72.

its army to 300,000 men. This made Britain all eager to negotiate with Germany and reach an agreement about the size and nature of the German Navy before Hitler simply renounced the restrictions imposed by the Versailles Treaty. These negotiations culminated with the Anglo-German Naval Treaty that was signed on June 18, 1935. Among the stipulations, Germany agreed not to exceed 45 percent of the British submarine tonnage. In addition, Germany agreed never to conduct unrestricted submarine warfare against merchant ships.³⁶

Germany had effectively negotiated its way out of a key aspect of the Versailles Treaty. Although the British enabled the Germans to openly expand their navy by signing this agreement, the agreement also motivated the British to build up their own forces and this would be crucial when war broke out in 1939. The RAF commissioned a series of “Schemes” to modernize and expand their military. Scheme F was the rapid expansion of the RAF and it placed a large emphasis on bomber squadrons.³⁷ The RAF increased its number of bomber aircraft by 50 percent and increased the number of bomber squadrons by 53 percent. Coastal Command received only a 12 percent increase in aircraft allocation.³⁸ This would bring their total number of squadrons to five. The aircraft that made up these squadrons were not advanced enough in the late 1930’s to defeat the German forces but they were enough for Coastal Command to function and to be successful to enough to attract attention and be given further resources later.

36 Blair, 34.

37 Goulter, 75.

38 Goulter, 75.

The British naval air power came from RAF Coastal Command which was officially established on July 14, 1936.³⁹ During its early years, the role of Coastal Command was to handle all the air units that worked with the Royal Navy, It was also meant to keep close ties with the Admiralty, train new pilots, and to develop the Service Flying Boats. This force was tasked with defending British trade interests and securing communication lines with all parts of the British Empire.⁴⁰ RAF Coastal Command was also tasked with maritime reconnaissance. This would be a crucial mission as identifying safe shipping lanes would help save Allied ships and men throughout the war.

In 1937, the Admiralty took over full control of Coastal Command and its new role would be to protect British territorial waters with shore-based aircraft.⁴¹ This change would spark a close relationship with the Royal Navy that would prove fruitful in the future.⁴² However, the two forces worked closely together, and this resulted in significant disagreements between the commanders of the two forces. Coastal Command and the Royal Navy did not train together and therefore did not have a lot of experience with coordinating attacks

Coastal Command had its own headquarters known as the Area of Combined Headquarters. This base housed all the intelligence that Coastal Command gathered and was given. It contained a large sixteen by thirty foot long map that was used to plot enemy naval forces. This room was also where

³⁹ Goulter, xvi.

⁴⁰ Comptroller of His Britannic Majesty's Stationary Office, Coastal Command: *The Air Ministry Account of the Part Played by Coastal Command in the Battle of the Seas 1939-1942* (New York: The Macmillan Company, 1943), 17.

⁴¹ Comptroller of His Britannic Majesty's Stationary Office, 17.

⁴² Tom Dudley-Gordon, *I Seek my Prey in the Waters: The Coastal Command at War* (Garden City, New York: Doubleday, Doran, & Co, 1943), 5.

reconnaissance photos were examined and orders were issued to Coastal Command forces that were stationed in every part of Britain.⁴³ The Area of Combined Headquarters was on watch 24 hours a day, waiting for information to be passed through and then given to the necessary units. Despite the small amount of funding that was available, Coastal Command was organized as an efficient and disciplined force that reacted on a moment's notice. However, intelligence was only one aspect of defeating the enemy. Coastal Command had to develop and manage an elite force of pilots and aircraft. Their aircraft and pilot development combined aviation and seamanship into one effective fighting strategy.

Coastal Command was staffed by both Royal Air Force and Royal Navy officers. The RAF and RN officers had their own section and these sections were divided geographically. England, Wales, Scotland, Northern Ireland, and Gibraltar each had their own specific section with dedicated individuals.⁴⁴ The largest room was the Operations Room which was further divided into global regions. These included the Bay of Biscay, the fjords of Norway, the North Sea, the eastern seaboard of the United States, and the Atlantic Ocean. All of these specific regions received their own intelligence information and this was passed along to other sections as deemed necessary. When pilots and crew landed they handed over their reconnaissance photos and written logs. This information was given to the intelligence officers of Coastal Command. The photos would first go to the Station Photographic Section where they were processed. The Station Intelligence Officer then received these photos and analyzed them for information on the location and operations on enemy forces. The information was given to the proper authorities

⁴³ Comptroller of His Britannic Majesty's Stationary Office, 20.

⁴⁴ Comptroller of His Britannic Majesty's Stationary Office, Coastal Command, 21.

within the Area of Combined Headquarters, the Royal Navy, or the Admiralty.⁴⁵ This entire process made Coastal Command an effective intelligence group. However, this intelligence could not be put to use without specially trained pilots who knew how to fly and sail at the same time. These pilots were specially trained in the art of airmanship and seamanship. Pilots were trained how to read the weather and tides. They were also taught how to navigate via the stars, land an aircraft on turbulent water, and bomb a submarine in a matter of seconds. This training was not only meant to sharpen their skills, but also their minds because hunting U-boats was no easy task. It required a special kind of person to carry this mission out.⁴⁶

Coastal Command pilots were trained as both pilots and sailors due to conditions and the nature of their missions. They had no landmarks to navigate by and thus became experts with a compass. Navigation was instilled into new pilots as the most important skill they could learn. In order to protect a convoy from U-boats, the pilot had to first reach the target and thus navigation was the key to success.⁴⁷ Pilots were trained to fly by their instruments and not by sight. Poor weather made this skill even more important as heavy rain and fog were common in many of the areas around the Atlantic. In addition to these skills, aviators of Coastal Command had to be able to endure the long hours of searching. The problem with boredom is that it leads to indifference, and this could be fatal to an aircrew or a convoy.⁴⁸ One moment of inattention could enable a U-boat or enemy

⁴⁵ Comptroller of His Britannic Majesty's Stationary Office, Coastal Command, 25.

⁴⁶ Comptroller of His Britannic Majesty's Stationary Office, Coastal Command, 28.

⁴⁷ Tom Dudley-Gordon, *I Seek my Prey in the Waters: The Coastal Command at War* (Garden City, New York: Doubleday, Doran, & Co, 1943), 169.

⁴⁸ Comptroller of His Britannic Majesty's Stationary Office, Coastal Command, 28.

vessel to go by and attack the aircraft itself or a convoy. Inattention was the true enemy of a Coastal Command aircrew, the battle was to stay focused on finding an enemy that might not be within 100 miles. While vigilance was significant, sometimes just the presence of an aircraft over the ocean was enough to scare a U-boat away because engaging an aircraft brought a lot of risk to the U-boat crew. Knowing their mere presence was a weapon helped to motivate many aircrews though their long days and nights.

The pilots and crew were one key factor in the performance of the RAF's Coastal Command and the other crucial factor was the quality of the aircraft they flew. Coastal Command had access to a number of aircraft of varying quality. A brief description of these aircraft is necessary because without these machines there would have been no real Coastal Command. The capabilities of the aircraft helped shape how the anti-submarine war would be fought and dictated the kind of training the pilots received and that has already been described. These aircraft also helped to determine the overall effectiveness of this fighting force because pilots could only be as effective as their aircraft enabled them to be.

Coastal Command primarily used two kinds of aircraft; land-based propeller driven aircraft and flying boats. In the early days of World War II, it was the pompous flying boats that carried out the majority of the missions. These aircraft were not advanced like the Spitfire or P-51 Mustang, but they were very well suited for their mission. The workhorse of the flying boats was the Sunderland. Designed as a civilian airliner, but converted for military use, the Sunderland was known as the most comfortable aircraft utilized by the R.A.F. Part of this comfort resulted in the separation of duty and recreational quarters. The upper deck was for men on duty such as the pilot and navigator. The lower deck was designed for the men off duty and they could sleep, eat, or read in this area.

The meals served on this aircraft were said to have been the best in the R.A.F because this aircraft had a stove. All of these amenities were crucial to a crew that would have to spend almost an entire day in the air searching for U-boats. Because of this arduous mission, the crew on board a Sunderland were often the most elite servicemen in Coastal Command. During the interwar years most pilots had to go through an apprenticeship for up to five years before they were given their own flying boat.⁴⁹ This changed during World War II, as there was a much greater demand for pilots.⁵⁰ However, Sunderland pilots were often older and more mature than their counterparts who flew fighters or bombers. In addition, these pilots often saw that their younger crew members went through the same harsh training as they had. When paired with the determination of the crew, the Sunderland's armament of twin .303 caliber machine guns and Torpex depth charges, the result was a deadly solution to the U-boat problem. Further modification included a .50 caliber Browning M2 machine gun in the rear as well as various other bombs that the crew saw fit to use at the time.

In addition to hunting U-boats, Sunderland's were ideal for rescuing sailors or pilots who were lost at sea.⁵¹ Due to the fact that a Sunderland could land on water, it rescued lost seamen who had abandoned their ship. On one such mission, a Sunderland rescued thirty-four survivors of the ship, *Kensington Court*, sunk by a U-boat on the second day of World War II. The Sunderland landed on the rough sea and threw out a line to the survivors so they could pull themselves to safety.⁵²

49 Dudley-Gordon, 190.

50 Goulter, 103.

51 Dudley-Gordon, 190.

52 Dudley-Gordon, 194.

The Sunderland performed multiple tasks with tremendous efficiency and Coastal Command regarded it as their workhorse.

Never the less, Coastal Command also employed a variety of other aircraft for different missions. The Wellington and Whitley bombers were converted into reconnaissance aircraft due to their extended range. They were also used for bombing German docks and merchant shipping. The Beafort torpedo-bomber attacked German warships and merchant vessels. Beafort pilots were often asked to engage German fighters and bombers who were far more maneuverable and well-prepared for air to air combat but still inflicted losses on German aircraft and shipping.⁵³

Although Coastal Command had several different types of aircraft at their disposal, they did not have nearly enough total aircraft.⁵⁴ Additionally, when war broke out in 1939, Coastal Command lacked a modern long range bomber. The R.A.F had plenty of B-24 Liberators but were reluctant to use them for any purpose other than strategic bombing. The need for a long range bomber stemmed from the fact that flying-boats and other small aircraft had a total range of only a few hundred miles. The Battle of the Atlantic would be fought over thousands of miles and Coastal Command only had a limited number of bombers from which to operate.⁵⁵

This need for a long range bomber would not be satisfied immediately. The R.A.F resisted spending money on a force they did not see as essential to the war effort. They felt that the convoy system and a small maritime air force would be

⁵³ Comptroller of His Britannic Majesty's Stationary Office, 31.

⁵⁴ For more information on Britain's bomber aircraft, please see Jon Lake, *The Great Book of Bombers: The World's Most Important Bombers from World War I to Present Day*. (London: Salamander, 2002).

⁵⁵ Goulter, 76.

effective enough for protecting the convoys. This left Coastal Command with a severe handicap. The flying-boats and medium range bombers could only go so far on patrol before they had to return for fuel. This coupled with the fact that Coastal Command only had 171 aircraft at the beginning of the war meant that the ones they did have would be put under tremendous stress and fatigue would begin to set in on the aircraft.⁵⁶

Coastal Command had been conducting large training operations in the days before the war began and had called up many of its reserve units. This fortunate circumstance allowed Coastal Command to dive into action immediately. Coastal Command was tasked with patrolling the coastline of Great Britain and protecting the ports that were vital to their nation's survival.⁵⁷ They were concerned with German U-boats and surface ships attacking their ships in port. They had good reason to worry about this, for U-boats would make successful attacks on ships at anchor. The most famous example of this was the sinking of the British flag ship, *HMS Royal Oak*, by U-47. The *HMS Royal Oak* sank on October 14, 1939 with 833 men lost. It was anchored in Scapa Flow and was presumed to be safe from U-boats. However, U-47 managed to slip into the harbor and fired two salvos of torpedoes which struck the *HMS Royal* and ignited her munitions.⁵⁸ This tragedy showed the British that their ports were not as impregnable as was once thought. This along with other raids prompted the British to increase coastal security with a number of measures, one being the use of Coastal Command as a U-boat hunter.

⁵⁶ Comptroller of His Britannic Majesty's Stationary Office, 35.

⁵⁷ Goulter, 111.

⁵⁸ Andrew Williams, *The Battle of the Atlantic* (New York: Basic Books, 2003), 35.

Coastal Command began to escort ships that were coming in and out of British ports. The limited range of their current aircraft meant that this was all they could do, but it was better than nothing. The western coastline was primarily protected by Anson twin-engine aircraft.⁵⁹ These aircraft were maneuverable and suited this task very well, but they would soon be replaced. The eastern coastline was patrolled by the Tiger and Hornet Moth aircraft. These patrols were often uneventful, but the Luftwaffe did make occasional appearances and dogfights ensued. One such encounter happened on November 8, 1939 when an Anson engaged two German D.18 flying-boats and shot one of them down.⁶⁰ The Luftwaffe were a constant threat throughout the war because they too wished to protect their own merchant shipping. This would become especially true after the invasion of Norway and the fall of France.

The invasion of Norway in 1940, was critical to Coastal Command because it further spread out their forces. As Germany acquired more territory, the amount of airspace that the British needed to patrol grew with it. Coastal Command first noticed an invasion was commencing when their pilots spotted the German battleship, Scharnhorst, on its way to Norway. This was confirmed when another pilot spotted a Hipper class cruiser in Trondhjem fjord. The German goal was to control the port city of Narvik.⁶¹ This is where most of the Iron-Ore was shipped from and it was also of strategic importance to the German navy for operations in the Atlantic.⁶² Fighter and bomber patrols were frequent and Coastal Command pilots often engaged in dog fights. Coastal Command was also trying to gather as

⁵⁹ Comptroller of His Britannic Majesty's Stationary Office, 35.

⁶⁰ Comptroller of His Britannic Majesty's Stationary Office, 36.

⁶¹ Goulter, 162.

⁶² Goulter, 294.

much intelligence on German forces as possible. By April 14, 1940, the German Luftwaffe had control of all the hangars and runways in Norway, which were a mere 100 miles away from the British port at Scapa Flow.⁶³ Coastal Command quickly realized this and began to bomb the Norwegian airfields at once.

After the fall of Norway, Germany had a stronghold in the North Sea. Moreover, the natural terrain of the Norwegian coastline was ideal for harboring battleships. The fjords of Norway are surrounded by high mountains which offered good protection from bombing raids. Furthermore, it provided ideal positions for anti-aircraft defenses to be placed around all the German battleships. Norway also provided a refuge for German aircraft and submarines and allowed these vessels to have another access point to the North Atlantic. This doubled the amount of area the British would have to patrol in order to protect their merchant and naval fleet.

The invasion of Norway also showed the British that the Germans could operate a very formidable surface fleet. The British believed they controlled the North Sea, but with the German navy invading Norway, it showed that literal and perceived control were two very different things. Once Norway came under German control, Coastal Command had to send more aircraft away from the Atlantic in order to observe the German activities in Scandinavia. This was especially important because the British merchant fleet was terrified of running into a German surface raider such as the *Hipper*. The *Hipper*, and other cruisers like it, were massive warships that could take on the best battleships of the Royal Navy. Thus the reconnaissance of these flagships was crucial to make sure they did not slip out of port, and surprise the merchant fleet.

⁶³ Comptroller of His Britannic Majesty's Stationary Office, 42.

In addition to the threat of the German surface fleet, the German air force now had bases that were within 350 miles of Great Britain, and this was before the Germans had conquered France. The Norwegian coastline also provided cover to U-boats to sail along on their way to the Atlantic. Overall, Norway was a haven for the Germans because the terrain provided their forces great cover against British attacks. Norway would be the first real combat test of Coastal Command. This campaign would show acts of great heroism and courage on behalf of Coastal Command pilots. It would also show that they were a force to be reckoned with, despite relatively small size.

Coastal Command carried out both reconnaissance and bombing missions in Norway. Their targets were the German surface raiders, soldier barracks, airfields, and repair facilities. One of the key tasks of Coastal Command was to intercept the German cargo ships leaving Norway with precious Iron-Ore. This Iron-Ore would fuel the German war industry and was vital because they did not have enough natural resources and depended on imports. After the fall of France, and the surrounding nations, the situation in the North Atlantic began to look even worse. The Germans now had access to multiple ports that could protect their U-boat fleet. Furthermore, these bases at St. Nazaire, Brest, Lorient, and La Rochelle offered multiple avenues to which U-boats could set sail and set up patrol lines.⁶⁴ The British were becoming ever increasingly surrounded by German submarines and this would only get worse as the Germans would begin to perfect their wolf-pack technique. The British would soon fully implement the convoy system around the Western Approaches. The convoys would have to do until adequate airborne and naval protection could be mustered. The convoy system was a start

⁶⁴ Goulter, 170.

but as I will explain in the next chapter, it could only do so much in an area as vast as the Atlantic.

Coastal Command had to endure the political struggle between the RAF and Air Ministry. While the RAF wanted to keep Coastal Command small and behind the scenes, the Royal Navy wanted to absorb Coastal Command so they could have a maritime aviation squadron. The Air Ministry promptly denied this request because they wished to keep a total monopoly over air power in Britain.⁶⁵ This desire to not let anyone else have air power was another reason why the RAF kept Coastal Command so small. It was to ensure they retained ownership while expending the minimal amount of resources to keep it up. The Air Ministry felt that that RAF was an offensive fighting unit and that their bomber squadrons were the pinnacle of their offensive capabilities. To spend time and resources on a defensive air unit was not what the Air Ministry felt coincided with their philosophy of offensive might.

Air Marshal Sir Arthur “Bomber,” Harris was the biggest believer in this offensive ideology. He felt that Coastal Command was a waste of bomber aircraft and crews. According to Air Marshall Harris, “The purely defensive use of air power is grossly wasteful. The naval employment of aircraft consists of picking at the fringes of enemy power, of waiting for opportunities that may never occur, and indeed probably will never occur, of looking for “a needle in a haystack.”⁶⁶ Air Marshall Harris looked at Coastal Command as an “obstacle to victory.” Prime Minister Churchill took Air Marshall Harris' words as religion and these words

⁶⁵ Goulter, 40.

⁶⁶ Richard Goette, “Britain and the Delay in Closing the Mid-Atlantic “Air Gap” During the Battle of the Atlantic.” *The Northern Mariner* XV, no. 4 (October 2005):23, Quoted in *Grand Strategy*, IV, 21.

were backed up by Lord Cherwell, who was Churchill's scientific adviser. Churchill and the Air Ministry were hell bent on keeping the bombers within Bomber Command, and in part due to this lack of aircraft allocated to Coastal Command, the shipping losses began to reach horrific proportions.⁶⁷

Coastal Command was not adequately prepared for World War Two due the issues they experienced during the interwar years. British leaders assumed that Coastal Command would play a very limited role in the upcoming conflict in part because Germany's aggression towards merchant shipping was vastly underestimated by the British Admiralty. As the Battle of the Atlantic went on, the Air Ministry soon realized that Coastal Command was actually one of Britain's best weapons against the U-boats. Determined to stop the German navy, Coastal Command was relentless in their hunt for U-boats. This determination struck fear into every German submariner who set sail for the Atlantic.

⁶⁷ Goette, 26.

CHAPTER 3: PROTECTING THE CONVOYS

“I felt that a truthful account of the largely humdrum doings of an Escort Force Commander would seem a dull and pedestrian affair to those who have enjoyed the highly dramatic and very successful novels on the war at sea which have already been published.”⁶⁸ This quote is from Royal Navy Captain Donald Macintyre. This was his response to a friend when he was first asked to write an account of his experience as an escort group commander for a convoy. The daily life of an escort commander was very similar to that of a Coastal Command pilot; long hours of searching for an enemy that might never be found. This chapter is dedicated to the convoy system and examines its strengths, weaknesses, as well as ultimately adding air escorts would ensure victory in the Atlantic.

The British almost immediately began sailing their North American bound ships in convoys once World War II began in September, 1939. The convoy system was used throughout the entire war until 1945. In order to fully appreciate the role that aircraft played in protecting merchant ships, we must examine the role that the convoy system played and how it contributed to a heightened level of security, as well as a greater need for aircraft to be on patrol.

During the interwar years, the British admiralty did not take the U-boat threat very seriously. The German navy did not have the required number of submarines to launch an effective assault on the mighty British merchant fleet. In addition, the London Submarine Convention of 1930 outlawed unrestricted submarine warfare. And finally, the development of asdic sonar made the Admiralty feel confident that merchant ships could fend off U-boats. However, on September 3, 1939, U-30 sank the unarmed passenger liner *Athenia*, and this

⁶⁸ Donald Macintyre, *U-Boat Killer* (Annapolis: Naval Institute Press, 1956), 13.

showed that Germany would sink any Allied ship.⁶⁹ The British assumed that Germany had begun unrestricted submarine warfare (which it soon would) and scrambled to assemble the convoys system. In the beginning, U-boats hunted primarily for independently sailing ships or stragglers. This made for easy kills, and it made neutral nations think twice before trading with Great Britain out of fear that their ships would be targeted by the German navy.⁷⁰ This was not the only reason why U-boats targeted unescorted ships. At the time, U-boat crews were unwilling to expose themselves to a depth charge attack that resulted when they gave away their position to a British escort ship. The U-boat crews were happy with picking off unguarded ships that presented little threat to themselves. This was effective until the British identified this tactic and countered it by mandating that all ships sail in convoys.

During the first month of the war, the British lost 154,000 tons of shipping to U-boat attacks.⁷¹ This shocking figure was what prompted the British to immediately deploy their merchant fleets into convoys. The convoys relied on Royal Navy escort vessels and armed merchant ships to protect them from U-boat attacks. Like the aircraft industry during the interwar years, the ship building industry had suffered as a result of disarmament. This process had left Britain with only 149 destroyers, 8 patrol boats, 33 escort ships, and 107 trawlers.

The Royal Navy needed a way to maximize the effectiveness of the ships they had. Since the Royal Navy was not large enough to carry out all its new tasks after the start of World War II. Implementing the convoy system was a complicated task. Organizing between seven and 80 ships was a tall order,

⁶⁹ Macintyre, 44.

⁷⁰ Geoffrey P. Jones, *Defeat of the Wolf Packs* (London: William Kimber & Co., 1986) 13.

⁷¹ Jones, 13.

especially considering the difficult nature of communicating from ship to ship. In addition, convoys were a mix of military and civilian seamen. At first, discipline and order was hard to impose and maintain. This coupled with the fact that the British commanders were giving orders from shore further complicated the delicate situation. Seamen who were unfamiliar with each other were thrown together at a moment's notice and were tasked with protecting a convoy and hunting U-boats at the same time. This lack of coordination and cooperation was evident in the early stages of the war as U-boats could easily attack and escape due to a lack of systematic defensive operations.

Communication was also an issue because only light signals and coded messages could be used. Since the Germans constantly monitored British communications, convoy messages could give away their position. In addition, a convoy would often have to deal with misfortune while at sea. Ships broke down, stragglers fell behind, and poor weather constantly threatened the convoy. The commander had to determine fairly quickly if a broken or slow ship would continue on the journey, or if they needed to turn back to port. Speed was important because it was the primary weapon of merchant ships. U-boats could not keep up with fast convoys while submerged, and they ran the risk of being detected if they surfaced.

The Royal Navy began patrolling the waters around Great Britain to hunt for U-boats that were close to its shores. However, at the time, the Royal Navy had no radar or HF/DF equipment to track a submarine. Sailors such as Captain Macintyre grew weary of this task as he felt his ships could be used for more productive tasks such as escorting a North Atlantic convoy. In October, 1940, a convoy lost 20 of its 34 ships due to U-boat attacks. This convoy was escorted by only four military escort ships while other vessels were out conducting useless

patrols. Ship captains were given orders from by commanders who were on land and based their decisions on information that was often not current. The ship's captain could not use his own judgment on where they should patrol. This led to an endless search for U-boats in the vast waters that surrounded Great Britain. However, change was on the way for the Royal Navy.

In February of 1940, Admiral Sir Percy Noble began to implement changes in how the Royal navy would protect merchant shipping. The most important change that was made was the creation of Escort Groups. Escort Groups were self-contained units consisting of war ships that trained and operated together. Just like an infantry unit, they were trained to work as an efficient team with a common goal. In order to further improve the efficiency of these units, Admiral Noble went out to sea on a destroyer to evaluate their performance. During the evaluation Noble observed the shore-based order system, which commanders hated. Noble agreed this system was flawed and gave escort commanders greater authority over their patrol routes and later implemented the Escort Commander who would have absolute control over the patrol. These changes would prove to be effective in the upcoming months as more and more U-boats would be engaged by the Royal Navy.⁷²

An escort ship would either take off from port with the convoy or would rendezvous with it at sea. Escort ships were not as desperately needed around the British coastline because this was well within range of Coastal Command patrols. But once they were out of range of Coastal Command aircraft, escort ships were needed to protect the convoys. Establishing a convoy was a difficult task, especially in bad weather. Each ship had to take a position some 600 yards apart

⁷² Milner, 64.

from one another and stay in position during the entire voyage, even while battling rough seas, dealing with mechanical issues, or maneuvering to avoid a U-boat attack. This staying in position was key in order to avoid being separated from other ships. This task was much harder due to the foul North Atlantic weather. The ocean was constantly rocking ships and spraying water over the sides. The weather was a constant enemy but it was one the escorts and merchant sailors were prepared to deal with. The second enemy was the Germans, and they too were tackled with courage and skill.

The potential of a convoy escort would be fully realized in the spring of 1941 when a single escort group killed Germany's top three U-boat aces. Gunther Prien of U-47, Jochim Schepke of U-100, and Otto Krestschmer of U-99. These U-boats were all sunk by the same escort group under Captain Donald Macintyre.⁷³ Captain Macintyre's triumphs would show just how far the Allies had come in terms of hunting U-boats and protecting their ships. These losses would also show the Germans that even their most elite submariners were mortal and they could not escape unmolested as they had done previously in the war.

On March 10, 1941, Captain Macintyre was escorting convoy HX 112, about 200 miles south of Iceland when his convoy was sighted by U-47. U-47 did not want to miss the chance to inflict more damage on Allied shipping so it steamed towards the convoy in limited visibility. The U-boat was using the poor visibility to its advantage because the Germans knew the convoys was there but the convoy was unaware it was being stalked. According to Captain Macintyre, (who was on board the *HMS Walker*), a rain squall came in and cleared the weather. To the horror of the German crew on U-47 they were sighted by the *HMS*

⁷³ Macintyre, 42.

*Wolverine*⁷⁴ Startled, Prein ordered his U-boat to steam away at full speed. The *HMS Wolverine* pursued with great enthusiasm. U-47 then dived and thus lost its speed and ability to quickly maneuver. The *HMS Wolverine* took full advantage and dropped depth charges all over the position in which the U-boat had dived. The crews of both U-47 and *HMS Wolverine* waited for the massive explosions to commence. Within a few seconds, blasts were coming up to the surface as depth charges exploded underwater. The depth charges did their job and blew the U-boats propellers out of alignment. If the propellers failed completely there would be no way the submarine could move under water. U-47 surfaced and tried to use the darkness to hide from the British destroyer. However, the British heard the U-boat on their asdic machine.⁷⁵ The *HMS Wolverine* gave chase to the crippled U-boat and the U-boat dived once again. This would be fatal as the *HMS Wolverine* once again dropped depth charges over the U-boat. The depth charges found their target and blew the U-boat to pieces. U-47 sunk with all hands on board.⁷⁶ Germany had lost its first U-boat ace.

As HX 112 steamed on, Captain Macintyre knew this would not be the last of the U-boats, and it was not. The U-boats continued to stalk the convoy and two days later on March 12, 1941, the *Erodona*, was sunk by a U-boat. Captain Macintyre began searching for the U-boat along with the rest of his escort fleet. The search turned up no results but Captain Macintyre knew that the U-boats were still stalking the convoy and would attempt to strike again. Sure enough, as dusk began to set in another British escort ship, *HMS Scimitar*, sighted a U-boat closing in on the convoy. As the British ships sped towards the enemy, the U-boat dived

74 Macintyre, 42.

75 Macintyre, 49.

76 Jones, 23.

and tried to elude its hunters. The British ships, *HMS Walker*, *HMS Vanoc*, and *HMS Scimitar*, all spread out to hunt for the U-boat. The U-boat could not be found and worry began to set in that other U-boats would attack the defenseless convoy. This was one disadvantage of escort ships, they could not cover nearly as much area as an aircraft could in the same amount of time. If the escorts pursued a single U-boat for too long, another U-boat could attack the convoy without risk to itself. And this is exactly what happened to HX 112. A few minutes later an explosion was heard that shook the night sky. A U-boat torpedo had struck a merchant ship and over the course of the night, five ships would be sunk. The escort vessels raced desperately from ship to ship to locate the attacking U-boat but they were not in time. This was another disadvantage of having just escort ships, they could not move throughout the convoy very fast. And in the time it took them to change their position, the U-boat would often disappear.

On this occurrence, a diving U-boat left behind a wake of white water and this gave away its position. Captain Macintyre saw this wake and sped towards it, and ordered depth charges to be dropped over the white water. The explosions sent water spray high into the air but there were no signs of debris. The U-boat had escaped because the charges had detonated too deep, but half an hour later, the same U-boat was spotted again as it was trying to make another attack on the convoy. Both the *HMS Vanoc* and *HMS Walker* pursued and dropped depth charges. Still there was no sign that the U-boat had been sunk, so Captain Macintyre ordered his ship to pick up the survivors of the merchant ships that had been sunk. As the search and rescue operation was going on, *HMS Vanoc* reported that a U-boat was again in the area. With great enthusiasm, the crews of both British destroyers pummeled the sea with depth charges. The depth charges worked and the U-boat was damaged but had not sunk. The Germans fearing a

watery grave, surfaced immediately, only to find that they were a mere few hundred yards away from the *HMS Vanoc*. Chaos ensued as crews from both British ships and the Germans readied their deck guns for a fire fight. Because the night was pitch black and the only light came from the search light of the *HMS Vanoc*, the marksmanship of both sides was poor. The British 4 inch guns and smaller weapons found their mark and lit up the U-boat with shells and bullets. U-99 had fought its last battle and sank like a rock. There were some German survivors, including Captain Otto Kretschmer, who was bitter about being taken prisoner.

Kretschmer was not the only U-boat ace to be defeated. Joachim Schepke of U-100 also fought his last battle of the war. Earlier in the night as *HMS Walker* and *HMS Vanoc* were dropping depth charges, they damaged U-100 without even know it. While U-99 was sinking, U-100 tried to escape, but was picked up on the radar of the *HMS Vanoc*.⁷⁷ Schepke thought that the night would conceal them from the British destroyer but little did he know the British now had the ship-borne radar devices. As the *HMS Vanoc* closed in, Schepke was deceived by the destroyers camouflage paint and believed the ship was just going to miss the U-boat. Schepke remained on the tower of the U-boat when the *HMS Vanoc* rammed the submarine and was crushed between the destroyer and the U-boat. U-100 promptly sunk as a result of the damage it sustained.

After so much effort on the part of the U-boat crews to find convoys, they were rarely willing to let the opportunity slip by to destroy a ship. This led to aggressive attacks on the part of U-boats that often left them exposed to fire from armed merchant ships and escorts. While the U-boats could fire their torpedoes

⁷⁷ David Syrett, *The Defeat of the German U-Boats* (Columbia, SC: University of South Carolina Press, 1994), 11.

and make a hit, they quickly had to break off the attack and submerge. The convoy escort ships would follow them and begin their own hunt. In a matter of minutes the hunter became the hunted. These hit and run tactics did inflict casualties, but they were not as effective as picking off individual ships as German U-boats had done before the convoys system was implemented.

At the beginning of the war these war ships had trouble staying with the convoy for the entire trip and usually had to turn back after a few hundred miles. This left the unarmed merchant ships very vulnerable to attack. The antique Town-class destroyers from World War One were not adequate as escorts. Though they had a speed of 30 knots, they had a terrible turning radius, and this was crucial for keeping contact with a submerged U-boat. Furthermore, their slender design made them unstable in the choppy waters of the North Atlantic. The Americans and Canadians assisted in the process of modernizing the Royal Navy's escort ships. The Royal Navy commissioned the new Flower-class destroyers and River-class frigates, which were built in North America. These warships had powerful engines that could keep up with any merchant ship. Furthermore, they had a tight turning radius which was required for hunting U-boats. In addition, they carried a large amount of fuel so they could stay with the convoy for much of the journey before they had to be refueled. Moreover, these ships were built to handle the rough Atlantic waters so they were stable and well balanced. They could also carry a large number of depth charges which were needed for fighting U-boats. These ships were not large battleships, but rather small ships with light guns, and large depth charge racks that could drop dozens of charges.

The Flower-class destroyers were cheap to manufacture and had a long range. The River-class frigates were robust ships with good speed and an impressive armament. Armed with depth charge throwers, Hedgehog bombs, and

20mm Oerlikon cannons, these frigates had a weapon for every situation. In addition to these weapons, the Royal Navy vessels were armed with advanced electronic detection equipment such as HF/DF radio. This signal detection device locates the source of a radio signal. These were invaluable because German U-boats constantly sent radio transmissions to other U-boats and to their shore-based command centers in Europe. The source of the signal would be followed and then attacked with depth charges.

These HF/DF sightings were also relayed to the British U-boat tracking room known as the Operation Intelligence Centre. This is where the British kept track of every U-boat they knew of and plotted them on a map. The constant intelligence gathering by ships at sea and by other means meant that the British could create a semi-accurate map of where the U-boats were operating. The Americans and Canadians also established similar U-boat tracking rooms and the Allies exchanged information freely with each other. This intelligence gathering helped to better prepare the convoys for their dangerous journey.

The second method was the use of aircraft to patrol the convoys which was controversial due to the politics surrounding their allocation between Bomber Command and Coastal Command. The issue was the small number of military planes that the British had at their disposal. To further add to the controversy, the majority of aircraft were controlled by RAF Bomber Command, and they wanted to use them for bombing Germany. Prime Minister Churchill supported the bombing of Germany since it was the only offensive action they could take once the British army had been evacuated from France.

This dispute between Bomber Command and Coastal Command is known as the "Battle of the Air." Bomber Command had the support of Churchill and this gave Bomber Command the ability to conduct raids over Germany as often as they

liked. However, once the Battle of the Atlantic Committee had been set up, Coastal Command began to take action. First Sea Lord Admiral Sir Dudley Pound fought to increase the allocation of long range aircraft to Coastal Command. This was a different struggle in part because Josef Stalin constantly pressured Churchill to take more offensive action against Germany to ease the pressure on the Soviet army fighting on the Eastern Front. Churchill responded by sending more bombers over Germany, as this was the only offensive action the British could take at the time. It was not until Britain was running dangerously low on food and aviation fuel that Churchill began to see the seriousness of the situation. Finally, in July, 1942, Coastal Command began to receive the B-24 Liberators they needed to conduct long range missions against U-boats. They would not be immediately deployed because it would still take time for Coastal Command to outfit these aircraft to their specifications and make them efficient submarine hunters.

Coastal Command aircraft were needed due to the fact that escort ships could only provide so much convoy protection. Escort ships were not nearly as fast or maneuverable as aircraft. In addition, escort ships rarely surprised a U-boat and made an attack without the U-boat diving first. Too often it was the sound of a torpedo explosion that alerted an escort ship. The inability for escort ships to prevent attacks meant that at least one merchant ship would be attacked before the escort ships could assault a U-boat. These flaws in the convoy system showed the British that Coastal Command would be needed if they were to go to defeat the U-boats and secure their supply lines.

CHAPTER 4: HUNTING THE U-BOATS

Coastal Command began to show its true value after it was allocated sufficient long range aircraft that could escort a convoy across part of the Atlantic. These escort aircraft would prove effective at detecting and hunting U-boats that were approaching a convoy. This chapter will examine the convoy escort patrols and I will use primary sources from the British archives and interviews to show that Coastal Command was a key piece to solving the U-boat issue. I should mention that even with the new technology and aircraft that Coastal Command used, the job of hunting submarines only got more dangerous as the war went on. With the increase in U-boat losses due to aircraft, the Germans began to outfit their U-boats with the impressive quadruple 37mm anti-aircraft cannon. This coupled with new orders to engage enemy aircraft, meant that Coastal Command pilots would have to gun fight with U-boats on a more frequent basis. This was not a one sided battle as numerous planes were shot down as a result of German anti-aircraft fire. However, in response to this new threat, the British developed new countermeasures for dealing with German submarine defenses. Ironically, aircraft began to attack U-boats in packs, just as the Germans attacked the convoys. The engagements in the Atlantic showed the importance of aircraft and Coastal Command to the Battle of the Atlantic. And more importantly, these engagements helped supplies flow into Great Britain in preparation for the liberation of Europe and ultimately the defeat of the German U-boats.

The ultimate aim of every crew was to sink a U-boat however; just their presence in the air was a weapon in itself. Even if an aircrew sighted a U-boat, they would still had to successfully inflict enough damage on it. It was very hard to determine if a U-boat sunk or just slightly damaged. An oil slick usually

indicated a successful strike but often the fate of the U-boat remained a mystery. This kind of combat helped to motivate Coastal Command because they knew they were keeping U-boats away from merchant ships.⁷⁸ A sense of pride was instilled through the squadrons as they saw themselves as the new saviors of Britain. Captured German sailors often said that they dove and broke away from a convoy because they heard or sighted a Coastal Command aircraft.⁷⁹ U-boats often approached convoys during the day as German aircraft flew overhead. The German Kondor bomber usually attacked the convoy on these missions. Coastal Command pilots sometimes attacked a U-boat and an aircraft in the same day.

On one such mission, a B-24 Liberator attacked a U-boat after the convoy radioed for assistance. The Liberator dove and dropped a stick of bombs on the U-boat. The U-boat crash dived and broke away from the convoy. Whether it was sunk or not is unknown, but the Liberator had done its job and scared the U-boat away from the convoy. An hour later, the same Liberator spotted a Kondor bomber making its way towards the convoy. The Liberator attacked with cannon fire and drove off the enemy bomber. Earlier in the morning the Liberator had damaged another Kondor that was trying to bomb the same convoy. This single aircraft had successfully protected the convoy against three attacks in one day.⁸⁰

It was not only during the day that Coastal Command aircraft made successful attacks. With the invention of 10cm radar, aircraft could now detect submarines before they were within visual range. Coastal Command also began outfitting their aircraft with the Leigh Light. This is a search light that fixes on a target and makes it visible at night. It also blinded the crew of a U-boat so they

⁷⁸ Dudley-Gordon, 221.

⁷⁹ Dudley-Gordon, 226.

⁸⁰ Dudley-Gordon, 240.

could not fire back with their anti-aircraft guns. On June 4, 1942, the Italian submarine *Luigi Torelli*, was patrolling the Bay of Biscay when a Wellington aircraft of RAF 172 squadron picked it up on radar.⁸¹ When the aircraft was one mile away, RAF pilot Jeaff Greswell turned on the Leigh Light and lit up the enemy submarine. The Italians were helpless as the aircraft was homing in too quickly. Greswell dropped four depth charges around the submarine and damaged the vessel. Unable to carry on with her patrol, the submarine docked in Spain.⁸² Though the submarine did not sink, it was taken out of action and this was one less threat to Allied shipping.

Another attack of this nature occurred on July 5, 1942. A Wellington of RAF Squadron 179 was patrolling the Bay of Biscay when Pilot Officer W. Howell sighted U-502 on the surface. Officer Pilot Howell shined his Leigh Light on the U-boat and attacked with depth charges. The U-boat sank with all hands on-board. Officer Pilot Howell damaged U-159 a week later, and on July 15, 1942, sunk U-751 off the coast of Portugal.

Coastal Command not only hunted submarines, but also hunted German battleships. On April 6, 1941, the German battleship, *Gneienau*, was anchored in Brest while being readied for its journey to the Atlantic.⁸³ Its mission was to attack Allied convoys. Coastal Command pilot Flight Officer Kenneth Campbell proceeded to not let this happen. In an early morning attack, F/O Campbell flew low along the water towards the *Gneienau*. German anti-aircraft fired with extreme intensity. The Germans fired from the hills above the harbor, from ships,

⁸¹ Marc Milner, *The Battle of the Atlantic* (St. Catherines, Ontario: Vanwell Publishing Limited, 2003), 102.

⁸² Milner, 103.

⁸³ Milner, 109.

and from the *Gneienau* itself. With flak, cannon, and machine gun fire bursting all around the lone British torpedo plane, F/O Campbell got within 500 yards of his target and dropped a torpedo.⁸⁴ The torpedo struck the *Gneienau* and rendered it useless for months. The British plane was shot down and the crew were killed. This single act helped save the lives of many sailors who were on board the ships that the *Gneienau* was going to attack. F/O Campbell and his men crippled one of the most feared German battleships and allowed Coastal Command to concentrate on the threats already at sea.⁸⁵ The loss of the *Gneienau* was a huge blow to the Germans because they only had a few large battleships to call on during the war.

These early successes in 1942 prompted the RAF to allocate more aircraft to Coastal Command. This combined with more escort ships and the commitment of the U.S and Canada, meant the Germans were quickly losing hunting grounds. Admiral Doenitz quickly began restricting where his U-boats could go as he was afraid that more aircraft would be patrolling the Atlantic and the Bay of Biscay.

Coastal Command had bases set up around the Atlantic in Iceland and the U.K. This allowed for aircraft to join a convoy at different point along their route. This meant that U-boats had to be very cautious when approaching a convoy because an aircraft could be anywhere during the day or night. And since U-boats had to sail on the surface to keep up with a convoy, this put them in even greater danger. U-boat captains had to decide if they would risk losing their target or being sighted by an aircraft and these choices often determined if the crew would live or die.

84 Dudley-Gordon, 224.

85 Dudley-Gordon, 225.

Five notable convoys were saved by Coastal Command aircraft in 1942 and 1943. This included convoys HX217, SC118, SC130, HX229, and ON206. HX 217 was sailing on December 8, 1942 when it fell into the Gruppe Draufganger patrol line in the North Atlantic. Twenty U-boats manned this patrol line and Coastal Command reported a large number of sightings.⁸⁶ Two of these sightings resulted in attacks. One by Second Lieutenant T.M Bulloch and the other by First Lieutenant D.J Isted. S/L Bulloch attacked one U-boat and sunk it on the first try. This U-boat was U-611 and this kill was confirmed by floating bodies and by the escort ship *K-214* which radioed to S/L Bulloch, "You killed him."⁸⁷ The second attack, carried out by SL Isted, resulted in U-221 being forced to dive after six depth charges were dropped near it.⁸⁸ While U-221 did not suffer any damage, it had been forced to dive and lost track of the convoy. Losing track of the convoy would prove disastrous for this U-boat flotilla as tragedy would strike them that night. Due to the aircraft patrols, the U-boats had to track the convoy underwater. U-221 and U-254 collided while submerged and U-254 sank with only six men surviving.⁸⁹

Another important battle took place the following year. Convoy SC118 was sailing on February 6, 1943 when it was spotted by U-454 of the U-boat group known as Gruppe Landsknecht. U-454 was 31 miles from the convoy when it was sighted Coastal Command Liberator of Squadron 120, led by F/S J. H. Frewin.⁹⁰ The Liberator immediately radioed to the convoy that a threat had been sighted.

⁸⁶ Norman Franks, *Dark Sky, Deep Water: First Hand Reflections on the Anti-U-Boat War in WWII* (London: Grub Street, 1997), 93.

⁸⁷ "December 8, 1942," AIR 27/911. The National Archives. London.

⁸⁸ "December 8, 1942," AIR/27/911. The National Archives.

⁸⁹ Franks, 94.

⁹⁰ Franks, 56.

Along with the Liberator was a Sunderland flying-boat which immediately attacked the U-boat with six depth charges.⁹¹ The attack yielded no visible results, however, the Liberator soon attacked with a depth charge and this forced the U-boat to dive. Frewin then circled around and dropped two more depth charges which resulted in oil rising to the surface. The U-boat was not seen on the surface again but it was not fatally wounded. Frewin then sighted another U-boat and attacked it with his cannons. This U-boat crash dived like the previous U-boat. Both of these U-boats were unable to attack the convoy.⁹² In addition to the attack made by F/S Frewin, S/L D.J Isted made a successful attack on a U-boat. S/L Isted dropped six depth charges around the U-boat and one made a direct hit. This depth charge immediately exploded and a surge of bubbles and oil came to the surface. Debris began to appear and it was obvious that the U-boat had been sunk.⁹³

The third convoy, HX229, was being covered by Coastal Command pilot F/O Sammy Esler in his Liberator. While flying at 3,500 feet, the Liberator crew spotted two U-boats approaching the convoy. F/O Esler attacked one of the U-boats with five depth charges. This U-boat crash dived but the depth charges exploded near the submarine. The U-boat then reappeared on the surface for 35 seconds before it disappeared again. The second U-boat had crash dove while this attack was happening and was not seen from again.⁹⁴ F/O Esler flew back to the convoy to keep other U-boats away and sighted three more approaching the convoy. FO Esler dove over the middle U-boat and dropped a single depth charge while his gunner sprayed the U-boats with machine gun fire. All three U-boats dove

91 "February 2, 1943" AIR/27/911. The National Archives. London.

92 "February 2, 1943" AIR/27/911. The National Archives. London.

93 "February 2, 1943" AIR/27/911. The National Archives. London.

94 Franks, 95.

to escape and broke away from the convoy. FO Esler's efforts thwarted the attack of five U-boats on HX229. The success of Coastal Command convoy patrols would continue as would be seen with the convoy SC130, in May of 1943.

SC130 was headed from Canada to Great Britain and consisted of 39 merchant ships. It was escorted by Escort Group B7 and this group was led by Commander Peter Gretton, a well-respected U-boat hunter. SC130 would also be watched over by Coastal Command 120 Squadron based out of Iceland. The Germans set up a patrol line known as *Oder*, to intercept the convoy. Six U-boats made up this patrol line and this would complement the 25 U-boat patrol line that was *Donau 1* and *Donau 2*. Together these patrol lines attacked the convoy every chance they had. The convoy escorts made contact with the stalking U-boats on May 18 when U-304 gave away its position to the British HF/DF detection equipment. Throughout the day, SC130 fought its way through this patrol line with its escorts hunting down the U-boats it could find.

However, on May 19, Coastal Command aircraft from Squadron 120 began its patrol and quickly sighted a U-boat.⁹⁵ The B-24 VLR Liberator attacked with three depth charges and forced the U-boat to dive. The pilot then made a second attack with two torpedoes that were dropped on the spot where the U-boat had dove. Explosions erupted near the area where the torpedoes had entered the water and U-954 sank with all hands on board.⁹⁶ This same aircraft made three more U-boat sightings, but the plane was out of depth charges and torpedoes, so this aircraft could only dive on U-boats force them to submerge. This tactic succeeded in keeping the U-boats from getting into a firing position and thus allowed the convoy to pass these three U-boats unmolested.

⁹⁵ Syrett, 125.

⁹⁶ Syrett, 126.

The next day, May 20, Liberator aircraft from Squadron 120 arrived to commence a patrol. At once, F/L McEwen, pilot of the aircraft, sighted a U-boat and dove to make an attack with three depth charges. The U-boat submerged but was seen again by F/L McEwen. The Liberator dropped a torpedo near the submarine but no results were seen.⁹⁷ Shortly after this engagement, F/L McEwen sighted another U-boat and dove to make an attack. However, this U-boat fired back with its anti-aircraft guns and F/L McEwen had to take evasive action. As this happened, another U-boat was sighted and F/L McEwen radioed to the escort ships the position of this U-boat. A few minutes later another U-boat was sighted and the Liberator dove on the U-boat with its forward machine guns strafing the conning tower. The U-boat made an emergency dive to avoid further damage.⁹⁸ In total, F/L McEwen made five U-boat sightings and conducted three attacks. Furthermore, he forced all of these U-boats either to dive or give their position to the escort ships so they could attack. This efficiency shows how good Coastal Command pilots were at either attacking or scaring off U-boats from a convoy. While escort ships were very effective, they did not have the speed or field of vision to sight and attack all these submarines in such a short amount of time.

That same day, a second B-24 VLR Liberator flown by S/L Procter, began its patrol over SC130. The crew sighted a U-boat but it crash dived before an attack could be made. Two hours after the first sighting, a second U-boat was discovered and the Liberator dropped four depth charges around the submarine with no results seen. After returning to its patrol route, the crew of the Liberator sighted another U-boat and dove to attack with its machine guns firing. The U-

⁹⁷ "May 20, 1943." AIR 27/911. The National Archives. London.

⁹⁸ "May 20, 1943." AIR 27/911. The National Archives. London.

boat fired back with its anti-aircraft guns, forcing the Liberator to turn away. However, on the second strafing run, the Liberator fired 180 cannon rounds into the conning tower of the U-boat. These heavy cannon rounds did so much damage to the U-boat that it later sank due to this attack.⁹⁹ This U-boat was later identified as U-256.¹⁰⁰

The final two convoys I will discuss are ON 206 and ONS 20. These convoys traveled a mere 35 miles apart so they faced the same U-boat force just days apart. The first convoy to make contact with the U-boats was ON 206, which was traveling from Liverpool, England to Halifax, Nova Scotia. It departed on October 9, 1943 with 52 ships and was escorted by the B-4 escort group. This convoy received air cover from Coastal Command Squadron 120. The Germans had prepared a patrol line known as the *Schlieffen* patrol line and waited to make contact with the convoy.¹⁰¹ On October 16, 1943, the convoy made contact with the patrol line and escort ships began to sweep the area for U-boats. While U-boats were sighted, none were successfully attacked.¹⁰² The U-boats were ordered to remain surfaced so they kept up with the convoy even while knowing that aircraft were inbound. Sure enough, as the U-boats closed in on the convoy the Liberators of Coastal Command closed in on the convoy. The first Liberator to attack U-844 was shot down by the U-boats flak guns. However, the second Liberator, flown by F/L Kerrigan dropped four depth charges even as the U-boat fired its flak cannons. The depth charges had found their mark and bright flashes could be seen coming from the U-boat. The U-boat sank with only 15 sailors

99 "May 20, 1943." AIR 27/911. The National Archives. London.

100 Syrett, 132.

101 "October 13, 1943," DEFE 7/723. The National Archives. London.

102 Syrett, 215.

surviving.¹⁰³ Six hours later, F/L Peck in a VLR Liberator attacked and sank U-470 with six depth charges and machine gun fire.¹⁰⁴

The *Schlieffen* patrol line took heavy casualties at the hand of Coastal Command aircraft and the escort group that was attached to ON 206. Since the surviving U-boats were forced to submerge, they lost the convoy and had to look for a new target. Just 35 miles northeast of ON 206 sailed ONS 20 and it did not take long for the escort ships on ONS 20 to pick up signals indicating U-boats were nearby. The escort ships of Escort Group B7 joined the 4th Escort Group and ONS 20 to give assistance. The British expected the Germans to attack this convoy after they were finished with ON 206. Coastal Command joined the hunt as and on October 17, two pilots would each sink a U-boat.

The first pilot was Warrant Officer Turnbull who was flying a VLR Liberator. Upon sighting a U-boat in the early morning, W/O Turnbull dropped four depth charges on the U-boat and strafed it with his 20mm cannon. The U-boat slowed down and W/O Turnbull made a second pass while dropping four more depth charges. The U-boat broke in half and quickly sank as a result of the second set of depth charges.¹⁰⁵ That same day, another VLR Liberator, flown by F/L Hatherly sighted three U-boats approaching the convoy. He attacked two of them with .50 caliber machine guns and dropped four depth charges near each one. One U-boat sustained heavy damage by the stern and all three were forced to dive and break off their approach.¹⁰⁶

103 "October, 16, 1943," AIR 27/ 708. The National Archives. London.

104 "October, 16, 1943," AIR 27/ 708. The National Archives. London.

105 "October 17, 1943," AIR 27/708. The National Archives. London.

106 "October 17, 1943," AIR 27/708. The National Archives. London.

These engagements by Coastal Command aircraft thwarted the attack of these U-boats as well as others. The U-boats were unable to get close to the convoy and this allowed the naval escort ships to stay close to the merchant ships. Furthermore, the continuous attacks meant that the U-boats had to crash dive and could not stay in the surface where they are the most deadly. Only an aircraft could have sighted and carried out such a quick attack. The naval escorts could not risk leaving the convoy to carry out an attack. This shows that while the aircraft did not always destroy a U-boat they at least forced the enemy to dive and break away from the convoy. While Coastal Command was effective at defending convoys, they were also very skilled at hunting for U-boats. The biggest Coastal Command offensive operation was the Bay of Biscay Offensive which will be described in the next chapter.

These examples of action during specific convoy battles demonstrates that aircraft contributed in a significant way to the defense of convoys. While the convoy system itself was part of the defense, escort ships had limitations. Their inability to pursue u-boats without leaving the convoy left the convoy vulnerable. The quick and efficient aircraft were more valuable and effective in specific situations. Moreover, as will be seen in the next chapter, aircraft were capable of waging an effective offensive campaign against U-boats and thus were not limited to purely defensive operations defending convoys.

CHAPTER 5: THE OFFENSIVE IN THE BAY OF BISCAY

Coastal Commands relentless patrolling of the Bay of Biscay become known as the Bay of Biscay Offensive. This major operation showed how Coastal Command was an offensive air unit that could take the fight to the Germans. This operation also showed the dangers of anti-submarine warfare. Sinking a U-boat was not easy, even when they were sighted. The Germans armed their submarines with formidable flak cannons and other anti-aircraft guns. Furthermore, their gunners were specifically trained for shooting down aircraft and were successful on numerous occasions. Even as the Allies were becoming better U-boat hunters, the U-boats were determined to not give up their operations until they were knocked out of action or sunk.

Between April and August of 1943, the British deployed 12 RAF squadrons to patrol the Bay of Biscay.¹⁰⁷ This busy route for U-boats connected the Atlantic to their main ports located in Lorient, St. Nazaire, Brest, La Pallice, and Bordeaux, France.¹⁰⁸ Coastal Command deployed Liberators, Wellingtons, Catalinas, Halifaxes, Beaufighters, and Sunderland aircraft for this offensive. Admiral Doneitz knew the Allies were increasing operations in the Bay of Biscay so he ordered his submarines to fight back with their anti-aircraft guns. British pilots quickly learned to attack in packs against a single U-boat.¹⁰⁹ Between May and August, Coastal Command sank 26 U-boats and damaged another 17.¹¹⁰ Between July 1, and July 7, 1943, four U-boats were sunk by aircraft. During the next three

107 Milner, 166.

108 Blair, 318.

109 Milner, 167.

110 Micheal Gannon, *Black May* (New York: Harper Collins Publishers, 1989), 258.

days alone, another three U-boats were sunk. Beginning on April 30, 1943, RAF Coastal Command began Operation Derange. This was the patrolling of the “Derange Ribbon,” an area of the Bay of Biscay. The “Derange Ribbon,” was an area marked on the RAF grid map where Coastal Command would have their aircraft patrol for incoming and outgoing U-boats. The first attacks of Operation Derange occurred on May 1, 1943 when U-415 was attacked on three separate occasions but managed to survive all three attacks.

The first U-boat kill during Operation Derange occurred on May 2 when U-465 was sighted by First Lieutenant Bertie Smith in a Sunderland flying-boat. First Lieutenant Smith sighted the U-boat 10 miles away so he climbed into the clouds for concealment. When he was four miles away he dove to attack, but was met with heavy flak fire from the U-boat's anti-aircraft guns. In response the Sunderland gunners sprayed the U-boat with machine gun fire to get eliminate the German gun threat. The Sunderland dropped four depth charges which blew a hole in the side of the U-boat. Oil began pouring out and the U-boat stopped moving, but had not sunk. F/L Smith turned around for a second pass and dropped four more depth charges which detonated on the side of the U-boat. More oil began to pour out of the U-boat and the Germans began to abandon ship. A few minutes later, the U-boat sank.¹¹¹ This was the beginning of what would become known as “Black May,” for the Germans.

“Black May” was a time of low morale and a feeling of helplessness among many of the U-boat crews because it was a month of horrendous U-boat losses at the hands of the Allies. This feeling of helplessness was symbolized on U-663, which did not get a single shot off to defend itself on May 3rd. First Lieutenant

111 Gannon, 268

Rossiter of Coastal Command sighted a U-boat trying to leave the Bay of Biscay. F/L Rossiter took his Sunderland flying-boat into the clouds and then dove towards the U-boat when he was four miles away. The boat crew had no time to man their anti-aircraft guns and the men still on the conning tower were sprayed with machine gun fire. When the aircraft was 50 feet away, F/L Rossiter released four depth charges that detonated just in front of the U-boat. F/L Rossiter turned sharply to make another pass and dropped four more depth charges. One charge found its mark and severely damaged the U-boat. Oil began pouring out and left a trail hundreds of feet long. The U-boat submerged and was not seen from again. F/L Rossiter later found out that it sunk a day later from the damage he inflicted.¹¹² Because F/L Rossiter used cloud cover and speed to his advantage, the U-boat crew never had a chance to mount a defense. Furthermore, his actions not give the U-boat time to crash dive and perhaps escape. Again, this engagement showed that aircraft had a unique ability to surprise a U-boat before it could respond. And because Coastal Command was now on the offensive, the U-boats coming out of France had a much more difficult time of finding a convoy, if they even made it out of the Bay of Biscay in the first place.

To make matters worse for the Germans, Coastal Command aircraft began attacking multiple U-boats in the same day. On May 15, a total of six U-boats were attacked in the Bay of Biscay. Four of these attacks did not result in any damaged U-boats but it was a sign of Coastal Command's improvement in anti-submarine warfare. Furthermore it showed that despite the threat of aircraft, U-boat commanders took more risks in order to try to regain the advantage in the Atlantic. On one attack, U-591 was sailing out to sea when a Whitley aircraft

112 Gannon, 270.

strafed the conning tower with machine gun fire, wounding the U-boat captain and one other. The U-boat returned to base because of this and did not present a threat to any Allied ship. In addition, the final attack of the day resulted in the sinking of U-266.

On the evening of May 15, Pilot Wing Commander Oulton was patrolling in his Halifax bomber when he sighted U-266 on surface. Commander Oulton flew with his tail to the sun as to conceal his position. Suddenly, Commander Oulton dove towards the U-boat and sprayed the conning tower with machine gun fire and then released four depth charges. Two of the depth charges hit the U-boat and detonated. The rear gunner reported that the U-boat's nose rose out of the water at a steep angle. It then began to slide into the water where it quickly sank. U-266 was the Germans highest scoring U-boat during the largest convoy battle in the Battle of the Atlantic and its loss showed that the tide had turned in favor of the British.¹¹³

The month of May was successful for Coastal Command. Coastal Command had sunk six U-boats and damaged another seven. This prompted a tactical response from the Germans in the form of sailing in packs. The idea was that U-boats would sail out of port in groups so that they could combine anti-aircraft firepower and thus have a better defense. The Germans also increased Luftwaffe air cover. These tactical changes resulted in more dog fights between the British and Germans, and a change in how Coastal Command attacked U-boats. Because one aircraft was vulnerable to multiple anti-aircraft guns, Coastal Command ordered their pilots to attack in groups when possible. If a pilot spotted a U-boat, he was to call in other aircraft and they would coordinate an attack from

¹¹³ Syrett, 268.

different directions.¹¹⁴ This created confusion and panic among the German submariners. Having multiple aircraft attack also increased the chances that one would strike the U-boat with its depth charges or gun fire.

In addition to tactical changes, the Germans and British were also changing the equipment and technology they used. The Germans began to fit quad 37mm anti-aircraft guns and MG machine guns to shoot down aircraft. The quad 37mm guns were a formidable weapon that tore an aircraft to pieces with just a few direct hits. Even if the gunners did not hit the aircraft, the 37mm fire could scare a pilot off his approach and this allowed the U-boat to avoid the depth charges or incoming machine gun fire. In addition to this, the Germans developed the Metox device which neutralized the metric radar waves that the RAF used to detect the U-boats. While the RAF now used centimeter radar waves, the RAF feared that the Germans would soon develop a countermeasure for this as well.¹¹⁵ These issues meant that Coastal Command was trying to destroy as many U-boats as they could in the shortest amount of time. The fear that German technology and armament may gain the upper hand once more was real. With these new changes in place, the months of June and July would be a fiercely contested battle between Coastal Command and the U-boats.

One of the most notable engagements that demonstrated the dangers of anti-submarine warfare was the engagement of U-459 on July 21, 1943. U-459 was a tanker U-boat that refueled and rearmed U-boats while at sea. It carried no torpedoes but was armed with six anti-aircraft guns.¹¹⁶ These tankers were valuable

¹¹⁴ Norman Franks, *Conflict Over the Bay: Momentous Battles Fought by RAF and American Aircraft Against the U-boats, Bay of Biscay May-August 1943* (London: Grub Street, 1986), 72.

¹¹⁵ Gannon, 255.

¹¹⁶ Norman Franks, *Dark Sky, Deep Water: First Hand Reflections on the Anti-U-Boat War in WWII* (London: Grub Street, 1997), 40.

targets for Coastal Command because the Germans only had six of these U-boats and losing them meant that the attack U-boats had to sail back to port in order to refuel and resupply. The Germans ordered their U-boats to protect the tankers at all costs. However, even their best efforts could not protect them from Coastal Command.¹¹⁷

On July 24, 1943, U-459 was sailing when a Wellington of 172 Squadron Coastal Command picked it up on radar. The Wellington, commanded by Flight Officer W.H.T Jennings, immediately flew towards the target to attack.¹¹⁸ The Wellington dove to 100 feet but the German anti-aircraft guns hit the aircraft 350 feet away from the U-boat.¹¹⁹ The Wellington and its pilots were mortally wounded and crashed into the U-boat. However, just before the plane had crashed it released its bombs which landed on the deck of the U-boat. The Germans raced to push the bombs overboard, but as they were sunk, they detonated, and damaged the U-boats propellers.¹²⁰ While this was not fatal, it prevented the U-boat from moving. This immobility soon became an issue when a second Coastal Command Wellington dove and attacked the stricken U-boat. The Germans tried to man the anti-aircraft guns but they machine gun fire killed the German gunners. The British continued to attack the U-boat with bombs and depth charges until it sank. The Germans had scuttled the submarine and survivors floated on life rafts. One member of the Wellington that was shot down was in a life raft as well and was in

117 "September 2, 1943," DEFE 7/723. The National Archives. London.

118 John F. White, *U-Boat Tankers: 1941-1945* (Annapolis: Naval Institute Press, 1998), 144.

119 Franks, 39.

120 Franks, 40.

the water until he was picked up by a Polish destroyer, along with the German prisoners.¹²¹

On July 28, 1943, a Coastal Command aircraft attacked U-404. U-404 was sighted and attacked by American pilot, Major S.D McElroy. The American dove and strafed the U-boat's deck with machine gun fire and killed a number of German submariners. Major McElroy made a second pass and dropped eight depth charges that detonated around the U-boat and caused an oil leak. Unfortunately, the German gunners had hit the Liberator with a 20mm shell and caused major damage to one of the engines. Major McElroy radioed to Coastal Command and stated that he had attacked a U-boat. With that radio call, Coastal Command pilot Flight Officer Sweeny arrived on the scene to find the damaged U-boat sailing on the surface. As he closed in the German anti-aircraft gunners opened fire and one of the Liberators engines was hit. Even with the loss of one engine, F/O Sweeny dropped his depth charges and they detonated next to the conning tower. The U-boat went under the surface and then reappeared for a few seconds. Moments later the U-boat sank and bodies and debris began to appear. The engagement of U-404 showed that teamwork among Allied pilots was an effective way to attack a U-boat. Furthermore, it showed that even while German anti-aircraft fire was dangerous, it could only defend against so many aircraft before the submarine was mortally wounded. This attack would be the beginning of a week long campaign that would see the destruction of several U-boats.¹²²

During this final week of July the most successful day would be July 30 when three U-boats were sunk by the teamwork of Coastal Command and the 2nd

121 Franks, 42.

122 Norman Franks, *Conflict Over the Bay: Momentous Battles Fought by RAF and American Aircraft Against the U-boats, Bay of Biscay May-August 1943* (London: Grub Street, 1986), 128.

Escort Group of the Royal Navy. On this day, U-461, U-462, and U-117 were sailing out of Bordeaux when they were sighted by both a Sunderland and Liberator aircraft of Coastal Command. The Liberator aircraft, piloted by Flight Officer Irving called in the sighting of three U-boats, which prompted Coastal Command to divert an additional three aircraft to the scene. The Coastal Command aircraft began to circle around the three U-boats, just out of the range of the U-boats anti-aircraft weapons. The first aircraft to attack was a Coastal Command Halifax bomber that dropped a 600 pound anti-submarine bomb from 3,000 feet. The bomb was surprisingly accurate and damaged one of the U-boats. In the wake of the first bombing, two aircraft dove on the U-boats to attack. They were met with fierce anti-aircraft fire and 20mm shells were exploding all around both aircraft. The Liberator was hit and had to peel off to avoid further damage. However, the second Liberator continued its attack and was firing machine gun rounds on the U-boat's deck. With German submariners falling off the U-boat due to the machine gun fire, the second Liberator dropped seven depth charges on U-461. The explosions literally cut the U-boat in half and it quickly sank.¹²³

As U-461 was sinking, U-462 was being homed in on by a Sunderland flying-boat piloted by First Lieutenant Morrows. The Sunderland gunners killed some of the German gunners on the U-boat deck. Without anti-aircraft defense, U-462 was a sitting duck and F/L Morrows dropped three depth charges right next to the stricken U-boat. Once they detonated, the U-boat quickly sank with only 15 survivors.

The final engagement of the day would commence with some team work by Coastal Command and the Royal Navy's 2nd Escort Group. U-504 dove so the

¹²³ Franks, 141.

aircraft could not make an attack. However, with the warships fast approaching, the pilots radioed the ships and told them the last known location of the third U-boat. Within a few minutes the surface ships had found the U-boat using their asdic sonar equipment. U-504 was able to evade the pursuing ships for over an hour but eventually a depth charge attack was made and U-504 was sunk with no survivors.

The attacks made on July 30, 1943 destroyed an entire U-boat group that was setting sail for the Atlantic. In addition, two of these U-boats were tanker U-boats that were carrying vital supplies to U-boats all across the Atlantic. Now these U-boats had no supplies coming and had to return to base instead of remaining operational. Moreover, the effect on German moral was immeasurable. The loss of three U-boats in a span of two hours was unthinkable in the previous months of the war. Germany's efforts to defend their most prized U-boats had failed. However, July 30th had been a triumph for Coastal Command and the Royal Navy. Using teamwork and courage, the British and their allies had sunk 23 U-boats and damaged 20 more from March to July in the Bay of Biscay.¹²⁴

The Bay of Biscay Offensive changed the way U-boats operated throughout the rest of the war. Admiral Doenitz would make new orders regarding how the U-boats would travel from their bases in France and Germany. Beginning in August, U-boats were no longer allowed to traverse the Bay of Biscay in groups or on the surface during the day. U-boats could only surface at night to recharge their batteries. U-621 remained the exception as it was a flak U-boat, which was supposed to engage aircraft at any chance given. Second, due to the fact that Germany had lost a number of its tanker U-boats, such as U-459, U-boats had to

124 Franks, 172.

stop in Norway to refuel before they would sail across the Atlantic to North America. This caused a major delay in U-boat operations and crowded the German submarine pens in Norway. These delays and overcrowding also caused accidents that damaged several U-boats. These delays also meant that the U-boats at sea would have no reinforcements as the Allied convoy defenses were getting stronger.

In response to the horrendous U-boat losses between May and June of 1943, Admiral Donitz and Adolf Hitler met to discuss how the U-boat war would be waged in the future. Hitler ordered the Luftwaffe to commit more aircraft to patrolling the Bay of Biscay. This produced more dog fighting among British and German pilots but too many U-boats had been lost already, and there were only a few still sailing in the Bay of Biscay. Another change implemented to the U-boat arm was that U-boats were to keep their Metox devices off during clear days so that Allied aircraft could not detect them. This helped U-boats evade aircraft more effectively but constituted a small victory when compared to number of kills the British had achieved in the months before. Donitz also had faith in the upcoming snorkel system that would be installed on new and existing U-boats. This allowed the U-boats to stay submerged for longer periods of time and allowed them to travel faster under water. However these changes were ineffective as the U-boats had already lost the advantage in the Atlantic. Coastal Command and other Allied forces had sunk too many experienced U-boat crews and these men were irreplaceable. New and inexperienced U-boat crews were not used to sailing in groups, attacking in a wolf pack, or defending against an aircraft attack. Meanwhile, Coastal Command pilots had gained valuable experience with hunting U-boats and this built confidence among the ranks. Coastal Command had transformed from a minor defensive unit into a respected offensive force. More U-

boats were sunk by Coastal Command aircraft than any other force in the pivotal months of mid-1943. Because of their efforts, Coastal Command had crippled the U-boats ability to make war on the Allies supply lines.

CONCLUSION

From August, 1943 until the end of the war, U-boats found it increasingly difficult to attack Allied convoys. This was crucial to Operation Bolero, which was the buildup of supplies in England for D-Day. Moreover, German U-boats were unable to pose a great threat to the D-Day landings as they did not have the numbers, or ability, to get close enough to the Allied ships making way for Normandy. The efforts of Coastal Command from the beginning of the war until the Bay of Biscay Offensive helped to minimize the U-boat threat, and allowed the Allies to regroup and build up their forces for the liberation of Europe.

While the U-boats still remained a dangerous enemy, the tide turned in favor of the Allies after the Bay of Biscay Offensive. Coastal Command showed that aircraft were the most effective means of hunting a U-boat even when the Germans set up strong countermeasures. In total, German lost 41 U-boats in May of that year, with 26 of those sunk by Coastal Command.¹²⁵ This was not bad for a unit that been labeled as only a “defensive,” unit. Not only did Coastal Command helped to protect the convoys from being attacked, they took the fight to the U-boats even before they had a chance to locate a convoy. This, coupled with their ability to deny passage over certain areas, meant that Coastal Command aircraft were the most well rounded anti-submarine force the Allies had. While the tremendous efforts of the Royal Navy and other Allied agencies are important, it was the aircraft and pilots of Coastal Command that were the most effective weapon against the U-boat threat. It must be noted that Coastal Command could not have completed their mission without the help of Allied intelligence agencies and the various Allied navies. This effort was truly a team effort among the

¹²⁵ Gannon, 258.

British, Americans, and Canadians, in the defeat the U-boats. However, Coastal Command played a larger role than the Royal Navy and Allied intelligence agencies, as they were the pilots who hunted the U-boats in their own home waters. In addition, the presence of Coastal Command aircraft over a convoy instilled confidence in the merchant sailors. Knowing they had protection from U-boats, as well as a means of rescue, was a morale boost.

While Allied intelligence agencies played a major role in the defeat of the U-boat threat, they relied heavily on intelligence gathered from Coastal Command patrols and engagements. Furthermore, intelligence could only tell the British military where their targets were supposed to be. Coastal Command actually engaged the Germans and kept the merchant fleet safe. Intelligence remained important but was not the determining factor in this part of the war. The only way to stop the U-boat threat was to sink the U-boats and Coastal Command did this more efficiently than anyone else. As demonstrated in the engagement of U-663, Coastal Command pilots quickly engaged their targets in a manner that left U-boat crews surprised and ill prepared to defend themselves. Diving from cloud cover with pre-set depth charges meant that U-663 was at a disadvantage even before they knew they were under attack. Using the superior speed and maneuverability, the Coastal Command pilot attacked once and then attacked again for the fatal strike. Unlike engagements involving escort ships, Coastal Command aircraft often surprised the enemy before they had a chance to launch an attack. These preemptive strikes in the Bay of Biscay and in the Atlantic meant that less U-boats ever made it to their hunting grounds.

Coastal Command carried on their convoy patrol duties throughout the rest of the war. U-boat sightings and engagements became less common after Operation Derange as the U-boats avoided the Bay of Biscay when possible or

traveled with an aircraft escort. However, after the initial shock of Operation Derange in August, Hitler ordered an increase in U-boat activity in the North Atlantic and the Arctic. The U-boats also operated in the Mediterranean as the Allies launched Operation Avalanche and Baytown (the invasion of Italy). The U-boats tried to sink as many Allied ships as they could but were only able to sink 11 during the invasion of Italy. U-617 was lost in the process as a Coastal Command Wellington bomber disabled this U-boat and it was abandoned on the Spanish coast on September 11, 1943.¹²⁶

Hitler ordered a new operation against the Allied supply line in the North Atlantic and beginning in September, 1943 this operation commenced with 33 U-boats. However, this operation did not yield the results Hitler or Doenitz desired. The Germans did not have adequate intelligence on where the convoys would be, nor did the anti-aircraft guns protect the U-boats as they thought they would. Both Coastal Command and the U.S Army and navy attacked the U-boats mercilessly when they came to the surface. In addition, the U.S and Britain had commissioned more escort ships that could cross the Atlantic with the convoys.

With the D-Day invasions a success, and the Allies back on continental Europe, the Germans began to worry about their submarine bases in France. Doenitz believed that the U-boat bases would fall into Allied hands and began to make plans to evacuate once the Allies had rolled into Brittany, France. The Germans became desperate once the Allies launched Operation Dragoon on August 15, 1944. The evacuation of Brest, St. Nazaire, Lorient, La Pallice, and Bordeaux meant that the Germans were ordered to pick up all the important equipment and oil they could carry and sail to Norway.¹²⁷ This was a dangerous

¹²⁶ Blair, 413.

¹²⁷ Blair, 621.

journey as they had to cross the Bay of Biscay and the heavily patrolled waters around Great Britain. These waters were also heavily mined and therefore U-boats sailed on the surface, leaving them vulnerable to an aircraft attack. Coastal Command sank a number of U-boats during this time but with not the same frequency as had been experienced during the Bay of Biscay Offensive.

Coastal Command continued to patrol until Germany had surrendered. Once World War II ended, Coastal Command was quickly broken up to provide aircraft and man power for the transport units of the RAF. However, Coastal Command continued to serve in small capacities during the Cold War. These duties included transportation and patrolling British waters. Finally on November 27, 1969, Coastal Command officially disbanded and its resources were absorbed by RAF Strike Command.

Coastal Command was an invaluable asset to the Allies during World War II. They had helped to combat one of the largest threats to the Allies during World War II. No other combat force was as effective at hunting U-boats as Coastal Command and for this they deserve a special place in military history. The aviators of Coastal Command had to endure long hour of searching, but they made sure that the merchant and military sailors had a fighting chance at making it across the Atlantic. For the Germans, they were a menace that always provided a reason to worry. The U-boat crews rarely had warning as to when a Coastal Command aircraft would break its cloud cover and dive to deliver its deadly cargo. While many Coastal Command pilots never saw, or sank a U-boat, they all contributed to the war effort. Victory in the Battle of the Atlantic did not guarantee victory in the entire war, but it was a major step towards the defeat of Germany. The supplies delivered to Great Britain and the Soviet Union helped to keep both of these nations in the war. Furthermore, if the Allies had lost the Battle of the

Atlantic it would have been much harder, if not impossible, for D-day and other European invasions to take place. Coastal Command helped to ensure that the supplies and men needed for these operations arrived to their destinations safely. No other Allied unit had as much of an effect on the German U-boat campaign than RAF Coastal Command. It was their presence in the air and precise attacks that caused the Germans to pull back their U-boat forces or to abandon some operations all together. This is what made RAF Coastal Command so important to the Allied war effort and why victory was possible in the Battle of the Atlantic.

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